# FINAL

# **BASELINE MONITORING REPORT**

# 2021 Annual Baseline Monitoring Report Red Devil Mine, Alaska

# Contract Number: 140L63-21-C-0001 Amendment P00001

Submitted to:

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# TABLE OF CONTENTS

Та	ble	of	Contentsi
Li	st of	f Fi	guresiii
Li	st of	f Ta	ablesiv
Li	st of	f A	ttachmentsv
Ac	ron	ym	s and Abbreviations
1		In	troduction1
	1.1		Purpose and Objectives 1
	1.2		Project Location, Setting, and Areas 1
2		Ba	aseline Monitoring Field Activities
,	2.1		Groundwater Elevations
	2.2		Red Devil Creek and Seep Discharge Gauging 4
,	2.3		Groundwater Sampling 4
,	2.4		Surface Water Sampling
,	2.5		Sample Handling
	2.6		Quality Control Samples 5
	2.7		Investigation-Derived Waste Management 5
3		De	eviations7
4		Ba	seline Monitoring Results
4	4.1		Groundwater Elevation and Surface Water Discharge Monitoring9
4	4.2		Groundwater Results
	4	.2.1	2021 Spring Groundwater Results
	4	.2.2	2 2021 Fall Groundwater Results
4	4.3		Surface Water Results
	4	.3.1	2021 Spring Surface Water Results
	4	.3.2	2 2021 Fall Surface Water Results
5		Da	ata Usability Assessment
	5.1		Data Usability Assessment
6		Su	Immary, Conclusions and Recommendations17
	6.1		Groundwater Conclusions 17
	6.2		Surface Water Conclusions

6.3	Recommendations	18
7	References	19

# LIST OF FIGURES

Figure 1-1.	Surface Water and Monitoring Well Locations
Figure 1-2.	Upland Area Encompassed by Remedial Investigation
Figure 2-1.	Groundwater Potentiometric Surface – Spring 2021
Figure 2-2.	Groundwater Potentiometric Surface - Fall 2021
Figure 2-3.	Groundwater Elevation Plots
Figure 4-1.	Groundwater Sample Results – Spring 2021, Antimony
Figure 4-2.	Groundwater Sample Results - Spring 2021, Arsenic
Figure 4-3.	Groundwater Sample Results – Spring 2021, Total and Dissolved Mercury
Figure 4-4.	Groundwater Sample Results – Fall 2021, Antimony
Figure 4-5.	Groundwater Sample Results – Fall 2021, Arsenic
Figure 4-6.	Groundwater Sample Results – Fall 2021, Total and Dissolved Mercury
Figure 4-7.	Surface Water Samples Results – Spring 2021
Figure 4-8.	Surface Water Samples Results – Fall 2021
Figure 6-1.	Groundwater Analytical Plots
Figure 6-2.	Surface Water Analytical Plots
Figure 6-3.	Red Devil Creek and Seep Contaminant Concentrations

# LIST OF TABLES

Table 2-1.	Monitoring Well Construction and Groundwater Depth Information
Table 2-2.	Red Devil Creek and Seep Discharge Gauging
Table 2-3.	Groundwater Baseline Analytical Data – Spring 2021
Table 2-4.	Groundwater Baseline Analytical Data – Fall 2021
Table 2-5.	Surface Water Baseline Analytical Data – Spring 2021
Table 2-6.	Surface Water Baseline Analytical Data – Fall 2021

# LIST OF ATTACHMENTS

Attachment 1. Field Documentation

- 1.1 Tailgate Safety Field Forms
- 1.2 Monitoring Well Integrity Checklists
- 1.3 Field Notebooks
- 1.4 Groundwater Sampling Forms
- 1.5 Surface Water Sampling Forms
- 1.6 Calibration Logs
- Attachment 2. Photograph Documentation
- Attachment 3. Supplemental Data (provided on a CD)
  - 3.1 Spring Stream Gauging Data
  - 3.2 Fall Stream Gauging Data
  - 3.3 Spring Transducer Data
  - 3.4 Fall Transducer Data
- Attachment 4. Analytical Laboratory Reports (provided on a CD)
- Attachment 5. Data Validation Reports
  - 5.1 2021 Spring Data Validation Report
  - 5.2 2021 Fall Data Validation Report

# ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
DO DoD	dissolved oxygen Department of Defense
DQO	Data Quality Objectives
E&E EPA	Ecology and Environment Inc. U.S. Environmental Protection Agency
FS	Feasibility Study
ID IDW ICSA	identification Investigation Derived Waste Interference Check Standard A
mg/L	milligrams per liter
MPA MPC	Main Processing Area measurement performance criteria
MW	Monitoring Well
ng/L	nanograms per liter
No.	Number
ORP	oxidation reduction potential
PARCC	Precision, Accuracy, Representativeness, Completeness, and. Comparability
PPE	personal protective equipment
QAPP	Quality Assurance Project Plan
QC	Quality Control
RDM	Red Devil Mine
Report	2021 Annual Baseline Monitoring Report
RI	Remedial Investigation

SMA	Surface Mined Area
Sundance	Sundance Consulting, Inc.,
TAL	Target Analyte List
TDS	Total dissolved solids
TSS	Total suspended solids
Work Plan	Final Work Plan, Groundwater and Surface Water Baseline Monitoring, Red Devil Mine, Alaska

# 1 INTRODUCTION

This 2021 Annual Baseline Monitoring Report (Report) presents the findings of the 2021 spring and fall baseline groundwater and surface water monitoring efforts performed at the Red Devil Mine (RDM) site (Figure 1-1). The RDM is an abandoned mercury mine and ore processing facility located on public lands managed by the Bureau of Land Management (BLM) in southwest Alaska. Historical mining activities included underground and surface mining and ore processing. On-site ore processing included crushing, retorting/furnacing, milling, and flotation. Sundance Consulting, Inc. (Sundance), prepared this Report on behalf of the BLM under Contract Number (No.) 140L63-21-C-0001 Amendment P00001.

This Report summarizes the field activities, procedures, and results for the 2021 spring and fall baseline monitoring of groundwater and surface water efforts performed at RDM site.

### 1.1 PURPOSE AND OBJECTIVES

The purpose of baseline monitoring was to collect surface water and groundwater samples, as well as stream discharge and groundwater elevation data during spring and fall to inform remedial actions at the RDM. Baseline monitoring expands upon work that began during the 2011–2014 Remedial Investigation (RI) (Ecology and Environment Inc. [E&E], 2014) and continued through the 2015–2018 Supplemental RI (E&E, 2018) and simultaneous annual baseline monitoring for groundwater and surface water during spring and fall. The objectives are to:

- Characterize the seasonal variability in groundwater and surface water hydrology and quality; and
- Characterize the long-term (multiple year) variability in groundwater and surface water hydrology and quality.

### 1.2 PROJECT LOCATION, SETTING, AND AREAS

The RDM site is located approximately 250 miles west of Anchorage, Alaska. Located on the southwest bank of the Kuskokwim River, approximately 2 miles southeast of the village of Red Devil, the site is 8 miles northwest of the village of Sleetmute, and 75 miles northeast of Aniak, the largest village in the region. Fifteen villages are located downstream of Red Devil on the Kuskokwim River. The legal description for the RDM site is Township 19 North, Range 44 West, Southeast Quarter of Section 6, Sleetmute D-4 Quadrangle, Seward Meridian. The RDM site's approximate coordinates are 61° 45' 38.1" north latitude and 157° 18' 42.7" west longitude (North American Datum 1927). The RDM site is in a remote location, and access to the site is available by boat or barge on the Kuskokwim River or by means of an airstrip at the nearby village of Red Devil. An unimproved road leads from the airstrip through the village of Red Devil to the RDM site. Access to the RDM site is restricted by two locked gates, one on the unimproved road and a boat landing along the Kuskokwim River.

Historical mining operations left tailings and other remnants that have affected local soil, surface water, sediment, and groundwater. Based on the locations of tailings and other features, baseline monitoring is focused on surface water and groundwater in the following areas as shown on historical Figure 1-2 (E&E, 2021):

• Main Processing Area (MPA)—The MPA contained most of the former site structures and was where ore beneficiation and mineral processing was conducted. The area is split by Red Devil Creek. Underground mine openings (e.g., shafts, adits, and stopes to the surface) and ore processing and mine support facilities (e.g., housing and warehousing) were located on the west side of Red Devil Creek until 1955. After 1955, all ore processing was conducted at structures and facilities on the east side of Red Devil Creek.

The MPA includes three monofills. The monofills are essentially landfills that contain demolished mine structure debris and other material. Two of the monofills, #1 and #3, are unlined. Monofill #2, on the east side of Red Devil Creek, is an engineered and lined containment structure for building debris and materials from the demolished post-1955 retort structure.

- Surface Mined Area (SMA)—The SMA is located west of the MPA where historical surface exploration and mining occurred. The SMA is partially underlain by underground mine workings. The "Dolly Sluice" and "Rice Sluice" and their respective deltas on the bank of the Kuskokwim River are associated with the SMA.
- Vicinity of Proposed Repository—The Proposed Repository is located uphill of the SMA on the north side of Red Devil Creek.
- **Red Devil Creek**—Red Devil Creek extends from a reservoir upstream of the MPA to the creek's delta at its confluence with the Kuskokwim River.
- Seep (RD05)—The Seep is located on the north bank of Red Devil Creek downgradient of the former mine operations and tailings area.

# **2 BASELINE MONITORING FIELD ACTIVITIES**

All field activities were performed in accordance with the *Final Work Plan, Groundwater and Surface Water Baseline Monitoring, Red Devil Mine, Alaska* ([*Work Plan*], BLM, 2019), and the addendum to the *Work Plan* (Sundance, 2021a). Field activities included tailgate safety meetings, the assessment of the operational status of the monitoring well network, synaptic measurement of groundwater elevations, downloading of transducer data, groundwater sampling, Red Devil Creek and Seep discharge gauging, and surface water sampling. All field documentation, including Tailgate Safety Field Forms, Monitoring Well Integrity Checklists, field notebooks, groundwater sampling forms, surface water sampling forms, and calibration logs, are provided in Attachment 1. Photographic documentation is provided in Attachment 2 and includes a photograph index log with detailed descriptions included in the caption of each photograph collected during the field activities.

Spring and fall field activities occurred between 02 June 2021 and 10 June 2021, and 27 August 2021 and 04 September 2021, respectively. For the spring event, the field team consisted of the field team lead, Colleen Rust, PG, PMP, CPG; Site Health and Safety Officer, George Garner; and Field Technician, Judd Parson. For the fall sampling event, the field team consisted of the field team lead, Judd Parson; Site Health and Safety Officer, George Garner; and Field Technician, Riley Wittler. A tailgate safety meeting was held with the field team before the start of each day. As field conditions changed during the day because of type of activity or site conditions, participants had undocumented impromptu safety breaks to discuss changing conditions and how they may apply to health and safety during field visit activities. Tailgate safety meeting forms are provided in Attachment 1.

An initial site walk was conducted to assess the site conditions, the operational status of the monitoring well network, to clear the trail system from recent deadfall from the previous winter and summer seasons, to perform a synaptic measurement of groundwater elevations across the site within a 24-hour period and downloading of transducer data. The initial site walk was followed by low-flow groundwater sampling and field maintenance of groundwater monitoring wells. After completing groundwater well sampling, the field team performed surface water discharge measurements within Red Devil Creek and Seep and surface water sampling of Red Devil Creek. Each baseline monitoring field activity is further described in the following sections. Associated field documentation of the monitoring well survey, groundwater sampling, and surface water sampling are provided in Attachment 1.

### 2.1 GROUNDWATER ELEVATIONS

Groundwater elevation during the 2021 baseline monitoring events consisted of the following:

- Measuring static water levels at all accessible monitoring wells at the RDM site within a 24-hour period to collect a "synaptic snapshot" of groundwater levels.
- Downloading of continuous water level measurements from pressure transducers installed within specific monitoring wells.

The groundwater static water levels were measured on 04 June 2021 and 28 August 2021. Static water level measurements were augmented with the continuous water level measurements

collected from pressure transducers installed within specific monitoring wells between the fall of 2017 and fall 2021, as described in the *Work Plan* (BLM, 2019, and Sundance, 2021).

Synaptic groundwater elevations for spring 2021 and fall 2021 are shown on Figure 2-1 and Figure 2-2, respectively, and tabulated in Table 2-1. Pressure transducer data recorded between September 2020 and September 2021 were downloaded during the spring and fall 2021 field events, and the transducers were then reinstalled on monitoring wells MW50, MW51, MW53, MW54, MW56, MW57, MW58, and MW59, as noted on Figure 1-1. Pressure transducer data-logger files containing depth of submersion time series data were corrected for barometric pressure and converted to groundwater elevations. The resulting groundwater elevation time series plots are presented on Figure 2-3.

### 2.2 RED DEVIL CREEK AND SEEP DISCHARGE GAUGING

During the 2021 baseline monitoring spring and fall events, Red Devil Creek and Seep discharge gauging was conducted at five locations along Red Devil Creek between the creek's mouth at the Kuskokwim River and the historical reservoir south-southwest of the MPA. Surface water monitoring locations are illustrated on Figure 1-1.

Surface water discharge was measured using the mid-section method at creek monitoring locations following the mid-section methodology described in the *Work Plan* (BLM, 2019). At the Seep (RD05), discharge was measured using the timed fill method described in the *Work Plan* (BLM, 2019). Surface water discharge values are tabulated in Table 2-2.

# 2.3 GROUNDWATER SAMPLING

Groundwater sampling during the 2021 baseline monitoring spring and fall events was conducted at 26 existing monitoring wells identified on Figure 1-1. Five monitoring wells (MW06, MW16, MW17, MW33, and MW55) were sampled with a peristaltic pump; all others were collected using dedicated bladder pumps. Groundwater samples were collected for the following analyses:

- Total target analyte list (TAL) metals by U.S. Environmental Protection Agency (EPA) Method 6010C/6020A
- Total low-level mercury by EPA Method 1631E
- Dissolved low-level mercury by EPA Method 1631E
- Field water quality parameters including temperature, specific conductivity, dissolved oxygen (DO), pH, oxidation reduction potential (ORP), and turbidity.

Field water quality measurements were collected at each monitoring well prior to groundwater sample collection. Groundwater samples were collected using a low-flow sampling methodologies described in the *Work Plan* (BLM, 2019) with either a peristaltic or dedicated bladder pump with a maximum flow rate of 0.5 liters per minute. Analytical data for groundwater samples collected during the spring and fall events are tabulated in Table 2-3 and Table 2-4, respectfully.

# 2.4 SURFACE WATER SAMPLING

Surface water sampling during the 2021 baseline monitoring spring and fall events was conducted at five locations from just upstream of Red Devil Mine (historical reservoir) to the point where Red Devil Creek discharges into the Kuskokwim River as identified on Figure 1-1.

Surface water samples were collected for the following analyses and methods:

- Total TAL metals by EPA Method 6010/6020A
- Total low-level mercury by EPA Method 1631E
- Total suspended solids (TSS) by Method SM 2540D
- Total dissolved solids (TDS) by Method SM 2540C
- Inorganic ions by Method MCAWW 300.0
- Nitrate/nitrite (as N) by Method MCAWW 353.2
- Field water quality parameters including temperature, specific conductivity, DO, pH, ORP, and turbidity

Surface water samples were collected using a battery-operated peristaltic pump outfitted with certified-clean, dedicated silicone tubing following sampling methodologies described in the *Work Plan* (BLM, 2019). Analytical data for surface water samples during the spring and fall events are tabulated in Table 2-5 and Table 2-6, respectively.

# 2.5 SAMPLE HANDLING

Sample handling (e.g., chain-of-custody and field documentation) was conducted as described in the *Work Plan* (BLM, 2019).

# 2.6 QUALITY CONTROL SAMPLES

Field quality control (QC) samples, including field duplicates, matrix spike, and matrix spike supplicates, were collected for all matrices (e.g., groundwater and surface water) and analytes as described in the *Work Plan* (BLM, 2019).

### 2.7 INVESTIGATION-DERIVED WASTE MANAGEMENT

Investigation-derived waste (IDW) generated during the 2021 baseline monitoring spring and fall events included the following:

- Monitoring well purge water.
- Used dedicated and disposable sampling equipment, personal protective equipment, and paper towels.
- Decontamination fluids generated during groundwater sampling.

IDW was managed in accordance with the *Work Plan* (BLM, 2019). Purge water, decontamination water, paper towels, used tubing, and disposable PPE were disposed of in accordance with the procedures described in the *Work Plan* (BLM, 2019 and Sundance, 2021).

# **3 DEVIATIONS**

During the 2021 baseline monitoring spring and fall field activities, the following deviations were made from the *Work Plan* (BLM, 2019). These deviations did not affect project data quality objectives (DQOs) or final conclusions and recommendations. Deviations resulted from field conditions, field observations, field access, available resources on a remote site, and schedule adjustments. Deviations were documented in the field logbooks provided in Attachment 1. There were three deviations from the *Work Plan* (BLM, 2019):

- 1. MW42 was unable to be sampled, during the spring field event, after the dedicated bladder pump tubing failed and fell into the monitoring well. Multiple attempts were made to retrieve the tubing; however, it was unable to be repaired during the spring sampling event. The tubing and pump were extricated from the monitoring well, replaced, and sampled during the fall sampling event. Further details are provided in the field notes in Attachment 1.
- 2. MW29 was unable to be sampled, during the spring field event, after the dedicated bladder pump tubing was found to be missing from the previous contractor. Multiple attempts were made to retrieve the tubing; however, it was unable to be repaired during the spring sampling event. The tubing and pump were extricated from the monitoring well, replaced, and sampled during the fall sampling event. Further details are provided in the field notes in Attachment 1.
- 3. The location identifications (IDs) of surface water sample 0621RD05SW and 0621RD15SW were misidentified during the spring sampling event. Sample 0621RD05SW was collected from location RD15 and 0621RD15SW was collected from location RD05 (seep). Field notes, discharge measurements, and sample collection forms describe the sample location of RD15 as the seep, which allowed for the correction. The locations of these surface water samples are not representative of their sample IDs, which is referenced in Table 2-5, where their analytical results are displayed. The analytical results are discussed by location relative to other samples to avoid confusion.

# **4 BASELINE MONITORING RESULTS**

# 4.1 GROUNDWATER ELEVATION AND SURFACE WATER DISCHARGE MONITORING

Groundwater elevations for all active groundwater wells at RDM were collected during a single 24-hour period during both the spring and fall sampling events. Table 2-1 presents depth to groundwater measurements and calculated groundwater elevations for monitoring wells during the spring and fall 2021 baseline monitoring events. Transducer data were collected from monitoring wells during the same period to allow for pressure and groundwater depth correction. Table 2-1 presents the physically measured groundwater elevations, not the groundwater elevations calculated by pressure transducers.

Surface water discharge measurements were collected during both spring and fall events. Estimated surface water discharge calculations for Red Devil Creek surface water stations during the spring and fall 2021 baseline monitoring events are presented in Table 2-2.

Based on static water elevations, stream elevations, and discharge measurements along Red Devil Creek, and excluding transducer data, groundwater potentiometric surface and surface water discharge maps for the spring and fall 2021 baseline monitoring were generated and are presented on Figure 2-1 and Figure 2-2.

Pressure transducer data was not used to create the potentiometric groundwater surface map (Figure 2-1).

Pressure transducer data-logger files containing depth of submersion time series data were corrected for barometric pressure and converted to groundwater elevations. The resulting groundwater elevation time series plots are presented on Figure 2-3. Spring and Fall groundwater well and stream gauging data is included in Attachment 3.

#### 4.2 GROUNDWATER RESULTS

Analytical results for groundwater samples collected during the spring and fall events are presented in Table 2-3 and Table 2-4. Maps of all sampling locations with corresponding analytical results for antimony, arsenic, total low-level mercury, and dissolved low-level mercury are presented on Figure 4-1 through Figure 4-6. Analytical Laboratory Data reports are included in Attachment 4.

#### 4.2.1 2021 Spring Groundwater Results

Twenty-six primary groundwater samples were collected during the 2021 spring monitoring event. Duplicate samples were collected from the following monitoring wells per the Final Baseline Quality Assurance Project Plan (QAPP), which is included as an appendix to the *Work Plan* (BLM, 2019): MW17, MW27, and MW47. A summary for analytical results for groundwater samples are provided in Table 2-3 and shown on Figure 4-1 through Figure 4-3.

 Antimony was detected in all groundwater samples. Antimony concentrations ranged from 0.13 J to 1,000 micrograms per liter (µg/L) with the highest concentration in groundwater sample 0621MW16GW.

- Arsenic was detected in all groundwater samples. Arsenic concentrations ranged from 0.45 J to 1,000  $\mu$ g/L with the highest concentration in groundwater sample 0621MW26GW.
- Total mercury was detected in all groundwater samples. Total mercury concentrations ranged from 1.64 to 1,530 nanograms per liter (ng/L) with the highest concentration in groundwater sample 0621MW50GW.
- Dissolved mercury was detected in all groundwater samples. Dissolved mercury concentrations ranged from 0.65 to 496 ng/L with the highest concentration in groundwater sample 0621MW27GW.

#### 4.2.2 2021 Fall Groundwater Results

Twenty-eight primary groundwater samples were collected during the 2021 fall event. Duplicate samples were collected from the following three monitoring wells per the QAPP in the *Work Plan* (BLM, 2019): MM33, MW27, and MW47. A summary for analytical results for groundwater samples is provided in Table 2-4 and shown on Figure 4-4 through Figure 4-6.

- Antimony was detected in all groundwater samples but one, 0821MW97GW, a duplicate of 0821MW47GW, which was a non-detect. Antimony concentrations ranged from 0.14 J to 1,300  $\mu$ g/L with the highest concentration in groundwater sample 0821MW16GW.
- Arsenic was detected in 27 of the 28 primary groundwater samples. Groundwater sample 0821MW47GW was a non-detect. Arsenic concentrations ranged from 0.29 J to 1,300  $\mu$ g/L with the highest concentration in groundwater sample 0821MW16GW.
- Total mercury was detected in all groundwater samples. Total mercury concentrations ranged from 2.02 to 1,380 ng/L with the highest concentration in groundwater sample 0821MW42GW.
- Dissolved mercury was detected in all groundwater samples. Dissolved mercury concentrations ranged from 0.61 to 874 ng/L with the highest concentration in groundwater sample 0821MW16GW.

### 4.3 SURFACE WATER RESULTS

Analytical results of surface water sampling conducted during the spring and fall 2021 baseline monitoring event are presented in Table 2-5 and Table 2-6. Data quality assurance review memoranda are provided in Attachment 5. Maps of all sampling locations with corresponding analytical results for antimony, arsenic, mercury are presented on Figure 4-7 through Figure 4-8.

### 4.3.1 2021 Spring Surface Water Results

During the spring 2021 baseline monitoring event, five surface water samples and one field duplicate sample, 0621RD99SW (field duplicate of 0621RD08SW), were collected from Red Devil Creek. A summary for analytical results for spring surface water samples are provided in Table 2-5 and shown on Figure 4-7.

• Antimony was detected in all surface water samples. Antimony concentrations ranged from 0.0016 to 0.15 J milligrams per liter (mg/L) with the highest concentration in surface water sample 0621RD08SW.

- Arsenic was detected in all surface water samples. Arsenic concentrations ranged from 0.00098 J to 1.3 J mg/L with the highest concentration in surface water sample 0621RD05SW.
- Mercury was detected in all surface water samples. Mercury concentrations ranged from 2.63 to 85.5 J+ ng/L with the highest concentration in surface water sample 0621RD06SW.

#### 4.3.2 2021 Fall Surface Water Results

During the fall 2021 baseline monitoring event, five surface water samples and one field duplicate sample, 0921RD99SW (field duplicate of 0921RD15SW), were collected from Red Devil Creek. A summary for analytical results for fall surface water samples are provided in Table 2-6 and shown on Figure 4-8.

- Antimony was detected in all surface water samples. Antimony concentrations ranged from 0.0014 J+ to 0.13 J mg/L, with the highest concentration in surface water sample 0921RD08SW.
- Arsenic was detected in all surface water samples. Arsenic concentrations ranged from 0.0012 to 0.83 mg/L with the highest concentration in surface water sample 0921RD05SW.
- Mercury was detected in all surface water samples. Mercury concentrations ranged from 5.22 to 311 ng/L with the highest concentration in surface water sample 0921RD08SW.

# 5 DATA USABILITY ASSESSMENT

A third-party data validation was performed on 100% of the surface water and groundwater analytical data generated during the 2021 spring and fall sampling events. The validation was inclusive of validation levels Stage 2B (90%) and Stage 4 (10%). The data were validated in accordance with the QAPP (BLM, 2019), EPA *National Functional Guidelines for Inorganic Superfund Methods Data Review* (EPA, 2017), and the *Department of Defense* (DoD) *Quality Systems Manual for Environmental Laboratories* Version 5.1 (DoD, 2017).

DQOs are both qualitative and quantitative statements that define the type, quality, and quantity of data necessary to support the decision-making process during project activities. To ensure the collection of data of the type and quality required for project decision-making, data validation results were evaluated for the DQO data quality indicators of precision, bias (accuracy), representativeness, comparability, and completeness (formerly precision, accuracy, representativeness, completeness, and comparability [PARCC] parameters), as outlined in the QAPP. Data quality indicators were evaluated according to analytical and field QC activity and associated measurement performance criteria (MPC). The results of the evaluation were used to assess data usability and completeness.

Twenty-seven surface water and groundwater samples were qualified as non-detect for low-level detections in continuing calibration blanks for metals and anions for one or more of the following analytes during the spring sampling event:

- Aluminum
- Antimony
- Chloride
- Chromium
- Nickel
- Potassium
- Thallium
- Zinc

All surface water and groundwater data were qualified as non-detect for low-level detections in method blanks, continuing calibration blanks, initial calibration blanks, equipment blanks, or trip blank samples for metals and low-level mercury analyses for one or more of the following analytes during the fall sampling event:

- Antimony
- Zinc
- Thallium
- Potassium
- Cadmium

- Chromium
- Lead
- Manganese
- low-level Mercury

Blank qualifications did not impact data usability.

No surface water or groundwater data were qualified due to field or analytical precision MPC exceedances during the spring or fall sampling events. There were minor deviations in field precision during spring and fall sampling events.

During the spring sampling event, metals field duplicate pair 580-103791-9/580-103791-16 had RPDs greater than  $\pm$  the reporting limit for chromium, iron, and manganese. Metals field duplicate pair 580-103791-10/580-103791-18 had RPDs greater than  $\pm$  the reporting limit for chromium and copper. Anion field duplicate pair 580-103791-3/580-103791-6 had an RPD of greater than  $\pm$  the reporting limit for total dissolved solids and total suspended solids. Associated sample results were qualified as estimated (J).

During the fall sampling event, metals field duplicate pair 0821MW33GW/0821MW99GW had RPDs greater than  $\pm$  the reporting limit for lead and chromium. Metals field duplicate pair 0821MW27GW/0821MW98GW had RPDs greater than  $\pm$  the reporting limit for lead. Associated sample results were qualified as estimated (J).

Field precision qualifications did not impact data usability.

Multiple analytes were qualified as estimated (J or UJ) in 33 surface water and groundwater samples due to minor accuracy/bias quality control exceedances (Interference Check Sample A [ICSA]) detections, internal standard recoveries, matrix spike/matrix spike duplicate recoveries) during the fall sampling event.

During the spring sampling event, the laboratory reported results for surface water and groundwater samples above the linear curve range and did not analyze a high linear range check standard. Sample detections reported above the high standard in the calibration curve were qualified as estimated (J) in all samples for the following analytes:

- Calcium
- Magnesium
- Sodium
- Potassium
- Antimony
- Arsenic
- Barium
- Iron
- Manganese

In addition, the initial calibration verification and continuing calibration verification standards for calcium, magnesium, sodium, and potassium did not meet method requirements; therefore, all samples' results were qualified as estimated (J or UJ). Cadmium results were qualified as estimated for five samples due to a positive interference check sample (ICSA) result.

Detections in ten samples were qualified as estimated (J) for anions during the fall sampling event due to holding time exceedances. Both detected and non-detected sample results were qualified as estimated (J or UJ) for anions during the spring sampling event due to an exceedance in cooler temperature (10.1 degrees Celsius [°C]) upon receipt at the laboratory. Qualification for holding time and temperature exceedances did not impact data usability.

Accuracy/bias qualifications did not impact data usability.

Analytical laboratory reports are provided in Attachment 4. Further detailed data validation and quality assessment information is provided in the Data Validation Reports in Attachment 5.

#### 5.1 DATA USABILITY ASSESSMENT

The analytical data completeness for the fall and spring sampling events is 100%. No sample results were qualified as rejected (R) or unsuitable for use in project decision-making. Metals, mercury, and anion samples were qualified as estimated (UJ) for low-level field and analytical blank contamination during both events, indicating minor uncertainty in sample representativeness. In addition, sample results were qualified as estimated (J or UJ) for minor deviations in accuracy/bias and field precision during both sampling events, indicating minor uncertainty. However, qualified data are considered acceptable for use in project decision-making.

# **6** SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

During the 2021 Annual Baseline Monitoring field efforts, samples were collected from groundwater monitoring wells in three areas: the MPA, the SMA, and the vicinity of the Proposed Repository. Additionally, surface water samples were collected from Red Devil Creek and a perennial seep that discharges into Red Devil Creek. The analytical results of these groundwater and surface water samples were reviewed and compared with historical data to identify concentration trends.

### 6.1 GROUNDWATER CONCLUSIONS

The groundwater analytical results from the 2021 sampling efforts are consistent with results from historical sampling efforts at RDM as seen in *Final 2020 Baseline Monitoring Report, Red Devil Mine, Alaska* (E&E, 2021).

Groundwater elevation results for the 2021 sampling efforts are consistent with trends defined during the RI/Feasibility Study (FS).

The water table surface in the upper SMA and the MPA mimics topography and flows toward Red Devil Creek. Groundwater flow in the lower SMA is locally perturbed by historical mine workings. Although the underground workings have very likely collapsed, this tunnel network is much more conductive than the surrounding bedrock. Consequently, the water table is depressed around the workings. Because the conductivity of the bedrock aquifer is relatively low, the depressed water table extends only a short distance outside of the zone where the tunnel network is prevalent, creating a very steep gradient. The overall effect of the underground workings is very localized (refer to Figure 2-1 and Figure 2-2). In general, groundwater flow within the entire SMA is toward Red Devil Creek.

Continuous groundwater elevation data recorded in 2021 using transducers extends the temporal trends established in previous years, as shown on Figure 2-3. In late spring, groundwater elevations rise quickly to a maximum elevation that correlates with spring breakup. The seasonal maximum elevation lasts only a few days, followed by a recession that extends until the following spring. Water table elevations vary slightly over the summer and fall months in response to local precipitation. Once subsurface freezing becomes prevalent during the winter, water table elevations decrease steadily until the following spring breakup, which is typically in May.

The concentrations of the three primary contaminants of concern (COCs), antimony, arsenic, and mercury, in the groundwater samples from the 2021 baseline monitoring events are within the range expected based on review of data collected during the RI and previous baseline monitoring. Measured concentrations of COCs in individual monitoring wells reflect conditions at that location. The highest COC concentrations occur in the monitoring wells installed in tailings/waste rock in the MPA. Concentrations of these primary COCs are highly variable in the SMA, reflecting the influence of natural mineralization in the immediate vicinity of each monitoring well. In general, groundwater COC concentrations do not appear to be influenced by seasonal water level fluctuations. Graphs of groundwater primary COC concentrations and water level measurements for all monitoring wells are presented on Figure 6-1.

### 6.2 SURFACE WATER CONCLUSIONS

The surface water analytical results from the 2021 sampling efforts are consistent with results from historical sampling efforts at RDM as seen in *Final 2020 Baseline Monitoring Report, Red Devil* Mine (E&E, 2021).

The 2021 concentrations of the three primary COCs, antimony, arsenic, and mercury, in the surface water samples are within the range established during the RI. The highest concentrations were detected in samples collected from the Seep (RD05). Comparison of COC concentrations with stream discharge data indicate no correlation. Graphs of surface water primary COC concentrations and discharge measurements for all locations are found on Figure 6-2 and Figure 6-3.

#### 6.3 **RECOMMENDATIONS**

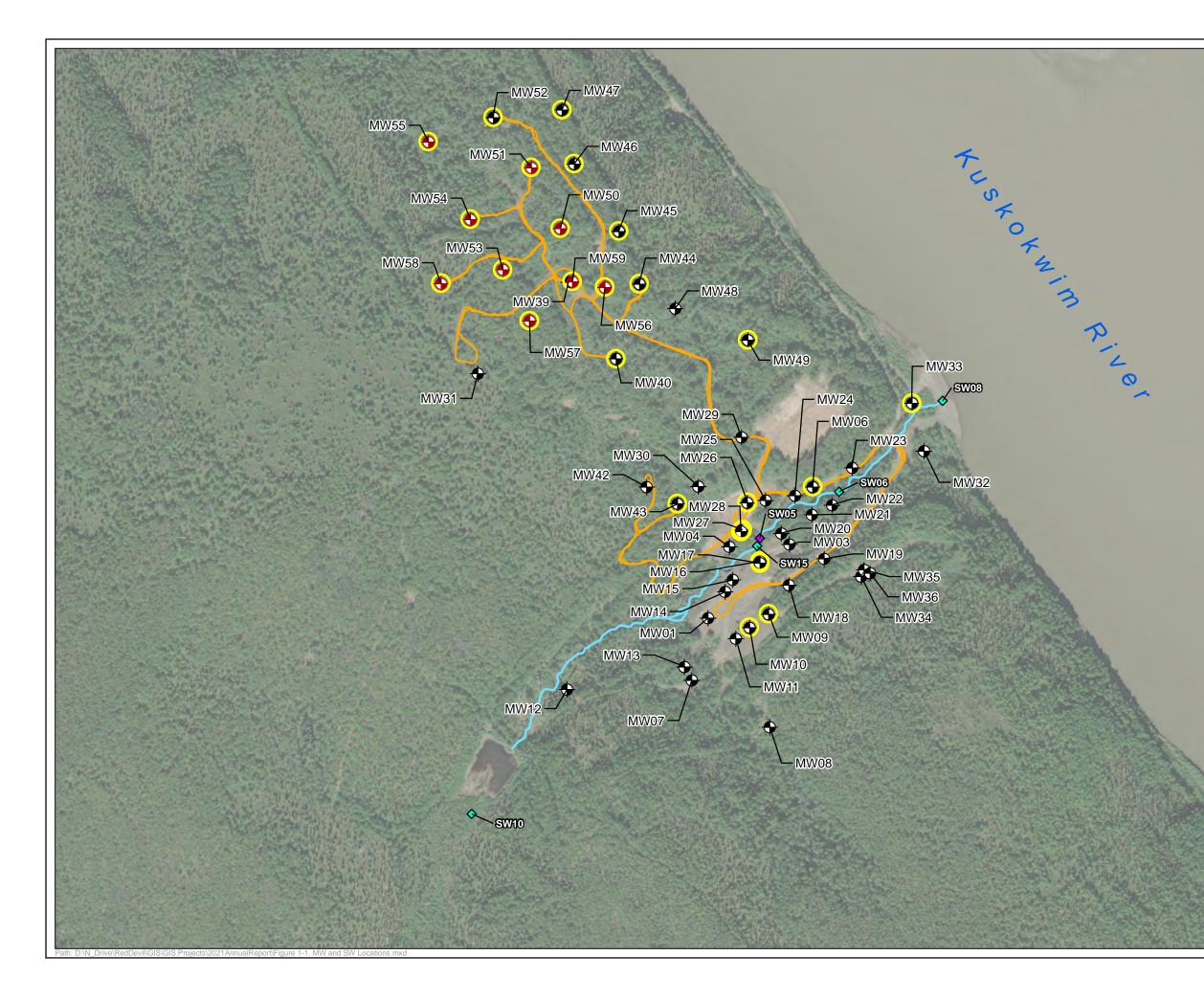
Groundwater sampling and analysis has evolved through the RI/FS phases of this Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) project from characterization to baseline monitoring. Initial goals of groundwater sampling and analysis were consistent with the overall objectives of the RI and were focused primarily on the area along the lower reach of Red Devil Creek referred to as the MPA. Additional monitoring wells have been installed since the initial RI was completed that have broadened our understanding of flow within the bedrock aquifer in areas that are influenced by natural mineralization but are not affected by the tailings and waste rock. The BLM selected a preferred remedial action alternative in 2020 that involves consolidating tailings/waste rock in an engineered repository located in the SMA. Consequently, groundwater characterization emphasizing the area dominated by tailings and a broad range of potential contaminants has transitioned to baseline monitoring of upper elevations (upgradient of the tailings) and more focus on the contaminants that are responsible for most of the environmental risk estimated for the site.

Based on the data collected during the two mobilizations covered by this report, continued monitoring of the same scope is recommended until the Record of Decision is complete and the remedial action has been determined. Baseline monitoring should continue to meet remedial action objectives.

# 7 **REFERENCES**

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- Sundance, 2021b. 2021 Spring Baseline Monitoring Data Summary Report, Red Devil, Alaska. August 2021.
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FIGURES



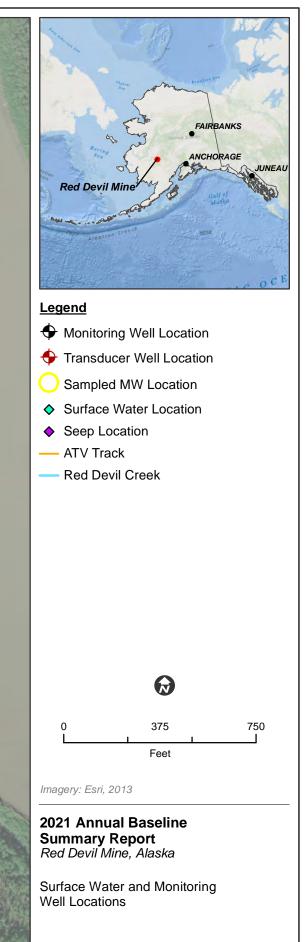
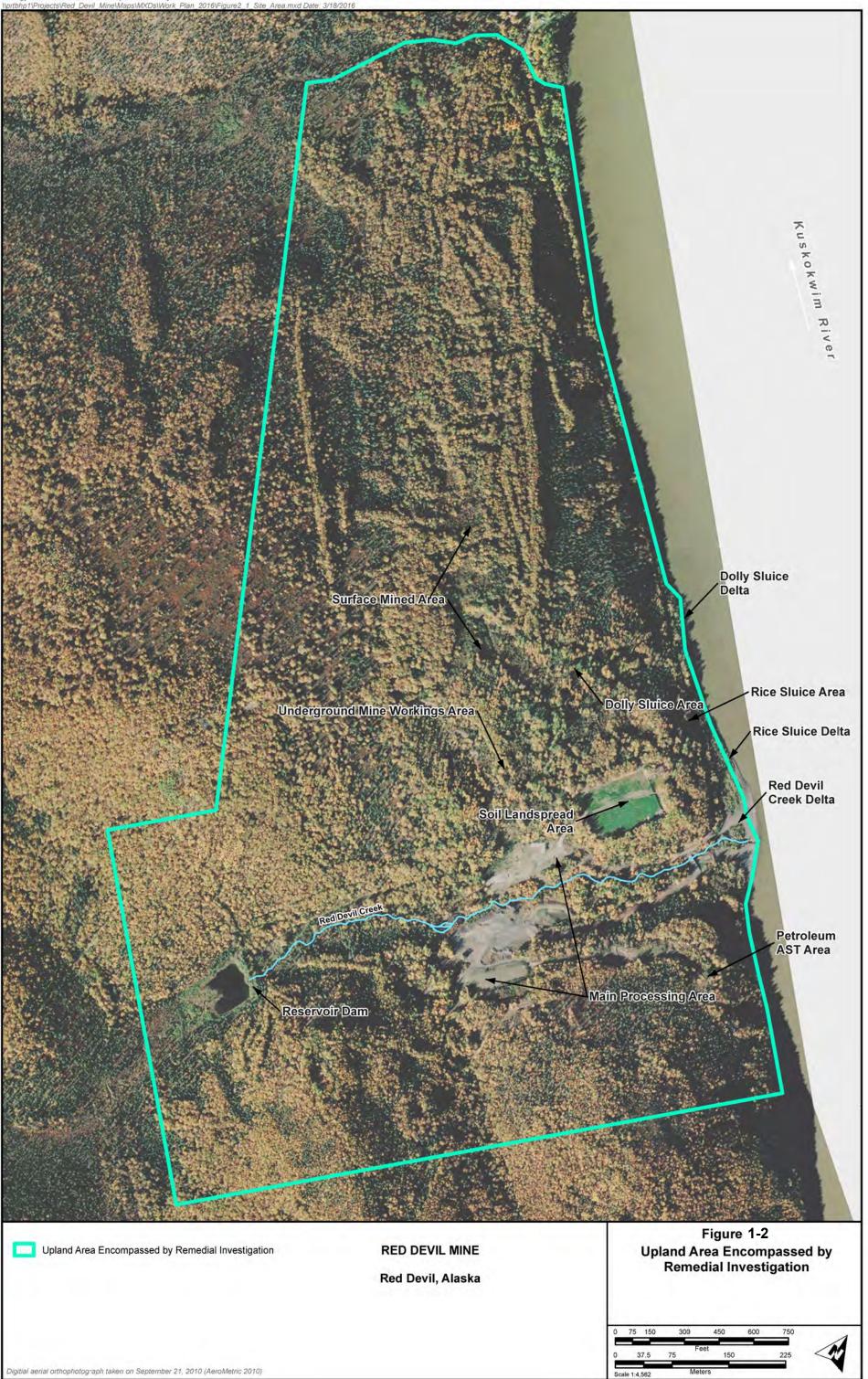
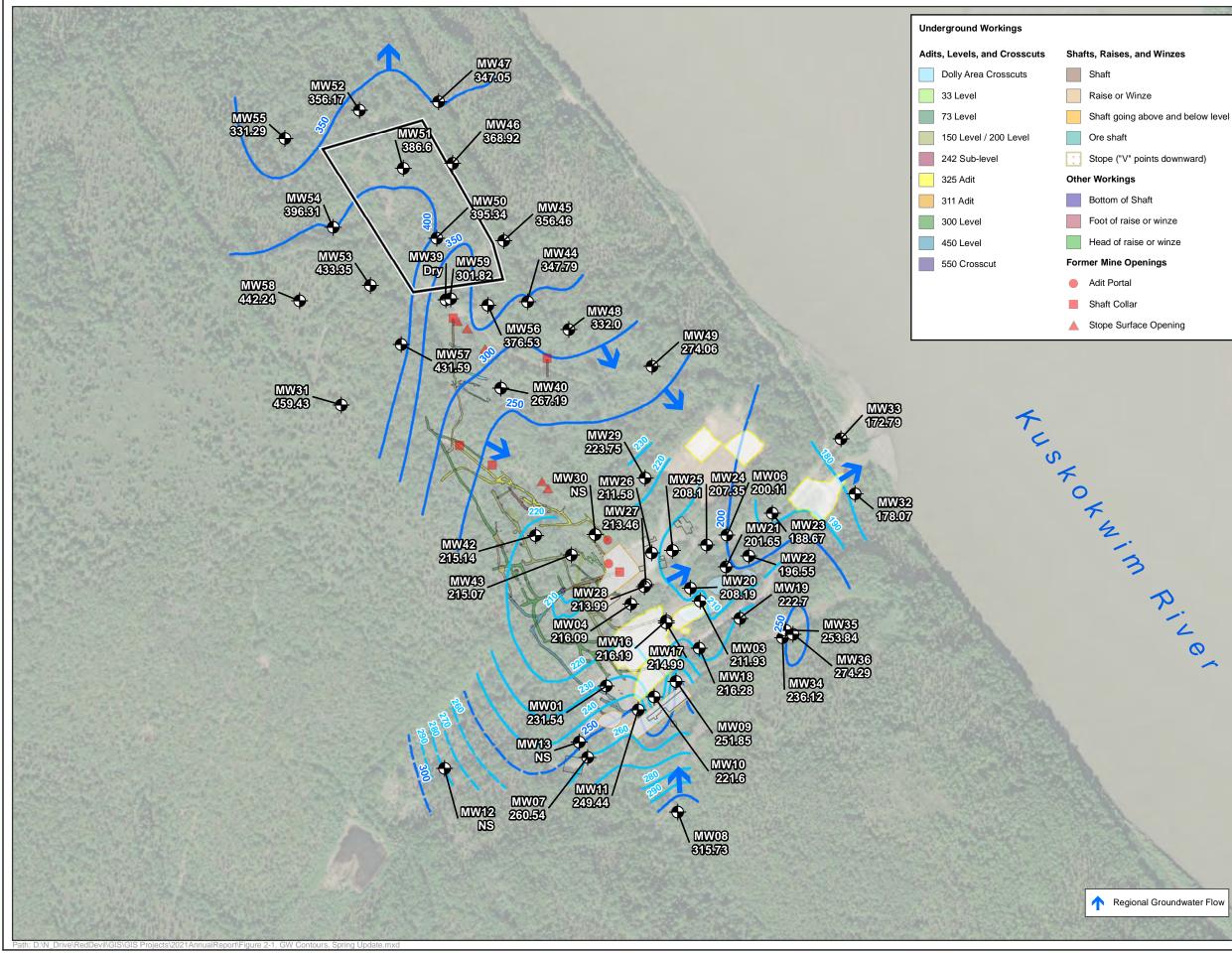


Figure 1-1





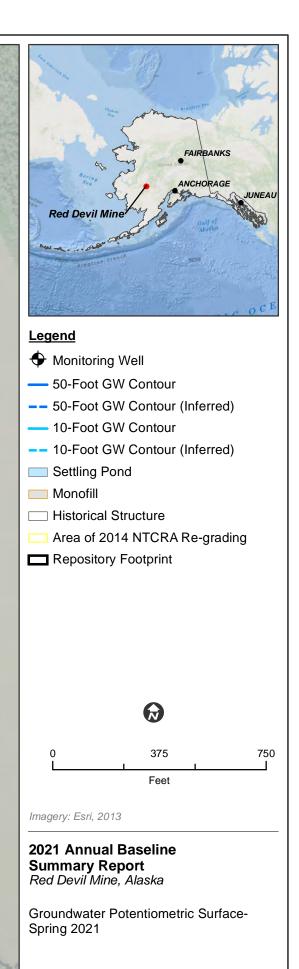
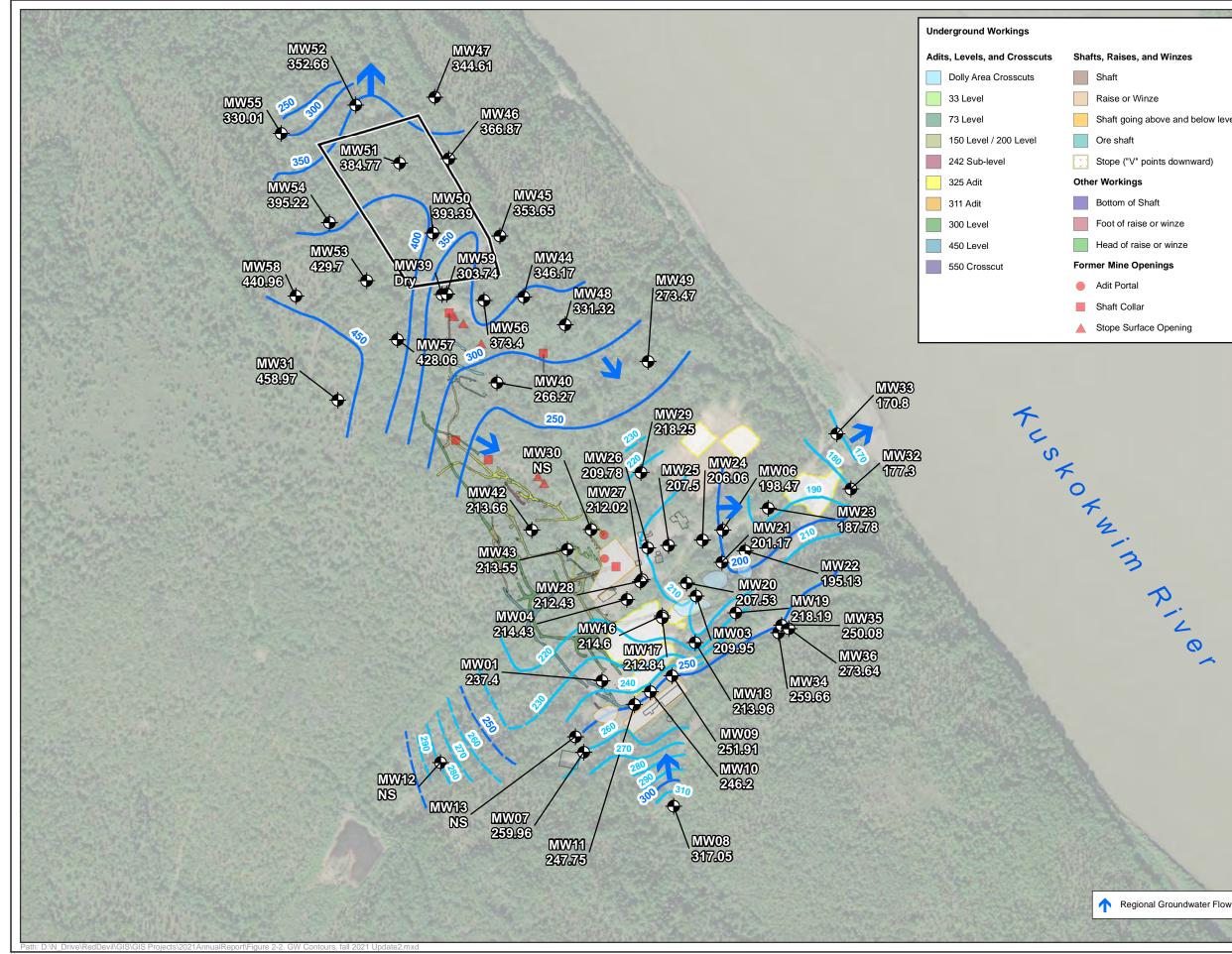


Figure 2-1



Shaft going above and below level

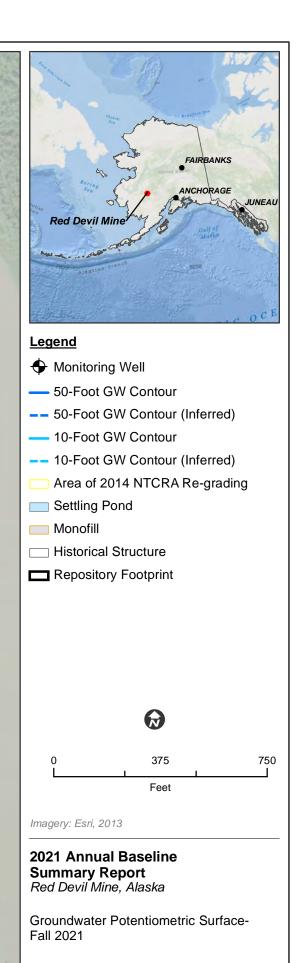
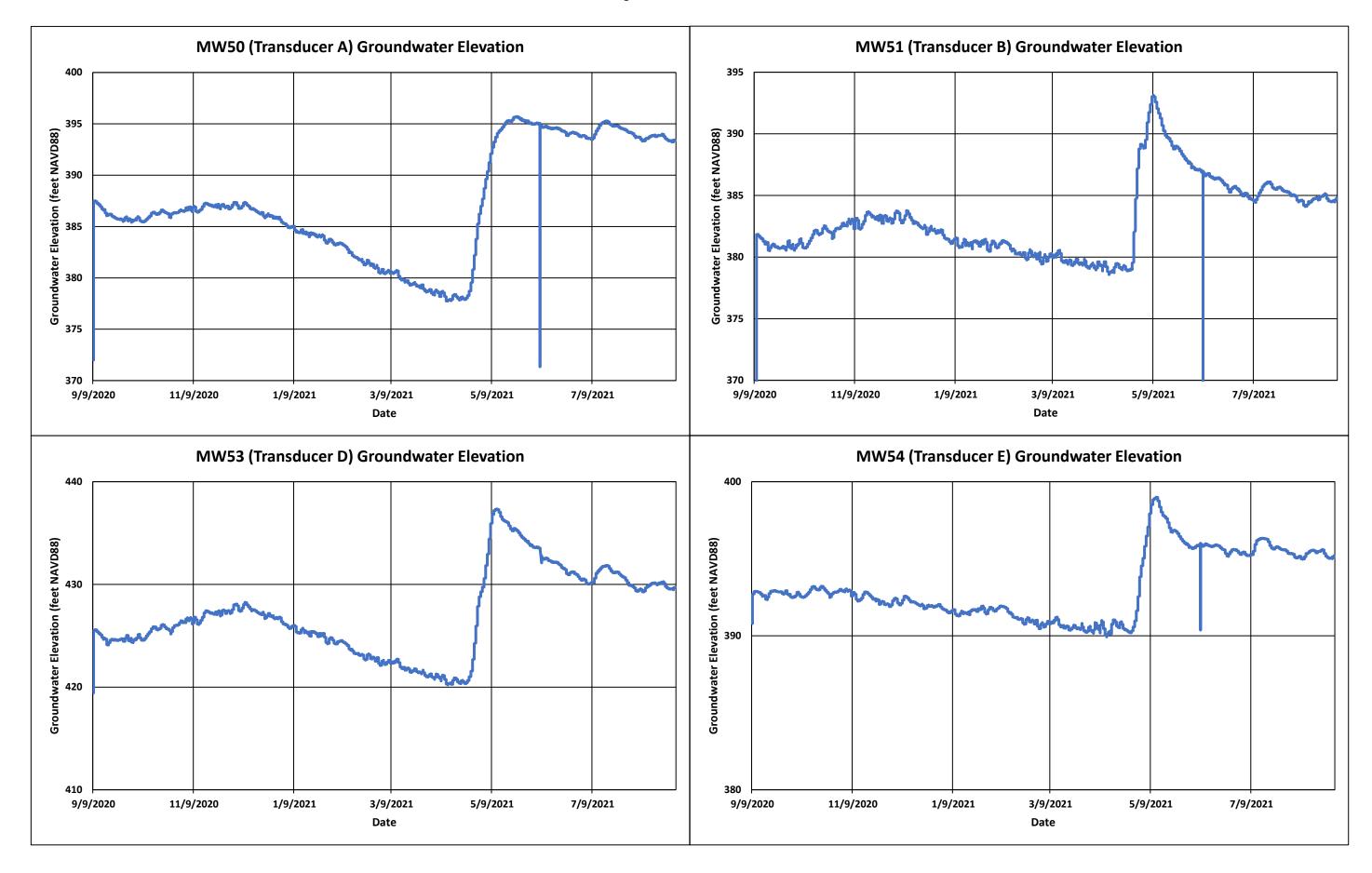
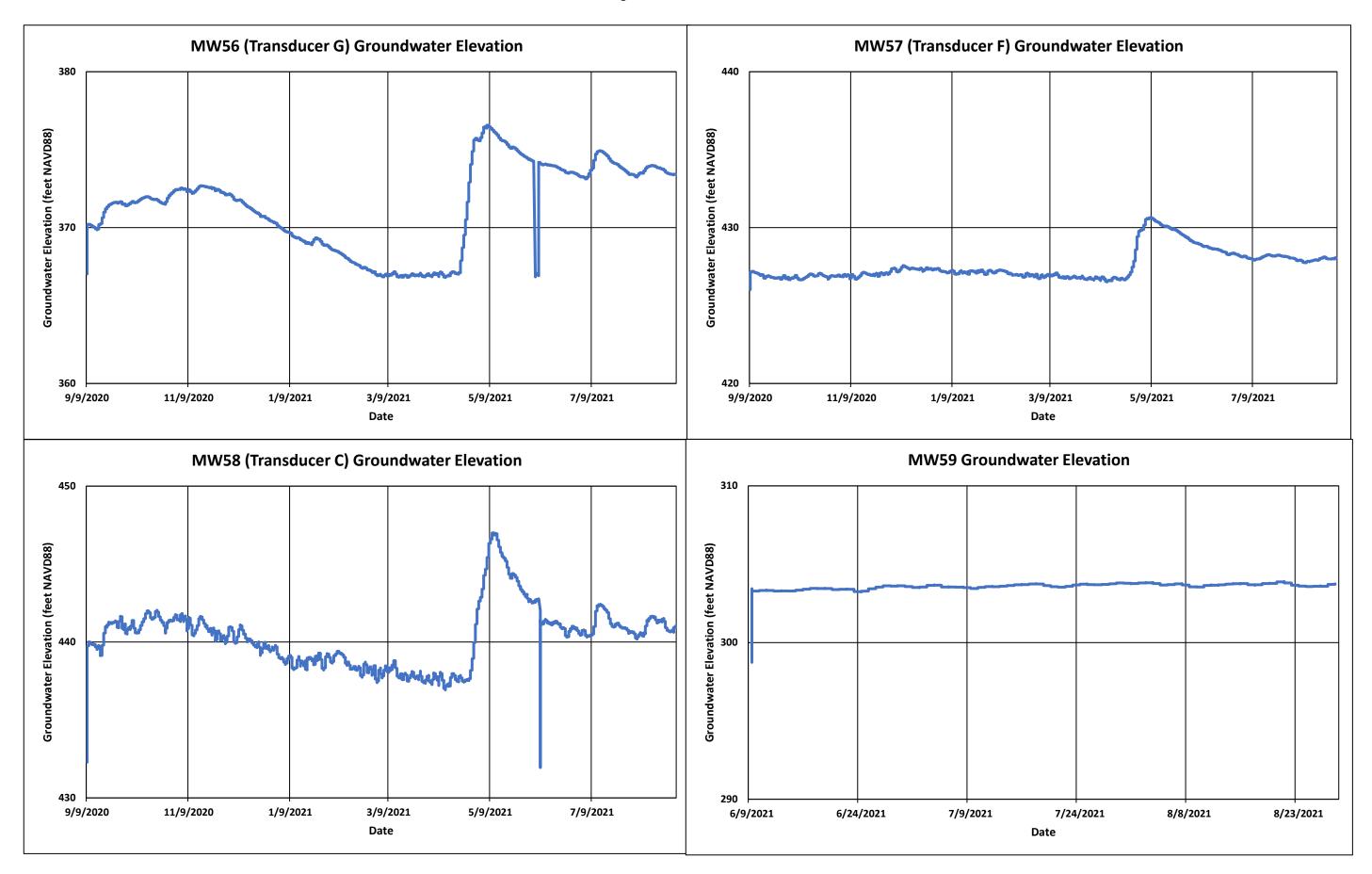
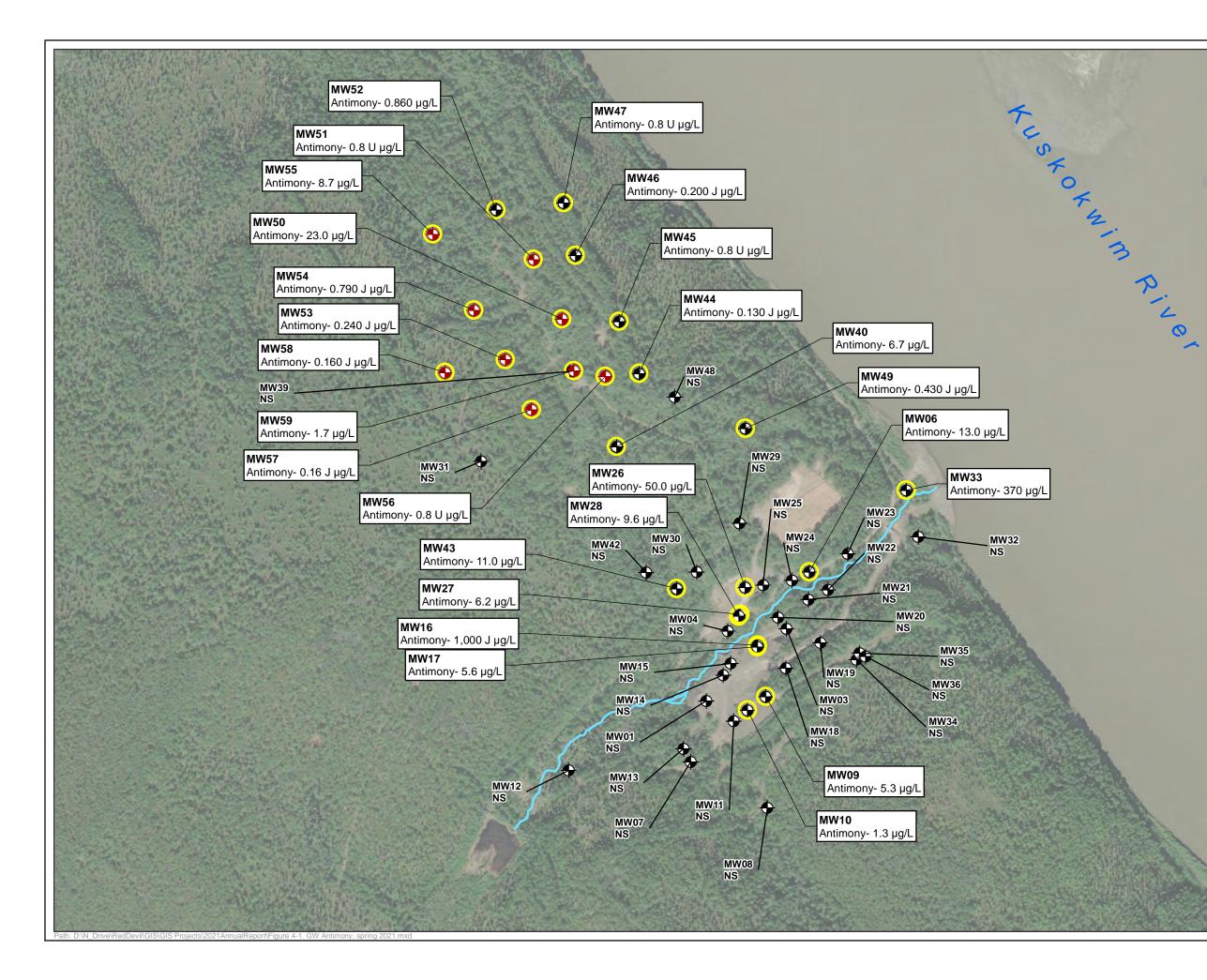
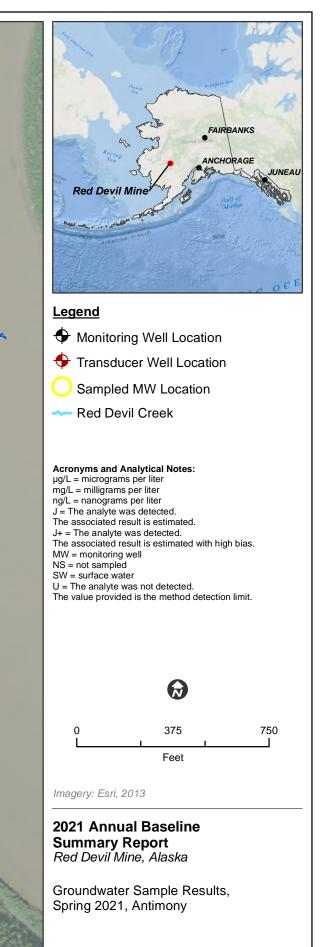


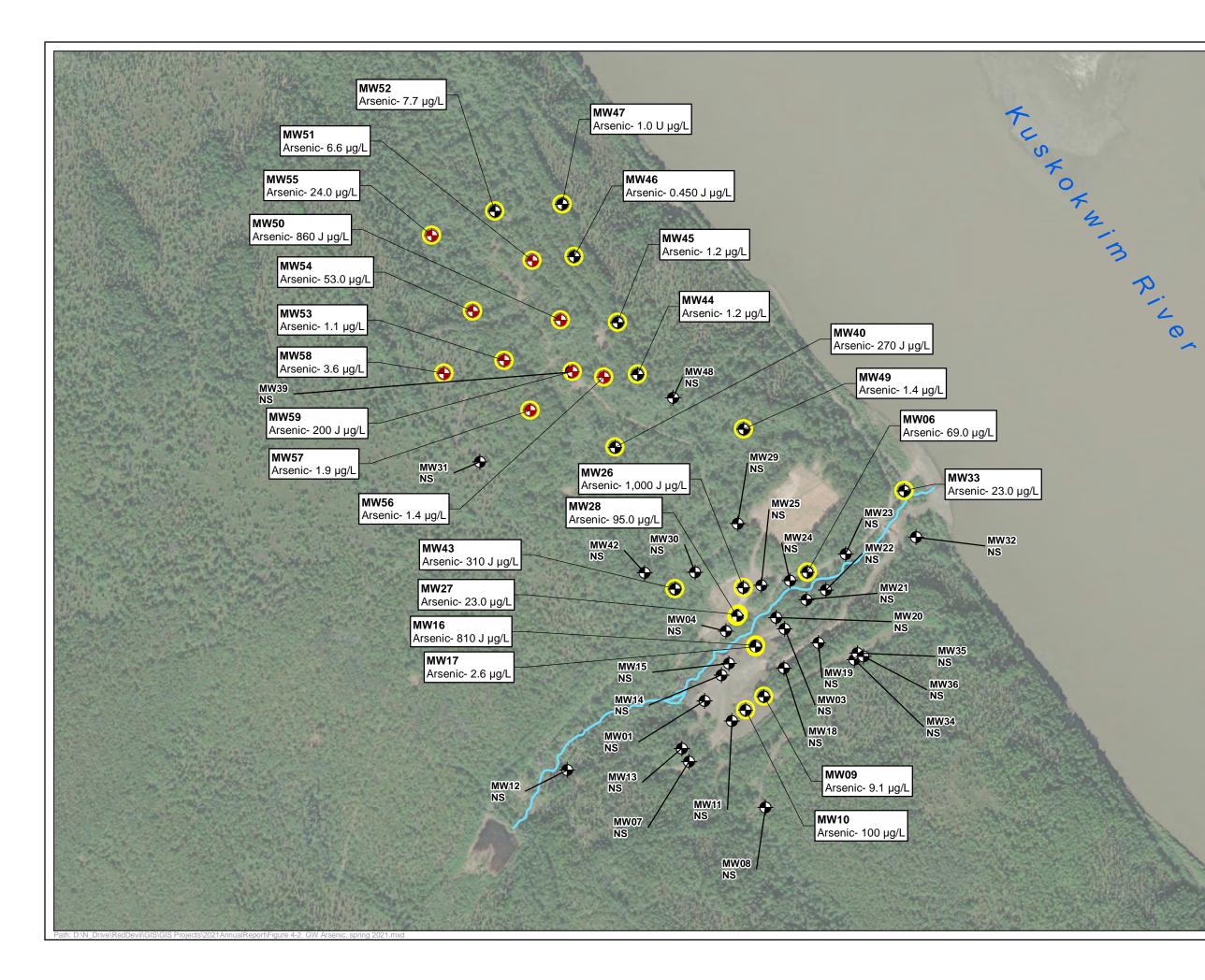
Figure 2-2

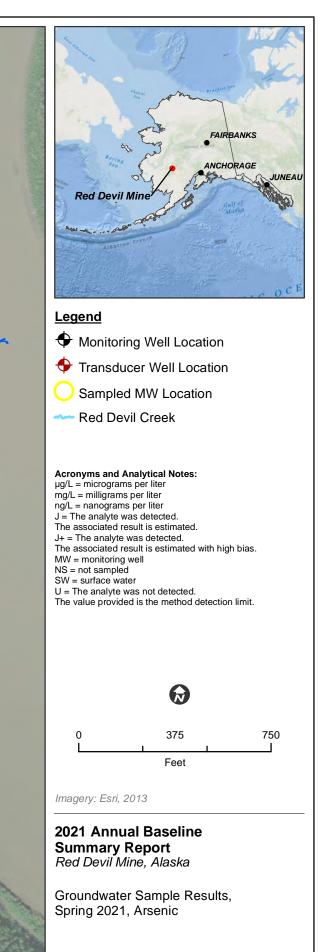


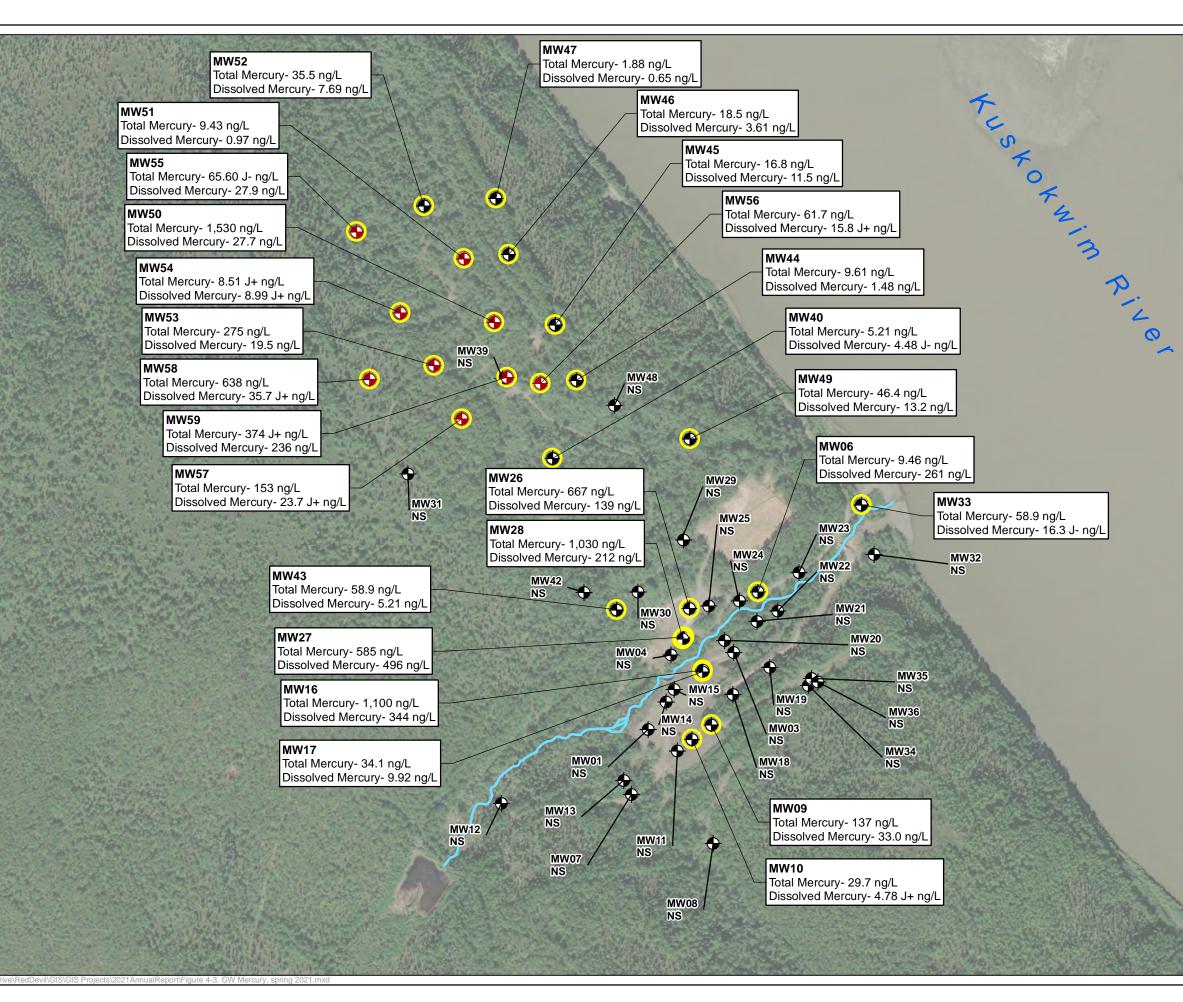


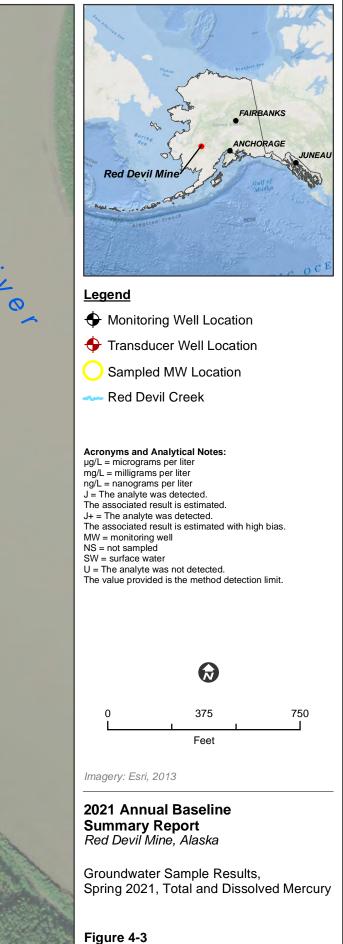


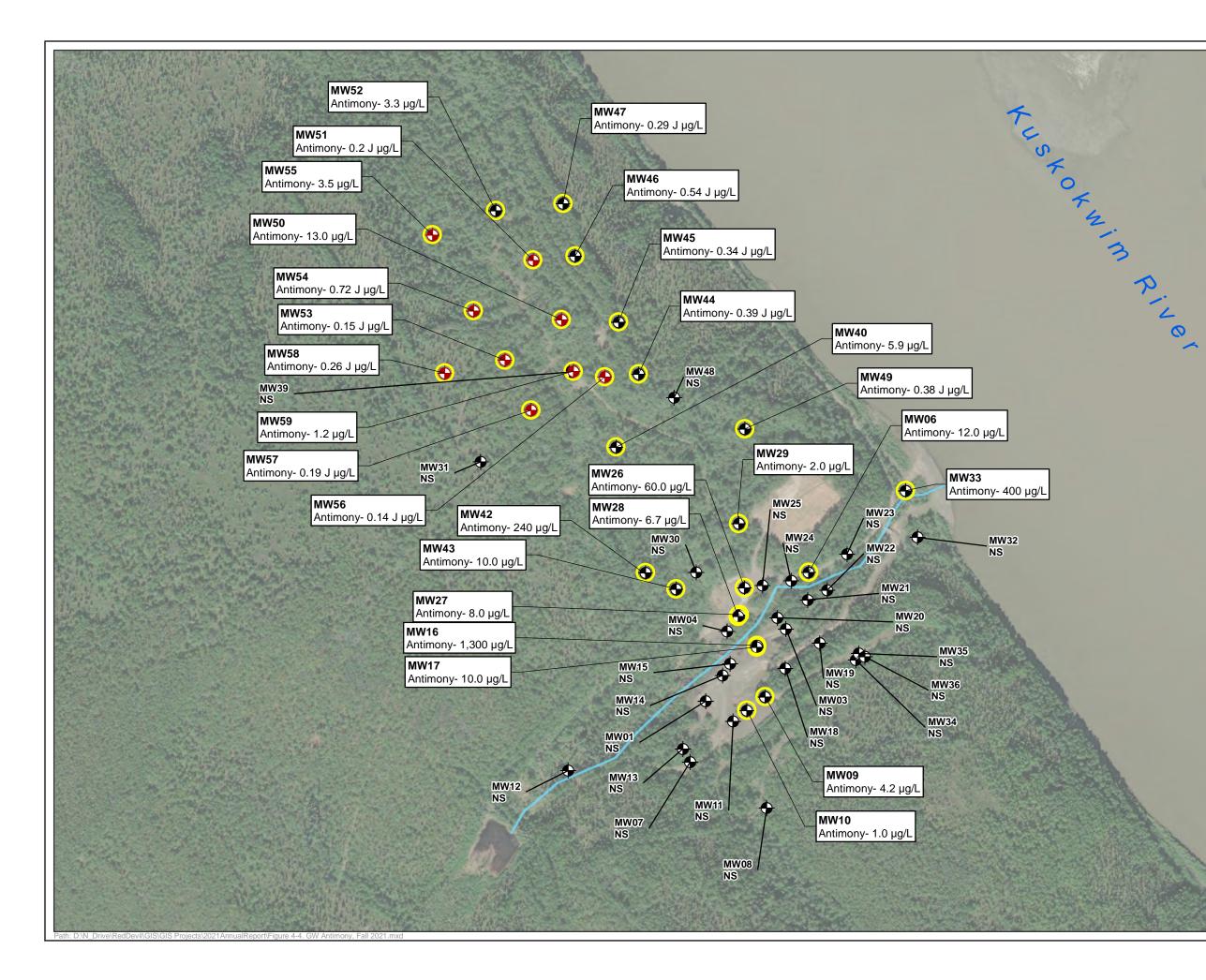


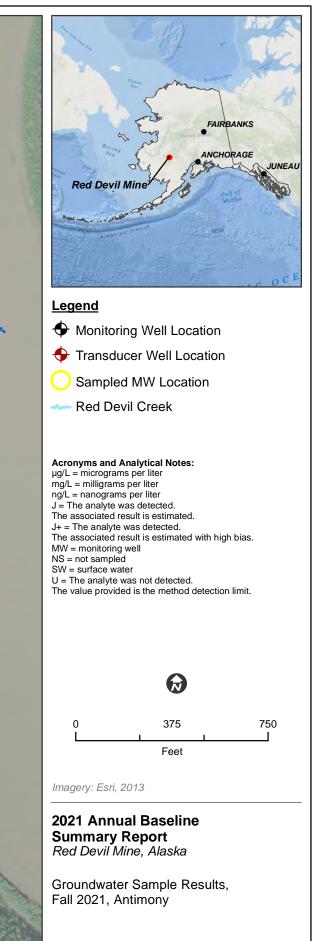


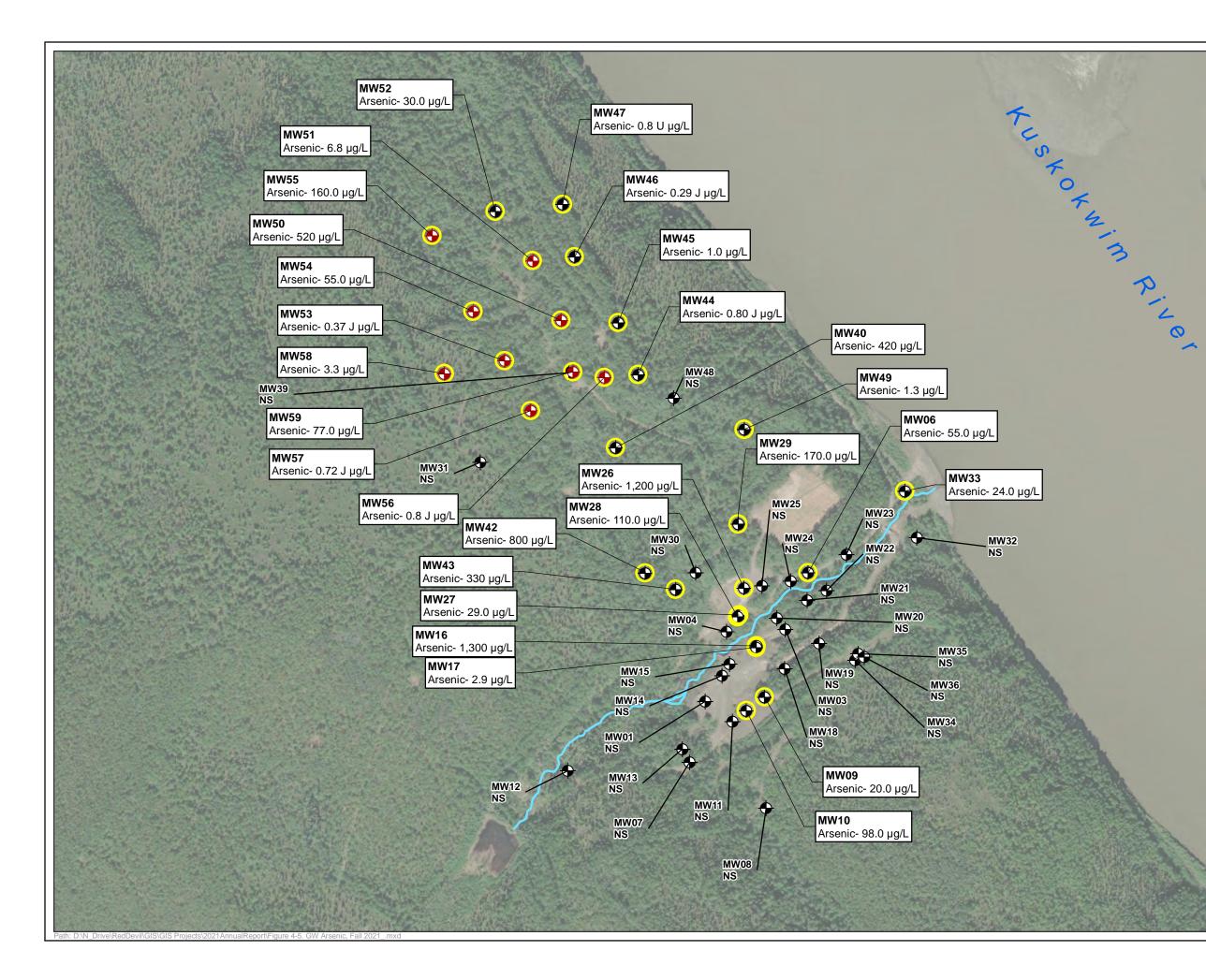


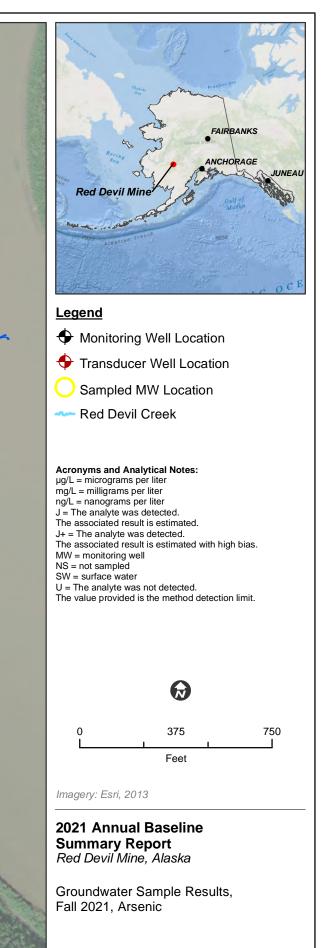


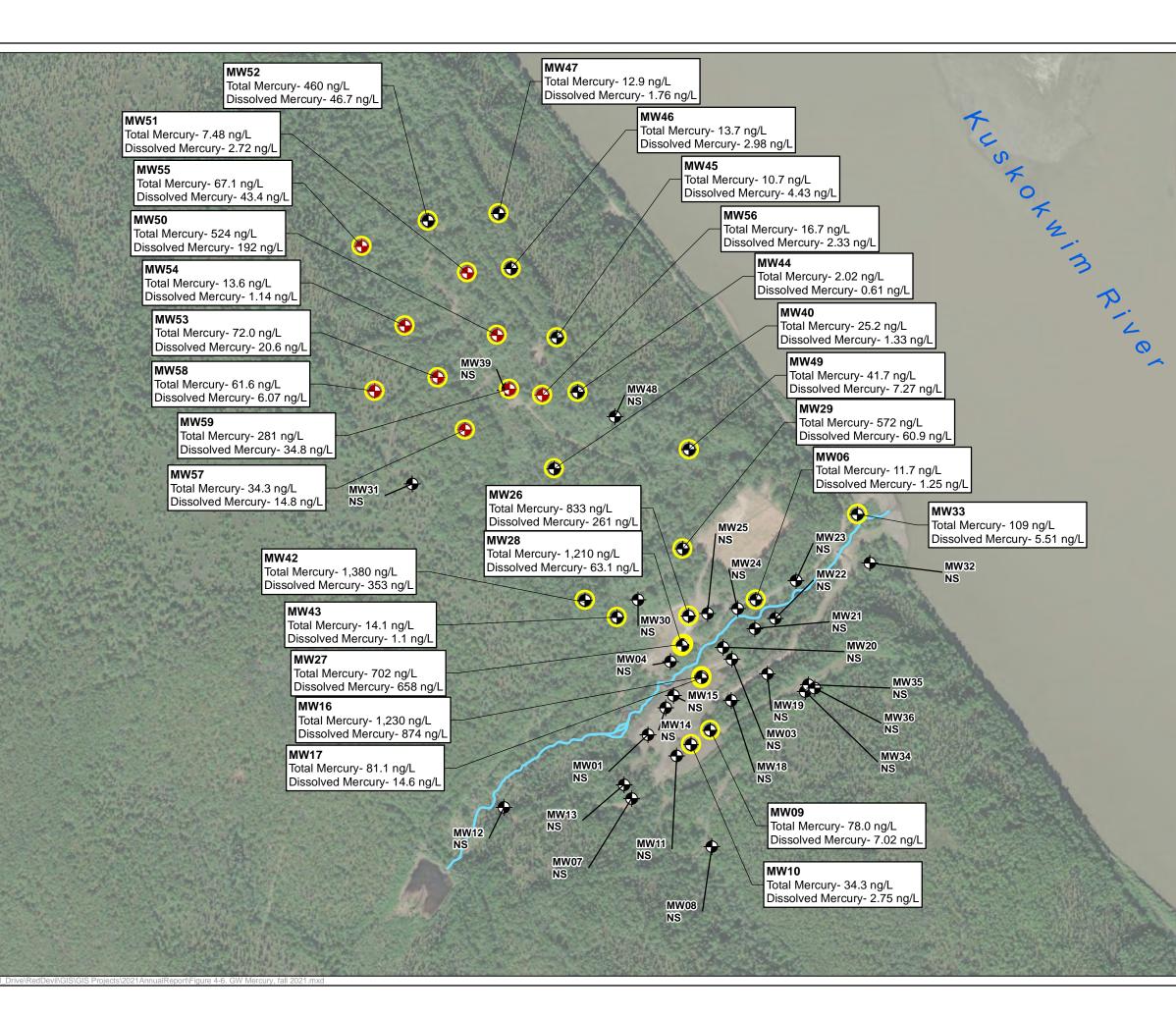


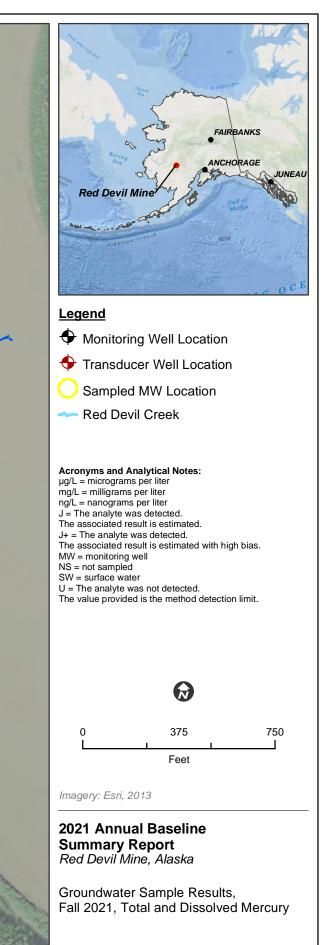












#### RD06SW

Antimony- 0.13 J mg/L Arsenic- 0.073 mg/L Total Mercury- 85.8 J+ ng/L

# RD05SW

Antimony- 0.057 mg/L Arsenic- 1.3 J mg/L Total Mercury- 56.6 ng/L

RD08SW

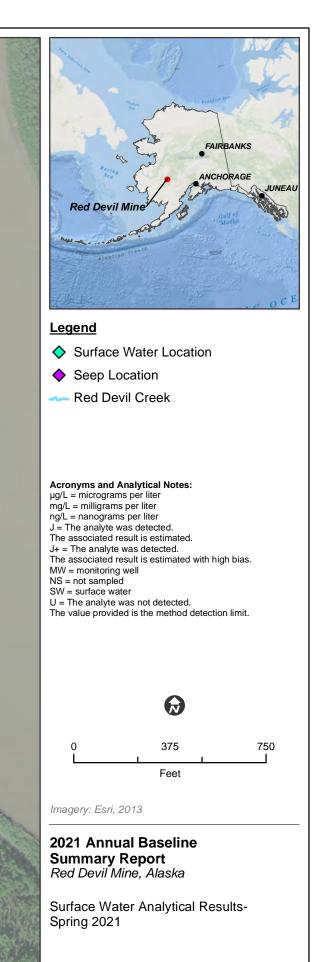
Antimony- 0.15 J mg/L Arsenic- 0.070 mg/L Total Mercury- 61.7 ng/L

Kuskokwim River

#### RD15SW

Antimony- 0.030 mg/L Arsenic- 0.011 mg/L Total Mercury- 75.7 J+ ng/L

# RD010SW Antimony- 0.0016 mg/L Arsenic- 0.00098 J mg/L Total Mercury- 2.63 ng/L



## RD06SW

Antimony- 0.11 J mg/L Arsenic- 0.057 mg/L Total Mercury- 236 ng/L

## RD05SW

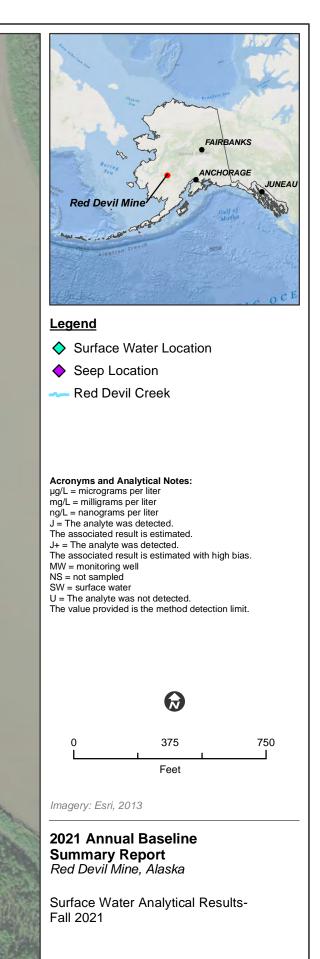
Antimony- 0.022 mg/L Arsenic- 0.83 mg/L Total Mercury- 47.9 ng/L

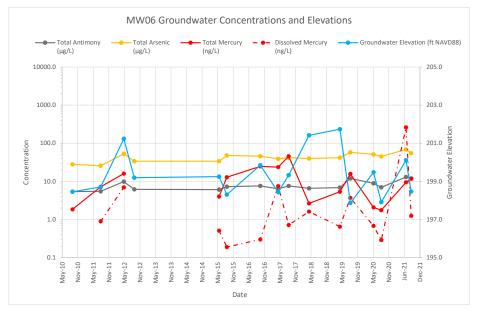
RD15SW

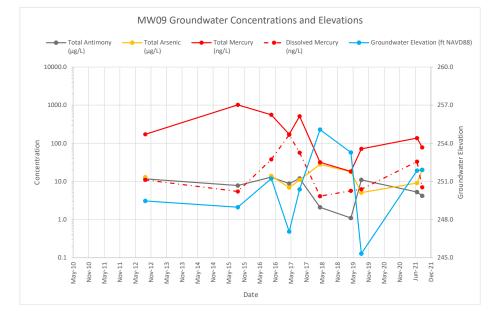
Antimony- 0.028 mg/L Arsenic- 0.011 mg/L Total Mercury- 80.9 ng/L

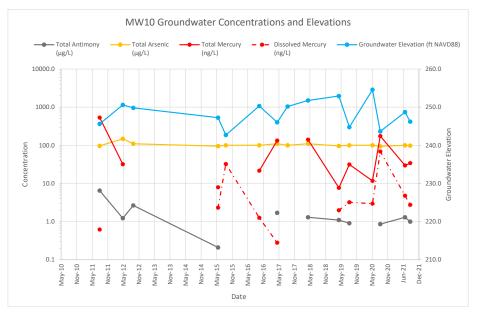
RD010SW Antimony- 0.0014 J+ mg/L Arsenic- 0.0012 mg/L Total Mercury- 5.22 ng/L RD08SW Antimony- 0.13 J mg/L Arsenic- 0.061 mg/L Total Mercury- 311 ng/L

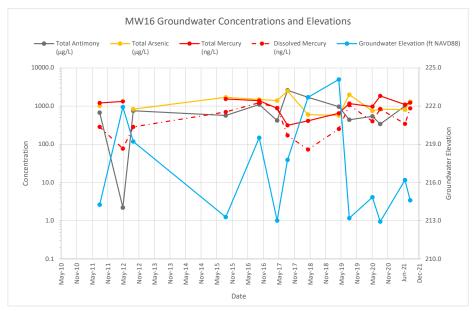
Kuskokwim River



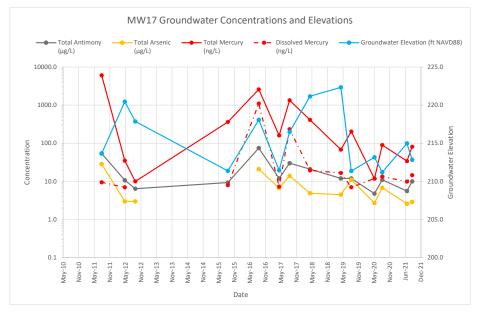


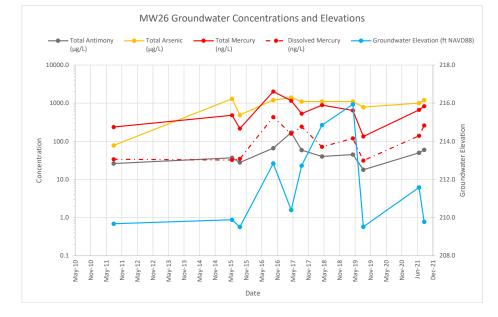


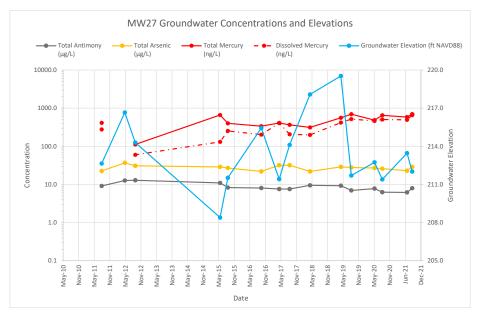


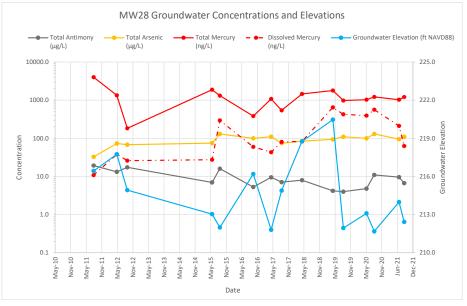


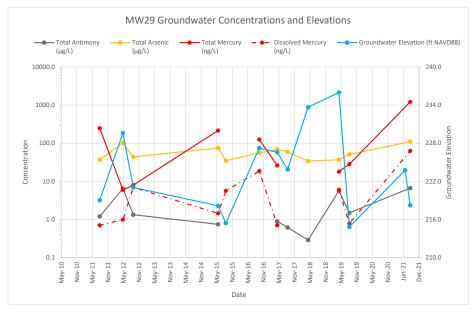
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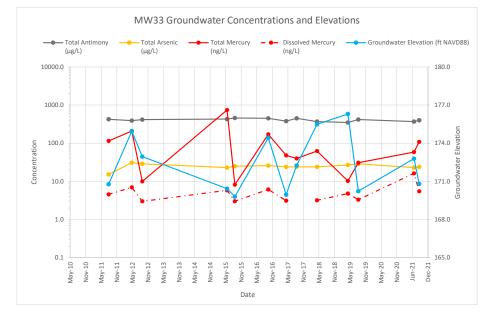


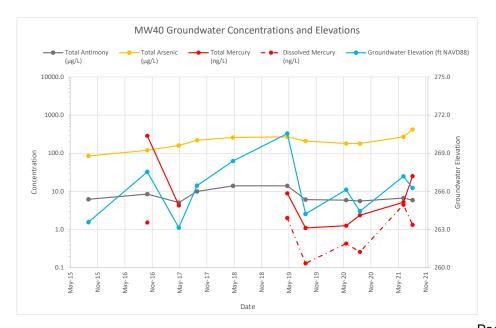


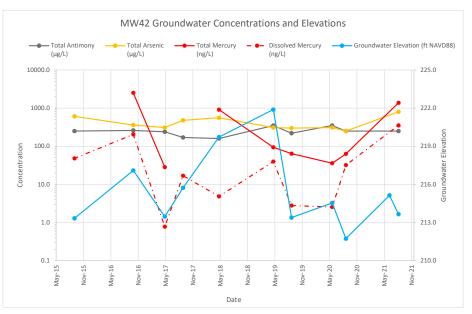




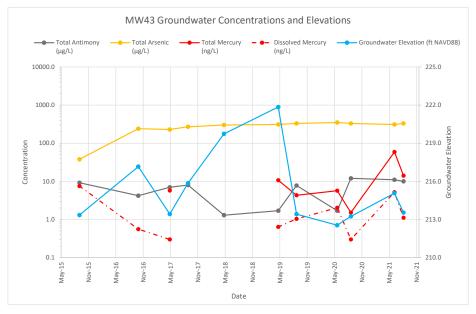


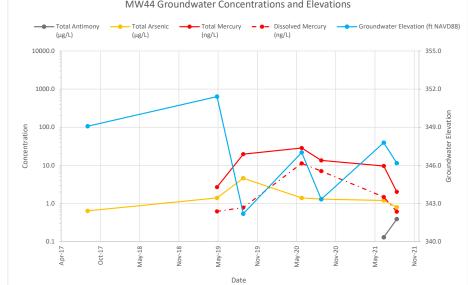


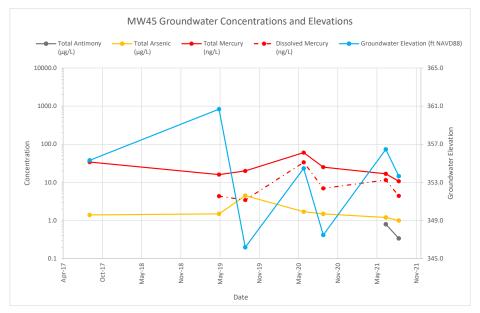


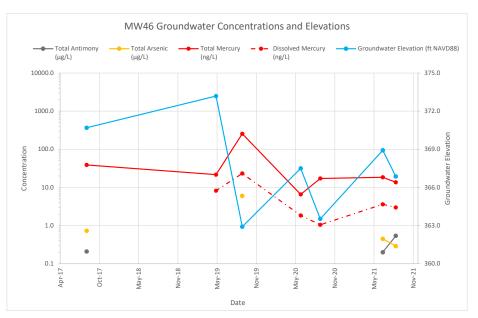


#### Page 3 of 7



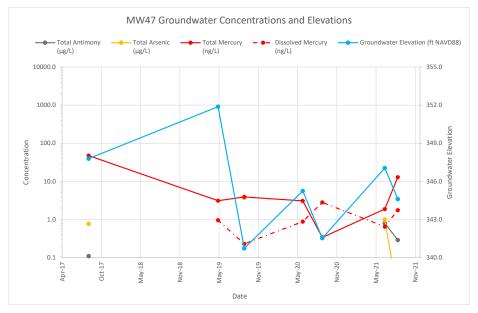


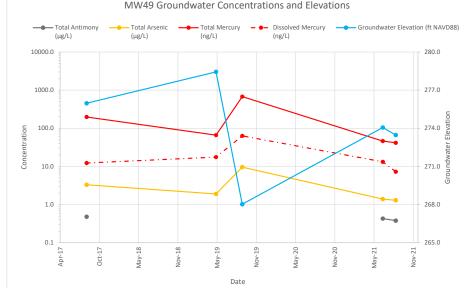


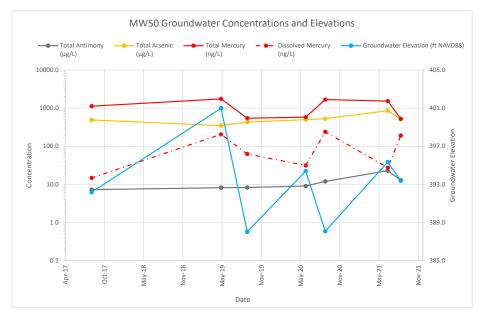


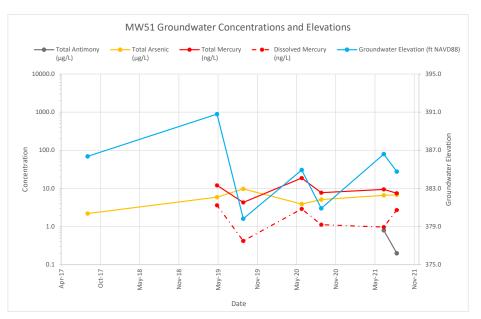
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#### MW44 Groundwater Concentrations and Elevations

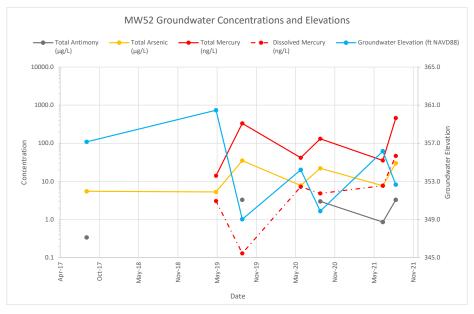


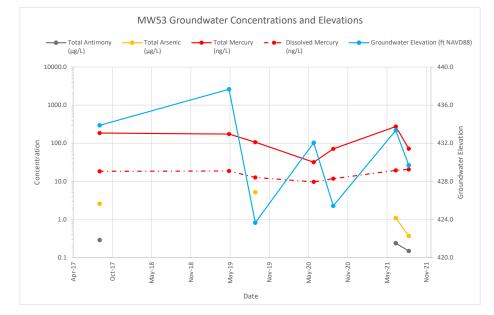


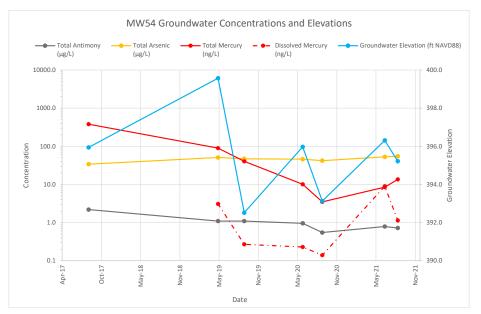


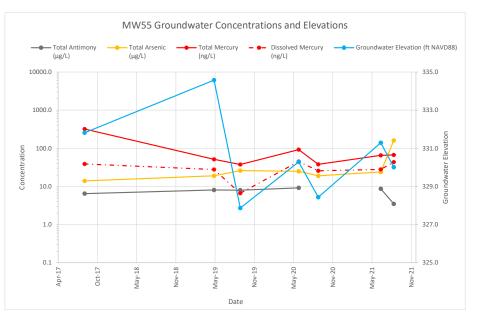


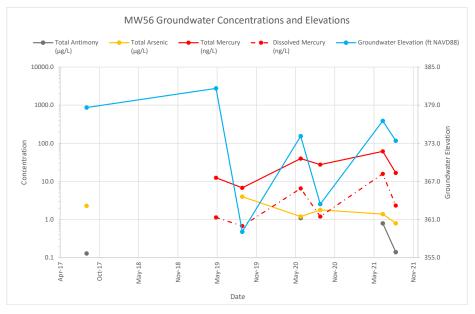
MW49 Groundwater Concentrations and Elevations

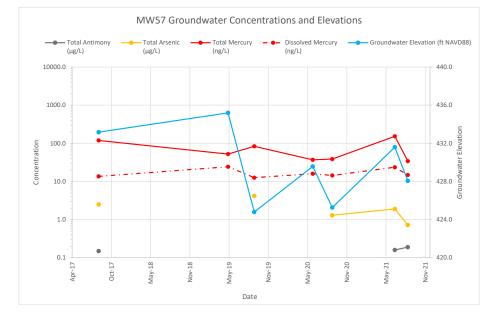


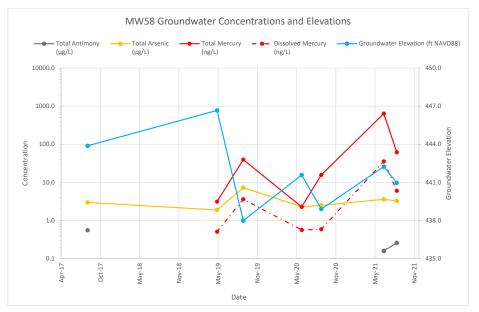












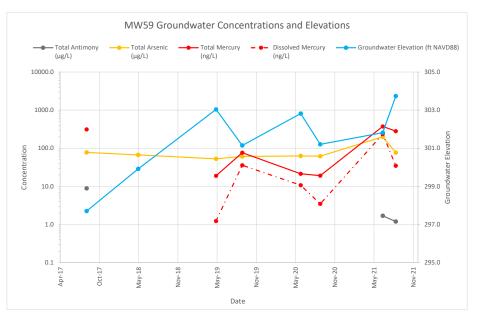
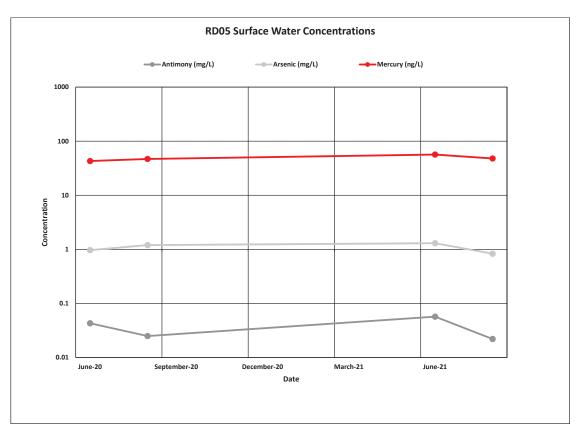


Figure 6-2. Surface Water Analytical Plots



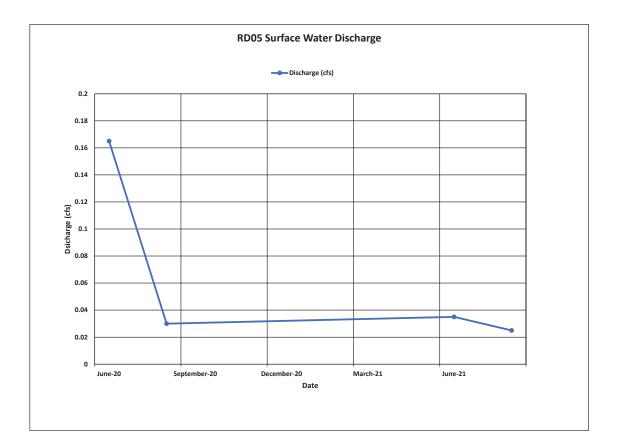
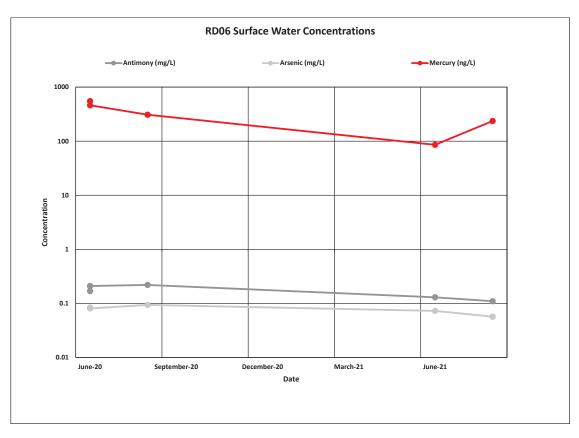


Figure 6-2. Surface Water Analytical Plots



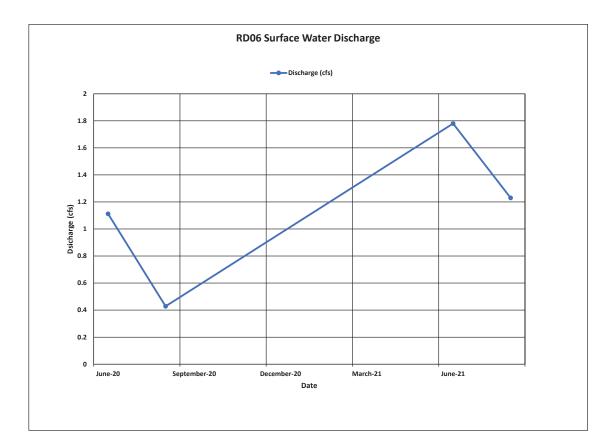
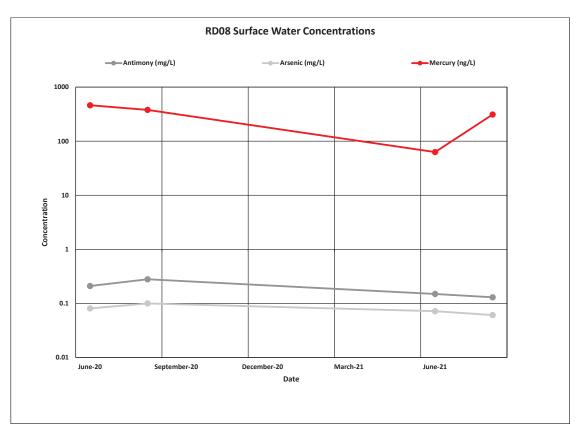


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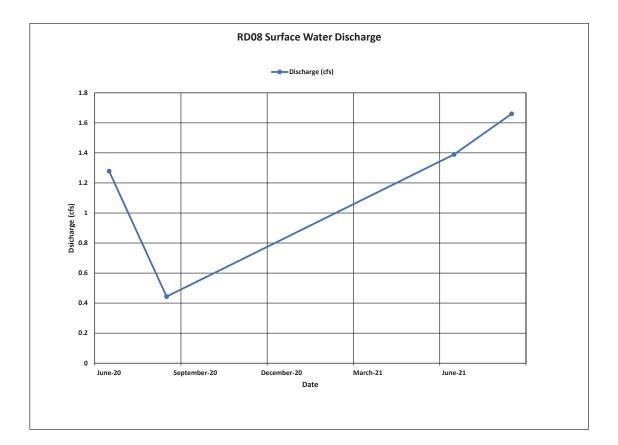
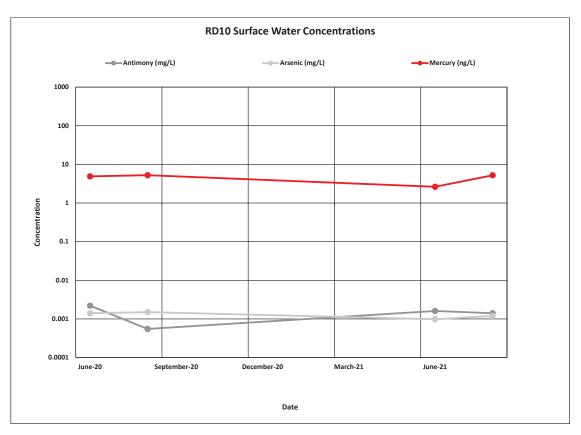


Figure 6-2. Surface Water Analytical Plots



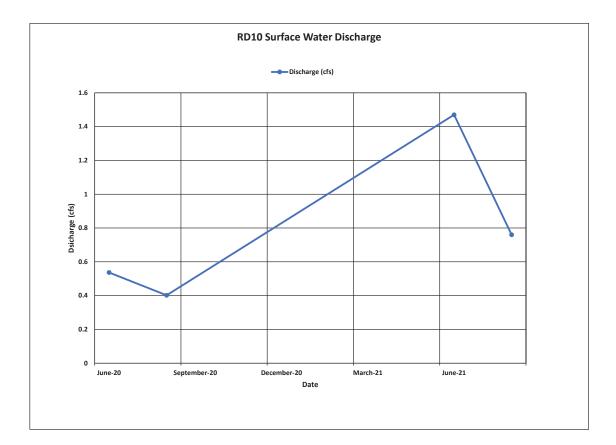
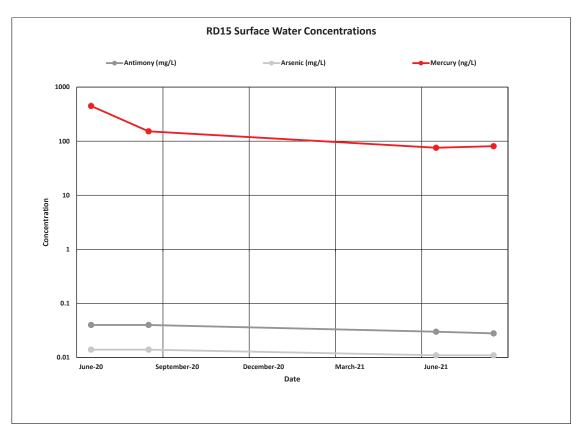
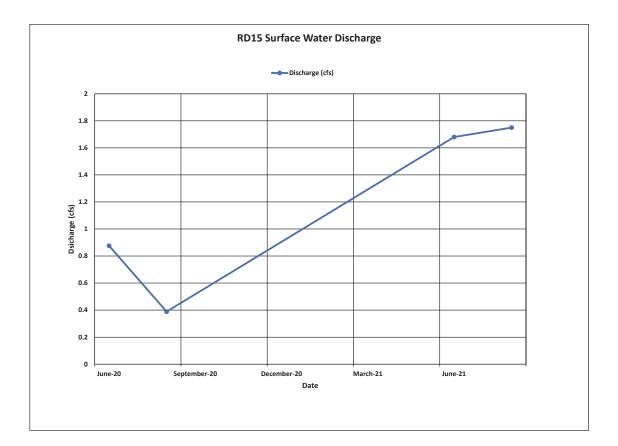
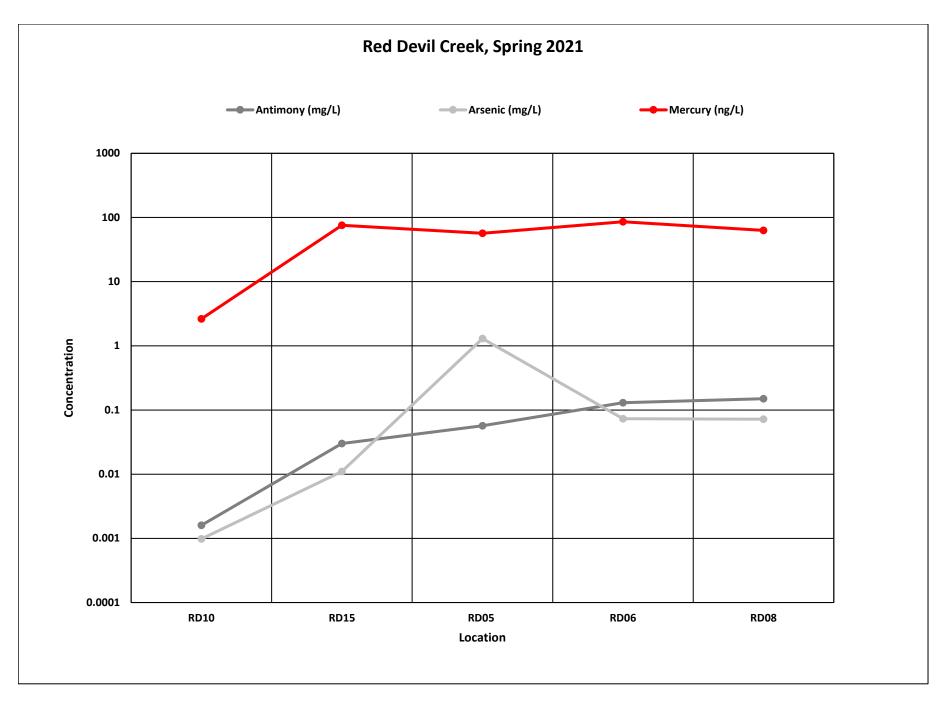
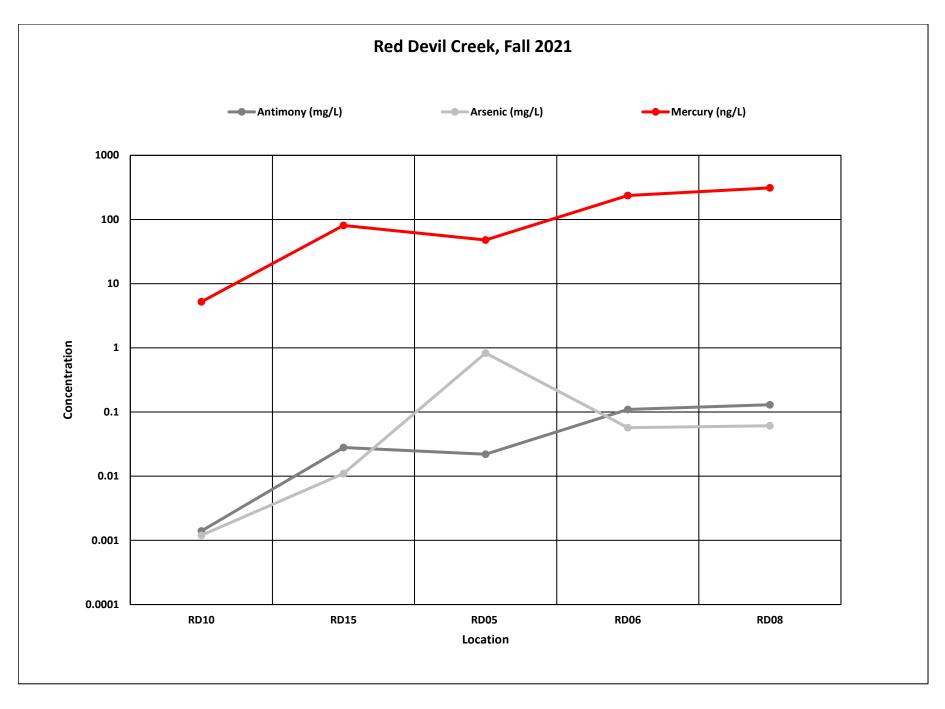


Figure 6-2. Surface Water Analytical Plots









# TABLES

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Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)
MW01											
MW01	B01	29.5	19.0 - 29.1	254.51	257.51	17.8 - TD	NR	21.50	6/17/2020	14:20	236.01
MW01	B01	29.5	19.0 - 29.1	254.51	257.51	17.8 - TD	NR	22.07	9/2/2020	12:13	235.44
MW01	B01	29.5	19.0 - 29.1	254.51	257.51	17.8 - TD	NR	25.97	6/4/2021	7:42	231.54
MW01	B01	29.5	19.0 - 29.1	254.51	257.51	17.8 - TD	NR	20.11	8/28/2021	9:19	237.40
MW03											
MW03	B03	25.5	15.0 - 25.0	228.37	230.77	19.0 - TD	NR	20.14	6/17/2020	13:30	210.63
MW03	B03	25.5	15.0 - 25.0	228.37	230.77	19.0 - TD	NR	22.65	9/2/2020	13:11	208.12
MW03	B03	25.5	15.0 - 25.0	228.37	230.77	19.0 - TD	NR	18.84	6/4/2021	9:50	211.93
MW03	B03	25.5	15.0 - 25.0	228.37	230.77	19.0 - TD	NR	20.82	8/28/2021	11:05	209.95
MW04											
MW04	B04	30.5	20.0 - 30.0	239.92	242.12	25.3 - TD	NR	27.12	6/17/2020		215.00
MW04	B04	30.5	20.0 - 30.0	239.92	242.12	25.3 - TD	NR	28.9	9/2/2020	17:25	213.22
MW04	B04	30.5	20.0 - 30.0	239.92	242.12	25.3 - TD	NR	26.03	6/4/2021	11:29	216.09
MW04	B04	30.5	20.0 - 30.0	239.92	242.12	25.3 - TD	NR	27.69	8/28/2021	12:50	214.43
MW06											
MW06	B06	23.5	13.0 - 23.0	214.99	217.49	20.0 - TD	NR	18.01	6/17/2020	16:21	199.48
MW06	B06	23.5	13.0 - 23.0	214.99	217.49	20.0 - TD	NR	19.57	9/2/2020	17:53	197.92
MW06	B06	23.5	13.0 - 23.0	214.99	217.49	20.0 - TD	NR	17.38	6/4/2021	11:58	200.11
MW06	B06	23.5	13.0 - 23.0	214.99	217.49	20.0 - TD	NR	19.02	8/28/2021	11:55	198.47
MW07		• •				•					
MW07	B07	21.5	11.0 - 21.0	278.39	280.89	14.8 - TD	NR	20.66	6/17/2020	15:38	260.23
MW07	B07	21.5	11.0 - 21.0	278.39	280.89	14.8 - TD	NR	23.14	9/2/2020	12:59	257.75
MW07	B07	21.5	11.0 - 21.0	278.39	280.89	14.8 - TD	NR	20.35	6/4/2021	9:15	260.54
MW07	B07	21.5	11.0 - 21.0	278.39	280.89	14.8 - TD	NR	20.93	8/28/2021	10:32	259.96
MW08											
MW08	11MP01SB	16.0	5.0 - 15.0	328.92	331.32	2.5 - 4.0, 10.5 - TD	NR	14.3	6/17/2020	16:04	317.02
MW08	11MP01SB	16.0	5.0 - 15.0	328.92	331.32	2.5 - 4.0, 10.5 - TD	NR	15.4	9/2/2020	12:43	315.92
MW08	11MP01SB	16.0	5.0 - 15.0	328.92	331.32	2.5 - 4.0, 10.5 - TD	NR	15.6	6/4/2021	9:04	315.73
MW08	11MP01SB	16.0	5.0 - 15.0	328.92	331.32	2.5 - 4.0, 10.5 - TD	NR	14.3	8/28/2021	10:25	317.05
MW09											
MW09	11MP17SB	31.0	20.0 - 30.0	274.88	277.28	14.0 - 16.0, 31.0 - TD	NR	27.33	6/17/2020	15:39	249.95
MW09	11MP17SB	31.0	20.0 - 30.0	274.88	277.28	14.0 - 16.0, 31.0 - TD	NR	27.26	9/2/2020	12:29	250.02

		Demonstral Well		S 1	C 1 T			Stati	c Water Le	vel	
Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)
MW09	11MP17SB	31.0	20.0 - 30.0	274.88	277.28	14.0 - 16.0, 31.0 - TD	NR	25.43	6/4/2021	8:20	251.85
MW09	11MP17SB	31.0	20.0 - 30.0	274.88	277.28	14.0 - 16.0, 31.0 - TD	NR	25.37	8/28/2021	9:48	251.91
MW10											
MW10	11MP14SB	61.0	50.0 - 60.0	274.31	276.21	48.0 - TD	NR	21.65	6/17/2020	14:25	254.56
MW10	11MP14SB	61.0	50.0 - 60.0	274.31	276.21	48.0 - TD	NR	32.56	9/2/2020	12:23	243.65
MW10	11MP14SB	61.0	50.0 - 60.0	274.31	276.21	48.0 - TD	NR	27.50	6/4/2021	8:08	248.71
MW10	11MP14SB	61.0	50.0 - 60.0	274.31	276.21	48.0 - TD	NR	30.01	8/28/2021	9:43	246.20
MW11											
MW11	11MP12SB	23.0	12.0 - 22.0	268.70	271.30		NR	21.42	6/17/2020	15:18	249.88
MW11	11MP12SB	23.0	12.0 - 22.0	268.70	271.30		NR	23.82	9/2/2020	12:21	247.48
MW11	11MP12SB	23.0	12.0 - 22.0	268.70	271.30		NR	21.86	6/4/2021	7:55	249.44
MW11	11MP12SB	23.0	12.0 - 22.0	268.70	271.30		NR	23.55	8/28/2021	9:38	247.75
MW12									0/ = 0/ = 0 = 0	7.00	
MW12	11RD13SB	15.0	4.0 - 14.0	263.22	265.62	1.0 - TD	NR	NR	6/17/2020		Inner casing damaged
MW12	11RD13SB	15.0	4.0 - 14.0	263.22	265.62	1.0 - TD	NR	NR	9/2/2020		from settling of outer
MW12	11RD13SB	15.0	4.0 - 14.0	263.22	265.62	1.0 - TD	NR	NR	6/4/2021	9:25	casing, preventing
MW12	11RD13SB	15.0	4.0 - 14.0	263.22	265.62	1.0 - TD	NR	NR	8/28/2021	10:44	access for DTW measurements.
MW13											measurements.
MW13	11MP20SB	32.0	21.0 - 31.0	274.30	276.70	27.0 - TD	31.65	DRY	6/17/2020	15:52	Dry (Water Elevation <243.3 feet bgs)
MW13	11MP20SB	32.0	21.0 - 31.0	274.30	276.70	27.0 - TD	NR	NR	9/2/2020	12:55	Frost jacked,
MW13	11MP20SB	32.0	21.0 - 31.0	274.30	276.70	27.0 - TD	NR	28.5	6/4/2021	9:20	unusable for DTW
MW13	11MP20SB	32.0	21.0 - 31.0	274.30	276.70	27.0 - TD	31.72	DRY	8/28/2021	10:37	measurements
MW14											
MW14	11MP25SB	36.0	25.0 - 35.0	246.71	249.01	25.7 - TD					Decommissioned in 2014 NTCRA
MW15											
MW15	11MP29SB	26.0	15.0 - 25.0	242.63	244.93	16.2 - TD					Decommissioned in 2014 NTCRA
MW16											
MW16	11MP30SB	22.0	11.0 - 21.0	226.09	228.09	16.0 - TD	NR	13.25	6/17/2020	15:52	214.84
MW16	11MP30SB	22.0	11.0 - 21.0	226.09	228.09	16.0 - TD	NR	15.17	9/2/2020	12:00	212.92
MW16	11MP30SB	22.0	11.0 - 21.0	226.09	228.09	16.0 - TD	NR	11.90	6/4/2021	9:45	216.19
MW16	11MP30SB	22.0	11.0 - 21.0	226.09	228.09	16.0 - TD	NR	13.49	8/28/2021	11:01	214.60
MW17											
MW17	11MP91SB	52.5	41.5 - 51.5	226.36	228.66	25.0 - 33.0, 33.0 - TD	NR	15.49	6/17/2020	13:25	213.17

		Demonstral Well		G 1	C 1 T			Stati	c Water Le	vel		
Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)	
MW17	11MP91SB	52.5	41.5 - 51.5	226.36	228.66	25.0 - 33.0, 33.0 - TD	NR	17.45	9/2/2020	12:06	211.21	
MW17	11MP91SB	52.5	41.5 - 51.5	226.36	228.66	25.0 - 33.0, 33.0 - TD	NR	13.67	6/4/2021	9:40	214.99	
MW17	11MP91SB	52.5	41.5 - 51.5	226.36	228.66	25.0 - 33.0, 33.0 - TD	NR	15.82	8/28/2021	10:58	212.84	
MW18												
MW18	11MP31SB	40.0	29.0 - 39.0	241.33	243.83	38.0 - TD	NR	29.62	6/17/2020	13:23	214.21	
MW18	11MP31SB	40.0	29.0 - 39.0	241.33	243.83	38.0 - TD	NR	31.81	9/2/2020	13:46	212.02	
MW18	11MP31SB	40.0	29.0 - 39.0	241.33	243.83	38.0 - TD	NR	27.55	6/4/2021	10:23	216.28	
MW18	11MP31SB	40.0	29.0 - 39.0	241.33	243.83	38.0 - TD	NR	29.87	8/28/2021	11:18	213.96	
MW19												
MW19	11MP33SB	43.0	32.0 - 42.0	237.70	240.00	39.0 - TD	NR	20.25	6/17/2020	13:17	219.75	
MW19	11MP33SB	43.0	32.0 - 42.0	237.70	240.00	39.0 - TD	NR	27.11	9/2/2020	13:50	212.89	
MW19	11MP33SB	43.0	32.0 - 42.0	237.70	240.00	39.0 - TD	NR	17.30	6/4/2021	10:32	222.70	
MW19	11MP33SB	43.0	32.0 - 42.0	237.70	240.00	39.0 - TD	NR	21.81	8/28/2021	11:24	218.19	
MW20	•								<u> </u>			
MW20	11MP38SB	15.5	4.5 - 14.5	212.90	215.20	6.5 - TD	NR	7.4	6/17/2020	13:33	207.80	
MW20	11MP38SB	15.5	4.5 - 14.5	212.90	215.20	6.5 - TD	NR	8.56	9/2/2020	13:18	206.64	
MW20	11MP38SB	15.5	4.5 - 14.5	212.90	215.20	6.5 - TD	NR	7.01	6/4/2021	9:58	208.19	
MW20	11MP38SB	15.5	4.5 - 14.5	212.90	215.20	6.5 - TD	NR	7.67	8/28/2021	11:09	207.53	
MW21			•						•		•	
MW21	11MP39SB	17.5	6.5 - 16.5	208.23	210.13	7.0 - TD	NR	8.81	6/17/2020	13:37	201.32	
MW21	11MP39SB	17.5	6.5 - 16.5	208.23	210.13	7.0 - TD	NR	10.32	9/2/2020	13:24	199.81	
MW21	11MP39SB	17.5	6.5 - 16.5	208.23	210.13	7.0 - TD	NR	8.48	6/4/2021	10:08	201.65	
MW21	11MP39SB	17.5	6.5 - 16.5	208.23	210.13	7.0 - TD	NR	8.96	8/28/2021	11:40	201.17	
MW22		• •										
MW22	11MP40SB	15.5	4.5 - 14.5	203.10	205.10	7.8 - TD	NR	9.4	6/17/2020	13:39	195.70	
MW22	11MP40SB	15.5	4.5 - 14.5	203.10	205.10	7.8 - TD	NR	10.79	9/2/2020	13:29	194.31	
MW22	11MP40SB	15.5	4.5 - 14.5	203.10	205.10	7.8 - TD	NR	8.55	6/4/2021	10:13	196.55	
MW22	11MP40SB	15.5	4.5 - 14.5	203.10	205.10	7.8 - TD	NR	9.97	8/28/2021	11:37	195.13	
MW23												
MW23	11MP66SB	29.0	18.0 - 28.0	201.96	204.16	20.0 - TD	NR	15.89	6/17/2020	16:27	188.27	
MW23	11MP66SB	29.0	18.0 - 28.0	201.96	204.16	20.0 - TD	NR	16.71	9/2/2020	17:59	187.45	
MW23	11MP66SB	29.0	18.0 - 28.0	201.96	204.16	20.0 - TD	NR	15.49	6/4/2021	12:03	188.67	
MW23	11MP66SB	29.0	18.0 - 28.0	201.96	204.16	20.0 - TD	NR	16.38	8/28/2021	11:51	187.78	
MW24												
MW24	11MP62SB	30.0	19.0 - 29.0	221.41	223.51	20.0 - TD	NR	17.18	6/17/2020	21:30	206.33	
MW24	11MP62SB	30.0	19.0 - 29.0	221.41	223.51	20.0 - TD	NR	18.54	9/2/2020	17:49	204.97	
MW24	11MP62SB	30.0	19.0 - 29.0	221.41	223.51	20.0 - TD	NR	16.16	6/4/2021	11:56	207.35	

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Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)
MW24	11MP62SB	30.0	19.0 - 29.0	221.41	223.51	20.0 - TD	NR	17.45	8/28/2021	11:58	206.06
MW25											
MW25	11MP89SB	42.0	31.0 - 41.0	237.56	239.76	32.0 - TD	NR	32.11	6/17/2020	16:41	207.65
MW25	11MP89SB	42.0	31.0 - 41.0	237.56	239.76	32.0 - TD	NR	32.94	9/2/2020	17:39	206.82
MW25	11MP89SB	42.0	31.0 - 41.0	237.56	239.76	32.0 - TD	NR	31.66	6/4/2021	11:47	208.10
MW25	11MP89SB	42.0	31.0 - 41.0	237.56	239.76	32.0 - TD	NR	32.26	8/28/2021	12:39	207.50
MW26											
MW26	11MP52SB	43.0	32.0 - 42.0	244.03	245.93	34.0 - TD	NR	35.73	6/17/2020	16:32	210.20
MW26	11MP52SB	43.0	32.0 - 42.0	244.03	245.93	34.0 - TD	NR	37.50	9/2/2020	17:36	208.43
MW26	11MP52SB	43.0	32.0 - 42.0	244.03	245.93	34.0 - TD	NR	34.35	6/4/2021	11:43	211.58
MW26	11MP52SB	43.0	32.0 - 42.0	244.03	245.93	34.0 - TD	NR	36.15	8/28/2021	12:34	209.78
MW27	•										
MW27	11MP60SB	34.0	23.0 - 33.0	241.04	242.94	29.0 - TD	NR	30.2	6/17/2020	16:51	212.74
MW27	11MP60SB	34.0	23.0 - 33.0	241.04	242.94	29.0 - TD	NR	31.54	9/2/2020	17:32	211.40
MW27	11MP60SB	34.0	23.0 - 33.0	241.04	242.94	29.0 - TD	NR	29.48	6/4/2021	11:40	213.46
MW27	11MP60SB	34.0	23.0 - 33.0	241.04	242.94	29.0 - TD	NR	30.92	8/28/2021	12:43	212.02
MW28		• •			•						
MW28	11MP88SB	64.0	53.0 - 63.0	239.94	241.94	49.0 - TD	NR	28.84	6/17/2020	16:47	213.10
MW28	11MP88SB	64.0	53.0 - 63.0	239.94	241.94	49.0 - TD	NR	30.25	9/2/2020	17:30	211.69
MW28	11MP88SB	64.0	53.0 - 63.0	239.94	241.94	49.0 - TD	NR	27.95	6/4/2021	11:33	213.99
MW28	11MP88SB	64.0	53.0 - 63.0	239.94	241.94	49.0 - TD	NR	29.51	8/28/2021	12:46	212.43
MW29		• •			•						
MW29	11MP41SB	70.0	59.0 - 69.0	280.35	282.25	61.0 - TD	NR	62.68	6/17/2020	20:10	219.57
MW29	11MP41SB	70.0	59.0 - 69.0	280.35	282.25	61.0 - TD	NR	NR	9/2/2020	17:11	<217.75 feet
MW29	11MP41SB	70.0	59.0 - 69.0	280.35	282.25	61.0 - TD	NR	58.50	6/4/2021	16:22	223.75
MW29	11MP41SB	70.0	59.0 - 69.0	280.35	282.25	61.0 - TD	NR	64.00	9/1/2021	15:00	218.25
MW30		•			•						
MW30	11SM31SB	53.0	42.0 - 52.0	275.71	277.41	45.0 - TD	NR	54.29	6/17/2020	20:15	Suspected Dry (Water Elevation <223.7 feet)
MW30	11SM31SB	53.0	42.0 - 52.0	275.71	277.41	45.0 - TD	NR	54.25	9/2/2020	17:18	Suspected Dry (Water Elevation <223.7 feet)
MW30	11SM31SB	53.0	42.0 - 52.0	275.71	277.41	45.0 - TD	NR	53.66	6/4/2021	16:30	Suspected Dry (Water Elevation <223.7 feet)
MW30	11SM31SB	53.0	42.0 - 52.0	275.71	277.41	45.0 - TD	NR	54.19	8/28/2021	16:21	Suspected Dry (Water Elevation <223.7 feet)

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Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)	
MW31												
MW31	11UP11SB	44.8	33.8 - 43.8	495.79	497.99	34.0 - TD	NR	41.12	6/17/2020	21:12	456.87	
MW31	11UP11SB	44.8	33.8 - 43.8	495.79	497.99	34.0 - TD	44.95	DRY	9/2/2020	16:11	Suspected Dry (Water Elevation <452 feet)	
MW31	11UP11SB	44.8	33.8 - 43.8	495.79	497.99	34.0 - TD	NR	38.56	6/4/2021	15:45	459.43	
MW31	11UP11SB	44.8	33.8 - 43.8	495.79	497.99	34.0 - TD	NR	39.02	8/28/2021	15:09	458.97	
MW32									<u> </u>			
MW32	11RD05SB	25.0	14.0 - 24.0	194.38	196.58	16.5 - TD	NR	19.11	6/17/2020	13:10	177.47	
MW32	11RD05SB	25.0	14.0 - 24.0	194.38	196.58	16.5 - TD	NR	21.06	9/2/2020	16:52	175.52	
MW32	11RD05SB	25.0	14.0 - 24.0	194.38	196.58	16.5 - TD	NR	18.51	6/4/2021	10:41	178.07	
MW32	11RD05SB	25.0	14.0 - 24.0	194.38	196.58	16.5 - TD	NR	19.28	8/28/2021	11:31	177.30	
MW33	•	•			•							
MW33	11RD20SB	23.0	12.0 - 22.0	176.62	178.92	10.5 - TD	NR	6.62	6/17/2020	13:00	172.30	
MW33	11RD20SB	23.0	12.0 - 22.0	176.62	178.92	10.5 - TD	NR	8.74	9/2/2020	11:05	170.18	
MW33	11RD20SB	23.0	12.0 - 22.0	176.62	178.92	10.5 - TD	NR	6.13	6/4/2021	16:49	172.79	
MW33	11RD20SB	23.0	12.0 - 22.0	176.62	178.92	10.5 - TD	NR	8.12	8/28/2021	16:53	170.80	
MW34												
MW34	AST5 MW1	NR	NR	290.95	294.25		NR	58.13	6/4/2021	8:35	236.12	
MW34	AST5 MW1	NR	NR	290.95	294.25		NR	34.59	8/28/2021	9:55	259.66	
MW35												
MW35	AST5 MW2	NR	NR	285.76	289.26		NR	35.42	6/4/2021	8:42	253.84	
MW35	AST5 MW2	NR	NR	285.76	289.26		NR	39.18	8/28/2021	9:59	250.08	
MW36												
MW36	AST5 MW3	NR	NR	286.33	290.03		NR	15.74	6/4/2021	8:49	274.29	
MW36	AST5 MW3	NR	NR	286.33	290.03		NR	16.39	8/28/2021	10:02	273.64	
MW39												
MW39	SM67	84.0	63 - 83	432.83	435.26		85.10	Dry (>84)	9/2/2020	15:52	Dry (Water Elevation <349.8 feet)	
MW39	SM67	84.0	63 - 83	432.83	435.26		NR	84.81	6/4/2021	14:40	Dry (Water Elevation <349.8 feet)	
MW39	SM67	84.0	63 - 83	432.83	435.26		NR	84.79	8/28/2021	15:35	Dry (Water Elevation <349.8 feet)	
MW40												
MW40	SM68c	140.0	119 - 139	392.86	395.18		NR	129.05	6/17/2020	21:02	266.13	
MW40	SM68c	140.0	119 - 139	392.86	395.18		NR	130.74	9/2/2020	15:40	264.44	
MW40	SM68c	140.0	119 - 139	392.86	395.18		NR	127.99	6/4/2021	14:29	267.19	

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Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)
MW40	SM68c	140.0	119 - 139	392.86	395.18		NR	128.91	8/28/2021	15:45	266.27
MW42											
MW42	SM70b	140.0	119 - 139	339.85	342.34		NR	127.8	6/17/2020	18:47	214.54
MW42	SM70b	140.0	119 - 139	339.85	342.34			130.6	9/2/2020	17:39	211.74
MW42	SM70b	140.0	119 - 139	339.85	342.34		NR	127.2	6/4/2021	11:08	215.14
MW42	SM70b	140.0	119 - 139	339.85	342.34		NR	128.7	8/28/2021	16:31	213.66
MW43											
MW43	SM71b	118.5	98 - 118	300.87	303.69		NR	91.14	6/17/2020	18:38	212.55
MW43	SM71b	118.5	98 - 118	300.87	303.69		NR	90.44	9/2/2020	17:32	213.25
MW43	SM71b	118.5	98 - 118	300.87	303.69		NR	88.62	6/4/2021	11:18	215.07
MW43	SM71b	118.5	98 - 118	300.87	303.69		NR	90.14	8/28/2021	16:38	213.55
MW44											
MW44	SM72	69	48-68	378.92	381.59		NR	34.57	6/17/2020	10:30	347.02
MW44	SM72	69	48-68	378.92	381.59		NR	38.25	9/2/2020	16:24	343.34
MW44	SM72	69	48-68	378.92	381.59		NR	33.80	6/4/2021	16:02	347.79
MW44	SM72	69	48-68	378.92	381.59		NR	35.42	8/28/2021	15:56	346.17
MW45											
MW45	SM73	82	61-81	397.70	400.37		NR	45.9	6/17/2020	10:38	354.47
MW45	SM73	82	61-81	397.70	400.37		NR	52.88	9/2/2020	15:25	347.49
MW45	SM73	82	61-81	397.70	400.37		NR	43.91	6/4/2021	13:35	356.46
MW45	SM73	82	61-81	397.70	400.37		NR	46.72	8/28/2021	13:40	353.65
MW46											
MW46	SM74	57	36-56	399.62	402.50		NR	35	6/17/2020	10:44	367.50
MW46	SM74	57	36-56	399.62	402.50		NR	38.97	9/2/2020	15:18	363.53
MW46	SM74	57	36-56	399.62	402.50		NR	33.58	6/4/2021	13:27	368.92
MW46	SM74	57	36-56	399.62	402.50		NR	35.63	8/28/2021	13:32	366.87
MW47											
MW47	SM75	67	46-66	380.67	383.67		NR	38.42	6/17/2020	20:52	345.25
MW47	SM75	67	46-66	380.67	383.67		NR	42.13	9/2/2020	15:12	341.54
MW47	SM75	67	46-66	380.67	383.67		NR	36.62	6/4/2021	13:14	347.05
MW47	SM75	67	46-66	380.67	383.67		NR	39.06	8/28/2021	13:25	344.61
MW48		··· -							T		
MW48	SM76	44.5	23-43	348.87	351.51		NR	20.44	6/17/2020	20:22	331.07
MW48	SM76	44.5	23-43	348.87	351.51		NR	23.19	9/2/2020	16:32	328.32
MW48	SM76	44.5	23-43	348.87	351.51		NR	19.51	6/4/2021	16:13	332.00
MW48	SM76	44.5	23-43	348.87	351.51		NR	20.19	8/28/2021	16:02	331.32
MW49	an		10 - 77	201.17	205 77			20.5-			076
MW49	SM77	61.7	40-60	301.15	303.78		NR	30.25	6/17/2020	20:02	273.53
MW49	SM77	61.7	40-60	301.15	303.78		NR	34.51	9/2/2020	16:40	269.27
MW49	SM77	61.7	40-60	301.15	303.78		NR	29.72	6/4/2021	16:36	274.06

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Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)	Measured Well Total Depth (feet below TOC)	Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)
MW49	SM77	61.7	40-60	301.15	303.78		NR	30.31	8/28/2021	16:10	273.47
MW50											
MW50	SM78	92	71-91	439.58	442.6501		NR	48.25	6/17/2020	20:58	394.40
MW50	SM78	92	71-91	439.58	442.6501		NR	54.56	9/2/2020	14:27	388.09
MW50	SM78	92	71-91	439.58	442.6501		NR	47.31	6/4/2021	15:15	395.34
MW50	SM78	92	71-91	439.58	442.6501		NR	49.26	8/28/2021	14:30	393.39
MW51											
MW51	SM79	77	56-76	422.38	425.05		NR	40.12	6/17/2020	21:11	384.93
MW51	SM79	77	56-76	422.38	425.05		NR	44.14	9/2/2020	14:10	380.91
MW51	SM79	77	56-76	422.38	425.05		NR	38.45	6/4/2021	14:55	386.60
MW51	SM79	77	56-76	422.38	425.05		NR	40.28	8/28/2021	14:03	384.77
MW52											
MW52	SM80	56	35-55	383.91	386.83		NR	32.61	6/17/2020	20:12	354.22
MW52	SM80	56	35-55	383.91	386.83		NR	36.94	9/2/2020	14:55	349.89
MW52	SM80	56	35-55	383.91	386.83		NR	30.66	6/4/2021	13:08	356.17
MW52	SM80	56	35-55	383.91	386.83		NR	34.17	8/28/2021	13:17	352.66
MW53											
MW53	SM81	62	41-61	460.82	463.7785		NR	31.72	6/17/2020	21:33	432.06
MW53	SM81	62	41-61	460.82	463.7785		NR	38.34	9/2/2020	14:44	425.44
MW53	SM81	62	41-61	460.82	463.7785		NR	30.43	6/4/2021	15:35	433.35
MW53	SM81	62	41-61	460.82	463.7785		NR	34.08	8/28/2021	14:56	429.70
MW54											
MW54	SM82	50	29-49	423.01	425.7406		NR	29.77	6/17/2020	20:48	395.97
MW54	SM82	50	29-49	423.01	425.7406		NR	32.61	9/2/2020	14:18	393.13
MW54	SM82	50	29-49	423.01	425.7406		NR	29.43	6/4/2021	15:05	396.31
MW54	SM82	50	29-49	423.01	425.7406		NR	30.52	8/28/2021	14:17	395.22
MW55											
MW55	SM83	27	10-20	341.26	344.09		23.65	13.8	6/17/2020	20:00	330.29
MW55	SM83	27	10-20	341.26	344.09		NR	15.65	9/2/2020	15:01	328.44
MW55	SM83	27	10-20	341.26	344.09		NR	12.80	6/4/2021	13:00	331.29
MW55	SM83	27	10-20	341.26	344.09		NR	14.08	8/28/2021	13:10	330.01
MW56											
MW56	SM84	76	55-75	408.55	411.329		NR	37.21	6/17/2020	20:24	374.12
MW56	SM84	76	55-75	408.55	411.329		NR	47.88	9/2/2020	15:33	363.45
MW56	SM84	76	55-75	408.55	411.329		NR	34.80	6/4/2021	13:43	376.53
MW56	SM84	76	55-75	408.55	411.329		NR	37.93	8/28/2021	13:46	373.40
MW57										_	
MW57	SM85	60	37.5-57.5	461.00	463.8141		NR	34.24	6/17/2020	20:41	429.57
MW57	SM85	60	37.5-57.5	461.00	463.8141		NR	38.54	9/2/2020	16:03	425.27
MW57	SM85	60	37.5-57.5	461.00	463.8141		NR	32.22	6/4/2021	15:53	431.59

				G 1	G 17			Statio	c Water Le	vel		
Monitoring Well ID	Soil Boring ID	Reported Well Total Depth As Constructed (feet bgs)	Reported Screened Interval (feet bgs)	Surveyed Ground Elevation (feet NAVD88)	Surveyed Top of Casing Elevation (feet NAVD88)	GW Observed During Drilling (feet bgs)		Depth (feet below TOC)	Date	Time	GW Elevation (feet NAVD88)	
MW57	SM85	60	37.5-57.5	461.00	463.8141		NR	35.75	8/28/2021	15:17	428.06	
MW58												
MW58	SM86	58	36.62-56.62	469.84	472.7246		NR	31.14	6/17/2020	21:24	441.58	
MW58	SM86	58	36.62-56.62	469.84	472.7246		NR	33.82	9/2/2020	14:35	438.90	
MW58	SM86	58	36.62-56.62	469.84	472.7246		NR	30.48	6/4/2021	15:25	442.24	
MW58	SM86	58	36.62-56.62	469.84	472.7246		NR	31.76	8/28/2021	14:43	440.96	
MW59												
MW59	SM87	161.5	140-160	432.63	435.4785		NR	132.66	6/17/2020	20:28	302.82	
MW59	SM87	161.5	140-160	432.63	435.4785		NR	134.27	9/2/2020	15:55	301.21	
MW59	SM87	161.5	140-160	432.63	435.4785		NR	133.66	6/4/2021	14:46	301.82	
MW59	SM87	161.5	140-160	432.63	435.4785		NR	131.74	8/28/2021	15:28	303.74	

Notes

Elevation datum: NAVD88 calculated using GEOID09.

TOC refers to the top of PVC inner casing.

#### Acroynms and Abbreviations

bgs = below ground surface

GW = groundwater

ID = Identification

NAVD88 = North American Vertical Datum, 1988

NR = Not Recorded

NTCRA = non-time-critical removal action PVC = polyvinyl chloride TD = Total depth TOC = Top of Casing

-- = No information avialable

	A	A		Estimated Discharge (cfs)														
Location <sup>1</sup>	Average	Average			-	-					0 . ,			-			1	
Botation	Spring	Fall	18-Aug-11	26-May-12	12-Sep-12	19-Jun-15	2-Sep-15	28-Sep-16	1-Jun-17	16-Sep-17	27-Sep-17	19-May-18	18-May-19	10-Sep-19	17-Jun-20	2-Sep-20	9-Jun-21	3-Sep-21
RD02		5.96	5.96	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
RD03		4.09	4.09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
RD10	5.67	2.73	5.52	12.18	4.64	1.25	0.48	2.45	1.20	5.22	NR	11.60	11.47	0.42	0.54	0.40	1.47	0.76
RD14	6.67	2.57				1.41	0.54	3.01	1.54	6.35	NR	10.84	12.87	0.37	NR	NR	NR	NR
RD04	12.67	4.70	5.95	12.67	3.45	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
RD12	10.53	6.02	8.24	10.53	3.79	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
RD13						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
RD15	5.79	2.37				1.40	0.67	3.53	1.91	6.85	NR	15.80	13.04	0.41	0.88	0.39	1.68	1.75
RD05	0.15	0.14	0.18	NR	0.16	0.23	0.19	0.35	0.01	0.05	NR	0.33	0.12	0.01	0.17	0.03	0.04	0.03
(seep)	0.15	0.14	0.18	INK	0.10	0.23	0.19	0.55	0.01	0.05	INK	0.55	0.12	0.01	0.17	0.05	0.04	0.03
RD16	6.88	0.54				1.61	0.60	NR	NR	NR	NR	NR	12.14	0.47	NR	NR	NR	NR
RD09	7.80	3.77	5.98	13.36	3.40	1.40	0.80	2.43	1.55	6.23	NR	14.87	NR	NR	NR	NR	NR	NR
RD06	7.00	3.54	6.81	14.47	3.80	1.54	0.79	5.51	1.26	7.08	NR	13.69	15.15	0.33	1.11	0.43	1.78	1.23
RD07		5.61	7.61	NR	3.61	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
RD08	6.35	3.48	7.19	14.20	3.09	1.90	0.81	NR	2.15	7.38	5.21	10.41	13.12	0.26	1.28	0.44	1.39	1.66

#### Table 2-2. Red Devil Creek and Seep Discharge Gauging

Notes:

<sup>1</sup> Locations are organized from upstream to downstream along Red Devil Creek to the Kuskokwim River.

Acrynims and Abbreviations:

cfs = cubic feet per second

NR = Not Recorded; Station not monitored

RD = Red Devil

-- = Station not established

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	Station ID			MW06	MW09		MW10	MW16	MW17	MW26	MW27	MW28	MW33	MW40
Analyte	Geographic Area		Units						Pre-1955 MPA					Surface Mined Area
	Sample ID		1	0621MW06GW	0621MW09	GW	0621MW10GW	0621MW16GW	0621MW17GW	0621MW26GW	0621MW27GW	0621MW28GW	0621MW33GW	0621MW40GW
	Method		1											
Metals														
Aluminum	Metals (ICP)	6020B	μg/L	40.000 U	89.000		45.000	1200.000	40.000 U	40.000 U	40.000 U	740.000	51.000	10.000 J
Antimony	Metals (ICP/MS)	6020B	μg/L	13.000	5.300		1.300	1000.000 J	5.600	50.000	6.200	9.600	370.000	6.700
Arsenic	Metals (ICP/MS)	6020B	μg/L	69.000	9.100		100.000	810.000 J	2.600	1000.000 J	23.000	95.000	23.000	270.000 J
Barium	Metals (ICP/MS)	6020B	μg/L	90.000	520.000	J	96.000	58.000	41.000	450.000 J	37.000	60.000	31.000	140.000 J
Beryllium	Metals (ICP/MS)	6020B	μg/L	0.400 U	0.400	U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Cadmium	Metals (ICP/MS)	6020B	μg/L	0.400 U	0.190	J+	0.400 U	0.250 J+	0.400 U	0.400 U	0.089 J+	0.400 U	0.400 U	0.400 U
Calcium	Metals (ICP)	6020B	μg/L	34000.000 J	37000.000	J	22000.000 J	32000.000 J	23000.000 J	65000.000 J	88000.000 J	41000.000 J	19000.000 J	53000.000 J
Chromium	Metals (ICP/MS)	6020B	μg/L	0.230 J	0.820		0.540 J	0.740 J	3.900	0.560 J	2.600	3.600	0.570 J	0.250 J
Cobalt	Metals (ICP/MS)	6020B	μg/L	2.000	1.700		0.160 J	9.500	0.068 J	20.000	2.800	2.900	0.057 J	28.000
Copper	Metals (ICP/MS)	6020B	μg/L	2.000 U	3.100		2.000 U	2.400	1.600 J	1.100 J	1.600 J	2.400	2.000 U	2.000 U
Iron	Metals (ICP)	6020B	μg/L	5200.000 J	750.000		1400.000	12000.000 J	470.000	43000.000 J	110.000	1600.000	120.000	760.000
Lead	Metals (ICP/MS)	6020B	μg/L	0.068 J	0.430		0.170 J	1.100	0.400 U	0.130 J	0.073 J	0.290 J	0.100 J	0.400 U
Magnesium	Metals (ICP)	6020B	μg/L	29000.000 J	24000.000	J	30000.000 J	59000.000 J	15000.000 J	36000.000 J	49000.000 J	28000.000 J	12000.000 J	50000.000 J
Manganese	Metals (ICP/MS)	6020B	μg/L	650.000 J	4900.000	J	160.000 J	5700.000 J	6.300	6100.000 J	1900.000 J	810.000 J	4.200	310.000 J
Nickel	Metals (ICP/MS)	6020B	μg/L	3.100	3.700		0.810 J	5.600	3.000 U	18.000	37.000	8.000	1.000 J	100.000
Potassium	Metals (ICP)	6020B	μg/L	10000.000 UJ	10000.000	UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	3000.000 J	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ
Selenium	Metals (ICP/MS)	6020B	μg/L	8.000 U	8.000	U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U
Silver	Metals (ICP/MS)	6020B	µg/L	0.400 U	0.400	U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	Metals (ICP)	6020B	μg/L	10000.000 UJ	10000.000	UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	15000.000 J	11000.000 J	10000.000 UJ	10000.000 UJ
Thallium	Metals (ICP/MS)	6020B	μg/L	1.000 U	1.000	U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U
Vanadium	Metals (ICP/MS)	6020B	μg/L	4.000 U	0.540	J	0.490 J	1.400 J	0.470 J	4.000 U	4.000 U	2.200 J	4.000 U	4.000 U
Zinc	Metals (ICP/MS)	6020B	µg/L	7.000 U	9.000	J+	1.800 J	7.000 U	7.000 U	7.000 U	14.000 J+	7.000 U	1.500 J	3.300 J
Mercury	Metals (ICP/MS)	7470A	µg/L	0.300 U	0.300	U	0.300 UJ	1.100 J-	0.300 UJ	0.590	0.150 J	0.570	0.300 U	0.300 U
Total Low Level Mercury			••			•						Ī		
Mercury	Total Mercury	EPA 1631E	ng/L	9.46	137.00		29.70	1100.00	34.10	667.00	585.00	1030.00	58.90	5.21
Dissolved Low Level Mercury	r													
Mercury	Dissolved Mercury	EPA 1631E	ng/L	261.00	33.00		4.78 J+	344.00	9.92	139.00	496.00	212.00	16.30 J-	4.48 J-
Field Water Quality Paramete								•	· · · · · ·					•
· · ·	Field Measurement		Deg C	4.76	8.61		5.12	6.39	6.89	8.09	4.91	10.3	6.38	7.22
pH	Field Measurement		pH Units	6.8	6.94		7.32	6.41	7.22	6.64	6.25	6.97	6.4	7.09
Conductivity Turbidity	Field Measurement Field Measurement		µS/cm NTU	222 9.87	198		193	356	128 1.47	423 9.09	402	252	117 3.29	331 4.87
Dissolved Oxygen	Field Measurement		MIU mg/L	9.87	8.36 2.79		1.95 0.31	38.34 1.2	8.54	3.49	1.71 1.44	30.36 0.98	3.29 8.79	2.42
,0	Field Measurement		mV	24.6	31.5		-244.0	76.1	177.5	-11.5	202.2	62.2	189.8	98

## Table 2-3. Groundwater Baseline Analytical Data - Spring 2021

### **Acronyms and Abbreviations**

ADEC = Alaska Department of Environmental Conservation

Deg C = Degrees Celsius.

EPA = United States Environmental Protection Agency

GC/MS = Gas Chromatography/Mass Spectrometry

ICP/ MS = Inductively coupled plasma/mass spectrometry

mg/L = milligrams per liter

mS/cm = Millisiemens per centimeter

mV = Millivolts

ng/L = Nanograms per liter

NTU = Nephelometric turbidity units

 $\mu g/L = micrograms per liter$ 

### Data Qualifiers:

J = The analyte was detected. The associated result is estimated.

J+ = The analyte was detected. The associated result is estimated with high bias.

J- = The analyte was detected. The associated result is estimated low bias.

U = The analyte was analyzed for but not detected. The value provided is the method detection limit.

	Station ID			MW43	MW44		MW45	MW46	MW47	MW49	MW50	MW51	MW52	MW53
Analyte	Geographic Area		Units	Surface Mined Area					Vicinity	of the Proposed R	epository			
	Sample ID			0621MW43GW	0621MW44	GW	0621MW45GW	0621MW46GW	0621MW47GW	0621MW49GW	0621MW50GW	0621MW51GW	0621MW52GW	0621MW53GW
	Method													
Metals														
Aluminum	Metals (ICP)	6020B	μg/L	87.000	85.000		140.000	110.000	9.900 J	48.000	240.000	69.000	57.000	350.000
Antimony	Metals (ICP/MS)	6020B	μg/L	11.000	0.130	J	0.800 U	0.200 J	0.800 U	0.430 J	23.000	0.800 U	0.860	0.240 J
Arsenic	Metals (ICP/MS)	6020B	μg/L	310.000 J	1.200		1.200	0.450 J	1.000 U	1.400	860.000 J	6.600	7.700	1.100
Barium	Metals (ICP/MS)	6020B	μg/L	120.000 J	29.000		2.200	4.100	0.780 J	2.800	310.000 J	37.000	12.000	150.000 J
Beryllium	Metals (ICP/MS)	6020B	μg/L	0.400 U	0.400	U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Cadmium	Metals (ICP/MS)	6020B	µg/L	0.400 U	0.400	U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.037 J+	0.400 U	0.400 U
Calcium	Metals (ICP)	6020B	μg/L	25000.000 J	43000.000	J	21000.000 J	16000.000 J	17000.000 J	13000.000 J	76000.000 J	27000.000 J	13000.000 J	21000.000 J
Chromium	Metals (ICP/MS)	6020B	µg/L	0.540 J	0.480	J	0.590 J	0.580 J	0.220 J	0.790 J	1.300	0.600 J	0.790 J	1.300
Cobalt	Metals (ICP/MS)	6020B	µg/L	32.000	3.000		0.130 J	0.095 J	0.400 U	0.190 J	2.500	2.100	4.500	1.700
Copper	Metals (ICP/MS)	6020B	µg/L	8.400	2.000	U	2.000 U	2.000 U	2.000 U	0.990 J	0.750 J	0.620 J	0.990 J	1.100 J
Iron	Metals (ICP)	6020B	µg/L	2800.000 J	1400.000		170.000	130.000	20.000 J	63.000 J	3700.000 J	810.000	150.000	560.000
Lead	Metals (ICP/MS)	6020B	µg/L	0.350 J	0.047	J	0.110 J	0.042 J	0.400 U	0.400 U	0.280 J	0.400 U	0.069 J	0.250 J
Magnesium	Metals (ICP)	6020B	μg/L	17000.000 J	33000.000	J	17000.000 J	14000.000 J	17000.000 J	8200.000 J	55000.000 J	22000.000 J	6800.000 J	9700.000 J
Manganese	Metals (ICP/MS)	6020B	µg/L	2500.000 J	720.000	J	5.600	6.500	5.300	290.000	950.000 J	270.000 J	230.000 J	510.000 J
Nickel	Metals (ICP/MS)	6020B	µg/L	92.000	2.900	J	0.700 J	0.830 J	0.250 J	3.000	7.000	1.500 J	7.200	2.900 J
Potassium	Metals (ICP)	6020B	µg/L	10000.000 UJ	10000.000	UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ
Selenium	Metals (ICP/MS)	6020B	µg/L	8.000 U	8.000	U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U
Silver	Metals (ICP/MS)	6020B	µg/L	0.400 U	0.400	U	0.076 J	0.031 J	0.400 U	0.400 U	0.170 J	0.400 U	0.110 J	0.400 U
Sodium	Metals (ICP)	6020B	µg/L	10000.000 UJ	10000.000	UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ
Thallium	Metals (ICP/MS)	6020B	µg/L	1.000 U	1.000	U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U
Vanadium	Metals (ICP/MS)	6020B	µg/L	4.000 U	4.000	U	0.560 J	0.480 J	4.000 U	4.000 U	0.960 J	4.000 U	4.000 U	1.300 J
Zinc	Metals (ICP/MS)	6020B	µg/L	7.100	1.700	J	2.800 J	3.900 J	7.000 U	2.600 J	7.000	2.100 J	6.800 J	3.900 J
Mercury	Metals (ICP/MS)	7470A	µg/L	0.300 U	0.300	U	0.300 U	0.300 U	0.300 U	0.300 U	0.710	0.300 U	0.300 U	0.260 J
Total Low Level Mercury			-											
Mercury	Total Mercury	EPA 1631E	ng/L	58.90	9.61		16.80	18.5	1.88	46.40	1530.00	9.43	35.5	275.00
Dissolved Low Level Mercury	y													
Mercury	Dissolved Mercury	EPA 1631E	ng/L	5.21	1.48		11.50	3.61	0.65	13.20	27.70	0.97	7.69	19.50
Field Water Quality Paramete			-											
Temperature	Field Measurement		Deg C	6.2	3.44		3.55	3.47	3.42	6.04	5.5	3.88	3.76	4.64
pH Genelestisiter	Field Measurement		pH Units	6.51	6.97		6.77	6.54	6.73	6.1	6.77	6.72	6.1	6.48
Conductivity Turbidity	Field Measurement Field Measurement		μS/cm NTU	144 6.59	216 8.41		105 4.23	92 6.9	99 1.31	71 2.57	391 22.92	144 8.81	64 4.75	95 7.02
Dissolved Oxygen	Field Measurement		mg/L	2.41	0.68		4.23	8.24	8.93	5.65	4.78	3.74	12.59	7.57
Oxidation-Reduction Potential	Field Measurement		mV	83.3	64.2		196.1	194.6	199.1	147.3	78	150.1	210.5	194.6

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 $\mu g/L = micrograms per liter$ 

### Data Qualifiers:

J = The analyte was detected. The associated result is estimated.

J+ = The analyte was detected. The associated result is estimated with high bias.

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Final-2021	Annual Baseline Monitoring	Report
	Red Devil Mine,	Alaska

	Station ID			MW54		MW55		MW56	MW57	MW58	MW59	Duplicate of MW47	Duplicate of MW27	Duplicate of MW17
Analyte	Geographic Area		Units					Vicinity of the Pro-	oposed Repository	,		Vicinity of the Proposed Repository	Pre-19	55 MPA
	Sample ID			0621MW54	GW	0621MW55	GW	0621MW56GW	0621MW57GW	0621MW58GW	0621MW59GW	0621MW97GW	0621MW98GW	0621MW99GW
	Method													
Metals														
Aluminum	Metals (ICP)	6020B	μg/L	12.000	J	20.000	J	120.000	600.000	600.000	2700.000	40.000 U	40.000 U	40.000 U
Antimony	Metals (ICP/MS)	6020B	μg/L	0.790	J	8.700		0.800 U	0.160 J	0.160 J	1.700	0.800 U	5.800	4.600
Arsenic	Metals (ICP/MS)	6020B	μg/L	53.000		24.000		1.400	1.900	3.600	200.000 J	1.000 U	22.000	2.500
Barium	Metals (ICP/MS)	6020B	μg/L	140.000	J	130.000	J	91.000	13.000	120.000 J	420.000 J	0.910 J	37.000	41.000
Beryllium	Metals (ICP/MS)	6020B	μg/L	0.400	U	0.400	U	0.400 U	0.400 U	0.400 U	0.200 J	0.400 U	0.400 U	0.400 U
Cadmium	Metals (ICP/MS)	6020B	μg/L	0.400	U	0.400	U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.081 J+	0.400 U
Calcium	Metals (ICP)	6020B	μg/L	47000.000	J	23000.000	J	54000.000 J	8200.000 J	33000.000 J	62000.000 J	16000.000 J	87000.000 J	23000.000 J
Chromium	Metals (ICP/MS)	6020B	μg/L	0.260	J	0.410	J	0.670 J	2.200	1.500	8.400	0.520 J	1.300	0.420 J
Cobalt	Metals (ICP/MS)	6020B	μg/L	1.400		3.900		4.100	0.260 J	0.740	2.800	0.400 U	2.600	0.400 U
Copper	Metals (ICP/MS)	6020B	μg/L	2.000	U	1.100	J	2.000 U	0.720 J	1.200 J	6.300	2.000 U	7.600	2.000 U
Iron	Metals (ICP)	6020B	μg/L	2800.000	J	14000.000	J	190.000	420.000	2400.000 J	4900.000 J	23.000 J	95.000 J	25.000 J
Lead	Metals (ICP/MS)	6020B	μg/L	0.400	U	0.078	J	0.066 J	0.085 J	0.210 J	0.980	0.090 J	0.640	0.400 U
Magnesium	Metals (ICP)	6020B	µg/L	40000.000	J	15000.000	J	44000.000 J	3700.000 J	23000.000 J	53000.000 J	16000.000 J	49000.000 J	15000.000 J
Manganese	Metals (ICP/MS)	6020B	µg/L	380.000	J	840.000	J	2200.000 J	13.000	110.000 J	440.000 J	7.000	1800.000 J	2.000 U
Nickel	Metals (ICP/MS)	6020B	μg/L	6.400		8.000		14.000	2.200 J	3.200	9.400	3.000 U	34.000	3.000 U
Potassium	Metals (ICP)	6020B	μg/L	10000.000	UJ	10000.000	UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ
Selenium	Metals (ICP/MS)	6020B	μg/L	8.000	U	8.000	U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U	8.000 U
Silver	Metals (ICP/MS)	6020B	µg/L	0.060	J	0.400	U	0.400 U	0.400 U	0.400 U	0.030 J	0.400 U	0.400 U	0.400 U
Sodium	Metals (ICP)	6020B	μg/L	10000.000	UJ	10000.000	U	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	10000.000 UJ	15000.000 J	10000.000 UJ
Thallium	Metals (ICP/MS)	6020B	μg/L	1.000	U	1.000	U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U
Vanadium	Metals (ICP/MS)	6020B	μg/L	4.000	U	4.000	U	0.690 J	1.900 J	2.400 J	10.000	4.000 U	4.000 U	4.000 U
Zinc	Metals (ICP/MS)	6020B	µg/L	7.000	U	8.100		2.000 J	3.000 J	2.600 J	8.300	7.000 U	18.000 J+	7.000 U
Mercury	Metals (ICP/MS)	7470A	μg/L	0.300	U	0.300	U	0.300 U	0.300 U	0.300 U	0.380	0.300 U	0.240 J-	0.300 U
Total Low Level Mercury														
Mercury	Total Mercury	EPA 1631E	ng/L	8.51	J+	65.60	J-	61.70	153.00	638.00	374.00 J+	1.64	523.00	38.10
Dissolved Low Level Mercury	7													
Mercury	Dissolved Mercury	EPA 1631E	ng/L	8.99	J+	27.90		15.80 J+	23.70 J+	35.70 J+	236.00	0.68 J+	400.00	10.50
Field Water Quality Paramet														
Temperature	Field Measurement		Deg C	4.17		4.5		4.57	4.17	3.96	9.85	3.42	4.91	6.89
pH Conductivity	Field Measurement		pH Units	7.03 243		6.21 150		6.73	5.89	7.22	7.03	6.73	6.25	7.22 128
Conductivity Turbidity	Field Measurement Field Measurement		μS/cm NTU	9.04		26.79		273 8.35	45 8.21	68.78	418 112.2	99 1.31	402	128
Dissolved Oxygen	Field Measurement		mg/L	2.93		0.54	-	3.27	10.66	2.25	5.97	8.93	1.44	8.54
Oxidation-Reduction Potential	Field Measurement		mV	25.1		74.5		138.9	248	42.3	53.8	199.1	202.2	177.5

## Table 2-3. Groundwater Baseline Analytical Data - Spring 2021

### Acronyms and Abbreviations

ADEC = Alaska Department of Environmental Conservation

Deg C = Degrees Celsius.

EPA = United States Environmental Protection Agency

GC/MS = Gas Chromatography/Mass Spectrometry

ICP/ MS = Inductively coupled plasma/mass spectrometry

mg/L = milligrams per liter

mS/cm = Millisiemens per centimeter

mV = Millivolts

ng/L = Nanograms per liter

NTU = Nephelometric turbidity units

 $\mu g/L = micrograms per liter$ 

### **Data Qualifiers:**

J = The analyte was detected. The associated result is estimated.

J+ = The analyte was detected. The associated result is estimated with high bias.

J- = The analyte was detected. The associated result is estimated low bias.

U = The analyte was analyzed for but not detected. The value provided is the method detection limit.

### Table 2-4. Groundwater Baseline Analytical Data - Fall 2021

	Station ID			MW06	MW09	MW	10 MW16	MW17	7	MW26	MW27	MW28	MW29	MW33
	Geographic Area							•	Pre-195	55 MPA	•			
Analyte	Sample ID		Units	0821MW06GW	0821MW09GW	0821MW	10GW 0821MW16GW	0821MW1		0821MW26GW	0821MW27GW	0821MW28GW	0921MW29GW	0821MW33GW
	Method													
Metals														
Aluminum	Metals (ICP)	6020B	μg/L	12.00 J	MW09	10.00 J	39.00 J	10.00 J		68.00	40.00 U	210.00	1900.00	140.00
Antimony	Metals (ICP/MS)	6020B	μg/L	12.00	4.20	1.00 J	+ 1300.00	10.00		60.00	8.00	6.70	2.00 J+	400.00 J
Arsenic	Metals (ICP/MS)	6020B	μg/L	55.00	20.00	98.00	1300.00	2.90		1200.00	29.00	110.00	170.00	24.00
Barium	Metals (ICP/MS)	6020B	μg/L	87.00	380.00	89.00	76.00	43.00		540.00	32.00	50.00	250.00	29.00
Beryllium	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.40 U	0.40 t	J 0.40 U	0.40 U		0.40 U	0.40 U	0.40 U	0.24 J	0.40 U
Cadmium	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.04 J	0.40 U	J 0.36 J	0.40 U		0.04 J	0.40 U	0.40 U	0.40 U	0.40 U
Calcium	Metals (ICP)	6010D	μg/L	28000.00	31000.00	18000.00	37000.00	22000.00		55000.00	75000.00	36000.00	50000.00	14000.00
Chromium	Metals (ICP/MS)	6020B	μg/L	0.80 U	0.80 U	0.20 J	0.49 J	0.80 U		1.00 J+	0.80 UJ	0.82	7.30	0.80 U
Cobalt	Metals (ICP/MS)	6020B	μg/L	2.30	0.63	0.07 J	13.00	0.40		14.00	3.30	2.90	2.20	0.10 J
Copper	Metals (ICP/MS)	6020B	μg/L	2.00 U	1.30 J	ND	1.50 J	2.00 U		2.60	0.62 J	0.92 J	6.30	1.00 J
Iron	Metals (ICP)	6020B	μg/L	5000.00	1800.00	1000.00	21000.00	32.00 J		47000.00	100.00	1200.00	5700.00	200.00
Lead	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.34 J	0.08 J	0.30 J	0.40 U		1.10	0.51 J	0.15 J	1.40	0.68 J
Magnesium	Metals (ICP)	6010D	μg/L	25000.00	20000.00	27000.00	69000.00	16000.00		32000.00	45000.00	27000.00	48000.00	10000.00
Manganese	Metals (ICP/MS)	6020B	μg/L	710.00	2400.00	150.00	8700.00	2.00 U		6200.00	1800.00	810.00	440.00	8.50
Nickel	Metals (ICP/MS)	6020B	μg/L	3.50	1.50 J	0.26 J	4.50	3.00 U		9.50	29.00	7.00	7.60	1.10 J
Potassium	Metals (ICP)	6010D	μg/L	3300.00 U	3300.00 U	1000.00 J	2700.00 J	3300.00 U		3300.00 U				
Selenium	Metals (ICP/MS)	6020B	μg/L	8.00 U	8.00 U	8.00 U		8.00 U		8.00 U				
Silver	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.40 U	0.40 U		0.40 U		0.40 U	0.40 U	0.40 U	0.03 J+	0.40 U
Sodium	Metals (ICP)	6010D	μg/L	4000.00	3000.00	3300.00	6800.00	2800.00		4500.00	13000.00	10000.00	2500.00	4000.00
Thallium	Metals (ICP/MS)	6020B	μg/L	1.00 U	1.00 U	1.00 U		1.00 U		1.00 U				
Vanadium	Metals (ICP/MS)	6020B	μg/L	4.00 U	4.00 U	4.00 U	J 0.65 J	4.00 U		4.00 U	4.00 U	0.60 J	7.40	0.59 J
Zinc	Metals (ICP/MS)	6020B	μg/L	2.70 J+	4.50 J+	7.00 t	J 5.50 J+	7.00 U		8.70 J+	11.00 J+	2.30 J+	9.90 J+	1.80 J+
Mercury	Metals (ICP/MS)	7470A	μg/L	0.30 UJ	0.30 UJ	0.30 U	JJ 0.68 J	0.30 UJ	J	0.59	0.30 U	0.41 J	0.30	0.30 UJ
Total Low Level Mercury														
Mercury	Total Mercury	EPA 1631E	ng/L	11.70	78.00	34.30	1230.00	81.10		833.00	702.00	1210.00	572.00	109.00
Dissolved Low Level Mercury														
Mercury	Dissolved Mercury	EPA 1631E	ng/L	3.18 U	7.02	2.75	874.00	14.60		261.00	658.00	63.10	60.90	5.51
Field Water Quality Parameter	rs	÷			•			•			•		•	•
Temperature	Field Measurement		Deg C	5.54	5.46	5.19	7.71	7.22		9.69	5.5	5.23	11.37	6.6
pH	Field Measurement		pH Units	6.74	6.33	4.49	6.49	7.34		6.52	5.14	6.36	6.91	6.55
Conductivity	Field Measurement		μS/cm	240	171	182	542	159		829	444	236	304	119
Turbidity	Field Measurement		NTU	9.58	8.54	1.43	6.21	1.11		25.95	1.44	9.72	105.2	8.33
Dissolved Oxygen	Field Measurement		mg/L	0.58	1.20	0.30	0.73	7.83		5.00	0.8	0.37	1.32	5.24
Oxidation-Reduction Potential	Field Measurement		mV	47.8	-6.4	153.5	46.8	156		-4.5	-30.1	-43.8	6.2	222

### Acronyms and Abbreviations

ADEC = Alaska Department of Environmental Conservation Deg C = Degrees Celsius. EPA = United States Environmental Protection Agency GC/MS = Gas Chromatography/Mass Spectrometry ICP/ MS = Inductively coupled plasma/mass spectrometry mg/L = milligrams per liter mS/cm = Millisiemens per centimeter mV = Millivolts ng/L = Nanograms per liter NTU = Nephelometric turbidity units

 $\mu g/L = micrograms$  per liter

### Data Qualifiers:

J = The analyte was detected. The associated result is estimated.

J+= The analyte was detected. The associated result is estimated with high bias.

J- = The analyte was detected. The associated result is estimated low bias.

U = The analyte was analyzed for but not detected. The value provided is the method detection limit.

Final - 2021 Annual B	aseline Monitoring Report
	Red Devil Mine, Alaska

### Table 2-4. Groundwater Baseline Analytical Data - Fall 2021

	Station ID			MW40	MW42	MW43	MW44	MW45	MW46	MW47	MW49	MW50	MW51	MW52	MW53
A	Geographic Area	,	I Indian		Surface Mined Area	·			•	Vicini	ity of the Proposed Rep	ository	·	·	·
Analyte	Sample ID	(	Units	0921MW40GW	0821MW42GW	0821MW43GW	0921MW44GW	0921MW45GW	0821MW46GW	0821MW47GW	0821MW49GW	0821MW50GW	0821MW51GW	0821MW52GW	0821MW53GW
	Method		E F												
Metals															
Aluminum	Metals (ICP)	6020B µg/	/L	29.00 J	1400.00	11.00 J	61.00	42.00	70.00	12.00 J	64.00	97.00	67.00	2400.00	74.00
Antimony	Metals (ICP/MS)	6020B µg/	/L	5.90	240.00 J	10.00	0.80 U	13.00	0.80 U	3.30	0.80 U				
Arsenic	Metals (ICP/MS)	6020B µg/	/L	420.00	800.00	330.00	0.80 J	1.00	0.29 J	1.00 U	1.30	520.00	6.80	30.00	0.37 J
Barium	Metals (ICP/MS)	6020B µg/	/L	120.00	150.00	100.00	26.00	0.77 J	2.40	1.20	2.80	270.00	30.00	79.00	130.00
Beryllium	Metals (ICP/MS)	6020B µg/	/L	0.40 U	0.15 J	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U					
Cadmium	Metals (ICP/MS)	6020B µg/	/L	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.04 U	0.04 J	0.40 U	0.40 U	0.18 J	0.40 U
Calcium	Metals (ICP)	6010D µg/	/L	38000.00	36000.00	21000.00	33000.00	17000.00	15000.00	15000.00	11000.00	62000.00	20000.00	17000.00	17000.00
Chromium	Metals (ICP/MS)	6020B µg/	/L	0.80 U	3.30	0.80 U	8.00 U	0.80 U	6.60	0.53 J					
Cobalt	Metals (ICP/MS)	6020B µg/	/L	28.00	3.80	31.00	2.40	0.40 U	0.40 U	0.40 U	0.18 J	3.90	2.80	42.00	0.34 J
Copper	Metals (ICP/MS)	6020B µg/	/L	2.00 U	4.00	0.71 J	1.30 J	0.60 J	2.00 U	2.00 U	0.76 J	0.70 J	16.00	5.90	ND
Iron	Metals (ICP)	6020B µg/	/L	1300.00	2900.00	2500.00	850.00	57.00 J	71.00 J	27.00 J	56.00 J	2600.00	1100.00	2300.00	100.00
Lead	Metals (ICP/MS)	6020B µg/	/L	0.40 U	0.90	0.40 U	0.09 J	0.17 J	0.40 U	0.40 U	0.05 J	0.40 U	0.40 U	1.00	0.07 J
Magnesium	Metals (ICP)	6010D µg/	/L	39000.00	27000.00	15000.00	28000.00	15000.00	15000.00	16000.00	7700.00	51000.00	17000.00	11000.00	9500.00
Manganese	Metals (ICP/MS)	6020B µg/	/L	290.00	510.00	2300.00	650.00	2.00 U	2.30 J+	6.80	230.00	1000.00	340.00	2000.00	88.00
Nickel	Metals (ICP/MS)	6020B µg/	/L	91.00	18.00	90.00	2.40 J	0.45 J	0.88 J	0.30 J	2.80 J	9.70	1.90 J	25.00	0.75 J
Potassium	Metals (ICP)	6010D µg/	/L	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	240.00 J
Selenium	Metals (ICP/MS)	6020B µg/	/L	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	ND
Silver	Metals (ICP/MS)	6020B µg/	/L	0.40 U	0.04 J+	0.05 J+	0.40 U	0.40 U	0.40 U	1.10	ND				
Sodium	Metals (ICP)	6010D µg/	/L	1700.00	3400.00	3200.00	2100.00	1200.00	1400.00	1900.00	1500.00	2300.00	2100.00	2800.00	1900.00
Thallium	Metals (ICP/MS)	6020B µg/	/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vanadium	Metals (ICP/MS)	6020B µg/	/L	4.00 U	4.80	4.00 U	0.49 J	4.00 U	6.70	ND					
Zinc	Metals (ICP/MS)	6020B µg/	/L	3.10 J+	14.00 J+	3.90 J+	5.90 J+	3.10 J+	7.00 U	7.00 U	7.00 U	7.00 U	7.00 U	23.00 J+	7.00 U
Mercury	Metals (ICP/MS)	7470A µg/	/L	0.30 U	1.20	0.30 U	0.48	0.30 U	0.33	0.30 U					
Total Low Level Mercury				•											
Mercury	Total Mercury	EPA 1631E ng/	/L	25.20	1380.00	14.10	2.02 J+	10.70 J+	13.70	12.90	41.70	524.00	7.48	460.00	72.00
Dissolved Low Level Mercury															
Mercury	Dissolved Mercury	EPA 1631E ng/l	/L	3.18 U	353.00	3.18 U	3.18 U	4.43 J+	3.18 U	3.18 U	7.27 J+	192.00	2.72 J+	46.70	20.60
Field Water Quality Parameter	rs	•			1									4	
Temperature	Field Measurement	Des	g C	6.51	9.04	6.22	4.79	2.94	3.93	5.41	5.11	4.37	4.57	5.71	4.33
pH	Field Measurement		Units	7.38	6.71	5.93	6.7	4.76	6.63	6.82	5.50	6.46	4.13	6.71	6
Conductivity	Field Measurement		/cm	236	0.669	0.227	226	116	118	135	78	407	141	117	106
Turbidity	Field Measurement	NT	TU	8.79	72.08	6.69	3.12	2.16	1.87	1.66	2.62	9.6	9.51	40.02	6.42
Dissolved Oxygen	Field Measurement	mg	g/L	2.83	2.04	1.82	0.8	8.34	6.49	5.45	5.79	2.23	5.12	9.95	6.46
Oxidation-Reduction Potential	Field Measurement	mV	V	-8.5	75.3	-31.7	-36.2	54.3	148.7	179.1	12	-51.2	69.1	172.6	-5.1

### Acronyms and Abbreviations

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Deg C = Degrees Celsius.

EPA = United States Environmental Protection Agency

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ICP/ MS = Inductively coupled plasma/mass spectrometry

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 $\mu g/L = micrograms per liter$ 

### Data Qualifiers:

#### Final – 2021 Annual Baseline Monitoring Report Red Devil Mine, Alaska

J = The analyte was detected. The associated result is estimated.

J = The analyte was detected. The associated result is estimated with high bias.

J- = The analyte was detected. The associated result is estimated low bias.

U = The analyte was analyzed for but not detected. The value provided is the method detection limit.

### Table 2-4. Groundwater Baseline Analytical Data - Fall 2021

	Station ID			MW54	MW55	MW56	MW57	MW58	MW59	Duplicate of MW47	Duplicate of MW27	Duplicate of MW33
	Geographic Area		11.14			Vicinity of the Pr	oposed Repository			Vicinity of the	Pre-19	55 MPA
Analyte	Sample ID		Units	0821MW54GW	0821MW55GW	0921MW56GW	0921MW57GW	0821MW58GW	0921MW59GW	0821MW97GW	0821MW98GW	0821MW99GW
	Method		1									
Metals												
Aluminum	Metals (ICP)	6020B	μg/L	14.00 J	19.00 J	49.00	23.00 J	560.00	3100.00	6.80 J	8.00 J	180.00
Antimony	Metals (ICP/MS)	6020B	μg/L	0.80 U	3.50	0.80 U	0.80 U	0.80 U	1.20	0.80 U	8.00	400.00 J
Arsenic	Metals (ICP/MS)	6020B	μg/L	55.00	160.00 J	0.80 J	0.72 J	3.30	77.00	1.00 U	30.00	25.00
Barium	Metals (ICP/MS)	6020B	μg/L	120.00	190.00	40.00	4.80	110.00	380.00	0.72 J	32.00	30.00
Beryllium	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.14 J	0.40 U	0.40 U	0.40 U
Cadmium	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.06 J	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Calcium	Metals (ICP)	6010D	μg/L	37000.00	19000.00	37000.00	7900.00	25000.00	50000.00	15000.00	76000.00	15000.00
Chromium	Metals (ICP/MS)	6020B	μg/L	0.80 U	0.80 U	0.80 U	0.80 U	1.80	8.10	0.80 U	0.90 J	0.80 U
Cobalt	Metals (ICP/MS)	6020B	μg/L	1.00	3.00	1.20	0.05 J	0.55	2.20	0.40 U	3.10	0.13 J
Copper	Metals (ICP/MS)	6020B	μg/L	2.00 U	0.60 J	0.82 J	2.00 U	1.50 J	7.00	2.00 U	0.66 J	1.00 J
Iron	Metals (ICP)	6020B	µg/L	2600.00	61000.00	88.00 J	31.00 J	2500.00	3200.00	21.00 J	88.00 J	230.00
Lead	Metals (ICP/MS)	6020B	μg/L	0.40 U	0.09 J	0.08 J	0.40 U	0.40 U	1.20	0.40 U	0.40 UJ	0.40 UJ
Magnesium	Metals (ICP)	6010D	μg/L	35000.00	9400.00	28000.00	3900.00	19000.00	47000.00	16000.00	45000.00	11000.00
Manganese	Metals (ICP/MS)	6020B	μg/L	310.00	1500.00	540.00	2.10	100.00	420.00	5.40	1700.00	9.40
Nickel	Metals (ICP/MS)	6020B	μg/L	4.90	4.40	4.50	1.50 J	3.20	7.50	0.23 J	28.00	1.20 J
Potassium	Metals (ICP)	6010D	µg/L	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U	3300.00 U
Selenium	Metals (ICP/MS)	6020B	μg/L	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U
Silver	Metals (ICP/MS)	6020B	μg/L	0.03 J+	0.40 U	0.40 U	0.40 U	0.03 J+	0.04 J+	0.40 U	0.40 U	0.40 U
Sodium	Metals (ICP)	6010D	µg/L	1800.00	3000.00	1300.00	2300.00	1.50	1800.00	1900.00	14000.00 14.00	4100.00
Thallium	Metals (ICP/MS)	6020B	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vanadium	Metals (ICP/MS)	6020B	μg/L	4.00 U	0.89 J	4.00 U	4.00 U	2.00 J	9.90	4.00 U	4.00 U	0.65 J
Zinc	Metals (ICP/MS)	6020B	μg/L	7.00 U	7.00 U	7.00 U	7.00 U	7.00 U	9.10 J+	7.00 U	11.00 J+	1.70 J+
Mercury	Metals (ICP/MS)	7470A	μg/L	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.23 J	0.30 U	0.30 U	0.30 UJ
Total Low Level Mercury												
Mercury	Total Mercury	EPA 1631E	ng/L	13.60	67.10	16.70	34.30	61.60	281.00	11.90	721.00	90.60
Dissolved Low Level Mercury												
Mercury	Dissolved Mercury	EPA 1631E	ng/L	1.14 J+	43.40 J+	2.33 J+	14.80	6.07	34.80	1.63	673.00	7.47
Field Water Quality Parameter	s											
Temperature	Field Measurement		Deg C	4.01	5.24	4.35	3.43	7.79	7.92	5.41	5.5	6.6
pH	Field Measurement		pH Units	6.45	6.21	6.37	5.91	6.72	7.47	6.82	5.14	6.55
Conductivity	Field Measurement		µS/cm	279	228	230	37	195	266	135	444	119
Turbidity	Field Measurement		NTU	9.63	14.98	4.89	2.31	15.88	69.18	1.66	1.44	8.33
Dissolved Oxygen	Field Measurement		mg/L	1.81	0.44	3.88	9.9	0.46	1.17	5.45	0.8	5.24
Oxidation-Reduction Potential	Field Measurement		mV	-53.4	-36.4	-23.1	46.7	-41.7	-131.8	179.1	-30.1	222

#### Acronyms and Abbreviations

ADEC = Alaska Department of Environmental Conservation Deg C = Degrees Celsius. EPA = United States Environmental Protection Agency GC/MS = Gas Chromatography/Mass Spectrometry ICP/ MS = Inductively coupled plasma/mass spectrometry mg/L = milligrams per liter mS/cm = Millisiemens per centimeter mV = Millivoltsng/L = Nanograms per liter NTU = Nephelometric turbidity units  $\mu g/L = micrograms$  per liter

### Data Qualifiers:

J = The analyte was detected. The associated result is estimated.

 $J_{+}$  = The analyte was detected. The associated result is estimated with high bias.

J- = The analyte was detected. The associated result is estimated low bias.

U = The analyte was analyzed for but not detected. The value provided is the method detection limit.

### Table 2-5. Surface Water Baseline Analytical Data - Spring 2021

_	Samp	le Location	RD05		RD06		RD08		RD08		RD10		RD15	
		Sample ID	0621RD15SW*		0621RD06SW		0621RD08SW		0621RD99SW		0621RD10SW		0621RD05SW*	
	Laboratory	Sample ID	580-103791-5		580-103791-2		580-103791-3		580-103791-6		580-103791-4		580-103791-1	
	Sar	npling Date	6/10/2021		6/10/2021		6/10/2021		6/10/2021		6/10/2021		6/10/2021	
		Matrix	WS											
Analyte	Method	Units												
General Chemistry														
Total Dissolved Solids	160.1	mg/L	100	J	30	J	10	UJ	57	J	97	J	10	UJ
Total Suspended Solids	160.2	mg/L	2	UJ	2	UJ	2	UJ	19	J	2.8	J	2	UJ
Chloride	300.0	mg/L	1.5	UJ										
Fluoride	300.0	mg/L	0.37	J	0.11	J	0.15	J	0.1	J	0.14	J	0.099	J
Sulfate	300.0	mg/L	31	J	10	J	11	J	10	J	9	J	8.8	J
Alkalinity	310.1	mg/L	240	J	72	J	75	J	73	J	66	J	64	J
Bicarbonate Alkalinity as CaCO3	310.1	mg/L	240	J	72	J	75	J	73	J	66	J	64	J
Carbonate Alkalinity as CaCO3	310.1	mg/L	5	UJ										
Nitrate Nitrite as N	353.2	mg/L	0.16	J	0.17	J	0.18	J	0.14	J	0.15	J	0.18	J
Metals														
Aluminum	6020B	mg/L	0.04	U	0.04	U		U	0.04	U		J+	0.044	J+
Antimony	6020B	mg/L	0.057		0.13	J	0.15	J	0.15	J	0.0016		0.030	
Arsenic	6020B	mg/L	1.3	J	0.073		0.070		0.072		0.00098	J	0.011	
Barium	6020B	mg/L	0.10		0.027		0.027		0.028		0.022		0.022	
Beryllium	6020B	mg/L	0.0004	U										
Cadmium	6020B	mg/L	0.0004	U										
Calcium	6020B	mg/L	41	J	18	J	18	J	18	J	17	J	16	J
Chromium	6020B	mg/L	0.00027	J	0.0003	J	0.00072	J	0.00045	J	0.00031	J	0.00034	J
Cobalt	6020B	mg/L	0.0045		0.00021	J	0.00018	J	0.00018	J	0.000059	J	0.000056	J
Copper	6020B	mg/L	0.002	U										
Iron	6020B	mg/L	2.8		0.19		0.16		0.14		0.12		0.13	
Lead	6020B	mg/L	0.000076	J	0.0004	U	0.000076	J	0.0004	U	0.0004	U	0.000055	J
Magnesium	6020B	mg/L	41	J	11	J	11	J	11	J	8.4	J	8.2	J
Manganese	6020B	mg/L	0.30		0.027		0.023		0.023		0.012		0.015	
Nickel	6020B	mg/L	0.017		0.003	U								
Potassium	6020B	mg/L	10	UJ										
Selenium	6020B	mg/L	0.008	U										
Silver	6020B	mg/L	0.0004	U										
Sodium	6020B	mg/L	11	J	10	UJ	10	U	10	UJ	10	UJ	10	UJ
Thallium	6020B	mg/L	0.001	U										
Vanadium	6020B	mg/L	0.004	U										
Zinc	6020B	mg/L	0.007	U										
Mercury	7470A	mg/L	0.0003	U										
Low Level Mercury Analysis														
Mercury	EPA 1631E	ng/L	56.6		85.8	J+	61.7		62.9		2.63		75.7	J+
Field Water Quality Parameters														
Temperature	Field Measurement	Deg C	3.51		4.67		4.73		4.73		4.23			4.67
pH	Field Measurement	pH Units	6.56		7.06		6.89		6.89		7.44			7.6
Conductivity	Field Measurement	µS/cm	291		97		99		99		82			86
Turbidity	Field Measurement	NTU	8.83		1.4		2.06		2.06		1.1			1.74
Dissolved Oxygen	Field Measurement	mg/L	2.38		11.67		12.32		12.32		11.68		1	11.89
Oxidation-Reduction Potential	Field Measurement	mV	79.6		95.2		160.1		160.1		111.1			57.8

Notes

Bold font indicates a detection

- = not applicable

\* = Sample collection locations for RD15 and RD05 (Seep) were misidentified during Spring 2021 field collection. The correct sample location has been listed in the tables to allow for proper comparison over time.

U = not detected at the limit of quantitation

Qualifiers

J = estimatedJ+= estimated, high bias

J- = estimated, low bias UJ = not detected, estimated

#### Acronyms and Abbreviations

$$\label{eq:source} \begin{split} \mu S/cm &= microsiemens per centimeter\\ ID &= Identifer\\ mg/L &= milligrams per liter\\ mV &= millivolts\\ ng/L &= nanograms per liter\\ NTU &= nephelometric turbidity unit\\ WG &= groundwater\\ WQ &= field quality control sample \end{split}$$

WS = surface water

Contract No. 140L63-21-C-0001 Sundance Consulting, Inc. – March 2022

### Table 2-6. Surface Water Baseline Analytical Data - Fall 2021

		Sample Location	RD05		RD06		RD08		RD10		RD15		RD15	
		Sample ID	0921RD05SW		0921RD06SW		0921RD08SW		0921RD10SW		0921RD15SW		0921RD99SW	v
		Laboratory Sample ID	580-105705-16		580-105705-14		580-105705-15		580-105705-17		580-105705-42		580-105705-4	.3
		Sampling Date	9/3/2021		9/3/2021		9/3/2021		9/3/2021		9/3/2021		9/3/2021	
		Matrix	WS		WS		WS		WS		WS		WS	
Analyte	Method	Units												
General Chemistry														
Total Dissolved Solids	160.1	mg/L	260		100		120		93		87		88	
Total Suspended Solids	160.2	mg/L	2	U	2	U	2	U	2	U	2	U	2	U
Chloride	300.0	mg/L	1.3	J	1.1	J	1.1	J	0.97	J	0.97	J	0.97	J
Fluoride	300.0	mg/L	0.11	J	0.058	J	0.057	J	0.055	J	0.056	J	0.057	J
Sulfate	300.0	mg/L	35	J	12	J	12	J	9.6	J	9.9	J	9.9	J
Alkalinity	310.1	0	240		80	J	85	J	76		73	J	74	J
Bicarbonate Alkalinity as	310.1	mg/L	240		80	J	85	J	76		73	J	74	J
Carbonate Alkalinity as Ca	310.1	mg/L	5	U	5	UJ	5	UJ	5	U	5	UJ	5	UJ
Nitrate Nitrite as N	353.2	mg/L	0.15	UJ	0.13	J-	0.12	J-	0.13	J-	0.14	J-	0.12	J-
Metals	1													
Calcium	6010D	U	35	ļ	17		18		17		17		17	$\perp$
Magnesium	6010D	0	37		10		11		9.0		9.1		9.3	$\perp$
Potassium	6010D	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Sodium	6010D	0	11		2.3		2.4		1.6		1.8		1.8	<u> </u>
Aluminum	6020B	8	0.04	U	0.046		0.048		0.031	J	0.061	J	0.066	
Antimony	6020B	6	0.022		0.11	J	0.13	J	0.0014	J+	0.027		0.028	<u> </u>
Arsenic	6020B	0	0.83		0.057		0.061		0.0012		0.01	J	0.011	<u> </u>
Barium	6020B	0	0.095		0.030		0.030		0.025		0.027		0.029	
Beryllium	6020B	mg/L	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	UJ	0.0004	U
Cadmium	6020B	mg/L	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U
Chromium	6020B	0	0.0002	J	0.00033	J	0.00035	J	0.00029	J	0.00033	J+	0.00051	J+
Cobalt	6020B	0	0.0039		0.0002	J	0.00015	J	0.000062	J	0.000064	J	0.000072	J
Copper	6020B	mg/L	0.002	U	0.002	U	0.00085	J	0.002	U	0.00067	J	0.00065	J
Iron	6020B	mg/L	2.0		0.26		0.23		0.16		0.23	J	0.27	┥──
Lead	6020B	mg/L	0.00082		0.0004	U	0.000051	J	0.0004	U	0.000062	J	0.0004	UJ
Manganese	6020B	mg/L	0.29		0.032		0.028		0.023		0.027	J	0.024	
Nickel	6020B	mg/L	0.015		0.00084	J	0.00082	J	0.00025	J	0.00028	J+	0.00036	
Selenium	6020B	mg/L	0.008	U	0.008	U	0.008	U	0.008	U	0.008	UJ	0.008	<u> </u>
Silver	6020B	mg/L	0.0004	U U	0.0004	U	0.0004	U U	0.0004	U	0.0004	U	0.0004	
Thallium	6020B	mg/L	0.001	U	0.001	U	0.001	U	0.001	U	0.001	UJ	0.001	UJ
Vanadium Zinc	6020B	mg/L	0.004 0.0015	0	0.004	U	0.004 0.0023	U L±	0.004	U	0.00046	J	0.00046 0.007	
-	6020B 7470A	mg/L mg/L	0.0015	J+	0.007	U	0.0023	J+ т	0.007	U	0.007	U	0.007	U
Mercury Low Level Mercury Ana		iiig/L	0.0003	U	0.00027	J	0.00020	J	0.0003	U	0.0003	U	0.0005	0
•	EPA 1631E	ng/L	47.9	1	236		311		5.22		71.3		80.9	<b>—</b>
Mercury Field Water Quality Para		iig/L	4/.7	L	230		511		3.44		/1.3	L	00.7	<u> </u>
Temperature	ameters Field Measurement	Deg C	4.09	1	6.89		6.90		6.90		7.01		7.0	1
n emperature pH	Field Measurement	pH Units	4.09		6.89		4.96		6.90		7.68		7.6	
pH Conductivity	Field Measurement	μS/cm	269		6.54		4.96		7.90		7.68		/.6	
Turbidity	Field Measurement	µS/cm NTU	2.76		0.45		0.63		0.46		0.37		0.3	
Dissolved Oxygen	Field Measurement	mg/L	4.16		13.5		13.46		0.46		12.80		12.8	
		mg/L mV	4.16		151.7		247.3		-87.5		-29.7		-29.	-
Oxidation-Reduction Pote	riciu Measurement	111 V	12.7	1	151./		247.3		-87.5		-29.7		-29.	1

Notes

Bold font indicates a detection

- = not applicable

#### Acronyms and Abbreviations

μS/cm = microsiemens per centimeter ID = Identifer mg/L = milligrams per liter mV = millivolts ng/L = nanograms per liter NTU = nephelometric turbidity unit WG = groundwater

WQ = field quality control sample WS = surface water

#### Qualifiers

U = not detected at the limit of quantitation J = estimated J+ = estimated, high bias J- = estimated, low bias UJ = not detected, estimated

## **ATTACHMENT 1. FIELD DOCUMENTATION**

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## ATTACHMENT 1.1 TAILGATE SAFETY FIELD FORMS

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Proj	ECT & PERSON	NEL INFORMA	TION	
Project Name: RED DET	JIL MINE			
Contract Number: BUCG-		Task Order:	MONITORIN	J6 SARING
Project Location: RED DEU		Date: 6/2/2	2021 Tin	
PM: JOHN (ONSOC	/	SSHO:	lleen R.	JS T
SUXOS:				
	WEAT	HER		
······		AM		PM
TEMPERATURE	58° /4	36	• • •	A CONTRACT OF A CONTRACT OF A CONTRACT
WIND	LIGHT	WIND		<u>.                                    </u>
HUMIDITY		-		
COMMENTS	MOSTLY	CLOUDY		····
ACTIVITI	es, Hazards, I	EQUIPMENT &	SAFETY	
Activities to be Performed & Equip	ment Used:			er ne
Mob to RED (	FUIL LOAG	DE, HED	OFFICE	OFFICI
Hazards Related to Task: (check all	JS, CHARG	NG.		
			<b>— 0 1</b>	
Biological Hazards	<ul> <li>Extreme Weathe</li> <li>Pinch</li> </ul>	r (neat/cold)	Sun Expo	
Contaminant Exposure	Radiation			rain/snow/wind)
Dehydration >	Slip/Trip/Fall		Wildlife	,
Explosives	Spills		Other:	
Additional Safety Topics or Discuss	ions:	C.A.C.L.C.	0 10 - 20	the bear
Additional Safety Topics or Discuss	LOCAL	SIDEUTS AN	C/ATIO HO	vric, one,
MOUSE, ROAD CONDI	7/02 3			
	Signat	URES		
Personnel Name	Organiz	zation	Personn	el's Signature
Colleen Rust	<u>Swon</u>	NCE		hit
George Gerner	Sundance		Reg 1	
JUDSON PARSON	SUNDANC	<u> </u>	- SO	<u></u>
	· · · · · · · · · · · · · · · · · · ·			



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Proj	ECT & PERSON	NEL INFORMAT	ION
Project Name: 100 06	UL MINE		
Contract Number: Buble		Task Order: S	PRING MONITORING
Project Location: BD DEV	L, AIL	Date: 6/3/2	021 Time: 0715
PM: JOHN CONSO		SSHO: (b)	leen Rust
SUXOS: NA	_	-	
· · · · · · · · · ·	WEAT	HER	
		AM	PM
TEMPERATURE	3	90	62°
WIND	lia	ht wind	(t //
HUMDITY	NA NA		NA
COMMENTS	Clove		Cloudy
ACTIVITI	es, Hazards, F		
Activities to be Performed & Fauin	mant Moods		
SITE WALK, ROAD	D/TRAIL A.	aess, Ai	U SAFETY AND
MWE ADIT SA	FETY	,	
Hazards Related to Task: (check all	that apply)		
D-Biological Hazards	Extreme Weather	r (heat/cold)	Sun Exposure
Chemicals	Pinch	≥ ∠	Vehicle Operations AT
Contaminant Exposure	Radiation     Slip/Trip/Fall		Weather (rain/snow/wind)
Explosives	≤ Slip/Trip/Fall Spills		☐ Wildlife ☐ Other:
Additional Safety Topics or Discuss	-		
PADIO, SAT PHONE,		HCHEK	NSITE
			-
	SIGNAT	URES	
Personnel Name	Organiz		Personnel's Signature
Collopa River		Align and a second second second second	6 million
Colleen Rust George Garner	Sundance	ANCE	John -
T Durner	·		The second
JUDSON PARSON	SUNPANCI		Star Star
			·····



<b>PROJECT &amp; PERSONNEL INFORMATION</b>				
Project Name: VES DEUIC MINE				
			PRING MONITORING	
Project Location: NED DE			2021 Time: 0618	
PM: John Conso	-	SSHO: Coll.	een Rust	
SUXOS: NA		-		
	WEAT	HER		
		AM	PM	
TEMPERATURE	4	30	640	
WIND	21	6HT	LIGHT	
HUMIDITY	30	705 housers	30% Showers	
COMMENTS	Fo	6	ARTLY CLOUDY	
	es, Hazards, F	EQUIPMENT & S	SAFETY	
Activities to be Performed & Equip BASES ON A PHROUED	ment Used:	ING Par. Oct	2 - ere lulea	
DASES ON A PRODES		, mae compo	TE SHE OW DECELS	
Hazards Related to Task: (check all	that annly)	·		
Biological Hazards	Extreme Weather	(heat/cold)	Sun Exposure	
	Pinch		- <u>A</u> .	
Contaminant Exposure	Radiation		Weather (rain/snow/wind)	
	Slip/Trip/Fall			
	Spills		Other:	
Additional Safety Topics or Discussions: SLIPS, TRIPS + FALLS, ATU OPERATION, WALKING THE SITE				
Schryn- weiter, y	TIO OF COATE	<i>50</i> , ••• ••• •		
	SIGNAT			
Personnel Name			D Start Ci	
	Organiz		Personnel's Signature	
Colleen lust	SUNDA		Alla at	
George Garner	Sundance		hype	
JUDSON PARSON	SUNDANCE		SAL -	

-



Proj	ECT & PERSON	NEL INFORMA	TION	
Project Name: RED DEU	IL MINE		·····	
Contract Number: BUOG		Task Order: 🗲	RW6 SAMAWG	
Project Location: RED DE			2021 Time: 0629	
PM: JOHN (ON SOL		SSHO:	Heen Rust	
SUXOS: NA				
	WEAT	HER		
		AM	PM	
TEMPERATURE	3	390	56°	
WIND	Цен	r	LIGHT	
HUMIDITY			Single protocology	
COMMENTS	Clo	sdy	Cloudy	
ACTIVITI	es, Hazards, 1	Equipment &	SAFETY	
Contaminant Exposure	<b>~</b>		Sun Exposure Vehicle Operations ATV Weather (rain/snow/wind) Wildlife AOLF, Arer, masse Other:	
Additional Safety Topics or Discussions: BURIED DEBIE AT MINE, PROPER TRAILER VSE INCLUDING TIE DOLINS OF GEAR				
	SIGNAT			
Personnel Name	Organi	CARLES FOR THE CONTROL OF THE CONTROL OF	Personnel's Signature	
Blan Kust	Suno	WCE	- aller	
George Garner	Sundance		high	
JUDSON PARSON	SUNPAN	CE	XOO-	
,				

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<b>PROJECT &amp; PERSONNEL INFORMATION</b>				
Project Name: Red Devil Monitoring				
Contract Number: BUOG	Task Order:	SPRING SAAPLIN C		
Project Location: Red Devil	AK Date: 6/6/	21 Time: 0630		
PM: John Consoletti	SSHO:	Blleen Rust		
SUXOS:				
	WEATHER			
	AM	PM		
TEMPERATURE	31°	605		
ŴIND	cdm	light		
HUMIDITY	1000	low		
COMMENTS	clear			
ACTIVIT	IES, HAZARDS, EQUIPMENT	& SAFETY		
Activities to be Performed & Equip		mpling, ATV use,		
		<i>y y y y y y y y y y</i>		
Hazards Related to Task: (check a)				
Biological Hazards	Extreme Weather (heat/cold)	Sun Exposure		
Chemicals Contaminant Exposure	Pinch Radiation	Vehicle Operations Weather (rain/snow/wind)		
Dehydration	Slip/Trip/Fall	Wildlife		
Explosives	Spills	Other:		
-	-	d to bellesurgers		
• · · · ·	sions: Wildlife, pojsonous	plants, barrery usinge.		
	SIGNATURES			
Personnel Name	Organization	Personnel's Signature		
-	Sundance			
George Carner				
JUDSON PARSON	SUNDANCE	- Steeler		
Colleen Rust	SUNDANCE	Cecl		
		*		
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<b>PROJECT &amp; PERSONNEL INFORMATION</b>			
Project Name: Red Oevil	Monitoring		
Contract Number: BUD6-	-007 Ta	sk Order: SfR	ING SAMPUNG
Project Location: Red Devil	AK Da	ite: 6/7/2021	Time: 66.36
PM: John Consoletti	/	HO: Judd	Parson
SUXOS: No. 1	udd harson NA	t	1-0-1
	WEATHE	R	
	ÂM		PM
TEMPERATURE	40s		60
WIND	light		light
PRECIPITATION	light rain		light rain
Comments	Cloudy		Cloudy
ACTIVIT	TIES, HAZARDS, EQU	JIPMENT & SA	AFETY
Activities to be Performed & Equ	ipment Used: Grown	dwater sar	mpling, ATV use,
WILDLIFE			pring in ase,
·····			
Hazards Related to Task (check a	ll that apply):		
🗖 Spills	□ Dehydration	ľ⊠.	Wildlife
⊠ Slip/trip/fall	□ Sun exposure		Explosives
Pinch	$\square$ Extreme weather (he	· · · ·	Chemicals
Weather (rain, wind, snow) Wehicle operation Arus	<ul><li>Radiation</li><li>Biological hazards</li></ul>		Contaminant exposure Other
	Biological Interaction		·
Additional Safety Topics or Discu	ssions:	1	
PADIO CHECKINS, 5	AMPLING IN POTIN	)	
	SIGNATUR	ES	
Personnel Name	Organizatio	) <b>n</b>	Personnel's Signature
George Garner	Sundance		king have
JUDSON PARSON	SUNDANCE	Ś	JORD-
Colleen HUST	SUNDANCE SUNDANCE		Alla L
	·		



<b>PROJECT &amp; PERSONNEL INFORMATION</b>					
Project Name: RED DE	UL MINE				
Contract Number: BUOG-007 Task Or			PRING SAMPLING		
	EUIL, AK	Date: 6 18/20	21 Time: 0700		
PM: JOHN CONS	OLETTI	SSHO: Coll	een Rust		
SUXOS: NA					
	WEATI	HER			
	l i i i i i i i i i i i i i i i i i i i	AM	PM		
TEMPERATURE	41	5	550		
WIND	L16	(IT	LIGHT		
HUMIDITY	ה	070 RAIN	70% RAIN		
COMMENTS	PAR	TLY CLOUDY	CLOUDY		
ACTIVITI	es, Hazards, E	QUIPMENT & S	AFETY		
Activities to be Performed & Equip	ment Used:	GAM BUNY	CAUROATED		
ATU USE AND GR	BUNDWATER	OMULIN C			
Hazards Related to Task: (check all	that apply)				
Biological Hazards	Extreme Weather	(heat/cold)	Sun Exposure		
Chemicals	Pinch	(inclusional)			
Contaminant Exposure	Radiation	X			
	Slip/Trip/Fall	X	Wildlife		
Explosives	Spills		Other:		
Additional Safety Topics or Discuss MON ITORING WELL	ions:	LAISTICS	WITH ATUS AND		
MONTTORING WELL	10 WELL	200151102	~		
TRAILER	a				
	SIGNATU				
Personnel Name	Organiz	The state of the state of the state of the	Personnel's Signature.		
Blagn Kust	SUNDAN	JCE 6	- Color		
George Garner	Sundance		My km		
JUDD PARSON	SUNDANKE				

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<b>PROJECT &amp; PERSONNEL INFORMATION</b>					
Project Name: DE	WIL MINE				
-					
Project Location: RED DEVIL, AIC Date: 6/9/2021 Time: 0700					
PM: JOHN CONSOLE	<i>(</i> 2	Heer Rust			
suxos: MA					
	WEATHER				
	AM	PM			
TEMPERATURE	450	- 50°			
WIND	LIGHT	LIGHT.			
HUMIDITY	10% to 70% low	10% TO 70% BAW			
COMMENTS	CLOUDY BAIN	CLOUDY RAIN			
	es, Hazards, Equipment &	& SAFETY			
Activities to be Performed & Equip ATU USE, STORA	ment Used:				
ATU USE, STREA	and the second				
Hazards Related to Task: (check all	that apply)				
Biological Hazards	Extreme Weather (heat/cold)	Sun Exposure			
Chemicals	Pinch	Vehicle Operations ATUS			
Contaminant Exposure	Radiation	Weather (rain)snow/wind)			
Dehydration	X. Slip/Trip/Fall	Vildlife			
Explosives	Spills	U Other:			
NIGUSSED CHAVE	IONS: SE IN ACTIVITIES TO PARANETERS	OWALETE STREAM			
GAUGING AND	PARANETERS				
C/M- CC	SIGNATURES				
Personnel Name	Organization	Personnel's Signature			
- Colleen Rust	SUNDANCE				
Personnel Name Colleen Rust George Gamer Jupson PARSON	Surdace	a for the second			
JUDSON PARSON	SINDANCE	642777			
STATION INVICIN					
	· · · · · · · · · · · · · · · · · · ·				
L					



<b>PROJECT &amp; PERSONNEL INFORMATION</b>				
Project Name: GDS	EUIL MINE			
Contract Number: 6006-	60 <sup>-7</sup> Task Order:	GPRING SAM PUNG		
Project Location:		12021 Time: 0630		
		Heen Rust		
suxos: NA	· · · · · · · · · · · · · · · · · · ·			
	WEATHER			
	AM	РМ		
Temperature	455	50s		
WIND	LiGHT	LIGHT		
HUMIDITY	Cloudy	aDODY LIGHT RAW		
COMMENTS				
	es, Hazards, Equipment &			
Activities to be Performed & Equip	Ment Used: AMPLING STARTING UL (NEEK AUD KUS	Flom THE CONFLUENCE		
SUIDACE WATEL S	W CREEK AND KINS	Vacum RivEl.		
Hazards Related to Task: (check all	that apply)			
Biological Hazards	Extreme Weather (heat/cold)	Sun Exposure		
Chemicals	Pinch	Vehicle Operations ATUS		
Contaminant Exposure	Radiation	Weather (rain/snow/wind)		
Dehydration Explosives	Slip/Trip/Fall Spills	Wildlife Other:		
Additional Safety Topics or Discuss				
Additional Salety Topics of Discussions;				
	SIGNATURES			
Personnel Name	Organization	Personnel's Signature		
George Gurner	Sundance	Knobe		
JUDD PARSON Gleen RUST	SUNDANCE	OPERE		
Gleen RUST	SUNDANCE	Autol		
		C		

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PROJECT & PERSONNEL INFORMATION			
Project Name: RED DEVIL			
Contract Number: BUCG-CC	ッテ	Task Order:	
Project Location: RED De		Date: 8-28-	21 Time: ()730
PM: COLLEEN RUST		SSHO: (JEOI	RGE GARNER
SUXOS:			
	WEAT	IIER	
		AM	PM
TEMPERATURE	37°	F	55°F
WIND	5-10	mph	5 mph
HUMIDITY	50%		40%
COMMENTS	FROST		
ACTIVITI	es, Hazards, I	<b>EQUIPMENT &amp; S</b>	AFETY
Activities to be Performed & Equip	ment Used:		
-MONITORING WELL	Network	SURVEY	
- BRUSH CLEARING-			
Hazards Related to Task: (check all	that apply)		
Biological Hazards	Extreme Weathe		Sun Exposure
	E. Pinch	Ж. Г	Vehicle Operations
Contaminant Exposure	Radiation ∑ Slip/Trip/Fall	× V	Weather (rain/snow/wind) Wildlife
$\square$ Explosives	$\square$ Spills		Other:
Additional Safety Topics or Discuss	-		
-ANIMAL ENCOUNTE	جR2		
-ATV OPS			
	Signat	URIOS	
PersonnelName	Organi		Personnel's Signature
JUDSON PARSON	SUNDAN	ic E	
RAPPAN WITTHEN	Sundan		PIDDIALLAA.
George barner	Sundar		
	yn a me	<u>c.</u>	
			<u></u>



PROJECT & PERSONNEL INFORMATION			
Project Name: RED DEN'	n na sana na sana kana kana kana kang kang kang kang k		
Contract Number: BV06-0	Task Order:		
Project Location: RED DCM	LAK Date: 8/29	2021 Time: 0730	
PM: Colleen Rust	SSHO: G	12021 Time: 0730 OVGR GAVNER	
SUXOS:	· · · · · · · · · · · · · · · · · · ·	V	
	WEATHER	an March Martin and Anna an Anna an Anna Statistica an an Anna a	
	AM	PM	
TEMPERATURE	460	55 °	
WIND	LOW	IOW	
HUMIDITY	high	high	
COMMENTS	Rain	U .	
ACTIVITI	ES, HAZARDS, EQUIPMENT	& SAFETY	
Activities to be Performed & Equip	ment Used:		
sampling groundwater u	vells, ATV use		
Hazards Related to Task: (check all Biological Hazards		Sun Exposure	
Chemicals	Extreme Weather (heat/cold) Pinch	Vehicle Operations	
Contaminant Exposure	Radiation	Weather (rain/snow/wind)	
Dehydration	X Slip/Trip/Fall	Wildlife Wildlife	
Explosives	אָל Spills	U Other:	
Additional Safety Topics or Discuss	ions:		
	<u></u>		
	SIGNATURES		
Personnel Name	Organization	Personnel's Signature	
RIKY Wittler	Sundance	filligettet	
JUDD PARSON	SUNDANCE	900 -	
George Garner	Sundance	they have	
	· ··· ····		

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Sundance Consulting, Inc. December 2016



PROJECT & PERSONNEL INFORMATION				
Project Name: REG DEVID	A Galarite Rosta Marca Revision A Auros p			
Contract Number: BUO(0-007) Task Order:				
Project Location: RED DEVIL	AK	Date: 08 30 2021	Time: () 745	
PM: COLLEEN RUST		SSHO: GEORGE FIC	arner	
SUXOS:		, <u> </u>		
	WEAT	UER		
		AM	PM	
TEMPERATURE	48° F		610 F	
WIND	nme	-	ไทม	
HUMIDITY	1000	6	hian	
COMMENTS		¢	, J.,	
ACTIVITI	es, Hazards, F	QUIPMENT & SAF	ЕТҮ	
Activities to be Performed & Equip	ment Used:		- 4	
Giroundwater monitoring	i blaader pum	p tetneral, Atv	8P.	
			·	
Hazards Related to Task: (check all Biological Hazards		(heat/acld)		
Chemicals	Extreme Weather Pinch		un Exposure /ehicle Operations	
Contaminant Exposure	Radiation		Veather (rain/snow/wind)	
Dehydration	Slip/Trip/Fall	V V	Wildlife	
L Explosives	Spills		Other:	
Additional Safety Topics or Discussions: Ground water monitoring Safety,				
Ground water Monitor Me	Jouvery,			
	SIGNAT	A CONTRACT OF A STATE OF		
Personnel Name	Organiz	(i)	Personnel's Signature	
RILLY WITTER	sundan		ullipter.	
JUDD PARSON	SUNDANKE			
Olorge Gamer	Sundanci	e M	7h~	
		·		
· · · · · · · · · · · · · · · · · · ·				



Ргол	ect & Personi	NEL INFORMATION	na ann an Christian an Saol ∎ 19 - Artes Carlos an States an Saol	
Project Name: RED DEVIL			and in the second the second state of the second	
Contract Number:		Task Order:		
Project Location: RED DEVIL	AK	Date: 8-31-21	Time: 0700	
PM:		SSHO:		
SUXOS:				
	WEAT	HER		
		AM	РМ	
TEMPERATURE	40	° r=	62° F	
WIND	2	- mph	Zmph	
HUMIDITY	96 %		90%	
COMMENTS	······································			
Activiti	es, Hazards, I	EQUIPMENT & SAF	ETY	
Activities to be Performed & Equip				
· · ·	PLING		•	
ATN OPS				
Hazards Related to Task: (check all				
Biological Hazards	Extreme Weathe		Sun Exposure Jehicle Operations	
Containinant Exposure	Radiation		Weather (rain/snow/wind)	
Dehydration	Slip/Trip/Fall		Wildlife	
Explosives	Spills		Other:	
Additional Safety Topics or Discussions:				
BEAR COUNTERNEA	SURES AND	o PLAN		
-				
	SIGNAT			
Personnel Name	Organiz	ation	Personnel's Signature	
JUDD PARSON	SUNDANCES		Jarg-	
RILLY WIFFLEY	Sundance	e f	4lentto	
George Garner	Sendance		ky ha	
			V	
		·		
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Proji	ect & Personi	NEL INFORMATIC	ÐN
Project Name: RED DEVIL			NET DE GREGOR DE BERNER EN LE BENNER DE LE BENNER DE BENNER DE BENNER EN BERNER DE BENNER DE BENNER DE BENNER D
Contract Number: Task Order:			
Project Location:		Date: 9.2-21	Time: 0700
PM:		SSHO:	
SUXOS:			
	WEAT	HER	
		AM	PM
TEMPERATURE	42°F		51° F
WIND	2 mpt	1	4 mph
HUMIDITY	94%		84%
COMMENTS			
ACTIVITI	ES. HAZARDS I	QUIPMENT & SA	MBTY
Activities to be Performed & Equip			
GROUNDWATER SAMPLI			
ATV USE			
Hazards Related to Task: (check all	that apply)		
Biological Hazards	Extreme Weather		Sun Exposure
	Y Pinch	X	Vehicle Operations
Contaminant Exposure	Radiation		Weather (rain/snow/wind)
	Slip/Trip/Fall	X	Wildlife
	Spills		Other:
Additional Safety Topics or Discuss			
REDUCED VISIBILITY	FROM FOG	-	
······································	a		
	SIGNAT		
Personnel Name	Organiz	ation .	Personnel's Signature
JUDD PARSON	SUNDANCE		JORP
George Gerner	Sundare		my and
RILLY WITTLEY	SUNdance	/	Alifter
J			UU
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Proji	CT & PERSON	NEL INFORMA	HON	
Project Name: BLM RED I	DEVIL MINE	MONITORIN	6-	
Contract Number: BUCG - 00		Task Order:		
Project Location: RED DEVIL		Date: 9-2-2	I	Time: 0730
PM:		SSHO:		
SUXOS:	•			
	WEAT	HER		konstaanii jawali naging kasali Naging naging salahi
	raski dorioti novembri Naraska stakina hosetici	AM	filiae de la constant de la constant Constant de la constant de la constant de la constant de la constant de la	PM
TEMPERATURE	50	>°	<u> a an an fill an an a</u>	60°
WIND	3 m		Ę	Smph
HUMIDITY	93%		9	4°6
COMMENTS			R	AWY
Activiti	es, Hazards, I	QUIPMENT &	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Activities to be Performed & Equip	ment Used:			
MONITORING WELL	MAINTENANO	E		
ATU OPS				
Hazards Related to Task: (check all				-
Biological Hazards	Extreme Weathe			Exposure icle Operations
Contaminant Exposure	Radiation			ther (rain/snow/wind)
	Slip/Trip/Fall			dlife
Explosives	<b>Spills</b>		Othe	er:
Additional Safety Topics or Discuss	ions:			
LOADING ATUS + LIT	FING TECH	NIQUE		
				·
	SIGNAT	URES		
Personnel Name	Organi	zation	Pe	rsonnel's Signature
JUDD PARSON	SUNDANCE		<u></u>	SEF
Riley Witter	Sundance		<u> </u>	Wiltth
George Garner	Sundance		ll~_	gh
U				
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Ргол	ECT & PERSON	NEL INFORMATIC	<b>DN</b>
Project Name: RED DEVIL	- SEASONAL	MONITORING	
Contract Number: BUO6-00		Task Order:	
Project Location: RED DEV	IL,AK.	Date: 9-3-21	Time: 0730
PM:	· · · · · · · · · · · · · · · · · · ·	SSHO:	
SUXOS:		dor	·····
	WEAT	HER	
		AM	PM
TEMPERATURE	Agor		5°F
WIND	5 mph		Fmph
Нимпогту	98°6		e40%
COMMENTS	RAN		RAIN
ACTIVITI	,	EQUIPMENT & SA	
Activities to be Performed & Equip			
SURFACE WATER SI	AMPLING + S	TREAM GAUG	HNG-
			· · ·
Hazards Related to Task: (check all			<b>2 -</b>
Biological Hazards	Extreme Weathe	r (heat/cold)	Sun Exposure Vehicle Operations
Contaminant Exposure	Radiation		Weather (rain/snow/wind)
	🛆 Slip/Trip/Fall	$\boxtimes$	Wildlife
Explosives [	Spills		Other:
Additional Safety Topics or Discuss	ions:		
SWIFT WATER SAFETY			
1.			
· · · · · · · · · · · · · · · · · · ·	SIGNAT	URES	
Personnel Name	Organiz	zation	Personnel's Signature
JUDD PARSON	SUNDANCE	<u>=</u> <	DERE_
RILLY Witther	Sundanc	re 9	RILLIVUMtter
George Garmer	Sudence	<u>c</u>	hoph
			V

## ATTACHMENT 1.2 MONITORING WELL INTEGRITY CHECKLISTS

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I ID	(MWO)	Inspector's name: JUDSON FARSON
	6-4-21	
	0745	Inspector's signature:
	Before	Opening Monitoring Well
1.	Is well cement pad or stickup in	good condition? YES
2.	Frost jacking measures: Stick up	height from ground surface 3.29 FT
		Ti
		<b>_</b>
		3.08 FT
3.	Is the well lid/vault secure?	LOCK CVT
Λ	Jowell clearly labeled?	2
5.	Photographs of well closed	P6040304
	After remo	oving lid before sampling well
1.	Is gasket worn or damaged?	No
	Is vault flooded?	
3.	Any odors?റ്റെ	FP6040305
5.	Transducer present? Condition	? <u>NO</u>
	Duri	ing Groundwater Sampling NOT SAMPLED
1.	Is well operational?	$\sim$
2.	Dedicated pump present? Cond	dition?
3,	Were there any issues in collect	ting samples?
	Were there any issues in collect	ting samples?
<b>.</b>	omments:	
CO		

ID: MW03	Inspector's name: JUDSON PARSON
6-4-21	
e: 0950	Inspector's signature: <u>APP</u>
	re Opening Monitoring Well
1. Is well cement pad or stickup	
<ol> <li>Is well cement pad of stickup</li> <li>Frost jacking measures: Stick</li> </ol>	up height from ground surface 2.91 FT
	2.33 FT
11	
<b></b>	
3. Is the well lid/vault secure?	LOCK CUT
A is well clearly labeled? $Y$	=5
<ol> <li>Photographs of well closed</li> </ol>	P6040336
	emoving lid before sampling well
	2 <u>N0</u>
2. Is vault flooded? <u>NO</u> 3. Any odors? <u>NO</u>	
<ol> <li>Any out is <u>1980</u></li> <li>Photographs of well with lid</li> </ol>	loff 86040337
5. Transducer present? Condit	ion? NO
	During Groundwater Sampling NOT SAMPLING-
1. Is well operational?	
2. Dedicated pump present? C	.ondition
3. Were there any issues in co	Mecting Samples:

 $k_{\rm a}$ 

	): MW04 Inspector's name: Judson Parson
:e: _	6-4-21
ie: _	II27 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES
2.	Frost jacking measures: Stick up height from ground surface 2.83 FT
	Z.125 FT
3.	Is the well lid/vault secure? LOCK CVT
4.	Is well clearly labeled? $\underline{YE} \leq \underline{YE}$
5.	Photographs of well closed P6040359
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	
3.	Any odors? NO
4.	Photographs of well with lid off P 6040360
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling NOT SAMPLING
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co	omments:

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	Monitoring	Well Integrity Checklist
	D: <u>Mwo6</u>	Inspector's name: <u>George Garner</u>
	6-4-21	Inspector's signature:
ime: <sub>.</sub>	1155	Inspector's signature:
	Before	Opening Monitoring Well
1.	Is well cement pad or stickup in	good condition? YES
		height from ground surface <u>3.0 FT</u>
		2.5 FT
n		
	Is well clearly labeled?Y	LOCK CUT
4. 5.	Photographs of well closed	P6640371
		ving lid before sampling well
1.	Is gasket worn or damaged?	No
3.	Any odors? NO	
4.	Photographs of well with lid off	P6040372-
5.	Transducer present? Condition?	NO
	Duri	ng Groundwater Sampling
1.	Is well operational? Yes	
	Dedicated pump present? Cond	
	Were there any issues in collect	
Со	mments:	and at the first of the House had
	Ke-oxides on tubing. Res	well at initial inspection, Heavy algal moved and replaced with clean tub
	- -	

II ID	: MW07- Inspector's name: <u>Judson PARSON</u>
te: _	6-4-2
ne: _	0911 Inspector's signature:
	Before Opening Monitoring Well
1. 2.	Is well cement pad or stickup in good condition? YES Frost jacking measures: Stick up height from ground surface 3.25 FT
	2.83 FT
2	Is the well lid/vault secure? LOCK CUT
4.	Is well clearly labeled? $\sqrt{E}$
5.	Photographs of well closed [6040325
	After removing lid before sampling well
1.	Is gasket worn or damaged?ろ
2.	ls vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off
5.	Transducer present? Condition?
	During Groundwater Sampling NOT SAMPLING
1	Is well operational?
	Were there any issues in collecting samples?
1. 2. 3.	Is well operational? Dedicated pump present? Condition?

ell ID: <u>MW 08</u>	Inspector's name: Jupson Parson
nte: 6-4-21	
me: <u>0900</u>	Inspector's signature: SCR Comment
ne. <u>0 100</u>	Before Opening Monitoring Well
	· - ·
1. Is well cement pad o	r stickup in good condition?YES res: Stick up height from ground surface3,125 FT
2. FLOST JACKING THEASU	
	2.24 FT
	that I don't a little
· · · · · · · · · · · · · · · · · · ·	
3 Is the well lid/vault s	secure? LOCK CUT
4. Is well clearly labeled	d? YES
5. Photographs of well	secure? <u>LOCK CUT</u> d? <u>YES</u> closed <u>flo40323</u>
	After removing lid before sampling well
1. Is gasket worn or da	
2. Is vault flooded?	
3. Any odors?	NO.
4. Photographs of well	with lid off 16040324
5. Transducer present	Condition? NO
	During Groundwater Sampling NOT SAMPLIN
1. Is well operational?	0-
2. Dedicated pump pre	
	les in collecting samples?
Comments:	
	· · ·

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Sundance Consulting Ina.	
Monitoring Well Integrity Checklist	
Well ID: <u>MW09</u> Inspector's name: <u>Colleon Russ</u>	
Date: 6-4-21/6/5/21	
Time: 0820 / 1105 Inspector's signature:	
Before Opening Monitoring Well	
<ol> <li>Is well cement pad or stickup in good condition? <u>YES</u></li> <li>Frost jacking measures: Stick up height from ground surface <u>NA</u></li> </ol>	
3.58 FT 2.33 FT	
<ul> <li>3. Is the well lid/vault secure? <u>YES</u> <u>ICCK CUT</u>, <u>CLOSED W/Zi?</u></li> <li>4. Is well clearly labeled? <u>NO <sup>3P</sup> YES</u></li> <li>5. Photographs of well closed <u>P6040315</u></li> </ul>	<u>TIE</u> 
After removing lid before sampling well	
<ol> <li>Is gasket worn or damaged? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>NO</u></li> <li>Photographs of well with lid off <u>P6046316</u></li> <li>Transducer present? Condition? <u>NO</u></li> </ol>	
During Groundwater Sampling	
<ol> <li>Is well operational? <u>TES</u></li> <li>Dedicated pump present? Condition? <u>TOBES WERE BENT</u> STRAIGHTED AND</li> <li>Were there any issues in collecting samples? <u>MARED TOO FAST AT 0.4 Youn</u> allowed TO RECHARGE</li> <li>Comments:</li> </ol>	
NONE.	·
	*
Sundance Consulting	; inc.

May 2021

<ul> <li>5. Photographs of well closed <u>flow40310</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>flov40314</u> To flov40311</li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u>, <u>REPLACED</u> <u>Discharce TUBING</u></li> <li>3. Were there any issues in collecting samples? <u>AFTER TUBING</u> WAS <u>REPLACED</u>, NO</li> </ul>	Monitoring	g Well Integrity Checklist
ime:       0807       Inspector's signature:       000000000000000000000000000000000000		Inspector's name: Jubson PARSON
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition? YES, FROST JACKED         2. Frost jacking measures: Stick up height from ground surface 2.9 (FT)         2. Frost jacking measures: Stick up height from ground surface 2.9 (FT)         3. Is the well lid/vault secure? YES, LOCK CUT         4. Is well clearly labeled? YES         5. Photographs of well closed 16040310         After removing lid before sampling well         1. Is gasket worn or damaged? NO         2. Is vault flooded? NO         Any odors? NO         During Groundwater Sampling         Is well operational? YES         Decicated pump present? Condition? YES, REPLACED DISCHARCEE TUBINE         Stick was REPLACED DISCHARCEE TUBINE	e: <u>6-4-2</u>	
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition? YES, FROST JACKED         2. Frost jacking measures: Stick up height from ground surface	ne: 0867	Inspector's signature:
<ul> <li>2. Frost jacking measures: Stick up height from ground surface <u>Z.96 FT</u></li> <li>2.15 FT</li> <li>3. Is the well lid/vault secure? <u>Here Lock cut</u></li> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>YES</u></li> <li>6. Photographs of well closed <u>YES</u></li> <li>7. Is saket worn or damaged? <u>NO</u></li> <li>7. Is saket worn or damaged? <u>NO</u></li> <li>7. Is vault flooded? <u>NO</u></li> <li>7. Is vault flooded? <u>NO</u></li> <li>7. After removing lid before sampling well</li> <li>7. Is saket worn or damaged? <u>NO</u></li> <li>7. Is vault flooded? <u>NO</u></li> <li>7. Any odors? <u>NO</u></li> <li>7. Photographs of well with lid off <u>Hotyo3/H</u> <u>To Hoto403/1</u></li> <li>7. Transducer present? Condition? <u>NO</u></li> <li>7. Is well operational? <u>YES</u></li> <li>7. Dedicated pump present? Condition? <u>YES</u>, <u>REPLACED</u> <u>DISCHARGEE TUBING</u></li> <li>7. Were there any issues in collecting samples? <u>AFTER</u> <u>TUBINE</u> WAS <u>REPLACED</u>, <u>NO</u></li> </ul>	Befor	
<ul> <li>3. Is the well lid/vault secure? <u>Lock CUT</u></li> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>YES</u></li> <li>6. Photographs of well closed <u>YES</u></li> <li>7. After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>Hoto314</u> To <u>Floo40311</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u>, <u>REPLACED</u> <u>Discharce TUBING</u></li> <li>3. Were there any issues in collecting samples? <u>AFTER TUBING</u> WAS <u>REPLACED</u>, <u>NO</u></li> </ul>		
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>16040310</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>16040314</u> To <u>16040311</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u>, <u>REPLACED</u> <u>DISCHARCEE TUBING</u></li> <li>3. Were there any issues in collecting samples? <u>AFTER TUBING</u> WAS <u>REPLACED</u>, <u>NO</u></li> </ul>		2.15 FT
<ul> <li>5. Photographs of well closed</li></ul>		
After removing lid before sampling well         1. Is gasket worn or damaged?       NO         2. Is vault flooded?       NO         3. Any odors?       NO         4. Photographs of well with lid off       16040314         5. Transducer present? Condition?       NO         During Groundwater Sampling         1. Is well operational?       Yes         2. Dedicated pump present? Condition?       Yes         3. Were there any issues in collecting samples?       AFTER TUBING WAS REPLACED, NO	4. Is well clearly labeled?	YES A
After removing lid before sampling well         1.       Is gasket worn or damaged?       NO         2.       Is vault flooded?       NO         3.       Any odors?       NO         4.       Photographs of well with lid off       Ico40314       To Ico40311         5.       Transducer present? Condition?       NO         During Groundwater Sampling         1.       Is well operational?       Yes         2.       Dedicated pump present? Condition?       Yes         3.       Were there any issues in collecting samples?       AFTER         AFTER       TUBING:       WAS	5. Photographs of well closed	16040310
<ul> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>Moundates Sampling</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u>, <u>REPLACED DISCHARCEE TUBINGE</u></li> <li>3. Were there any issues in collecting samples? <u>AFTER TUBINGE WAS REPLACED, NO</u></li> </ul>	After rem	
<ul> <li>3. Any odors?</li></ul>	1. Is gasket worn or damaged?	NO
<ul> <li>4. Photographs of well with lid off <u>f6040314</u> To f6040311</li> <li>5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling <ol> <li>Is well operational? <u>YES</u></li> <li>Dedicated pump present? Condition? <u>YES</u>, <u>REPLACED</u> DISCHARGETUBINGE</li> <li>Were there any issues in collecting samples? <u>AFTER TUBINGE WAS REPLACED</u>, NO</li> </ol></li></ul>		
<ol> <li>5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>REPLACED DISCHARGE TUBING</u></li> <li>3. Were there any issues in collecting samples? <u>AFTER TUBING WAS REPLACED</u>, NO</li> </ol>	3. Any odors? <u>NO</u>	a Recenter Realing
During Groundwater Sampling         1. Is well operational?       YES         2. Dedicated pump present? Condition?       YES         3. Were there any issues in collecting samples?         AFTER TUBING- WAS REPLACED, NO		
<ol> <li>Is well operational? YES</li> <li>Dedicated pump present? Condition? YES, REPLACED DISCHARGE TUBING</li> <li>Were there any issues in collecting samples? AFTER TUBING WAS REPLACED, NO</li> </ol>	•	
<ol> <li>Dedicated pump present? Condition? YES, REPLACED DISCHARGE TUBING</li> <li>Were there any issues in collecting samples? AFTER TUBING WAS REPLACED, NO</li> </ol>		ring Groundwater Sampling
3. Were there any issues in collecting samples? AFTER TUBING WAS REPLACED, NO	-	dition the REPLACED DUCING - TOPING-
AFTER TUBING WAS REPLACED, NO		
· · · · · · · · · · · · · · · · · · ·	•	<b>C</b> .
None	Comments:	
· · ·	· · · · · · · · · · · · · · · · · · ·	· ·

	Monitoring Well Integrity Checklist
II <b>I</b> C	D: MWII Inspector's name: JUDSON PARSON
	6-4-21
	07-56 Inspector's signature: QCRCP
	Before Opening Monitoring Well
1	Is well cement pad or stickup in good condition? YES
2.	Frost jacking measures: Stick up height from ground surface <u>3.0 FT</u>
	2.42 FT
ג	Is the well lid/vault secure? LOCK CUT
	Is well clearly labeled? YES
 5.	
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? NO
4,	Photographs of well with lid off 16040300 To 16040307
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling NOT SAMPLING-
1	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in-collecting samples?
Со	omments:

רחווו	. MW 12 Inspector's name: Jubson Parson
	6-9-Z1
	0925 Inspector's signature: DER 8
-	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
2.	Frost jacking measures: Stick up height from ground surface <u>3.83 FT</u>
	4.58FT
	Is the well lid/vault secure? <u>N</u> ご
	Is well clearly labeled?Yizzzz
5.	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged? YES
2.	Is vault flooded?
3.	Any odors? N/2
4.	Photographs of well with lid off $\int \frac{1}{10040330} + \frac{1}{10040329}$
5.	Transducer present? Condition?
	During Groundwater Sampling NOT SAMPLING
1.	Is well operational? NO
	Dedicated pump present? Condition?
	Were there any issues in collecting samples?
Co	omments:
	PUC JACKED OUT OF STEEL CASING, PUC COLLAPS
	UNSAMPLEABLE, UNMEASUREABLE.

11 ID: <u>MW13</u> .e: <u>6-4-21</u>	Inspector's name: <u>Jupson Parson</u>
ne: 0920	Inspector's signature:
	Before Opening Monitoring Well
<ol> <li>Is well cement pad o</li> <li>Frost jacking measur</li> </ol>	r stickup in good condition? <u>YES</u> res: Stick up height from ground surface <u>2.83</u> FT
	2.08 FT
	secure? LOCK CUT
<ol> <li>Is well clearly labeled</li> <li>Photographs of well</li> </ol>	closed
	After removing lid before sampling well
1. Is gasket worn or da	-
<ol><li>Is vault flooded?</li></ol>	
3. Any odors?	NO
<ol><li>Photographs of well</li></ol>	with lid off 6040328
5. Transducer present?	? Condition? <u>NO</u>
	During Groundwater Sampling NCIT SAMPLING
1. Is well operational?	2
2. Dedicated pump pre	
	les in collecting samples?
Comments:	

Monitoring	Well Integrity Checklist
	Man Providence
111D: <u>NW16</u>	Inspector's name: <u>Colleen 103</u>
e: 6-4-21 /6/5/21	
ne: 0945 / 1340	Inspector's signature:
	e Opening Monitoring Well
1. Is well cement pad or stickup	
<ol> <li>Frost jacking measures: Stick</li> </ol>	up height from ground surface 2.66 FT
	1.66 FT
L	
3. Is the well lid/vault secure?	Lock CUT
<ol> <li>Is well clearly labeled?Y</li> <li>Photographs of well closedY</li> </ol>	ES 16040334
	noving lid before sampling well
<ol> <li>Is gasket worn or damaged?</li> <li>Is vault flooded?</li></ol>	
3. Any odors?NO	
4. Photographs of well with lid	off
5. Transducer present? Condition	on? <u>NO</u>
D	uring Groundwater Sampling
1. Is well operational?	85
2. Dedicated pump present? Co	ondition? NO, DEDICATED TUBING, REPACED TUP
TURBINTY STABLE	AT 38 NTUS, WITH ALGER THAT WAS ON
MONING FORMARD WILL	REPARE TOBING TO THE SAME MEASURED
UEDTGH	

Monitorir	ng Well Integrity Checklist
Vell ID: MW17	Inspector's name: <u>Colleen Rust</u>
Date: 6-4-21 /6-5-21	
ime: 0938 / 1230	_ Inspector's signature:
Bef	ore Opening Monitoring Well
	p in good condition? FROST JACKED k up height from ground surface <u>3, 2,5 FT</u>
	2.16 FT
I. 3. Is the well lid/vault secure?	
<ol> <li>Is well clearly labeled?</li> <li>Photographs of well closed (</li> </ol>	
	emoving lid before sampling well
1. Is gasket worn or damaged?	<u>NV</u>
3. Any odors?	
4. Photographs of well with lice	loff 16040333
5. Transducer present? Condit	ion? NO
Λ	During Groundwater Sampling
<ol> <li>Is well operational? <u>Kes</u></li> <li>Dedicated pump present? C</li> </ol>	ondition? No pump, dedicated tobing
<ol> <li>Were there any issues in col</li> <li>Now E</li> </ol>	llecting samples?
Comments: Mouine Formards Will SANE UTV6TH	BEPIACE TUBING AND REPLACE WITH
· · ·	
	· · · · · · · · · · · · · · · · · · ·

Vell II.	): MW18	Inspector's name: JJDSON PARSON
ate: _	6-4-2-1	
ime:	1022	Inspector's signature:
	Bei	fore Opening Monitoring Well
1. 2.	Is well cement pad or stick Frost jacking measures: Stic	up in good condition? <u>YES</u> ck up height from ground surface 2.75 F7
		1,58 FT
٦	Is the well lid/vault secure?	
4.	Is well clearly labeled?	VES
5.	Photographs of well closed	16040347
	After r	emoving lid before sampling well
1.	Is gasket worn or damaged	? <u>NO</u>
2.	Is vault flooded?	NO, TOO MUCH SAND, REMOVED SOME
3.	Any odors?	0:
		d off
5,	Transducer present? Condi	
		During Groundwater Sampling NOT SAMPLING
	Is well operational?	
2.	Dedicated pump present?	
3.	Were there any issues in co	allecting samples?
	omments:	····

	6-4-21	Inspector's name: PARSON
ne: _		
	1030	Inspector's signature:
	Be	fore Opening Monitoring Well
1. 2,	Is well cement pad or stick Frost jacking measures: Sti	up in good condition? YES ck up height from ground surface 2,41 FT
	- <del>1</del> 12-	1.58 FT
	Is the well lid/vault secure	
	Is well clearly labeled?	
э.	Photographs of well closed	
		emoving lid before sampling well
	Is gasket worn or damaged	
	Is vault flooded?	
	Any odors? <u>NO</u>	
	Transducer present? Condi	d off <u><i>P60403570</i></u>
э.	· · · · ·	
		During Groundwater Sampling NOT SAMPLING
	Is well operational?	
	Dedicated pump present?	
3.	Were there any issues in co	Hecting samples?
Con	nments:	
		······································

311	): <u>MW2-6</u>	Inspector's name: Jup son Parson
te:	6-4-21	
ne:	0956	Inspector's signature:
	Before	Opening Monitoring Well
	Is well cement pad or stickup in	good condition? YES height from ground surface 3, 125 FT
Ζ.	Frost jacking measures: stick up	
		2.46 FT
	Is the well lid/vault secure?	
4.	Is well clearly labeled? YES	
5.	Photographs of well closed	<u>f</u> 6040338
	After remo	ving lid before sampling well
	Is gasket worn or damaged?	NÔ
	Is vault flooded? <u>NO</u>	
	Any odors? NO	<u> </u>
	Photographs of well with lid off	
5.	Transducer present? Condition?	
	Durii	ng Groundwater Sampling NOT SAMPLING-
1.	Is well operational?	
2.	Dedicated pump present? Cond	
3.	Were there any issues in collect	ing samples?
Со	mments:	
		· · · · · · · · · · · · · · · · · · ·

	Monitoring Well Integrity Checklist
ell 10	D: MWZI Inspector's name: Judson Parson
te:	6-4-21
ne:	1005 Inspector's signature:
	Before Opening Monitoring Well
	Is well cement pad or stickup in good condition? <u>FROST</u> JACKED Frost jacking measures: Stick up height from ground surface <u>2.91</u> FT
	Z. 683 FT
3.	Is the well lid/vault secure? LOCK CUT
4.	Is well clearly labeled? YES
5.	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged?
2.	Is vault flooded? NO
3.	Any odors?
	Photographs of well with lid off [604034]
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling NOT SAMPLIN
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Со	mments:

Sundance 15
Monitoring Well Integrity Checklist
/ell ID: <u>Mw22</u> Inspector's name: <u>Jupson Parson</u> ate: <u>6-4-21</u>
me: 1012 Inspector's signature: 9
Before Opening Monitoring Well
<ol> <li>Is well cement pad or stickup in good condition? YES</li> <li>Frost jacking measures: Stick up height from ground surface 3. C FT</li> </ol>
2.25 FT
3. Is the well lid/vault secure? LOCK CUT
4. Is well clearly labeled? $\underline{YES}$
5. Photographs of well closed
After removing lid before sampling well
1. Is gasket worn or damaged?NO
2. Is vault flooded?NO
3. Any odors? NO
4. Photographs of well with lid off
5. Transducer present? Condition? NO
During Groundwater Sampling NOT SAMPLWG
1. Is well operational?
2. Dedicated pump present? Condition?
3. Were there any issues in collecting samples?
Comments:
· · · · · · · · · · · · · · · · · · ·

	Monitoring	Well Integrity Checklist
ell II	): MW23	Inspector's name: JUDSON PARSON
ite:	6-4-21	
	1200	Inspector's signature:
		• Opening Monitoring Well
1. 2.	ls well cement pad or stickup i Frost jacking measures: Stick u	n good condition? YES
		1.33 FT
2	In the well lid/woult operate?	
	Is the well lid/vault secure? Is well clearly labeled?YE	
	Photographs of well closed	
	After rem	oving lid before sampling well
1.	Is gasket worn or damaged?	No
2.	Is vault flooded?	· · · · · · · · · · · · · · · · · · ·
3.	Any odors? No	
		F_ P6040374
5.	Transducer present? Condition	n?No
	Dur	ing Groundwater Sampling NOT SAMPLING
1.	Is well operational?	
	Dedicated pump present? Con	
3.	Were there any issues in collect	ting samples?
		·
Со	mments:	

	Monitoring	Well Integrity	Checklist
ell II	D: <u>MW24</u>	Inspector's name:	JUDSON PARSON
te:	6-4-21		
ne:	115	Inspector's signature	
	Before	Opening Monitoring V	
1.	ls well cement pad or stickup in Frost jacking measures: Stick up	good condition?	1ES
2.	Frost jacking measures: Stick up	height from ground su	urface 2.66 FT
		7	
			1.83 FT
2			
3. ⊿	<ul> <li>3. Is the well lid/vault secure? <u>100CK CUT</u></li> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>f6040369</u></li> </ul> After removing lid before sampling well		······
т. 5.	Photographs of well closed	P6040369	
	After remov	ving lid before sampli	ng well
1	Is gasket worn or damaged?N	16	-
	Is vault flooded? NO		
	Any odors? <u>NO</u>		
4.	Photographs of well with lid off	160462-71	ົ ົ
	Transducer present? Condition?		
	Durir	ng Groundwater Samp	ling NOT SAMPLING
1.	Is well operational?	$\mathcal{C}$	
	Dedicated pump present? Condi	ition?	, <u>, , , , , , , , , , , , , , , , , , </u>
	Were there any issues in collection	- And	
			· · · · · · · · · · · · · · · · · · ·
Со	mments:		
	, and and the second		

	ID: <u>Mw25</u> Inspect :: 6-4-21	tor's name: Jupson Parson
-		tor's signature.
		tor's signature:
	į.	Monitoring Well
1.	Is well cement pad or stickup in good cor	
2.	<ol><li>Frost jacking measures: Stick up height fr</li></ol>	rom ground surface <u>3, 0 FT</u>
		1.83 FT
		1.83
3.	Is the well lid/vault secure?	CUT
	a /	· · · · · · · · · · · · · · · · · · ·
5.	. Photographs of well closed 60 <sup>1</sup>	10367
	After removing lid b	efore sampling well
1.	. Is gasket worn or damaged? <u>NO</u>	
2.		
3.	Any odors?NO	
4.	. Photographs of well with lid off ? (	6040368
5.	. Transducer present? Condition?	0
	During Groun	dwater Sampling NOT SAMPLING
1.	. Is well operational?	2
2.		
	. Were there any issues in collecting samp	les?
		· · · · · · · · · · · · · · · · · · ·
Co	Comments:	

1

Vell I[	): MWZ6	Inspector's name: JUDSON PARSON	
_	6-4-21		
ime:	1140	Inspector's signature:	
	Before	Opening Monitoring Well	
1. 2.	Is well cement pad or stickup ir Frost jacking measures: Stick up	pood condition? $\underline{YES}$	
		1.66 FT	
	, <u>,</u>	LOCK CUT	
4. 5.	Is well clearly labeled? <u>YE</u> Photographs of well closed		
	After remo	oving lid before sampling well	
2. 3. 4.	Is gasket worn or damaged? Is vault flooded?JO Any odors?NO Photographs of well with lid of Transducer present? Condition	ff6040366	
	•	ing Groundwater Sampling	
2.	Is well operational? YES Dedicated pump present? Con Were there any issues in collec Nの	dition? YES, GOOD, REPLACED DISCHARGE ting samples?	TUBING
Co	NEW DISCHARGE TO	UBING-	

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Consulting Inc.	
Monitorin	g Well Integrity Checklist
/ell ID: <u>Mw 27</u> ate: <u>6-4-21</u>	Inspector's name: JUDSON PARSON
me: <u>1135</u>	Inspector's signature:
Befo	ore Opening Monitoring Well
<ol> <li>Is the well lid/vault secure?</li> <li>Is well clearly labeled?</li> <li>Photographs of well closed</li> </ol>	cup height from ground surface $2.66 FT$ 2.04 FT Lock CUT YES 16040363
After re	moving lid before sampling well
<ol> <li>Is gasket worn or damaged?</li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>NO</u></li> <li>Photographs of well with lid</li> <li>Transducer present? Condition</li> </ol>	off
	uring Groundwater Sampling
<ol> <li>Is well operational? <u>Yes</u></li> <li>Dedicated pump present? Co</li> <li>Were there any issues in coll</li> </ol>	ecting samples?
Comments: Nov E	
NONE	

	Monitoring Well Integrity Checklist
el <b>l I</b> [	MW28 Inspector's name: JUDSON PARSON
te:	6-4-21
ne:	1132 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? $\Upsilon_{ES}$
2.	Is well cement pad or stickup in good condition? $1 = 5$ Frost jacking measures: Stick up height from ground surface 2.66 FT
	1.83 FT
	Is the well lid/vault secure?CCCK CUT
	Is well clearly labeled? $\underline{YES}$
5.	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded?
3.	Any odors? <u>NO</u>
	Photographs of well with lid off <u>f 6040362</u>
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling
1.	Is well operational? <u>Yes</u>
2.	Dedicated pump present? Condition? <u>Ves</u> in good condition
3.	Were there any issues in collecting samples?
	Were there any issues in collecting samples? Persistant fur bidity but well was functional
Со	mments:
	<u>AINE</u>

1D: MW29	Inspector's name: JUDSON PARSON
e: 6-4-21	
e: 1621	Inspector's signature:
	Before Opening Monitoring Well
1 le well coment pad e	• •
<ol> <li>Is well cement pad of</li> <li>Frost jacking measur</li> </ol>	r stickup in good condition? YES, FROST FACKEP es: Stick up height from ground surface 2.92 FT
<b>_</b> , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	1.92 FT
,	
· · · · · · · · · · · · · · · · · · ·	
3. Is the well lid/vault s	ecure? LOCK CVT
	<u>יין ארא אין אין אין אין אין אין אין אין אין אי</u>
5. Photographs of well	closed PGCAO416
	After removing lid before sampling well
1. Is gasket worn or dat	maged? NO
2. Is vault flooded?	- · · · · · · · · · · · · · · · · · · ·
3. Any odors? <u>No</u>	>
	with lid off <u>P6040417</u>
5. Transducer present?	Condition? <u>NO</u>
	During Groundwater Sampling
1. Is well operational?	No
2. Dedicated pump pre	sent? Condition? Yes, air line missing, Pump lodged in
yes unable	to sample due to tubing and pump lodged in u
Comments:	
SEF FIELD N	

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Consulling Inc.	

## Monitoring Well Integrity Checklist

ell ID	: MW 30	Inspector's name:	JUDSON PARSON
	6-4-21	• •	
me: _	1627	Inspector's signature	: JARP
	Before (	Opening Monitoring V	/ell
1. 2.	Is well cement pad or stickup in Frost jacking measures: Stick up	good condition?^ height from ground su	IFACE 2-33 PT
			1.58 FT
3.	Is the well lid/vault secure?	LOCK CUT	·
	Is well clearly labeled?YE		
5.	Photographs of well closed	P6040418	
	After remov	ving lid before sampli	ng well
	Is gasket worn or damaged?		
2.	Is vault flooded? <u>NO</u>		······
	Any odors? No		
	Photographs of well with lid off	•	
5.	Transducer present? Condition?	No	······································
	Duri	ng Groundwater Samj	Ding NOT SAMPLING
1.	Is well operational?		
	Dedicated pump present? Cond	ition?	
	Were there any issues in collect	and the second se	
		<u> </u>	
Со	mments:		
	······································		
	• · · · · · · · · · · · · · · · · · · ·		·
	······································		

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	Sundance	
	Consulting Inc.	
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## Monitoring Well Integrity Checklist

Well ID:	MW31 Inspector's name: JUDSON PARSON
Date:	6-4-21
Time:	1542 Inspector's signature:
	Before Opening Monitoring Well
1 1	s well cement pad or stickup in good condition?
1. j 2. f	Frost jacking measures: Stick up height from ground surface 2,58 FT
,	
	DOG FT
	Z.29 F)
	Is the well lid/vault secure? LOGK CUT
	s well clearly labeled?
5. I	Photographs of well closed <u>P6040408</u>
	After removing lid before sampling well
· 1. I	Is gasket worn or damaged?
	Is vault flooded? <u>NC</u>
	Any odors? NO
	Photographs of well with lid off <u>P6040409</u>
Э,	During Groundwater Sampling NOT GAMPLING-
· · ·	
	Is well operational?
	Dedicated pump present? Condition? Were there any issues in collecting samples?
5.	
Соп	nments:
	х.
	Sundance Consulting Inc.
	May 2021

	): <u>MW 37</u>	Inspector's name: Judion Parson	
_	6-4-21		
ne:	1040 Bafar	Inspector's signature:	
	Before Opening Monitoring Well		
<ol> <li>Is well cement pad or stickup in good condition? YES</li> <li>Frost jacking measures: Stick up height from ground surface 3, 5%</li> </ol>		In good condition? <u>1E&gt;</u>	
	· · · · · · · · · · · · · · · · · · ·		
		2.08 FT	
		1 2.08 11	
	······································		
3.	Is the well lid/vault secure?	LACK (UT	
4.		YES	
5.	Photographs of well closed	6640351	
	After rem	noving lid before sampling well	
1.	Is gasket worn or damaged?	NO	
	Is vault flooded?	-	
	Any odors?		
4.	Photographs of well with lid o	ff	
5.	Transducer present? Conditio		
	Du	ring Groundwater Sampling NOT SAMPLING	
1.	Is well operational?	9	
2.	Dedicated pump present? Cor	ndition?	
3.	Were there any issues in colle	cting samples?	
	V)	· · · · · · · · · · · · · · · · · · ·	
Со	mments:		
		·····	

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	Inspector's name: Jupicov PARSON
ell ID: <u>MW 33</u> te: <u>6-4-21</u>	· · · · · · · · · · · · · · · · · · ·
ne: 1647	
	Before Opening Monitoring Well
1. Is well cement pad or sti	ckup in good condition? YES
2. Frost Jacking measures:	Stick up height from ground surface 2-42 FT
•	
	2,0
* <u></u>	
3. Is the well lid/vault secu	re? LOCK CUT
4. Is well clearly labeled?	
	ed <u>76040422</u>
Afte	er removing lid before sampling well
1. Is gasket worn or damage	ed? NO
2. Is vault flooded?	
3. Any odors? NO	
<b>U</b>	n lid off
5. Transducer present? Co	ndition? NO
	, During Groundwater Sampling
1. Is well operational?	les
2. Dedicated pump presen	t? Condition? <u>No PERI</u>
3. Were there any issues in	collecting samples?
NO	· · · · ·
Comments:	
NONE	

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Sundance 5		
	a Wall Integrity Checklist	
コア コア	g Well Integrity Checklist	
IIID: MW34	Inspector's name: Judson Parson	
ie: <u>6-4-21</u>		
ne: 0932	Inspector's signature:	
Befo	re Opening Monitoring Well	
1. Is well cement pad or stickup	in good condition?	
2. Frost jacking measures: Stick	up height from ground surface 3.81 FT	
· · · [[		
	3.27 FT	
<u>_</u>		
3. Is the well lid/vault secure?	YES JP LOCK CUT	
4. Is well clearly labeled?	YES DUNDENT	
5. Photographs of well closed _	16040317	
	moving lid before sampling well	
1. Is gasket worn or damaged?		
<ol> <li>Is vault flooded? <u>N<sup>で</sup></u></li> <li>Any odors? <u>N<sup>で</sup></u></li> </ol>		<b>ه</b> ر ب
4. Photographs of well with lid	off	
5. Transducer present? Conditi	on? <u>NO</u>	
D	uring Groundwater Sampling NKOT SAMPLING-	
1. Is well operational?		đi.
<ol> <li>Dedicated pump present? Co</li> <li>Were there any issues in col</li> </ol>		
J. Were there any issued in con		
Comments:		
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i	•	
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ł	Sundance Consulting Inc.	
	May 2021	

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ell 10	): <u>MW35</u>	Inspector's name: JUDSON PARSON	
	6-4-21		
ne:	0940	Inspector's signature:	
		Opening Monitoring Well	
1.	Is well cement pad or stickup in	n good condition?	
2.	Frost jacking measures: Stick up	p height from ground surface $3.875 FT$	
		3.42 FT	
3.	Is the well lid/vault secure?	LOCK CUT	
4.	Is well clearly labeled?	E3,	
5.	Photographs of well closed	P6040319	
	After remo	oving lid before sampling well	
1.	Is gasket worn or damaged?	ND	
2.	Is vault flooded? <u>NO</u>		
3.	Any odors? <u>NO</u>	ff \$6040320	
4. 5.	Transducer present? Condition		
5.	·	ring Groundwater Sampling NOT SAMPL	ED.
1.	ls well operational?		
2.	Dedicated pump present? Con	dition?	
3.	Were there any issues in collec		
6	mments:	······································	
CU			
	····		
	······································		

	MW36	Inspector's name: Jupson PARSON
	6-4-21	
∋: _	0847	Inspector's signature:
		Opening Monitoring Well
i. 2.	Is well cement pad or stickup ir Frost jacking measures: Stick u	n good condition? <u>Yes</u> , FROST JACKED p height from ground surface <u>4.0 FT</u>
		4.0 FT
		LOCK CUT
4.	Is well clearly labeled?	<u> </u>
5.	Photographs of well closed	
	After rem	oving lid before sampling well
1.	Is gasket worn or damaged?	NO
2.	Is vault flooded?	· · · · · · · · · · · · · · · · · · ·
3.	Any odors? <u>NO</u>	W. 11.200
		ff 16640322
5.	Transducer present? Condition	
	Dur	ring Groundwater Sampling NEOT SAMPLING
1.	Is well operational?	<u></u>
2.	Dedicated pump present? Con	
3.	Were there any issues in colle	cting samples?
	omments:	NGIDE OF CASING

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	Consulling las.	

## Monitoring Well Integrity Checklist

II ID	: <u>NW-39</u> Inspector's name: <u>Jubsens</u> PARSON
e: _	6-4-21
ie: _	1440 Inspector's signature: OCOCO-
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? Yes
2.	Frost jacking measures: Stick up height from ground surface 3.6 FT
	2,29 FT
3.	Is the well lid/vault secure? LCCK (UT
4.	Is well clearly labeled? YES
5.	Photographs of well closed <u>P6040 394</u>
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded?
	Any odors? NO
	Photographs of well with lid off <u>P6040395</u>
5.	Transducer present? Condition?
	During Groundwater Sampling NOT SAMPLING
1.	Is well operational?
2. Dedicated pump present? Condition?	
	Were there any issues in collecting samples?
Со	mments:

ell ID: <u>MW40</u> hte: <u>6-4-21</u>	Inspector's name: JUDSON PARSON
me: 1428	Inspector's signature:
<b></b>	re Opening Monitoring Well
<ol> <li>Is well cement pad or stickup</li> <li>Frost jacking measures: Stick</li> </ol>	in good condition? $\underline{YES}$ up height from ground surface $\underline{3.33}$ FT
	2,46 FT
L. _ 3. Is the well lid/vault secure?	
4. Is well clearly labeled?	
5. Photographs of well closed _	
After re	noving lid before sampling well
1. Is gasket worn or damaged?	01/1
2. Is vault flooded? <u>NO</u>	
3. Any odors? NO	
4. Photographs of well with lid	off_P6040393
5. Transducer present? Condition	on? <u>N</u> 6
D	uring Groundwater Sampling
1. Is well operational? YES	
<ol> <li>Dedicated pump present? Co</li> </ol>	ondition? YES, GOOD CONDITION
3. Were there any issues in coll	
Comments:	
NONE	·

Vell ID: <u>MW 42</u> Inspector's name: <u>JUDSON PARSON</u> ate: <u>6-4-21</u> Inspector's signature: <u>JUDSON PARSON</u> Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition? <u>YES</u> 2. Frost jacking measures: Stick up height from ground surface <u>2, 70 FT</u> 2, 5 FT         3. Is the well lid/vault secure? <u>LOCK (UT</u> 4. Is well clearly labeled? <u>YES</u> Photographs of well closed <u>B60467573</u> After removing lid before sampling well         1. Is gasket worn or damaged? <u>NO</u> 2. Is vault flooded? <u>NO</u> 3. Any odors? <u>NO</u> Aug Condition? <u>NO</u> During Groundwater Sampling         1. Is well operational? <u>MO</u> Dedicated pump present? Condition? <u>YES</u> <u>LoodeD (N) HELC MITH TOBING</u> SEE FIELD NETES .         Comments: <u>Coold Abt SAMUE</u>	WORKO	ring Well Integrity Checklist
ime: 1106       Inspector's signature:	Well ID: MW 4-2	Inspector's name: JUDSON PARSON
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition? YES         2. Frost jacking measures: Stick up height from ground surface	Date: <u>6-4-21</u>	
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition? YES         2. Frost jacking measures: Stick up height from ground surface	ime: <u>1106</u>	Inspector's signature:
<ul> <li>2. Frost jacking measures: Stick up height from ground surface <u>Z, 70 FT</u></li> <li>2. 5 FT</li> <li>3. Is the well lid/vault secure? <u>LOCK</u> (UT</li> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>AlcO46353</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>AlcO46354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>MO</u></li> <li>2. Is well operational? <u>MO</u></li> <li>3. Ker there any issues in collecting samples? <u>YES</u> <u>LOOGED</u> IN WELL WITH TUBINE</li> </ul>		$\mathcal{C}$
3. Is the well lid/vault secure?       LOCK       LOT         3. Is the well lid/vault secure?       LOCK       LOT         4. Is well clearly labeled?       YES         5. Photographs of well closed       IcoQ4 6 35 3         After removing lid before sampling well         1. Is gasket worn or damaged?       NO         2. Is vault flooded?         NO       Any odors?       NO         3. Any odors?       NO         4. Photographs of well with lid off       Ico46354         5. Transducer present? Condition?       NO         During Groundwater Sampling         1. Is well operational?       MO         2. Is vall operational?       MO         Q         During Groundwater Sampling         1. Is well operational?       MO         2. Dedicated pump present? Condition?       YES, Looge (N) HELL WITH TOBAY E         3. Were there any issues in collecting samples?       YES, SEE FIELD NOTES :	1. Is well cement pad or st	ickup in good condition? $Y E \le$
<ul> <li>3. Is the well lid/vault secure? <u>LOCK</u> (UT</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>flo046353</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>flo46354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>MO</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>Looges</u> IN WELL WITH TUBINE</li> <li>3. Were there any issues in collecting samples? <u>YES</u> <u>SEE FIELD NUTES</u></li> </ul>	2. Frost jacking measures:	Stick up height from ground surface <u>2,70 FT</u>
<ul> <li>3. Is the well lid/vault secure? <u>LOCK</u> (UT</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>flo046353</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>flo46354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>MO</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>Looges</u> IN WELL WITH TUBINE</li> <li>3. Were there any issues in collecting samples? <u>YES</u> <u>SEE FIELD NUTES</u></li> </ul>		
<ul> <li>3. Is the well lid/vault secure? <u>LOCK</u> (UT</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>flo046353</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>flo46354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>MO</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>Looges</u> IN WELL WITH TUBINE</li> <li>3. Were there any issues in collecting samples? <u>YES</u> <u>SEE FIELD NUTES</u></li> </ul>		
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>flood 67573</u> After removing lid before sampling well <ol> <li>Is gasket worn or damaged? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>NO</u></li> <li>Photographs of well with lid off <u>flood 67574</u></li> <li>Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>Is well operational? <u>NO</u></li> <li>Dedicated pump present? Condition? <u>YES</u> <u>LODGED</u> IN HELL WITH TOBING</li> <li>Were there any issues in collecting samples? <u>YES</u>, <u>SEE FIECO NOTES</u></li> </ol></li></ul>		2.5 FT
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>flood 67573</u> After removing lid before sampling well <ol> <li>Is gasket worn or damaged? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>NO</u></li> <li>Photographs of well with lid off <u>flood 67574</u></li> <li>Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>Is well operational? <u>NO</u></li> <li>Dedicated pump present? Condition? <u>YES</u> <u>LODGED</u> IN HELL WITH TOBING</li> <li>Were there any issues in collecting samples? <u>YES</u>, <u>SEE FIECO NOTES</u></li> </ol></li></ul>	<u></u>	
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>flood 67573</u> After removing lid before sampling well <ol> <li>Is gasket worn or damaged? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>NO</u></li> <li>Photographs of well with lid off <u>flood 67574</u></li> <li>Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>Is well operational? <u>NO</u></li> <li>Dedicated pump present? Condition? <u>YES</u> <u>LODGED</u> IN HELL WITH TOBING</li> <li>Were there any issues in collecting samples? <u>YES</u>, <u>SEE FIECO NOTES</u></li> </ol></li></ul>	3 Is the well lid/yoult see	
<ul> <li>5. Photographs of well closed <u>flood 0.253</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>flood 0.354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>NO</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>LODGED</u> IN WELL WITH TUBWE</li> <li>3. Were there any issues in collecting samples? <u>YES</u>, <u>YEE FIELO</u> NUTES .</li> </ul>		
<ol> <li>Is gasket worn or damaged? NO</li> <li>Is vault flooded? NO</li> <li>Any odors? NO</li> <li>Photographs of well with lid off <i>lide</i>40'35'4</li> <li>Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>Is well operational? MO</li> <li>Dedicated pump present? Condition? YES LODGED IN WELL WITH TUBING</li> <li>Were there any issues in collecting samples? YES, SEE FIELD NOTES</li> </ol>	5. Photographs of well close	sed
<ol> <li>Is gasket worn or damaged? NO</li> <li>Is vault flooded? NO</li> <li>Any odors? NO</li> <li>Photographs of well with lid off <i>lide</i>40'35'4</li> <li>Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>Is well operational? MO</li> <li>Dedicated pump present? Condition? YES LODGED IN WELL WITH TUBING</li> <li>Were there any issues in collecting samples? YES, SEE FIELD NOTES</li> </ol>	Aft	er removing lid before sampling well
<ul> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>P6040354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>MO</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>LODGED</u> IN WELL WITH TOBING</li> <li>3. Were there any issues in collecting samples? <u>YES</u>, SEE FIELD NOTES .</li> </ul>		
<ul> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>logo354</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>NO</u></li> <li>2. Dedicated pump present? Condition? <u>YES</u> <u>Longes</u> IN HELL HITH TOBING</li> <li>3. Were there any issues in collecting samples? <u>YES</u>, SEE FIELD NOTES .</li> </ul>		
<ol> <li>Transducer present? Condition? <u>NO</u> During Groundwater Sampling</li> <li>Is well operational? <u>NO</u></li> <li>Dedicated pump present? Condition? <u>YES</u> LODGED IN WELL WITH TOBING</li> <li>Were there any issues in collecting samples? <u>YES</u>, SEE FIELD NOTES .</li> </ol>	3. Any odors? <u>NO</u>	
During Groundwater Sampling         1. Is well operational?       NO         2. Dedicated pump present? Condition?       YES, LODGED IN HELL WITH TUBING         3. Were there any issues in collecting samples?       YES, SEE FIELD NOTES	4. Photographs of well wit	h lid off <u>f6040354</u>
<ol> <li>Is well operational? <u>NO</u></li> <li>Dedicated pump present? Condition? <u>YES</u> LODGED IN WELL WITH TUBING</li> <li>Were there any issues in collecting samples? <u>YES</u>, SEE FIELD NOTES .</li> </ol>	5. Transducer present? Co	ndition? <u>NO</u>
<ol> <li>Dedicated pump present? Condition? YES, LODGED IN WELL WITH TUBING</li> <li>Were there any issues in collecting samples?</li> <li>YES, SEE FIELD NOTES .</li> </ol>		During Groundwater Sampling
3. Were there any issues in collecting samples?	1. Is well operational?	NO
YES, SEE FIELD NOTES.		
Comments: COULD NOT SAMPLE	YES, JEE FIELD	NUTES .
LOULD ADT SAMPLE	Comments:	
	LOULD ADT SAN	NOE

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	): <u>MW43</u>	Inspector's name: JUDSON PARSON
Date:	6-4-21	
Time:	1118	Inspector's signature:
	Before	Opening Monitoring Well
1. 2.	Is well cement pad or stickup in Frost jacking measures: Stick up	good condition? $YES$ height from ground surface $2.91$ FT
		2.75 FT
4.	لـــــا  s the well lid/vault secure?  s well clearly labeled? Photographs of well closed	5
	After remo	oving lid before sampling well
2. 3. 4.	Is gasket worn or damaged? Is vault flooded? <del>VES</del> Any odors? <u>NO</u> Photographs of well with lid off Transducer present? Condition	floo40358 to floo40356
	Duri	ing Groundwater Sampling
1. 2. 3.	Is well operational? YES Dedicated pump present? Cond Were there any issues in collect	
Co —	Mionie	
		·····

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	Inspector's name:
IIID: <u>MW 44</u>	Inspector's name: Jupion PARSON
e: <u>6-4-21</u>	
e: <u>1600</u>	Inspector's signature:
Befor	e Opening Monitoring Well
1. Is well cement pad or stickup	in good condition?
	up height from ground surface 321 FT
	2.875 FT
3. Is the well lid/vault secure? _	
4. Is well clearly labeled?	YES
5. Photographs of well closed	16040412
After ren	noving lid before sampling well
1. Is gasket worn or damaged?	NO
2. Is vault flooded? <u>NO</u>	
3. Any odors? NO	$a \mathcal{D} \mathcal{L} \mathcal{A} = \mathcal{A} \mathcal{B} \mathcal{Z}$
4. Photographs of well with lid of	
5. Transducer present? Conditio	
	uring Groundwater Sampling
1. Is well operational?	
	ndition? YES, 6000 CONDITION
3. Were there any issues in colle NO	ecting samples?
Comments:	
Nove.	<u> </u>

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Sundance Consulting Inc. May 2021 :: : :

		Inspector's name: Judson PARSON
	): <u>MW45</u> 6-4-21	Inspector shame: <u>Johnsond Frank Sond</u>
	1334	Inspector's signature:
ie:		ore Opening Monitoring Well
1. ว	Is well cement pad or sticku	p in good condition? <u>YES</u> k up height from ground surface <u>Z.91 FT</u>
Ζ.	FI USL Jacking measures: Juci	
		1772 FT
		2.83 FT
_		
	-	Lock CUT
4. r	is well clearly labeled?	YES Prodotation
5.	Photographs of well closed	
	After re	emoving lid before sampling well
1.	Is gasket worn or damaged?	NO
		·
3.	Any odors? NO	
		off P6040386
5.	Transducer present? Condit	ion? No
	[	During Groundwater Sampling
1.	Is well operational?	<b>\$</b>
	Dedicated pump present? C	ondition? Yes seems in good condition
	Were there any issues in col	llecting samples?
	High amount of bu	> ondition? <u>Yes seems in good condition</u> llecting samples? bbles in return line. QuestionableDO readings
Co	mments:	
	WE	
_/		

		Well Integrity Checklist
	: MW 4=6	Inspector's name: Judson PARSON
ate: _	6-4-21	
me:	1326	Inspector's signature:
	Before	Opening Monitoring Well
1. 2.	Is well cement pad or stickup in Frost jacking measures: Stick up	pood condition? $\underline{YES}$ height from ground surface $\underline{3,54}$ FT
		3.08 FT
	Is the well lid/vault secure?	
	Photographs of well closed	
	After remo	oving lid before sampling well
2. 3. 4.	Is gasket worn or damaged? Is vault flooded?NO Any odors?NO Photographs of well with lid off Transducer present? Condition?	P6040384
	Duri	ng Groundwater Sampling
2.	Is well operational? YES Dedicated pump present? Conc Were there any issues in collect	lition? Yes, Good working order ting samples?
Со	mments:	
<u> </u>	IONE	· · ·
		······································
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	Monitoring	Well Integrity Checklist
ell IC	): <u>MW47</u>	Inspector's name: <u>Jupson PARSON</u>
te: _	6-4-21	
1e: _	1313	Inspector's signature:
	Before	Opening Monitoring Well
1. 2.	Is well cement pad or stickup in Frost jacking measures: Stick up	good condition?YES height from ground surface3.42ET
		3.16 FT
3.	Is the well lid/vault secure?	LOCK CUT
	Is well clearly labeled? YES	
5.	Photographs of well closed	6040-381
	After remo	ving lid before sampling well
1.	Is gasket worn or damaged?	NO
		·
	Any odors? <u>NO</u>	D/
		<u>P6040382</u>
5.	Transducer present? Condition?	
		ng Groundwater Sampling
1.	Is well operational?	
2.	Dedicated pump present? Cond	lition? Good shape and Yes bladder pump
3.	Were there any issues in collect Lits of air in the	lition? <u>Good shape and Yes bladder pump</u> ing samples? Water return, Possible kak in bladder.
	mments:	
_	INE	
		· · · · · · · · · · · · · · · · · · ·
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Monito	oring Well Integrity Checklist		
ell ID: <u>MW48</u>	Inspector's name: JUDSON PARSON		
ate: <u>6-4-21</u>			
me: 1611	Inspector's signature:		
	Before Opening Monitoring Well		
· · · · · · ·			
1. Is well cement pad or si	tickup in good condition? YES		
2. Frost jacking measures:	Stick up height from ground surface 3.25 FT		
	2.92 FT		
· · · · · · · · · · · · · · · · · · ·			
4. Is well clearly labeled?	ure? LOCK CUT		
5. Photographs of well clo			
	er removing lid before sampling well		
1. Is gasket worn or dama,			
<ol> <li>Is vault flooded?</li> <li>Any odors?</li> </ol>			
4. Photographs of well wit			
5. Transducer present? Co			
	During Groundwater Sampling NOT SAMPLING		
1 la wall anarational2			
<ol> <li>Is well operational?</li> <li>Dedicated pump preser</li> </ol>			
• • •	Dedicated pump present? Condition? Were there any issues in collecting samples?		
of the die die diff isodes			
Comments:			
comments.			
· · · · · · · · · · · · · · · · · · ·			

Sundance 15	
Monitori	ing Well Integrity Checklist
/ell ID:49	Inspector's name: JUDSON PARSON
Date: 6-4-21	
ime: 1635	Inspector's signature:
Be	efore Opening Monitoring Well
1. Is well cement pad or sticl	kup in good condition?YES
	tick up height from ground surface <u>3.33 FT</u>
	2.7111
3. Is the well lid/vault secure	P LOCK (UT
4. Is well clearly labeled?	
5. Photographs of well close	d P6040420
After	removing lid before sampling well
1. Is gasket worn or damage	d? NO
<ul> <li>2. Is vault flooded?</li> </ul>	
<ol> <li>Any odors?</li> <li>Photographs of well with</li> </ol>	Hideff R(AAA)
<ol> <li>Photographs of well with</li> <li>Transducer present? Cond</li> </ol>	
	During Groundwater Sampling
1. Is well operational? $\sqrt{2}$	
<ol> <li>Is well operational? <u>9</u></li> <li>Dedicated pump present?</li> </ol>	
3. Were there any issues in a	
No,	
Comments:	
NONE	
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	Sundance Consulting Inc.

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ell ID: <u>Mv</u>	50	Inspector's name:	JUDSON PARSON
ate: <u>6-4</u>	-21		·
me: <u>1514</u>	· · · · · · · · · · · · · · · · · · ·	Inspector's signatur	re: DEPP
	Before	Opening Monitoring	Well
<ol> <li>Is well c</li> <li>Frost jac</li> </ol>	ment pad or stickup in king measures: Stick u	n good condition? p height from ground s	(ES surface <u>3,54</u> FT
			3.25 FT
3. Is the w	Il lid/vault secure?	LOCK CUT	
4. Is well o	early labeled? <u>Y</u>	Platon of	
5. Photogr	aphs of well closed		
	After rem	oving lid before sampl	ling well
0	_	NO	
2. Is vault	looded? <u> </u>		
3. Any odd	rs?NO		
			· · · · · · · · · · · · · · · · · · ·
5. Transdi	•		
	Du	ring Groundwater Sam	npling
1. Is well o	perational? <u>YES</u>		· · · · · · · · · · · · · · · · · · ·
2. Dedicat	ed pump present? Cor		
3. Were th <i>\\\O</i>	ere any issues in colle	cting samples?	- 
Comments	· ·	•	
NONE.			

	): <u>MW51</u> 6-4-21	Inspector's name: <u>JUDSON PARSON</u>
	1453	Inspector's signature:
-		e Opening Monitoring Well
1. 2.	Is well cement pad or stickup i Frost jacking measures: Stick u	n good condition? YES
		3,0 FT
4.	ls the well lid/vault secure? Is well clearly labeled?Yह	<u></u>
5.	Photographs of well closed	
	After rem	oving lid before sampling well
	Is gasket worn or damaged?	
	Is vault flooded? <u>N</u> の Any odors? <u>N</u> の	
3. 4.	Photographs of well with lid o	ffP6040349
		1? YES, GOOD
	Du	ring Groundwater Sampling
2.	Is well operational? <u>YES</u> Dedicated pump present? Cor Were there any issues in colle N 心	
Со	mments:	
	NONE	

Surdance 15 Cossulling to.	. · · · ·
Monitoring Well Integrity Checklist	
ell ID: <u>MW 52</u> Inspector's name: <u>JUDSON PARSON</u>	
$\frac{6-4-21}{2}$	
ne: 306 Inspector's signature:	
Before Opening Monitoring Well	
<ol> <li>Is well cement pad or stickup in good condition? <u>YES</u></li> <li>Frost jacking measures: Stick up height from ground surface <u>3,42 PT</u></li> </ol>	N.
3,125 FT	· .
3. Is the well lid/vault secure? LOCK CUT	
4. Is well clearly labeled? <u>YES</u> 5. Photographs of well closed <u>P6046379</u>	
After removing lid before sampling well	
1. Is gasket worn or damaged? <u>NO</u>	
2. Is vault flooded? NO	
3. Any odors? NO	
<ul> <li>4. Photographs of well with lid off <u>P6040380</u></li> <li>5. Transducer present? Condition? <u>N0</u></li> </ul>	-
During Groundwater Sampling	
1. Is well operational? YES	
2. Dedicated pump present? Condition? YES, WATER FLOWS BACK DURING RE	CHARGE CYCLE
3. Were there any issues in collecting samples?	
Comments: NovE	
	-
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	MW53	Inspector's name: JUDSON PARSON
	-4-21	
ne: <u> </u>		Inspector's signature:
4 1		
1. IS W	st jacking measures: St	cup in good condition? <u>YES</u> ick up height from ground surface <u>3.5 FT</u>
21 110.	r jasking mojasar osi et	
		FT FT
		3.125 FT
	he well lid/vault secure	
	vell clearly labeled? otographs of well close	<b>- - -</b>
J. 110	2 .	· · · · · · · · ·
•		removing lid before sampling well
-	asket worn or damaged ault flooded?N	1
	y odors? <u>NO</u>	
	otographs of well with I	id off_ PG040407
5. Tra	insducer present? Conc	lition? YES, GOOD
.:		During Groundwater Sampling
1. ls w	vell operational? $\underline{VE}$	5
	dicated pump present?	Condition? YE3
3. We <i>NO</i>	ere there any issues in c	collecting samples?
Comme	ents:	
NON		

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ID:	W54	Inspector's name: <u>Tubson PARSON</u>
ie: <u>6-</u> 6	+-21	
ne: 15	04	_ Inspector's signature:
	Be	fore Opening Monitoring Well
1. Is we 2. Frost	Il cement pad or stick jacking measures: St	sup in good condition? $\underline{YES}$ ick up height from ground surface $\underline{3.54}$ FT
	][	
		2,96 FT
		P? LOCK CUT
	ell clearly labeled?	
5. Phot	ographs of well close	d 16590400
	After	removing lid before sampling well
1. Is ga	sket worn or damage	d? <u>NO</u>
2. Is va	ult flooded?NO	
3. Any	odors? <u>NO</u>	4.4.01
4. Phot	ographs of well with	lid off <u>P6040401</u>
5. Tran	sducer present? Con	dition? YES, GOOD
	,	During Groundwater Sampling
1. ls we	ell operational? <u>Y</u> E	3
2. Ded	icated pump present	? Condition? YE3, GOOD
3. Wer	e there any issues in	collecting samples?
<u></u>	0	
Comme	nts:	
NONE		

te: 6-4-21 ne: 12-57 Inspector's signature: Before Opening Monitoring Well 1. Is well cement pad or stickup in good condition? YES 2. Frost jacking measures: Stick up height from ground surface 3, 5 F7 2. Frost jacking measures: Stick up height from ground surface 3, 5 F7 2. g1 F1 3. Is the well lid/vault secure? Lock (UT 4. Is well clearly labeled? YES 5. Photographs of well closed PCO46-3777 After removing lid before sampling well 1. Is gasket worn or damaged? NO 2. Is vault flooded? NO 3. Any odors? NO 4. Photographs of well with lid off <u>PCO40-3578</u> 5. Transducer present? Condition? NO During Groundwater Sampling 1. Is well operational? <u>VES</u> 2. Dedicated pump present? Condition? <u>NO</u> 3. Were there any issues in collecting samples? <u>MC</u> Comments: <u>MoafE</u>	ell ID	Inspector's name: Judson PARSON	
Before Opening Monitoring Weil         1. Is well cement pad or stickup in good condition?			
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition?       YE_S         2. Frost jacking measures: Stick up height from ground surface       3. 5 FT         2. Frost jacking measures: Stick up height from ground surface       3. 5 FT         2. 91 FT       2.91 FT         3. Is the well lid/vault secure?       LoCK (UT         4. Is well clearly labeled?       YE_S         5. Photographs of well closed       PGO46 3777         After removing lid before sampling well         1. Is gasket worn or damaged?       NO         2. Is vault flooded?       NO         3. Any odors?       NO         During Groundwater Sampling         1. Is well operational?       Yes         2. Is well operational?       NO         During Groundwater Sampling         1. Is well operational?       NO         During Groundwater Sampling         1. Is well operational?       NO         During Groundwater Sampling         1. Is well operational?       NO         During Groundwater Sampling         3. Were there any issues in collecting samples?         Mc       Mc         Mc         Comment	ne: _	12-57 Inspector's signature:	
<ul> <li>2. Frost jacking measures: Stick up height from ground surface <u>3, 5 F7</u></li> <li>2. Grost jacking measures: Stick up height from ground surface <u>3, 5 F7</u></li> <li>3. Is the well lid/vault secure? <u>LOCK CUT</u></li> <li>4. Is well clearly labeled? <u>YE 5</u></li> <li>5. Photographs of well closed <u>PCO46 377</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>PCCA 578</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>Ye 5</u></li> <li>2. Dedicated pump present? Condition? <u>NO</u>, <u>PEDI flowP</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>		a second s	
<ul> <li>2. Frost jacking measures: Stick up height from ground surface <u>3, 5, F7</u></li> <li>2. G1 F7</li> <li>3. Is the well lid/vault secure? <u>LOCK</u> (UT</li> <li>4. Is well clearly labeled? <u>YE 5</u></li> <li>5. Photographs of well closed <u>PCO46377</u></li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>YCCA0378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>1. Is well operational? <u>YE5</u></li> <li>2. Dedicated pump present? Condition? <u>NO</u>, <u>PEDI flum</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>	1	Is well cement pad or stickup in good condition? $Y_{E} \leq 5$	· -
3. Is the well lid/vault secure? $2.91 \text{ FT}$ 3. Is the well lid/vault secure? $2.91 \text{ FT}$ 4. Is well clearly labeled?       YES         5. Photographs of well closed $PCOA6^{-3}77$ After removing lid before sampling well         1. Is gasket worn or damaged?       NO         2. Is vault flooded?         NO       NO         2. Is vault flooded?       NO         3. Any odors?       NO         4. Photographs of well with lid off $PCOA^{-3}78$ 5. Transducer present? Condition?       NO         During Groundwater Sampling         1. Is well operational?       Yes         2. Dedicated pump present? Condition?       No         3. Were there any issues in collecting samples?       No         3. Were there any issues in collecting samples?       No         NO       No       No         3. Were there any issues in collecting samples?       No         NO       No       No         3. Were there any issues in collecting samples?       No         NO       No       No         Mo       No       No         Mo       No       No	2.	Frost jacking measures: Stick up height from ground surface 3, 5 F7	di se an area Se se
3. Is the well lid/vault secure?   4. Is well clearly labeled?   YES   5. Photographs of well closed   PGO467377   After removing lid before sampling well   1. Is gasket worn or damaged?   NO   2. Is vault flooded?   NO   3. Any odors?   NO   4. Photographs of well with lid off   Ptocspaphs of well operational?   NO   During Groundwater Sampling   1. Is well operational?   Yes   2. Dedicated pump present? Condition?   No   3. Were there any issues in collecting samples?   Mc   Comments:			
3. Is the well lid/vault secure?   4. Is well clearly labeled?   YES   5. Photographs of well closed   PGO46:377   After removing lid before sampling well   1. Is gasket worn or damaged?   NO   2. Is vault flooded?   NO   3. Any odors?   NO   4. Photographs of well with lid off   Ptocspraphs   Stransducer present? Condition?   NO   During Groundwater Sampling   1. Is well operational?   Yes   2. Dedicated pump present? Condition?   No   Swere there any issues in collecting samples?   Mc>   Comments:			
3. Is the well lid/vault secure?   4. Is well clearly labeled?   YES   5. Photographs of well closed   P6046/377   After removing lid before sampling well   1. Is gasket worn or damaged?   NO   2. Is vault flooded?   NO   3. Any odors?   NO   4. Photographs of well with lid off   Ptocsdors?   NO   5. Transducer present? Condition?   NO   During Groundwater Sampling   1. Is well operational?   Yes   2. Dedicated pump present? Condition?   No   Mere there any issues in collecting samples?   Mc   Comments:		7.91 FT	
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>PGOA6-377</u>.</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>PGOA-378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>NO</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>			
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed <u>PGOA6-377</u>.</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>PGOA-378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>NO</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>			
<ul> <li>5. Photographs of well closed <u>PGOAG 377</u>.</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u></li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>PGOAG 378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>Ves</u></li> <li>2. Dedicated pump present? Condition? <u>No</u> <u>PERI flow</u></li> <li>3. Were there any issues in collecting samples? <u>No</u></li> <li>Comments:</li> </ul>			
After removing lid before sampling well   1. Is gasket worn or damaged?   2. Is vault flooded?   MO   3. Any odors?   MO   4. Photographs of well with lid off   PCCACTR   5. Transducer present? Condition?   MO   During Groundwater Sampling   1. Is well operational?   Yes   2. Dedicated pump present? Condition?   Mo   3. Were there any issues in collecting samples?   MO   Comments:			
1. Is gasket worn or damaged?   2. Is vault flooded?   3. Any odors?   MO   3. Any odors?   MO   4. Photographs of well with lid off   \$\mathcal{PlaceAction}\$   5. Transducer present? Condition?   NO   During Groundwater Sampling   1. Is well operational?   Yes   2. Dedicated pump present? Condition?   No   9. Were there any issues in collecting samples?   No   Comments:	5.		
<ul> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>PCAO378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>Yes</u></li> <li>2. Dedicated pump present? Condition? <u>No</u> <u>PEDI</u> fum</li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>		After removing lid before sampling well	
<ul> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>PCCAC378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>Yes</u></li> <li>2. Dedicated pump present? Condition? <u>No</u> <u>PEDI</u> <u>PUMP</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>	1.		
<ul> <li>4. Photographs of well with lid off <u>PCCAC378</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>Yes</u></li> <li>2. Dedicated pump present? Condition? <u>No</u> <u>PERI PUMP</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> <li>Comments:</li> </ul>			-
<ul> <li>5. Transducer present? Condition?</li></ul>			•
During Groundwater Sampling         1. Is well operational?       Yes         2. Dedicated pump present? Condition?       No, PERI PumP         3. Were there any issues in collecting samples?       No         No       No			-
<ol> <li>Is well operational? Yes</li> <li>Dedicated pump present? Condition? No, PERI Pump</li> <li>Were there any issues in collecting samples?</li> <li>No</li> </ol>	5.		•
<ol> <li>Dedicated pump present? Condition? <u>No PERI PumP</u></li> <li>Were there any issues in collecting samples? <u>No</u></li> <li>Comments:</li> </ol>			
<ul> <li>Were there any issues in collecting samples?</li> <li>No</li> <li>Comments:</li> </ul>	_		
NC Comments:		Dedicated pump present? Condition?	:
Comments:	3.		9 
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Sundance Consulting Inc. May 2021

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	Sundance 15
	Monitoring Well Integrity Checklist
Well I Date: Time:	D: <u>MW56</u> <u>6-4-21/6-5-21</u> <u>1341 / 35735 @ 1455</u> Inspector's signature: <u>CR</u>
	Before Opening Monitoring Well
1. 2 <i>.</i>	Is well cement pad or stickup in good condition? <u>YES</u> Frost jacking measures: Stick up height from ground surface <u>3,42 FT</u> 3,64 FT
4.	Is the well lid/vault secure? Lock CUT Is well clearly labeled? YES Photographs of well closed P6040387 After removing lid before sampling well
2. 3.	Is gasket worn or damaged? NO Is vault flooded? NO Any odors? NO Photographs of well with lid off P6040388 Transducer present? Condition? YES, GOOD SHAPE, DOWNLOADED SE 6-5-2.
3.	During Groundwater Sampling         Is well operational?       YES         Dedicated pump present? Condition?       YES       Good D         Were there any issues in collecting samples?       NO         NO       MONE

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	Monitoring	Well Integrity	Checklist
11 I C	MW 57	Inspector's name:	JUDSON PARSON
	6-4-21		
	1551	Inspector's signatur	e: DPP
···· _		Opening Monitoring \	e
1	Is well cement pad or stickup in		
1. 2.	Frost jacking measures: Stick up	height from ground s	urface 3.29 FT
		7	
		<b></b>	
			3.16 FT
3.	Is the well lid/vault secure?	Lock CUT	
	Is well clearly labeled? <u> </u>		
5.		ving lid before sampl	
		-	
	Is gasket worn or damaged?		
3.	ls vault flooded? いつ Any odors? いつ		
4.	Photographs of well with lid off	16046411	
	Transducer present? Condition?		POWNLONDED 6-8-21
	Duri	ng Groundwater Sam	pling
1.	ls well operational? YES		
2.	Dedicated pump present? Cond	lition? <u>Viss</u> , G-o	Q0C
3.	Were there any issues in collect	ing samples?	
	NO		
Со	mments:		
	at the second		
<u> </u>			·

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	Inspector's name: JUDSON PARSON
ell ID: <u>MW 58</u>	
nte: <u>6-4-21</u>	
me: <u>1523</u>	_ Inspector's signature:
	Fore Opening Monitoring Well
1. Is well cement pad or stick	up in good condition? <u>YES</u>
2. Frost jacking measures: Stic	ck up height from ground surface 3.66 FT
	3.375 FT
	5.21-
· · · · · · · · · · · · · · · · · · ·	
3. Is the well lid/vault secure	PLOCK CUT
4 Is well clearly labeled?	YES
5. Photographs of well closed	
After	removing lid before sampling well
1. Is gasket worn or damaged	1? <u>NO</u>
2. Is vault flooded? <u>NO</u>	
3. Any odors? <u>NO</u>	id off <u>PG040405</u>
	lition? $YES$ (TOD)
5. Transducer present? Conc	During Groundwater Sampling
	, WILL REPUCE BUDDER IN FALL 2021
1. Is well operational? <u>NO</u>	Condition? YES, DID NOT WORK
<ol> <li>Dedicated pump presenter</li> <li>Were there any issues in a</li> </ol>	collecting samples?
<u>VES, HAD TO BA</u>	IL FOR SAMPLE
Comments: NEED TO LEVICE	BLADDER IN POUL, SPRING SAMPLE
COLLECTED BY B.	HILDR.

 $\sum_{i=1}^{N-1} (i)$ 

Before Opening Monitoring Well 1. Is well cement pad or stickup in good condition? <u>YES</u> 2. Frost jacking measures: Stick up height from ground surface <u>3.16 FT</u> 2.92 FT
Time: <u>1444</u> Inspector's signature: <u>Before Opening Monitoring Well</u> 1. Is well cement pad or stickup in good condition? <u>YES</u> 2. Frost jacking measures: Stick up height from ground surface <u>3.16 FT</u> 2.92 FT
Before Opening Monitoring Well 1. Is well cement pad or stickup in good condition? <u>YES</u> 2. Frost jacking measures: Stick up height from ground surface <u>3.16 FT</u> 2.92 FT
<ol> <li>Is well cement pad or stickup in good condition? YES</li> <li>Frost jacking measures: Stick up height from ground surface 3.16 FT</li> <li>Z.92 FT</li> </ol>
2. Frost jacking measures: Stick up height from ground surface
2.92 FT
3. Is the well lid/value secure:
<ol> <li>Is well clearly labeled? <u>YES</u></li> <li>Photographs of well closed <u>P6040396</u></li> </ol>
5. Photographs of Well closed
1. Is gasket worn or damaged? <u>NO</u>
3. Any odors?     NO       4. Photographs of well with lid off     P6040397
<ol> <li>Photographs of well with lid on <u>reconcising</u></li> <li>Transducer present? Condition? <u>NO</u>, WAS IN MW-39 ABovE WATH</li> </ol>
During Groundwater Sampling
1. Is well operational? TES
Dedicated pump present? Condition? 60005 (0x011100
2 W 2 1 1 1 1 1 1 1
3. Were there any issues in collecting samples?

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> Sundance Consulting Inc. May 2021

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Vell II	D: MWOL Inspector's name: Joop PARicow
	§-25-21
ime:	이익1억 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
2.	Frost jacking measures: Stick up height from ground surface <u>3.2.5</u>
)	3.0
, 3.	Is the well lid/vault secure?YESNEW_LOCK
	Is well clearly labeled? YES, P.HNTED LABEL
	Photographs of well closed 114, 115
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>No</u>
2.	Is vault flooded? NC
3.	Any odors? No
4.	Photographs of well with lid off
5.	Transducer present? Condition? <u>100</u>
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co	mments:
<u> </u>	

Well II	ID: <u>MWO3</u> Inspector's name	: JUDP PARSON
Date:	8-28-21	
Time:	<u> </u>	ture:
	Before Opening Monitorir	ng Well
1.	Is well cement pad or stickup in good condition?	YES
2.	Frost jacking measures: Stick up height from grour	d surface <u>3.0 FT</u>
2		
2 ' 7 W		
		2.33 11
	Is the well lid/vault secure? YES, NEW	LOCK
	Is well clearly labeled? YES	
5.	Photographs of well closed 200	
	After removing lid before san	
	Is gasket worn or damaged? <u>NC</u>	- 
		7. 7. <del>10.000.0</del>
	Any odors? NO	
	Photographs of well with lid off <u>201</u>	
5.	Transducer present? Condition? <u>No</u>	
_	During Groundwater Sa	
	Is well operational?	
	Dedicated pump present? Condition?	
3.	Were there any issues in collecting samples?	
Со	omments:	,
<del></del>		
	······································	

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Vell II	D: MWO4- Inspector's name: JUDD PARSON
ate:	8-28-21
ime:	12.50 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES
	Frost jacking measures: Stick up height from ground surface 2.83 FT
69 DT	F1
ידס	N 2.12 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
	Is well clearly labeled? YES
	Photographs of well closed 228
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off <u>22</u>
5.	Transducer present? Condition?
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co 	mments:



Well I	D: MWOG Inspector's name: JUDP PARSCON
Date:	8-28-21
Time:	11.5.5 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? <u>YES</u>
2.	Frost jacking measures: Stick up height from ground surface <u>ろ。 C</u> にて
2 4	
2 F	2.50 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? Yes
5.	Photographs of well closed
	After removing lid before sampling well
1.	ls gasket worn or damaged?N డ
2.	Is vault flooded? <u>NO</u>
3.	Any odors? NO
4.	Photographs of well with lid off7
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling
1.	Is well operational? Yes
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co	mments:
<del></del>	

		-
18 S. M. 18 18	<i>C</i> /	Mar I
1.	Jundance	
States and the second s	Consulting Inc.	
		<b>C</b> 15

We	II IC	D: MW-07 Inspector's name: JUDD PARSO
Dat	:e:_	8-28-21
Tim	ie:	1032 Inspector's signature:
		Before Opening Monitoring Well
	1.	Is well cement pad or stickup in good condition? YES
	2.	Frost jacking measures: Stick up height from ground surface <u>3.0 FT</u>
<b>7</b> 3	F	۲ <mark>۲</mark>
93 N		2.6 FT
	3.	Is the well lid/vault secure?
	4.	Is well clearly labeled? YES
	5.	Photographs of well closed
		After removing lid before sampling well
	1.	Is gasket worn or damaged?
	2.	Is vault flooded? NO
	3.	Any odors?No
	4.	Photographs of well with lid off
	5.	Transducer present? Condition? <u>No</u>
		During Groundwater Sampling
	1.	Is well operational?
	2.	Dedicated pump present? Condition?
	3.	Were there any issues in collecting samples?
	Соі	mments:
		· · · · · · · · · · · · · · · · · · ·



#### Monitoring Well Integrity Checklist Well ID: MW-08 PARSON JUDD \_\_\_\_\_ Inspector's name: Date: 8-28-21 Time: 1025 Inspector's signature: **Before Opening Monitoring Well** 1. Is well cement pad or stickup in good condition? YES 3.25 FT 2. Frost jacking measures: Stick up height from ground surface 14.27 P1 2.42 FT 3. Is the well lid/vault secure? YES, NEW LOCK 4. Is well clearly labeled? YES \_\_\_\_\_ 5. Photographs of well closed 189After removing lid before sampling well 1. Is gasket worn or damaged? <u>NO</u> 2. Is vault flooded? $\sim \sim \circ$ 3. Any odors? \_\_\_\_\_ NO 4. Photographs of well with lid off 1895. Transducer present? Condition? No **During Groundwater Sampling** 1. Is well operational? 2. Dedicated pump present? Condition? 3. Were there any issues in collecting samples? **Comments:**

1 ID: <u>MWO9</u>	Inspector's name: JUPD PARSON
e: <u>4-28.2.1</u>	
e: <b>0949</b>	_ Inspector's signature:
'	fore Opening Monitoring Well
-	up in good condition? YES
2. Frost jacking measures: Sti	ck up height from ground surface <u>3.59 FT</u>
F (	
2. Frost jacking measures: Sti	2.33 FT
3. Is the well lid/vault secure	YES, NEW LOCK
<ol> <li>Is well clearly labeled?</li> </ol>	Um_
5. Photographs of well closed	
	emoving lid before sampling well
1. Is gasket worn or damaged	
2. Is vault flooded? NO	· · · · · · · · · · · · · · · · · · ·
3. Any odors? NO	
4. Photographs of well with li	d off 181
5. Transducer present? Condi	tion? NO
	During Groundwater Sampling
<ol> <li>Is well operational? YES</li> </ol>	
2. Dedicated pump present?	Condition? KINKED TUBING -> FILED
3. Were there any issues in co	ollecting samples?
Comments:	s.

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Sundance 5 Donutling Inc.
Monitoring Well Integrity Checklist
Well ID: <u>MWIO</u> Inspector's name: <u>Jupp PARSON</u>
Date: 8-28-21
Time: 0943 Inspector's signature:
Before Opening Monitoring Well
1. Is well cement pad or stickup in good condition?
2. Frost jacking measures: Stick up height from ground surface <u>3.0</u> FT
30.01 Fr DFN 2.16 FT
3. Is the well lid/vault secure?
4. Is well clearly labeled? YES
5. Photographs of well closed 178, FTGT FW
After removing lid before sampling well
1. Is gasket worn or damaged?
2. Is vault flooded?
3. Any odors? NO
4. Photographs of well with lid off <u>119</u>
5. Transducer present? Condition? <u>No</u>
During Groundwater Sampling
1. Is well operational? YES
2. Dedicated pump present? Condition? Yes, Geop
3. Were there any issues in collecting samples?
Comments:
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Sundance Consulting Inc May 202

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Vell I	D: MWIL Inspector's name: JUDD PARSON
Date:	9-29-21
ïme:	0938 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
	Frost jacking measures: Stick up height from ground surface 3. O FT
5 F	1 2.42 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed 1710, 1717
	After removing lid before sampling well
1.	Is gasket worn or damaged?
2,	Is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off
5.	Transducer present? Condition? NO
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Со	mments:
<u></u>	



ell II	D: MW12 Inspector's name: JUDD PARSON
	8-28-21
ne:	Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES, CASING- 15 JACKED
2.	Frost jacking measures: Stick up height from ground surface
3.	Is the well lid/vault secure? YES
4.	Is well clearly labeled? YES
5.	Photographs of well closed <u>194</u>
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? No
3.	Any odors? NO
4.	Photographs of well with lid off <u>195</u>
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
<u></u>	mments: (ASING JACKED OUT OF STICK-UP, CASING IS COLLAPSE) UNSAMPLEABLE.

	Monitoring Well Integrity Checklist
	Well ID: <u>MW-13</u> Inspector's name: <u>JUDP PARSON</u>
	Date: 8-28-21
	Time: 1037 Inspector's signature:
	Before Opening Monitoring Well
	1. Is well cement pad or stickup in good condition?
	2. Frost jacking measures: Stick up height from ground surface 2.80 ET
0R1 31.72	POTTOM 2.05 PT
•	3. Is the well lid/vault secure? YES, NEW LOCK
	4. Is well clearly labeled? YES
	5. Photographs of well closed 192
	After removing lid before sampling well
	1. Is gasket worn or damaged?O
	2. Is vault flooded? NO
	3. Any odors? NO
	4. Photographs of well with lid off <u>193</u>
	5. Transducer present? Condition? NO
	During Groundwater Sampling
	1. Is well operational?
	2. Dedicated pump present? Condition?
	3. Were there any issues in collecting samples?
	Comments:

	ID: <u>MW-16</u> Inspector's name: <u>JUDD PARSON</u>
Date:	-1101 <sup>3P</sup> 8-28-21
Time	Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES
9 PT	Frost jacking measures: Stick up height from ground surface 2.66 F
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled?
5.	Photographs of well closed
	After removing lid before sampling well
1.	ls gasket worn or damaged?හ
2.	Is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid offነዓ?
5.	Transducer present? Condition?O
	During Groundwater Sampling
1.	Is well operational? YES
2.	Dedicated pump present? Condition? NG
3.	Were there any issues in collecting samples? Nの
C	omments:

Before Opening Monitoring Well 1. Is well cement pad or stickup in good condition? YES, JACKED 6 2. Frost jacking measures: Stick up height from ground surface 3.33 F	ell ID: <u>MW- 17</u> te: <b>8-28-21</b>	Inspector's name: JUDD PARSON
1. Is well cement pad or stickup in good condition? YES, JACKED 6         2. Frost jacking measures: Stick up height from ground surface 3.33 FT         A         Y         2.33 FT         3. Is the well lid/vault secure? YES, NEW LOCK         4. Is well clearly labeled? YES         5. Photographs of well closed 194         After removing lid before sampling well         1. Is gasket worn or damaged? NO         2. Is vault flooded? NO         3. Any odors? NO         4. Photographs of well with lid off 197         5. Transducer present? Condition? NO         During Groundwater Sampling         1. Is well operational? YES         2. Dedicated pump present? Condition? NO         3. Were there any issues in collecting samples? NO	ne: 1058	Inspector's signature:
<ul> <li>2. Frost jacking measures: Stick up height from ground surface3.33 PT</li> <li>2. Frost jacking measures: Stick up height from ground surface3.33 PT</li> <li>3. Is the well lid/vault secure? YES, NEW Lock</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed142</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged?NO</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors?NO</li> <li>4. Photographs of well with lid offI97</li> <li>5. Transducer present? Condition?NO</li> <li>1. Is well operational?YES</li> <li>2. Dedicated pump present? Condition?NO</li> <li>3. Were there any issues in collecting samples?NO</li> </ul>		Before Opening Monitoring Well
F   3. Is the well lid/vault secure?   YES, NEw Lock   4. Is well clearly labeled? YES 5. Photographs of well closed 194 After removing lid before sampling well 1. Is gasket worn or damaged? NO 2. Is vault flooded? NO 3. Any odors? NO 4. Photographs of well with lid off 197 5. Transducer present? Condition? NO 1. Is well operational? YES 2. Dedicated pump present? Condition? NO 3. Were there any issues in collecting samples? NO	1. Is well cement pad or st	ickup in good condition? YES, JACKED 6
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed 114 After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? NO</li> <li>4. Photographs of well with lid off 197</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational? YES</li> <li>2. Dedicated pump present? Condition? NO</li> <li>3. Were there any issues in collecting samples? NO</li> </ul>	<ol> <li>Frost jacking measures:</li> <li>FT</li> </ol>	Stick up height from ground surface <u>3.33</u> PT
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed 114 After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? NO</li> <li>4. Photographs of well with lid off 197</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational? YES</li> <li>2. Dedicated pump present? Condition? NO</li> <li>3. Were there any issues in collecting samples? NO</li> </ul>	3. Is the well lid/vault secu	Ire? YES, NEW LOCK
After removing lid before sampling well   1. Is gasket worn or damaged?NO   2. Is vault flooded?NO   3. Any odors?NO   4. Photographs of well with lid offIq7   5. Transducer present? Condition?NO   During Groundwater Sampling   1. Is well operational?YES   2. Dedicated pump present? Condition?NO   3. Were there any issues in collecting samples?NO	4. Is well clearly labeled?	YB
1. Is gasket worn or damaged?NO         2. Is vault flooded?NO         3. Any odors?NO         4. Photographs of well with lid offIq7         5. Transducer present? Condition?NO         During Groundwater Sampling         1. Is well operational?YES         2. Dedicated pump present? Condition?NO         3. Were there any issues in collecting samples?NO	5. Photographs of well close	sed <u>196</u>
<ul> <li>2. Is vault flooded? <u>No</u></li> <li>3. Any odors? <u>No</u></li> <li>4. Photographs of well with lid off <u>197</u></li> <li>5. Transducer present? Condition? <u>NO</u></li> <li>During Groundwater Sampling</li> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>NO</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> </ul>	Aft	er removing lid before sampling well
<ul> <li>3. Any odors?</li></ul>	1. Is gasket worn or damage	ged?NO
<ul> <li>4. Photographs of well with lid off <u>197</u></li> <li>5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling <ol> <li>Is well operational? <u>YES</u></li> <li>Dedicated pump present? Condition? <u>NO</u></li> </ol> </li> <li>3. Were there any issues in collecting samples? NO</li></ul>	2. Is vault flooded? <u>No</u>	
<ul> <li>5. Transducer present? Condition?NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational?YES</li> <li>2. Dedicated pump present? Condition?NO</li> <li>3. Were there any issues in collecting samples?NO</li> </ul>	3. Any odors? No	
During Groundwater Sampling         1. Is well operational?       YES         2. Dedicated pump present? Condition?       NO         3. Were there any issues in collecting samples?       NO	4. Photographs of well wit	h lid off
<ol> <li>Is well operational? YES</li> <li>Dedicated pump present? Condition? NO</li> <li>Were there any issues in collecting samples? NO</li> </ol>	5. Transducer present? Co	ndition? NO
<ol> <li>Dedicated pump present? Condition? NO</li> <li>Were there any issues in collecting samples?</li> <li>NO</li> </ol>		- , -
3. Were there any issues in collecting samples? Nළ	1. Is well operational?	YES
<u> </u>	-	
ν <sup>1</sup> ατικάς τ <sub>η</sub> τη στη αντική τη την την αυτοριάτητα τη την αυτοριάτητα τη την αυτοριάτητα την	•	5
	Comments:	



/ell ID: _	MW-18 Inspector's name: JUDD PARSCH			
ate: <u>8</u>	3-28-21			
ime: <u>1</u> 1	Inspector's signature:			
	Before Opening Monitoring Well			
1. is v	well cement pad or stickup in good condition? YES			
2. Fra	ost jacking measures: Stick up height from ground surface <u>2.66 FT</u>			
27.8 D	7 FT JIN 1.44 FT			
3. ls 1	the well lid/vault secure? <u>YEG, NEW LOCK</u>			
	well clearly labeled? YES			
	notographs of well closed 204			
	After removing lid before sampling well			
1. ls į	gasket worn or damaged? <u>NC</u>			
	vault flooded?NC			
	ny odors? NC			
4. Ph	notographs of well with lid off <u>205</u>			
	ansducer present? Condition? <u>NC</u>			
	During Groundwater Sampling			
1. ls v	well operational?			
2. De	Dedicated pump present? Condition?			
	Were there any issues in collecting samples?			
Comm	nents:			

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/ell II	D: <u>MW19</u> Inspector's name: <u>Judd Parson</u>
ate:	8-28-21
me:	112.4 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
2.	Frost jacking measures: Stick up height from ground surface 2.33 FT
) F W	1.44 FT
3.	Is the well lid/vault secure? Yes, NEW Lever
	Is well clearly labeled? YES
	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged?
	Is vault flooded? <u>NO</u>
3.	Any odors? N
4.	Photographs of well with lid off7
5.	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co 	mments:



Well I	ID: <u>Mw 20</u> Inspector's	name: <u>JUDD PARSON</u>
Date:	8-28-21	
Time:	: <u>hon</u> Inspector's	s signature:
	Before Opening Mor	nitoring Well
1.	. Is well cement pad or stickup in good conditi	ion? YES
	. Frost jacking measures: Stick up height from	ground surface 3.08 PT
Ą	FI M	· · · · · · · · · · · · · · · · · · ·
0 // 	FT	2.33 FT
3.	L Is the well lid/vault secure? <u>YES, NE</u>	EW LOCK
4.	Is well clearly labeled? YES	
5.	Photographs of well closed	
	After removing lid befor	re sampling well
1.	Is gasket worn or damaged? <u>N</u> ల	
2.	Is vault flooded?	
3.	Any odors?NO	
4.	Photographs of well with lid off <u>203</u>	
5.	Transducer present? Condition? <u>No</u>	
	During Groundwa	iter Sampling
1.	Is well operational?	
2.		·····
3.	Were there any issues in collecting samples?	
Со	omments:	
<u></u>		

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Vell ID:	MW 21	Inspector's name:	JUDD	PAR	BON	
ate:	8-28-21					
ime:	1140	Inspector's signature:				
	Befo	re Opening Monitoring We	ell			
1. I	s well cement pad or stickup	in good condition? YES	, CEN	<b>NENT</b>	45 JAC	red.
2. F	Frost jacking measures: Stick	up height from ground sur	face 🦯	2.75	FT	
2 46	FT [					
g qc DT	∽		_ . 41 F	T		
3. I	ـــ _ s the well lid/vault secure?	YES, NEW L	ock			
<sup></sup> 4. I	s well clearly labeled?	65				
5. F	Photographs of well closed _	212				
	After rer	noving lid before sampling	g well			
1. I	s gasket worn or damaged?	NO				
2. l	s vault flooded? <u>NO</u>					
3. A	Any odors? NO					
4. F	Photographs of well with lid o	off 213				
5. 1	Fransducer present? Condition	on?_ <b>NO</b>			a 11 d 101	
	Du	uring Groundwater Sampli	ing			,
1. I	s well operational?					
2. [	Dedicated pump present? Co	ndition?				
3. ۱	Were there any issues in colle	ecting samples?				
Com	iments:					
			<u> </u>		·	
				<u></u>	<u> </u>	



ell IC	D: <u>MW 22</u>	Inspector's name:	JUDD PARSON
te:	8-28-21		
ne:	1137	Inspector's signature	
	Before	opening Monitoring W	/ell
1.	Is well cement pad or stickup i	n good condition? <u>Y</u> #	55
2.	Frost jacking measures: Stick u	p height from ground su	urface 3.25 FT
7	P1		
D	pri l	2.	50 FT
3.	ـــــ Is the well lid/vault secure?	YES, NEW	Lack
4.	Is well clearly labeled? YE	5	
5.	Photographs of well closed	210	,
	After rem	oving lid before samplir	ng well
1.	Is gasket worn or damaged?	NO	····
	Is vault flooded? No		
	Any odors?		
	Photographs of well with lid of		
5.	Transducer present? Condition	? NO	
	Dur	ing Groundwater Samp	ling
1.	Is well operational?	· · ·	a Balan i
2.	Dedicated pump present? Con	dition?	
3.	Were there any issues in collec	ting samples?	
Coi	mments:		· .
	1-107 - 1744 - 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		· · · · · · · · · · · · · · · · · · ·



ŧų,

ell ID: <u>^\\W^23</u>	Inspector's name:	JUDD PA	RSON
te: <u>3-28-21</u>			
ne: 1151	Inspector's signature		
Befo	ore Opening Monitoring W	ell	
1. Is well cement pad or sticku	p in good condition?		
2. Frost jacking measures: Stick	<up from="" ground="" height="" su<="" td=""><td>rface <u>2.58</u></td><td>FT</td></up>	rface <u>2.58</u>	FT
.738 FT			
DIN DIN	1.	41 FT	
<ol> <li>Is the well lid/vault secure?</li> </ol>	YES, NEW L	OCK	
4. Is well clearly labeled? $\underline{\chi}$	es		
5. Photographs of well closed	214		
After re	moving lid before samplin	g well	
1. Is gasket worn or damaged?	NO		· · · · · · · · · · · · · · · · · · ·
2. Is vault flooded? NC	· · · · · · · · · · · · · · · · · · ·		
3. Any odors? <u>NO</u>		• . m •	
4. Photographs of well with lid	off_215		····
5. Transducer present? Conditi	on? <u>NC</u>		
D	ouring Groundwater Sampl	ing	
1. Is well operational?			
2. Dedicated pump present? Co	ondition?		
3. Were there any issues in col	lecting samples?		
Comments:			
	······································	· · · · · · · · · · · · · · · · · · ·	
·	· · · · · · · · · · · · · · · · · · ·		



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ell ID: <u>MW 2.4</u>	Inspector's name: <u>Jupp</u>	PARSON
nte: <u>9-2-8-21</u>		
me:_1158	Inspector's signature:	
Befo	re Opening Monitoring Well	
1. Is well cement pad or sticku	in good condition? $Y_{ES}$	
	up height from ground surface2	2.66 FT
DTW	1.83 F	T
<ol> <li>Is the well lid/vault secure?</li> </ol>	J Yes, New Lock	
5. Photographs of well closed _		
	noving lid before sampling well	
	NC	
3. Any odors? NO		
4. Photographs of well with lid	off <u>-219</u>	
5. Transducer present? Conditi	on?NO	
D	uring Groundwater Sampling	
1. Is well operational?		17 17 18 18 18 18 18 18 18 18 18 18 18 18 18
2. Dedicated pump present? Co	ndition?	
3. Were there any issues in coll	ecting samples?	
Comments:	· · · · · · · · · · · · · · · · · · ·	



Well II	D: MW25 Inspector's name: JUDD PARSON
Date:	8-28-21
Time:	12-34 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? Yes
	Frost jacking measures: Stick up height from ground surface 3.0 FT
26 FT	
32.26 FT	1.8'3 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed 222
	After removing lid before sampling well
. 1.	Is gasket worn or damaged? <u>No</u>
2.	Is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off <u>223</u>
5.	Transducer present? Condition?
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co 	mments:
· .	



ell IL	D: MW26 Inspector's name: Jupp PARSON
ate: _	8-28-21
me:	1234 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES
2.	Frost jacking measures: Stick up height from ground surface <u>7.66</u> FT
15 M	FT T
n n	1.66 FT
- e	Is the well lid/vault secure? YES, NEW LOCK
	Is well clearly labeled? YES
5.	Photographs of well closed 220
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? <u>NO</u>
3.	Any odors? <u>NO</u>
4.	Photographs of well with lid off
5.	Transducer present? Condition? <u>No</u>
1.	During Groundwater Sampling
2.	Dedicated pump present? Condition? YES, APPENRS TO BE FINE BUT WONT W
	Were there any issues in collecting samples? USEP MINI RENTAL BLADDER PUMP
Coi	mments:



Well II	D: MWZ7 Inspector's name: JUDD PARSON
Date:	8-28.21
Time:	1243 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? $\underline{\forall ES}$
2. 12 t DTM	Frost jacking measures: Stick up height from ground surface <u>2.66 F7</u>
	2.0 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
· 4.	Is well clearly labeled? Yes
5.	Photographs of well closed 22A-
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? No
3.	Any odors? NO
4.	Photographs of well with lid off <u>225</u>
5.	Transducer present? Condition? NO
1.	During Groundwater Sampling         Is well operational?       Ves
	Dedicated pump present? Condition? Yas good condition.
	Were there any issues in collecting samples?
Со	mments:
	· · · · · · · · · · · · · · · · · · ·
<del></del>	

me: <u>j246</u> Inspector's signature: <u>PES</u> Before Opening Monitoring Well          1. Is well cement pad or stickup in good condition? <u>YES</u> 2. Frost jacking measures: Stick up height from ground surface <u>2.50 FT</u> 5. FT         5. FT         5. FT         6. FT         7. Stick up height from ground surface <u>2.50 FT</u> 6. FT         7. FT         7. Stick up height from ground surface <u>2.50 FT</u> 7. FT         7. Stick up height from ground surface <u>2.50 FT</u> 7. FT         7. Stick up height from ground surface <u>2.50 FT</u> 8. Is the well lid/vault secure? <u>YES, NEW LOCK</u> 4. Is well clearly labeled? <u>YES</u> 5. Photographs of well closed <u>226</u> After removing lid before sampling well         1. Is gasket worn or damaged? <u>NO</u> 2. Is vault flooded? <u>NO</u> 2. Is vault flooded? <u>NO</u> 3. Any odors? <u>W NO</u> 4. Photographs of well with lid off <u>22-7</u> 5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling         1. Is well operational? <u>YES</u> 2. Dedicated pump present? Condition? <u>YES, GCOD, BLAPDER IS WOR</u> 3. Were there any issues in collecting samples? <u>NO</u>	/ell ID: <u>MW28</u>	Inspector's name: JUDD PARSON
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition? _YES	ate: $8 \cdot 28 \cdot 21$	
<ol> <li>Is well cement pad or stickup in good condition? YES</li> <li>Frost jacking measures: Stick up height from ground surface Z.5C FT</li> <li>FT</li> <li>FT</li> <li>If I I.67 FT</li> <li>Is the well lid/vault secure? YES, NEW LOCK</li> <li>Is well clearly labeled? YES</li> <li>Photographs of well closed 226</li> <li>After removing lid before sampling well</li> <li>Is gasket worn or damaged? NO</li> <li>Is vault flooded? NO</li> <li>Is vault flooded? NO</li> <li>Any odors? WNO</li> <li>Photographs of well with lid off 22-7</li> <li>Transducer present? Condition? NO</li> <li>Is well operational? YES</li> <li>Dedicated pump present? Condition? YES, GOOD, BLADDER IS WORK</li> <li>Were there any issues in collecting samples? NO</li> </ol>	me: <u>(246</u>	Constant of the second s
<ol> <li>Frost jacking measures: Stick up height from ground surface <u>2.50</u> FT</li> <li>FT</li> <li>FT</li> <li>If <u>1.67</u> FT</li> <li>Is the well lid/vault secure? <u>YES, NEW LOCK</u></li> <li>Is well clearly labeled? <u>YES</u></li> <li>Photographs of well closed <u>226</u></li> <li>After removing lid before sampling well</li> <li>Is gasket worn or damaged? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>WNO</u></li> <li>Photographs of well with lid off <u>227</u></li> <li>Transducer present? Condition? <u>NO</u></li> <li>Is well operational? <u>YES</u></li> <li>Dedicated pump present? Condition? <u>YES, GOOD, BLADDER IS WOR</u></li> <li>Were there any issues in collecting samples? <u>NO</u></li> </ol>	1 is well coment and o	· · · ·
<ul> <li>51 FT</li> <li>3. Is the well lid/vault secure? YES, NEW LOCK</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed 226</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? WNO</li> <li>4. Photographs of well with lid off 22-7</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational? YES</li> <li>2. Dedicated pump present? Condition? YES, GOOD, BLADDER IS WORK</li> <li>3. Were there any issues in collecting samples? NO</li> </ul>		
3. Is the well lid/vault secure?       YES, NEW LOCK         4. Is well clearly labeled?       YES         5. Photographs of well closed       2Z.6         After removing lid before sampling well         1. Is gasket worn or damaged?       NO         2. Is vault flooded?       NO         3. Any odors?       W NO         4. Photographs of well with lid off       22-7         5. Transducer present? Condition?       NO         During Groundwater Sampling         1. Is well operational?       YES         BLADDER IS WORK         NO         NO		
<ul> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed 22.6 After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? WNO</li> <li>4. Photographs of well with lid off 22.7</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational? YES</li> <li>2. Dedicated pump present? Condition? YES, GOOD, BLADDER IS WORK</li> <li>3. Were there any issues in collecting samples? NO</li> </ul>	PTW	1.67 FT
<ul> <li>5. Photographs of well closed <u>226</u> After removing lid before sampling well </li> <li>1. Is gasket worn or damaged? <u>NO</u> </li> <li>2. Is vault flooded? <u>NO</u> </li> <li>3. Any odors? <u>₩ NO</u> </li> <li>4. Photographs of well with lid off <u>22-7</u> </li> <li>5. Transducer present? Condition? <u>NO</u> </li> <li>During Groundwater Sampling </li> <li>1. Is well operational? <u>YES</u> </li> <li>2. Dedicated pump present? Condition? <u>YES</u>, <u>GCOD</u>, <u>BLADDER</u> IS work</li> <li>3. Were there any issues in collecting samples? </li> </ul>	3. Is the well lid/vault se	ecure? Yes, NEW LOCK
After removing lid before sampling well   1. Is gasket worn or damaged?NO   2. Is vault flooded?NO   3. Any odors?W_NO   4. Photographs of well with lid off22-7   5. Transducer present? Condition?NO   During Groundwater Sampling   1. Is well operational?YES   2. Dedicated pump present? Condition?YES, GOOD, BLAPPER IS WORK   3. Were there any issues in collecting samples?NO	4. Is well clearly labeled	P YES
<ol> <li>Is gasket worn or damaged?NO</li></ol>	5. Photographs of well of	closed 226
<ul> <li>2. Is vault flooded?NO</li></ul>	1	After removing lid before sampling well
<ul> <li>3. Any odors? <u>WNO</u></li> <li>4. Photographs of well with lid off <u>22-7</u></li> <li>5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling <ol> <li>1. Is well operational? <u>YES</u></li> <li>2. Dedicated pump present? Condition? <u>YES, GOOD, BLAPPER IS WOR!</u></li> <li>3. Were there any issues in collecting samples? <u>NO</u></li> </ol></li></ul>	1. Is gasket worn or dan	naged? <u>NO</u>
<ul> <li>4. Photographs of well with lid off <u>22-7</u></li> <li>5. Transducer present? Condition? <u>No</u> During Groundwater Sampling <ol> <li>Is well operational? <u>YES</u></li> <li>Dedicated pump present? Condition? <u>YES</u>, <u>GOOD</u>, <u>BLADDER</u> <u>IS WORK</u></li> <li>Were there any issues in collecting samples? <u>NO</u></li> </ol></li></ul>	2. Is vault flooded? <u></u>	10
<ul> <li>5. Transducer present? Condition? No</li> <li>During Groundwater Sampling</li> <li>1. Is well operational? YES</li> <li>2. Dedicated pump present? Condition? YES, GOOD, BLADDER IS WORK</li> <li>3. Were there any issues in collecting samples? NO</li> </ul>	3. Any odors? 八	10
During Groundwater Sampling         1. Is well operational?	4. Photographs of well	with lid off 227
<ol> <li>Is well operational? YES</li> <li>Dedicated pump present? Condition? YES, GOOD, BLADDER IS WORK</li> <li>Were there any issues in collecting samples?</li> </ol>	5. Transducer present?	Condition? No
<ol> <li>Dedicated pump present? Condition? YES, GOOD, BLADDER IS WORK</li> <li>Were there any issues in collecting samples?</li> </ol>		
3. Were there any issues in collecting samples?	. –	
<u>NO</u>		
	• .	
	Comments:	

	Monitoring Well Integrity Checklist
ell II	D: MW 29 Inspector's name: J PARSON
ate:	8-28-21
ne:	1615 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES, JACKED
	Frost jacking measures: Stick up height from ground surface <u>3.0 FT</u>
	2.0 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>N</u> の
2.	Is vault flooded? <u>NO</u>
3.	Any odors? NO
4.	Photographs of well with lid off <u>26</u> 9
5.	Transducer present? Condition?
	During Groundwater Sampling
1.	Is well operational? YES
2.	Dedicated pump present? Condition? YES, 650D
3.	Were there any issues in collecting samples?
	MMENTS: PUMP STILL STUCK, PTW NOT MEASURABLE, STUCK @ NG3 FT BTOC

	Monitoring Well Integrity Checklist
Well II	D: MW 30 Inspector's name: <u>J PARSON</u>
Date:	8-28-21
Time:	1621 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? <u>VES</u>
2.	Frost jacking measures: Stick up height from ground surface $2.33$ FT
54.19	FT
DIM	1,58 FT
	Is the well lid/vault secure? VES, NEW Lock
4.	Is well clearly labeled? YES
5.	Photographs of well closed <u>270</u>
	After removing lid before sampling well
	Is gasket worn or damaged? <u>NC&gt;</u>
	Is vault flooded?
3.	Any odors? NO
4.	
5.	Transducer present? Condition? NO
	During Groundwater Sampling
. 1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?

ell ID: <u>MW 31</u>	Inspector's name:	1	PARSON
ate: <u>8-28-21</u>	_		
me: <u>1509</u>	Inspector's signature	2:	
Be	fore Opening Monitoring W	/ell	
1. Is well cement pad or stick	up in good condition?	IES_	
2. Frost jacking measures: Stie	ck up height from ground su	urface <sub>.</sub>	2,58 FT
29,02 FT DTW	2	.25	FΤ
3. Is the well lid/vault secure?	YES, NEW LO	ус.Қ	
4. Is well clearly labeled? $\underline{\vee}$	ES		
5. Photographs of well closed	252		
After r	emoving lid before samplin	ng well	
1. Is gasket worn or damaged	? <u>NO</u>		
2. Is vault flooded? <u>N</u> O	, <u>v</u> . <del>v.s.</del>		
3. Any odors? NO			
4. Photographs of well with lie	d off <u>253</u>		
5. Transducer present? Condi	tion? NO		•
	During Groundwater Samp	ling	
1. Is well operational?	· · · · · · · · · · · · · · · · · · ·		
2. Dedicated pump present? (	Condition?	-,. <u></u>	
3. Were there any issues in co	llecting samples?		: :

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Well II	D: <u>MW 32</u> Inspector's name: <u>3 JP Jupp PARSCIN</u>
Date:	3-2-3-21
Time:	1131 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?YES
	Frost jacking measures: Stick up height from ground surface <u>3.50</u> FT
9F	
q F NN	2.0 FT
3.	Is the well lid/vault secure? YB, NEW LOCK
	Is well clearly labeled? YES
	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
	Is vault flooded? <u>No</u>
3.	Any odors? NO
4.	Photographs of well with lid off
	Transducer present? Condition?
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Со	mments:
<u> </u>	
<u> </u>	



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## Monitoring Well Integrity Checklist

/ell ID:	MW32 Inspector's name: J PARSON
ate:	8-28-21
me:	1653 Inspector's signature:
	Before Opening Monitoring Well
1. I	s well cement pad or stickup in good condition?YES
2. F	Frost jacking measures: Stick up height from ground surface 2.33 FT
3,12 PT	FT 1.91 FT
3. 1	s the well lid/vault secure? YES, NEW LOCK
	s well clearly labeled? <u>YES</u>
5. F	Photographs of well closed 276
	After removing lid before sampling well
<b>1.</b> I:	s gasket worn or damaged?
2. I:	s vault flooded? <u>NO</u>
3. A	Any odors? NO
4. F	Photographs of well with lid off 277
5. T	ransducer present? Condition? <u>NO</u>
	During Groundwater Sampling
<b>1.</b> I	s well operational?
2. C	Dedicated pump present? Condition? <u>NO</u>
3. V _	Nere there any issues in collecting samples? いの
Com	ments:

<b> </b> C	): MW-34-	Inspector's name:	JUDD	PARSON	1
	8-28-21				
e: _	0955	Inspector's signature	e:		
	Before C	pening Monitoring V	Vell		
1.	Is well cement pad or stickup in a	good condition? YE	5		
2.	Frost jacking measures: Stick up	height from ground si	urface	3.75	FT
F		3	.25	FT	
3.	Is the well lid/vault secure?	ES, NEW LO	cK	ana 11	
1.	Is well clearly labeled?	)			
5.	Photographs of well closed 14	2			
	After remov	ing lid before sampli	ng well		
1.	Is gasket worn or damaged?	10			
2.	ls vault flooded?いつ				
	Any odors? NO				
4.	Photographs of well with lid off _	183			<del></del>
5.	Transducer present? Condition?	No		<u>-</u>	
		g Groundwater Samp	-		
	Is well operational?				
	Dedicated pump present? Condit				
3.	Were there any issues in collecting				
്പ	mments:				
.01					

Malla	D: <u>MW-35</u> Inspector's name: <u>JUPD PARSON</u>
	D: <u>MW-35</u> Inspector's name: <u>JUPD PARSON</u> 8-28-21
	Oq59 Inspector's signature:
innei	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
	Frost jacking measures: Stick up height from ground surface 3.83 FT
FT	
FT	3.33 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed 184
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded?
3.	Any odors? NO
4.	Photographs of well with lid off $185$
5.	Transducer present? Condition? NO
	During Groundwater Sampling
	Is well operational?
	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co	omments:



Time:       1007       Inspector's signature:         Before Opening Monitoring Well         1.       Is well cement pad or stickup in good condition?       YES, CANNOS IS         2.       Frost jacking measures: Stick up height from ground surface       4.0 FT         3.       Is the well lid/vault secure?       YES         4.0       FT         3.       Is the well lid/vault secure?       YES         4.0       FT         5.       Photographs of well closed       186         After removing lid before sampling well       Is gasket worn or damaged?       NO         2.       Is vault flooded?       NO         3.       Any odors?       NO         4.       Photographs of well with lid off       1877         5.       Transducer present? Condition?       NO         6.       Transducer present? Condition?       NO         1.       Is well operational?       NO         2.       Dedicated pump present? Condition?       NO         3.       Is well operational?       NO         3.       Is well operational?       NO         Dedicated pump present? Condition?         3.       Were there any issues in collecting samples? <th>Date: _</th> <th>8.28.21</th>	Date: _	8.28.21
<ol> <li>Is well cement pad or stickup in good condition? <u>YES, CASINGS 15</u> PROF</li> <li>Frost jacking measures: Stick up height from ground surface <u>4.0 FT</u></li> <li>FT</li> <li>FT</li> <li>FT</li> <li>Is the well lid/vault secure? <u>YES</u></li> <li>Is well clearly labeled? <u>YES</u></li> <li>Is well clearly labeled? <u>YES</u></li> <li>Photographs of well closed <u>186</u></li> <li>After removing lid before sampling well</li> <li>Is gasket worn or damaged? <u>NO</u>.</li> <li>Is vault flooded? <u>NO</u></li> <li>Any odors? <u>NO</u></li> <li>Photographs of well with lid off <u>1877</u></li> <li>Transducer present? Condition? <u>NO</u></li> <li>Is well operational?</li></ol>		
<ul> <li>1. Is well centent pad of stickup in good condition?</li></ul>		Before Opening Monitoring Well
<ul> <li>A. FT</li> <li>3. Is the well lid/vault secure? YES</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed [SC</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO.</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? NO</li> <li>4. Photographs of well with lid off 1877</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational?</li> <li>2. Dedicated pump present? Condition?</li> <li>3. Were there any issues in collecting samples?</li> </ul>	1.	Is well cement pad or stickup in good condition? YES, CASING IS FROM
<ul> <li>A. FT</li> <li>3. Is the well lid/vault secure? YES</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed [SC</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO.</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? NO</li> <li>4. Photographs of well with lid off 1877</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational?</li> <li>2. Dedicated pump present? Condition?</li> <li>3. Were there any issues in collecting samples?</li> </ul>	2.	Frost jacking measures: Stick up height from ground surface 4.0 FT
<ul> <li>3. Is the well lid/vault secure? YES</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed 186</li> <li>After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? NO.</li> <li>2. Is vault flooded? NO</li> <li>3. Any odors? NO</li> <li>4. Photographs of well with lid off 1877</li> <li>5. Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>1. Is well operational?</li></ul>	g F	
<ul> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>IBC</u> After removing lid before sampling well</li> <li>1. Is gasket worn or damaged? <u>NO</u>.</li> <li>2. Is vault flooded? <u>NO</u></li> <li>3. Any odors? <u>NO</u></li> <li>4. Photographs of well with lid off <u>IS</u>?</li> <li>5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling</li> <li>1. Is well operational?</li></ul>	γW	4.0 FT
<ul> <li>5. Photographs of well closed</li></ul>	3.	Is the well lid/vault secure? YES
After removing lid before sampling well   1. Is gasket worn or damaged?   2. Is vault flooded?   NO   3. Any odors?   NO   4. Photographs of well with lid off   1877   5. Transducer present? Condition?   NO   During Groundwater Sampling   1. Is well operational?   2. Dedicated pump present? Condition?   3. Were there any issues in collecting samples?	4.	Is well clearly labeled?YES
<ol> <li>Is gasket worn or damaged? NO.</li> <li>Is vault flooded? NO</li> <li>Any odors? NO</li> <li>Photographs of well with lid off 187</li> <li>Transducer present? Condition? NO</li> <li>During Groundwater Sampling</li> <li>Is well operational?</li> <li>Dedicated pump present? Condition?</li></ol>	5.	Photographs of well closed 186
<ul> <li>2. Is vault flooded?</li></ul>		After removing lid before sampling well
<ul> <li>Any odors?</li></ul>	1.	Is gasket worn or damaged? <u>N</u> の.
<ul> <li>4. Photographs of well with lid off <u>187</u></li> <li>5. Transducer present? Condition? <u>NO</u> <ul> <li>During Groundwater Sampling</li> </ul> </li> <li>1. Is well operational?</li></ul>	2.	Is vault flooded? NO
<ul> <li>5. Transducer present? Condition? <u>NO</u> During Groundwater Sampling</li> <li>1. Is well operational?</li></ul>		
During Groundwater Sampling         1. Is well operational?         2. Dedicated pump present? Condition?         3. Were there any issues in collecting samples?	4.	Photographs of well with lid off 1877
<ol> <li>Is well operational?</li> <li>Dedicated pump present? Condition?</li> <li>Were there any issues in collecting samples?</li> </ol>	5.	Transducer present? Condition? <u>NO</u>
<ol> <li>Dedicated pump present? Condition?</li></ol>		During Groundwater Sampling
3. Were there any issues in collecting samples?	1.	Is well operational?
	2.	Dedicated pump present? Condition?
	3.	Were there any issues in collecting samples?
Comments:		



M

## Monitoring Well Integrity Checklist

Well II	D: <u>MW39</u> Inspector's name: <u>J PARSON</u>
Date:	8-28-21
Time:	1535 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
	Frost jacking measures: Stick up height from ground surface 3.0 FT
79 F 3TOC PT	
3.	Is the well lid/vault secure? YES, NEW LOOK
4.	Is well clearly labeled? YES
5.	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? NO
3,	Any odors? NO
4.	Photographs of well with lid off 257
5.	Transducer present? Condition? NO
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples?
Co	mments:
<b>-</b>	



w

Well ID	: <u>MW40</u> Inspector's name: <u>J PARSON</u>
Date: _	8-28-21
Time: _	1545 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? Yes, JACKED
2.	Frost jacking measures: Stick up height from ground surface 3.33 FT
28.91 ptw	FT
PTW	2,49 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? Yes
	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged?
2.	Is vault flooded?No
	Any odors? NO
4.	Photographs of well with lid off
	Transducer present? Condition? <u>NO</u>
	During Groundwater Sampling
, <b>1.</b>	Is well operational? YES
2.	Dedicated pump present? Condition? YES, GOOD
3.	Were there any issues in collecting samples?
	MMENTS: EAKY AIR FITTING, STILL PROVIDES ENCUGH PRESSURE TO PUMP.



Well ID: MW 42	Inspector's name: <u>TPARSON</u>
Date: <u>8-28-21</u>	
Time: <u>63</u> 1	Inspector's signature:
Befor	e Opening Monitoring Well
1. is well cement pad or stickup	in good condition? Yes
2. Frost jacking measures: Stick 128,68 FT Drw	up height from ground surface $2.59$ FT 2.375 FT
<ol> <li>Is the well lid/vault secure?</li> </ol>	YES, NEW LOCK
4. Is well clearly labeled? YE	<u> </u>
5. Photographs of well closed	272
After ren	noving lid before sampling well
1. Is gasket worn or damaged?	NO
2. Is vault flooded? <u>NO</u>	······································
3. Any odors? <u>No</u>	· · · · · · · · · · · · · · · · · · ·
4. Photographs of well with lid o	ff <u>273</u>
5. Transducer present? Conditio	n? <u>NG</u>
Du	ring Groundwater Sampling
1. Is well operational? YES	
2. Dedicated pump present? Co	ndition? YES, 600 D
3. Were there any issues in colle	ecting samples?
	TUCK PUMP, UNABLE TO MEADURE DTW UNSTUCK AND TO SURFACE. REPLACED ROPE AND REPLACED AT 134 FT

ANNO DESCRIPTION OF A D	-
Sundance	
Consulting Inc.	

Well II	D: MW43 Inspector's name: J PARSON
Date:	8-28-21
	1638 Inspector's signature: 2027
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?YE_5
	Frost jacking measures: Stick up height from ground surface <u>2.875</u> FT
90,14 DTW	2.75 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
	Is well clearly labeled?Y Eら
5.	Photographs of well closed 274
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>No</u>
2.	Is vault flooded? $N^{\circ}$
3.	Any odors? <u>NO</u>
4.	Photographs of well with lid off5
5.	Transducer present? Condition? <u>No</u>
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition? Yes, good condition.
3.	Were there any issues in collecting samples?
Co	mments:
······································	
<u> </u>	
	-



ell II	D: MW44 Inspector's name: J PARSON
ate:	8-28-21
me:	1556 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? <u>YES</u>
2.	Frost jacking measures: Stick up height from ground surface <u>3.16</u> FT
5.4	2 FT JTW 2.75 FT
з.	Is the well lid/vault secure? YES, NEW LOOK
	Is well clearly labeled? YES
5.	Photographs of well closed 262
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off63
5.	Transducer present? Condition?
	During Groundwater Sampling
1.	Is well operational? Yes
2.	Dedicated pump present? Condition? Yes, good condition
3.	Were there any issues in collecting samples? No issues
Co	mments:
	· .

Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition?       YES         2. Frost jacking measures: Stick up height from ground surface       2.375 F         2. FT       Image: Colored structure         3. Is the well lid/vault secure?       YES, NEW Lock         4. Is well clearly labeled?       YES         5. Photographs of well closed       2.38         After removing lid before sampling well	7
Before Opening Monitoring Well         1. Is well cement pad or stickup in good condition?       YES         2. Frost jacking measures: Stick up height from ground surface       2.375 F         2       FT       2.375 F         3. Is the well lid/vault secure?       YES, NEW Lock         4. Is well clearly labeled?       YES         5. Photographs of well closed       2.38         After removing lid before sampling well	7
<ol> <li>Is well cement pad or stickup in good condition? YES</li> <li>Frost jacking measures: Stick up height from ground surface 2.375 F</li> <li>FT</li> <li>T</li> <li>T</li></ol>	<u> </u>
<ul> <li>2. Frost jacking measures: Stick up height from ground surface <u>2.875 F</u></li> <li>T</li> &lt;</ul>	T
72 FT       72.83 FT         3. Is the well lid/vault secure?       YES, NEW LOCK         4. Is well clearly labeled?       YES         5. Photographs of well closed       2.38         After removing lid before sampling well	T
<ul> <li>3. Is the well lid/vault secure? YES, NEW LOCK</li> <li>4. Is well clearly labeled? YES</li> <li>5. Photographs of well closed 238</li> <li>After removing lid before sampling well</li> </ul>	
<ul> <li>3. Is the well lid/vault secure? <u>YES, NEW LOCK</u></li> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>238</u></li> <li>After removing lid before sampling well</li> </ul>	
<ul> <li>3. Is the well lid/vault secure? <u>YES, NEW LOCK</u></li> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>238</u></li> <li>After removing lid before sampling well</li> </ul>	
<ul> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>238</u></li> <li>After removing lid before sampling well</li> </ul>	
<ul> <li>4. Is well clearly labeled? <u>YES</u></li> <li>5. Photographs of well closed <u>238</u></li> <li>After removing lid before sampling well</li> </ul>	
5. Photographs of well closed <u>238</u> After removing lid before sampling well	
After removing lid before sampling well	
1. Is gasket worn or damaged? <u>NO</u>	
2. Is vault flooded? NO	
3. Any odors? <u>NO</u>	
4. Photographs of well with lid off $2-25^{\circ}$	
5. Transducer present? Condition? <u>No</u>	
During Groundwater Sampling	
1. Is well operational? <u><u><u></u></u></u>	
2. Dedicated pump present? Condition? Yes, good condition	
3. Were there any issues in collecting samples?	
No issues	



Well I	D: MONAG Inspector's name: JUDD PARSON
Date:	8-28-21
Time:	1332 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
2.	Frost jacking measures: Stick up height from ground surface <u>3,5</u> FT
35.63 F DTW	T 1 3.08 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed 2.36
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? NO
3.	Any odors?
4.	Photographs of well with lid off <u>237</u>
5.	Transducer present? Condition? NO
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition? <u>105</u> , good condition
3.	Were there any issues in collecting samples?
C.	omments:
-	
—	



Well I	D: <u>MW47</u> Inspector's name: <u>Jupp PARSON</u>
Date:	8-28-21
Time:	1325 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES
	Frost jacking measures: Stick up height from ground surface <u>3,25 FT</u>
PTW	3.0 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed 234
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off5
5.	Transducer present? Condition? No
	During Groundwater Sampling
· 1.	Is well operational?
2.	Dedicated pump present? Condition? Yes, good condition
3.	Were there any issues in collecting samples? Mb issues
Co 	mments: Duplicate sample collected from this well.



Vell IC	D: MWA8 Inspector's name: J PAR SON
ate: _	8/28/2021
ime:	1602 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? YES
	Frost jacking measures: Stick up height from ground surface <u>3.16</u> FT
19 F 1721	Z.83FT
3.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed 264
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>NO</u>
2.	Is vault flooded? <u>NO</u>
3.	Any odors? <u>NO</u>
4.	Photographs of well with lid off <u>265</u>
5.	Transducer present? Condition? <u>No</u>
	During Groundwater Sampling
1.	Is well operational?
2.	Dedicated pump present? Condition?
з.	Were there any issues in collecting samples?
Co	mments:
	· · · · · · · · · · · · · · · · · · ·



Well ID:	MW 49 Inspector's name: <u>I PARSON</u>
Date: <u></u>	23-21
Time: <u> 6</u>	Inspector's signature:
·	Before Opening Monitoring Well
1. Is v	vell cement pad or stickup in good condition?
2. Fro	ost jacking measures: Stick up height from ground surface 3.33 FT
30.31 FT DTW	2.705 F1
3. ls t	he well lid/vault secure? <u>Yes, NÈW Loc K</u>
	vell clearly labeled? YES
	otographs of well closed _266
	After removing lid before sampling well
1. ls g	gasket worn or damaged? <u>NO</u>
-	/ault flooded?NO
	y odors? <u>NO</u>
4. Ph	otographs of well with lid off $267$
	ansducer present? Condition? <u>NO</u>
	During Groundwater Sampling
1. ls v	well operational? Yes
2. De	dicated pump present? Condition? Yes good condition
	ere there any issues in collecting samples?
Comm	ients:
-	



Дэ

Vell ID: <u>∧' ₩ 50</u>	Inspector's name: JUDP PARSON
Date: 8-28-21	
ime: 1430	Inspector's signature:
Befo	ore Opening Monitoring Well
1. Is well cement pad or stickup	p in good condition? YES
2. Frost jacking measures: Stick	cup height from ground surface 3.5 FT
DTW	3.25 FT
<ol> <li>Is the well lid/vault secure?</li> </ol>	YES, NEW LOCK
4. Is well clearly labeled?	
5. Photographs of well closed _	246
	moving lid before sampling well
1. Is gasket worn or damaged?	No
2. Is vault flooded? んさ	
3. Any odors? NO	
4. Photographs of well with lid	off_247
5. Transducer present? Conditi	ON? YES, GOOD . DOWNLOADED
D	ouring Groundwater Sampling
1. Is well operational? YES	
2. Dedicated pump present? Co	ondition? YES, GOOD
3. Were there any issues in coll NO	lecting samples?
Comments:	
	· · · · · · · · · · · · · · · · · · ·

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	Sundance	
	Conquiling Inc.	
		< <u> 1988</u>

Well ID: MWS1	Inspector's name: JUDD PARSON
Date: <u>8-28-21</u>	
Time: <u> 40'3</u>	Inspector's signature:
Befor	re Opening Monitoring Well
1. Is well cement pad or stickup	in good condition? <u>Yes</u>
2. Frost jacking measures: Stick	up height from ground surface $3.4,2,f+$
40.28 BIDC DTN	90 1
ـــا _ 3. Is the well lid/vault secure?	-J Ues
4. Is well clearly labeled?	
5. Photographs of well closed	
	noving lid before sampling well
1. Is gasket worn or damaged?	
2. Is vault flooded? <u>NO</u>	
3. Any odors? NO	
4. Photographs of well with lid o	off <u>243</u>
	on? <u>UPS, excellent condition</u>
Di	uring Groundwater Sampling
1. Is well operational? <u>YES</u>	
2. Dedicated pump present? Co	ndition? YES, Goop
3. Were there any issues in colle N○	ecting samples?
Comments:	
	<u></u>
Bashimto wate wate at	



Well ID: MW 52	Inspector's name: Judo Parson
Date: 8-28-21	
Time: 1317	Inspector's signature:
Befor	e Opening Monitoring Well
1. Is well cement pad or stickup	in good condition? $\underline{YES}$
2. Frost jacking measures: Stick	up height from ground surface <u>3,41 FT</u>
A.VA FT	
DTW	3.125FT
3. Is the well lid/vault secure?	YES, NEW LOCK
	ES
	2-32
	noving lid before sampling well
1. Is gasket worn or damaged?	NC
2. Is vault flooded? <u>No</u>	· · · · · · · · · · · · · · · · · · ·
	ff
5. Transducer present? Conditio	n? <u>No</u>
Du	ring Groundwater Sampling
1. Is well operational?/ɛ́s ,	
2. Dedicated pump present? Col	ndition? Yes, pump is in good condition.
3 Were there any issues in colle	6
Comments: Will will reed a new water return ba	new fittings on water return line and rb fitting assembly.



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# Monitoring Well Integrity Checklist

Well II	D: <u>MW53</u> Inspector's name: <u>J PARSON</u>
Date:	8-28-21
Time:	1456 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition?
2.	Frost jacking measures: Stick up height from ground surface <u>3.55</u>
08 F	T Broc
hrt.	Frost jacking measures: Stick up height from ground surface 3.50 FT BTOC 3.08 FT 3.08 FT
з.	Is the well lid/vault secure? YES, NEW LOCK
4.	Is well clearly labeled? YES
5.	Photographs of well closed
	After removing lid before sampling well
1.	Is gasket worn or damaged? NO
2,	Is vault flooded? NO
З.	Any odors? NO
4.	Photographs of well with lid off51
5.	Transducer present? Condition? YES, GCOD, DOWNLOADED.
	During Groundwater Sampling
1.	Is well operational? YES
2.	Dedicated pump present? Condition? YES, Good.
3.	Were there any issues in collecting samples? Nဝ ်
Co	mments:

May 2021

II ID:	MW54	Inspector's name:	TUDD PARSON
e:	8-28-21		<b>,</b>
e:	14-17	Inspector's signatu	re: <u>009.9</u>
	Before	e Opening Monitoring	Contraction
1. I	ls well cement pad or stickup i	in good condition?	YES
	Frost jacking measures: Stick ι	up height from ground	surface <u>3.5 FT</u>
r <u>5</u> 72	W		•
př		ר	
			2,92 FT
3. I	Is the well lid/vault secure?	YES, NEW	LOCK
4. I	Is well clearly labeled?	KES	
5. I	Photographs of well closed	244	
	After rem	oving lid before samp	ling well
1. I	Is gasket worn or damaged? _	NO	·
2. I	ls vault flooded? <u>N</u> O		
3. <i>i</i>	Any odors? <u>NO</u>		•
4. I	Photographs of well with lid of	ff 245	· · · · · · · · · · · · · · · · · · ·
5. 1	Transducer present? Condition	n? YES, GOOD	DOWNLOADED
	Du	ring Groundwater Sam	pling
1. 1	Is well operational? $\underline{VES}$		<u></u>
2. [	Dedicated pump present? Con	ndition? YES, Gas	p
3. \ -	Were there any issues in collection NO	cting samples?	
Com	nments:		

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	Oundance	
	Consulting Inc.	
539000		A TOTAL

14

Well II	D: MW55 Inspector's name: Jupp PARSON
Date:	5-2-3-21
Time:	1316 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? <u>Yes</u>
2.	Frost jacking measures: Stick up height from ground surface <u>3.5</u> FT
g FT TW	
3.	Is the well lid/vault secure? YES, NEW LOCK
	Is well clearly labeled? YES
<sup>°</sup> 5.	Photographs of well closed <u>230</u>
	After removing lid before sampling well
1.	Is gasket worn or damaged? <u>N</u> C
2.	ls vault flooded?N୍ତ
З.	Any odors? NO
4.	Photographs of well with lid off3
5.	Transducer present? Condition? <u>NG</u>
	During Groundwater Sampling
1.	Is well operational? <u>Yes</u>
2.	Dedicated pump present? Condition?
3.	Were there any issues in collecting samples? 
Co 	mments: Brown /orange film and debris prevalent during sampling and
	jurging,

Well I	D: <u>MW 56</u> Inspector's name: <u>Judd Parson</u>
	9-29-21
	1346 Inspector's signature:
	Before Opening Monitoring Well
1.	Is well cement pad or stickup in good condition? Yes
2.	Frost jacking measures: Stick up height from ground surface 3.41 FF
FT	BLOC
Orn	BTOC 3.0 FT
3.	Is the well lid/vault secure? YES, NEW LOCK
	Is well clearly labeled? <u>YES</u>
5.	Photographs of well closed 240
	After removing lid before sampling well
1.	Is gasket worn or damaged?
2.	Is vault flooded? NO
3.	Any odors? NO
4.	Photographs of well with lid off <u>24</u>
5.	Transducer present? Condition? YES, 6-00D. DOWNLOADED
	During Groundwater Sampling
	Is well operational? Yes
	Dedicated pump present? Condition? <u>Yes</u> , good condition
3.	Were there any issues in collecting samples? No issues
Со	mments:

Sundance Consulting Inc. May 2021

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11 10	D:MW57	Inspector's name: J PARSON
te:	8-28-21	
ne:	1517	Inspector's signature:
	Before	Opening Monitoring Well
1.	Is well cement pad or stickup in	n good condition? <u>MPS</u>
2.	Frost jacking measures: Stick u	p height from ground surface <u>3.33</u> FT
1	35.15 Ft	
	DTW	3.25 FT
3.	L	CS
	Is well clearly labeled?	
	Photographs of well closed	
		oving lid before sampling well
1.	Is gasket worn or damaged? <u> </u>	10
2.	Is vault flooded? <u>NO</u>	
3.	Any odors? <u>NO</u>	
4.	Photographs of well with lid of	f_255
5.	Transducer present? Condition	? ups/good
	Dur	ing Groundwater Sampling
1.	Is well operational? YES	
2.	Dedicated pump present? Cond	dition? <u>Yes</u> , Garon
3.	Were there any issues in collec へつ	ting samples?
Со	mments:	
<u> </u>	· · · ·	

	Inspector's name: <u>J Parson</u>
te: <u>3-23-21</u>	
ne: <u>1443</u>	Inspector's signature:
Befor	re Opening Monitoring Well
1. Is well cement pad or stickup	in good condition? <u>1E3</u>
2. Frost jacking measures: Stick	up height from ground surface <u>3.5</u> FT
76 * '	
76 FT DTW	3.25 FT
<ol> <li>Is the well lid/vault secure?</li> </ol>	YES, NEW LOCK
4. Is well clearly labeled?	YES
5. Photographs of well closed _	243
After rer	noving lid before sampling well
1. Is gasket worn or damaged?	NO
2. Is vault flooded? <u>NO</u>	
3. Any odors? NO	
4. Photographs of well with lid of	off 24ª
5. Transducer present? Condition	M? YES, GOOP. DOWNLOADED
Du	uring Groundwater Sampling
1. Is well operational? YES	
2. Dedicated pump present? Co	ndition? YES, NEEDS NEW BLAPPER
3. Were there any issues in colle	ecting samples?

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Vell ID: _ Mい59	Inspector's name: <u>JPARSON</u>
Date: 8-28-21	_
ime: <u>1528</u>	_ Inspector's signature:
Bef	ore Opening Monitoring Well
1. Is well cement pad or sticku	p in good condition? YES
2. Frost jacking measures: Stic	k up height from ground surface <u>3.25 FT</u>
131.74 Fr DTW	3.0 FT
3. Is the well lid/vault secure?	YES, NEW LOCK
4. Is well clearly labeled?	YES
5. Photographs of well closed	258
After re	emoving lid before sampling well
1. Is gasket worn or damaged?	<u>NC</u>
2. Is vault flooded? $NO$	
3. Any odors? <u>NO</u>	
4. Photographs of well with lic	loff_259
5. Transducer present? Condit	ion? Yes
1. Is well operational? YES	During Groundwater Sampling
2. Dedicated pump present? C	ondition? YES, GOOD
3. Were there any issues in co	llecting samples?
Comments: <u>NEEDS</u> NEW AIR	FITNUGS
·	

#### ATTACHMENT 1.3 FIELD NOTEBOOKS

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2	CONTENTS	
PAGE	REFERENCE	DATE
-		
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Location ANCHORAGE/RED DEVIL Date 6/2/2021 3
Project / Client ADD DEVIL MINE BLM
0630 DROPPED OFF GEDTAL CAR AND
CHECILES OUT OF HOTEL
0715 AT ACASKA AIR TRAVISIT
TO WEIGH BACCALOF AND FERE
0300 BOARDED PLANE
0823 TOOK OFF FROM AUCHORAGE
0956 CANDED IN RED DEVIC
ACASKA
1000 MET OP WITH DONNA
VANDERPOOL AND RUBY TO
UNLOAD GEAR AND BRIVE TO DEVIL HOUSE LODGE
10 DEVIL ECONE LOUDE
ORGANIZE CALIBRATION OF
EQUIPMENT, WALK THROUGH OF
ATUS W/ TRANSE, THO GEVERATORS
1000 145 WIFY INTEWET, COUR,
REFOR, WATER, LAWDRY FLETRICITY,
3 SEPARATE BEDROOMS, & BATTAROOMS
1400 FNO OF MOB DAY
102
Rite in the Rain

Location DEDIC Date (2021 Project/Client SPRING MONTORING BLM WEATHER: 390/620 light wind cloudy TEAM: COLLEEN WET, GEORGE GARVER, JUDO PARSON TASKS: RED DEVIL MINE SITE WALK TO ACCESS STREAM LOCATIONS, MONITORING WELL LOCATIONS, TRIAL/ROAD ACCESS, WILL FLAG LOCATIONS 0715 HEALTH & SAFETY METING TO DISCUSS DAY TASKS PRIMARLY WILDLIFE, ROAD/TRIAL ACCESS, MINE ADIT SAFETY, ATO SAFETY 0715-0745 PACK UP OF SUPPLIES 0800 (EFT FOR THE SITE ON ATUS 0815-1000 AT FIRST GATE 2SETS OF BUN KEYS DID NOT WORK ON THE CHAIN LINK FRUCE AND YELLOW ROAD GATE > CONDUCTED SITE ORIENTATION AND HALKES TO ALL MONITORING WELL AND SURFACE WATER LOCATIONS

Location 165 DEVIL Date 613 Project/Client\_SPRING MONITORING BLM 1000-1645 SITE WALK -> NONE OF THE GATE OR MW LOCKS WORKED ON THE BCM KEYS -> FRESH BEAR + WOLF TRACKS IN AREA > CBER WAS FOUND CLEAR > NO ACTIVE BRUDE SIGN IN LAKE UPSTREAM, LOOKED AT SAMPLING LOCATIONS BASED ON CURPENT STREAM CHANNELS > CUEARED TRAILS TO WERLSITES AND LOCATED WELLS BY TRACKS > UERIFIED LOCATIONS WITH TRIMBLE AND ADDED SURVEY AND MAJOR FEATURES TO INCLUDE TRAILS, ROADS, SURVEY MARKERS Stockpiles, Concrete features for Updated figures 1645 LEFT SITE AND CLOSED GATES CR Rite in the Rain

Location RED DEVIL Date 6/4/2021 6 Location LED DEVIL Date 6/4/2021 Project / Client SPRING MONITORING - BLM Project / Client SPRING SAMPUNG - BLM PHOTO # WFATHER: 430/640, BOTO PAIN CHANCE DIRETW DESCRIPTION MORNING FOG LIGHT WINDS TEAM: GEORGE GARNER, JUDD PARSON, - potes will start at #1 START AT BOY F 1 745 MW-1 (105al (304) NA COLLET RUST 2 0200746 NA MW-1 open TASKS GROUNDWATER ELEVIATION MEASURENT 3 Bao NA MW-11 closed ·NA 4 OF THE ENTIRE SITE, DOWNLOAD 801 MW-11 open 56 TRADSDUCERS, WELL SURVEYS 804 EAST MW-11 Set UP 809 FAST MW-11 ZIPTIE/LABER 0618 HEALTH'& SAFETY MEETING, 810 (310) MW-10 closed NA ATU USE, SLIPS, TRIPS, FALLS, 311/813 NA MW-10 open WILDLIFE, BUDDY SYSTEN, AIN TRAIDER 3121816 Bludder Pump NA Systen 313/816 Bladde: Rune NA 0630-0730 MOB TO SITE, STARTING 314/817 Bidder lump NA ON THE FAST SIDE WELLS 315/824 NA MW-09 Closed 0745 -> STARTED NELLS GW LEUELS 3161824 NA MW-09 Open 1215-7 LUNCH BREAK 317 1 836 NA MW-B4 Closed 1245 -> HEAD TO WELLS 318/ -838 NA MW- 34 olen 1343 - 1420 -> AT MW-56 to danked 319/ 344 NA MW-35 Closed transduced, program did not work will 320/ 845 MW-35 open NA POLL TRANSDUCER TO GET ADMIN REPRISSION 821/ 850 NA MW-36 closed 1420-> HEAD TO MORE WELLS 822/ 85 MW-36 Open, FROZETSACKED NA 1605 VEFT SITE FOR THE DAY 323/ 906 NA MW-08 closed MW-08 Open 5241 907 NA. CPR 6251 916 MW-7 closed NA 3261 917 MW-T ofen Rite in the Rain NA

J	S			
	8 Jantin RF	DEUIL Date 6/4/2021	D	
	Project / Client	PRING SAMPLING - BLAS	Location AD DEVIL Date 61412021	9
		AND DAMIANG BLAD	Project / Client SPRING SAMPLING - BLM	
	PHOTO #/	DIRECTUN DESCRITION	TIME	-
	327/ 922		1/HOTO # DIRECTION DESCRITION	
	328/ 923		351/1044 NA MW-32 closed	
	329/ 929		352/1044 NA MW-32 open	
	330 / 929		B53/110 NA. MW-42 Closed	-
	331/941	in the second second	354/ 1110 NA MW-42 open	
	332/942	we w		
	333/ 9/13	.1.0	356/1118 NA MW-43 Open	
	334/ 945	SOUTH MW-16 Closed	357/ 1122 NA MW-43 ATU NEAR WEL	C
	3351 945	NA MW-16 OPEN	358/1123 NA (1 11	
	336/ 953	WEST MW-03 closed	359/1130 NA MW-4 Closed	
	337/ 953	NA. MW-03 OPEN	360/1132 NA MW-4 OPen 361/1136 NA MW-28 day	_
	338/ 957	NA MW-20 Closed Podecic	21 1 1 21	
	339/ 1000	NA MN-20 OPEN GPS POINT	362/1136 NA MW-28 OPEN	-
	340/ 1010	NA MW-21 Closed & check	DOTTING NA MW-27 Closed	-
	341/ 1010	NA MN-21 OPON GRS BONT		_
	342/ 1017	NA MW-22 open	1 00 00500	
	343/1017	NA MW-22 Closal	r as over	-
	344 / 1022	NA BIRD'S NEST	2681 111-2 110 110 11000 (10500	-
	345/1022	NA (1 3)	210 / 11-11.	_
	346/ 1022	NA (1 ))	1 270/1154 110 Au 20	-
	347/1025	NA MW-18 Closed	371 / 1158 NA MW-6 (1050)	_
	348/1025	NA MW-18 Open	372/ 1152 NA MAG OPEN	-
	349/ 1034	NA MW-19 dosed	273/ 1203 NA MW-23 (1050)	-
1	350/ 1034	NA MW-19 GRAN	3701 202 MN -23 OPEN	
	A REAL PROPERTY AND A REAL		Rite in the Rain	- /

	UIL Date 6/4/2021				Date	1_ 11
Project / Client	6 SAMPANG - BLA	Pri	oject / Client	4.06 54	AMPLING - BLM	
PHOTO# / TIME DREAT	ON DESCRIPTION		Hoto# / time	DIRECTION	DESCRIPTION	4
375/ 1233 NA	bott FREY	-	398/1457	NA	MW-51 Clased	-
376/1233 NA 377/1252 NA	MW-55 Closed		399/1458 400/1508	NA	MW-51 Open MW-54 Closed	-
378/1257 NA			401/ 1509	NA	MW-54 open	-
379/1310 NA		1	402 / 1578 403/ 1518	NA	MW-50 closed	
380/ 1310 NA 381 / 1316 NA	MW-52 open MW-247 dosed		4041 1526	NA	MW-50 open MW-53 closed	
382/ 1317 NI	MW-47 open		405/ 1526	NA	MW-53 Open	
383/ 1330 NA 3841 1330 NA	MW-46 closed MW-46 open		406 / 1533 407 / 1534	NA	MW-53 Closed MW-53 OPEN	
3851 1336 NA	11		408 1547	NA	MW-31 Closed	
3861 1336 NP		L	109 / 1547	NA	MW-31 open	
387 1 1343 NA 3881 1343 NA			410/1555	NA	MW-57 Closed: MW-57 Open	
3891 1345 NA			112 / 1605	NA	MW-44 Closal	
3901 1346 NA 391 / 1349 NA			113/1605	NA	MW-44 Open MW-48 closed	
391/1849 NA 392/1431 NA	- MW-56 EVELOGE MW-40 (losal		115/ 1616	NA	MW-48 Closed MW-48 Open	
393/1431 NA	Mw-40 open	L	116/ 1625	NA	MW-29 Closed	
394 / 1441 NA 395 / 1441 NA			1171 1625	NA	MN-29 Open MN-30 Closed	
396/ 1442 N	4 MW-59 Closed		4191 1630	NA	MW-30 open	
397/1442 N	A MW-59 open		4201 1639	NA	MW-49 Closed MW-49 gren Riteins	the Rain.

12 Location UD DEVIC Date 6/4/2021 Location DED DEVIL Date (0/5/2021 13 Project/Client SPRNG SAMPLING - BLM Project/Client SPRING MONTORING - BEM PHOTO #/TIME NEFETION Description WEATHER: 390/56° Cloudy NA MW-33 Closed 422/1651 TRAM: JUDD PARSON GEORGE GARVER 423/1651 NA MW-33 open Colleen Rust TASKS! SAMPLE MWS ON FASTERN SIDE OF RED DEVIC Kreek Including MW09, MW10, MW16, + MW17. 629 HEALTH + SAFETY MEETING TO DISCUSS FIELD ACTIVITES INCLUDING BURIED DEBRIS PROPER TRAILER USE AND THE DOWNS OF GRAR 630 TROUBLE SHOOTING WATER (EFF TRANSDUCER, WILL NED ADMIN SUPPORT B IN THE EVENNE AFTER FIRD DAY 730 PACILUP OF ALL GEAR ON ATUS AND TRAILER 0300 CREATED 3 TRIP BLANKS TO GO WITH SAMPLES FOR THE DURATION OF TRUP 06217301 (0 5/5/2) (0 0800 06217802 615121 @ 0800 (621TB 03 615/21 @ 0800 Rite in the Rain

Location RED DEVIL Date 6/5/21 14 Project / Client SRING MONITORING -BLM 830 HAD TO SITE, SLOWLY W/ GAR 900 ADRIVED AT SITE TO SET UP on MWg + MWID, blade: pmps 900 - 100 Looked at MWO9 + MWIO TO DETERIMENTE PROCESS FOR BUDDER - PUMPS, DETAILS BELOW MWID - EXTRA WATER VALUE WAS LEALING PRESSURE, DEMONED TOBING AND BELACED, KEPT HARDWEAR IN WELL PHOTOS: #430, 431, 432, MWO9 - AIR HOSE BENT AT BLADDER PUMP UNBENT ADDED ZIP TIES AND LOWEDD BACK IN WELL TO SAMPLE PHOTOS: #429, 429 MONITORING WELLS COMPETEDS + MWIO MS/MSD + SAMRE + MWI7 DUP + SAMPLE + MW16 SAME -+ MW 09 SAMPE + MV 26 SAMPLE SAMPUE + M206

Location	Ras D	FUIL	Date 15
Project / Cl	ient	LING M	IONTORING - BLM
PHOTO#	F/TIME	DIRECTION	DESCRIPTION
424)	745	South	RED DEVIL LOAGE
425	746	North	RED DEVIL LODGE
426	923	NA	MW-1 GEOTECH BLADDER POMP
427	923	NA	MW-1 (1 1)
428	923	NA	MW-09 Bent tube
429	1010	NA	MW-09 Bludder Rage
430	1016.	NA	MW-10 LINE
431		NA	MW-10 Fittings
432	1017	NA	MW-10 BAKING VALUE
433	1423	WEST	MW-16 + MW-17
434		WEST	11 11 PLD Creek
485		NORTH	MW-OG SAMPLING
436	, 1755	NORIH	Mar-06 "1
-	21 0	ED	PERI TUBING
And	-21 05	PLACES	DISCHARGE LIATER TOBING
10100	26 CO	120.95A	BLE, ~/foot FREE PRODUCT,
10	DEUT	AFIEL A	TLOW FROM NOT TO MIX
	-17 15	ED ORIGI	NAL TUBING AND KENT
			PERI TUBINE
			D LARGE AMONTS
X M	E PANIET	and All	EA GROWING ON TUBNG
	Conch	TORBA	MY MEASURENENTS
1 14	TELIER	1900	Rite in the Rain.

16 Location DED DEVIC Date 615/2021 Location LED DEVIL Date 6/6/6/2021 17 Project/Client SPRIJG SAMPLING - BLM Project / Client SPRING SAMPLING - BLM WEATHER: 31º/60s clas Suny 1100- 1810 SAMRED 6 MONITORING TRANG GEORGE GARNER, JUDD PARSIN, WELLS Colleen Rust 1815 (EFT SITE FOR THE DAY TASKS: GW SAMPLE WELLS MW 42, MW 43, MW 27, MW 28 0630 HEALTH & SAFETY MEETING BISSCUSSED BATTERY USEAGE, ATUS WILDLIFE, POISONOUS PLANTS LIKE DEVEL'S CLUB \* CALIBRATED EQUIPMENT IN THE EVENNG OF 615/2021 AT THE LODGE, PACKED SAMPLES ON ICE IN THE FIELD AND AT THE LODGE WAITING NOAN PORT. 0630-0730 LOAD UP ATUS AND TRAILER WITH SUPPLES AND GEAR 0740 HEAD TO SITE 0300 APOZINE AT SITE 0310 ARRIVE AT NW-424 BLADBER PONT MODILED VP TUBING FOR AIR ATER WATER NO PRESSURE OR WATER. POLLED Purp AND FOUND WATER TOBE BENT AND Rite in the Rain.

KED NEUL Date (0/6/2021 19 Location RES DEVIL Date 6/6/2021 Location 18 Project/Client\_SPRING SAMUNG - BUM Project / Client SPRING SAMPLING -BLM BLOCKING WATER FROM PASSING, COULD DREETAN DESCRIPTION PHOTO # /TIME HEAR WAKING AIR ON A SPENCE NA MATTER TOBE ON THE AIR TUBE, ATTENPTED TO FIX 845 437 Bladder ling Geotech AND LOWER PUR BACK IN WITCLE. 845 438 REATTACHED TUBING ADDED 349 PUT PRESSURE ON SYSTEM AND AIR 439 GEOTECH #10101 849 TUBE CAME IN DONE, ATTENTED TO 440 90° connection of wenter tobe BUNP ONCE MORE AND THE 252 441 PULL Air Tube Splice 952 AIR TUBE GOT LODGED BETWEEN 442 Water connection THE BLADDER PUR AND WELL CASING 752 443 MW-42 TOP GEAR SPEUT OVER AND HOURS TRYING TO 353 444 MW-42 Location 955 POLG ROMP WITH NYLON LINE AND 445 MW-29 Budder fund cord ad water tube 446 1405 ATTACHED WATER TOBE. WAS UNABLE MAN-29 Missing AIR TOBE TO RETUCIE LODGED RUMP AND TOBING. 1405 447 TWO WATER UFUELS 1713 448 RHOTOS: 437 TO 445. PORP FOR 2 EQUIPMENT 1000-1200 GEORGE + JUDD ATTEMPTED TO REJUCE BANKS 1000 PACKED UP FROM MW-42 AND (A)MOVES TO MW-28 TO SAMPLE WHEN PUMP WAS PULLED ALL CONNECTIONS 1010-1300 Kuntes, Toole PARAMETERS WEDE CHECKED WITH AT DEPTH PRESSURE AND SAMPLES MW-28 W/ BLADDER PUMP. AT GROUND FUEL TO CHECK FOR LAKS 1300-1330 LUNCH BREAK AND STREAGTH OF FITTINGS. 1330 - 1416 Bet up on MW-29 W BUDDER RUNS, FOUND NTLON STRING FOR BLADDER ROW AND WATER TUSE. 10 AIR TUBE POPERTIN TOC. = Rite in the Rein .

Location \_ GD DEUIL Date \_ (d/6/2021 21 20 Location ADD DEVIL Date 6/6/2021 Project / Client \_\_\_\_\_\_SPRING SAMPLING - BLM Project/Client\_\_\_\_\_SPRING SAMPUNG BLM EQUIPMENT BLANKS (2) ATTENPTED TO POLL PUND BUT THE PUMP AND LIGELY TOBING IS STUCK #WATER LEVEL - DIPER TR BETWEEN THE PUMP AND MONITORING VIN# WLMOTH WELL CASING. ATENPTED DE PLACE A BAILER IN MONITORING WELL 29 0621 EBOI @ 1710 BUT BAILER GOT STUCK BEBRE IT GUTTER. ONLY NTOP 5 FET FREE OF > WASHED WITH ALCONOX SCAP AND SPACE FOR STANDARD BAILER. RINSED WITH TD (A. bTOC) = 71.52" From WORK PUN TO ( Ft. bToc) TOPOF PUMP=> (02.71 Ft 12 WATER LEVEL - SOMUST DTW (Ft. bToc) => 59.25 UIN # 294991 ATTEMPTED TO FISH OUT TUBING WITH 0621 EB 02 @ 1715 LONG METAL WIRE WITH NO LOCK, TOO DEEP TO USE A PER PUMP (OULD 1730 EUD OF DAY NOT SAMPLE. 1420 SET UP ON MN-49 W/ GEORGE. 1430 MOVED OUT TO MW-56 W/ 5000; HEUGD SET UP TO TAKE PARNETERS pe 1600 FINISHED UP AT MWSG REPLACED WATER LEVE TRANSDUCTER. 1615 (EFT THE SITE FOR THEDAY 1630 BACK AT LODGE TO DO Rite in the Rain.

22 Location RED DEVIL Date 61 Project / Client SPLING SAMPLING ~ BLN	A Project / Client SPILING SAMPUNG ISCH
11000 # / TIME       DIRETION       DESCRIPTION         449       911       N233       Buddle - Set upon         450       911       Nest       11         451       912       Nest       11         453       912       Nest       11         453       912       Nest       11         453       112       Nest       11         453       112       Na       ATU SET UP 68         454       1413       NA       ATU SET UP 68         455       1448       11       11         455       1448       11       11         455       1448       11       11         455       1449       11       11         456       1449       11       11         457       1449       11       11         457       1449       11       11         459       1450       11       11         460       1450       11       11         461       1450       11       11         462       1450       11       11	TRAM: CORRENTIONST OFFICE ONDER, JUDD PARSON TASKS: CON SAMPLES WELLS MW55, MW52, MW47, MW46 MW55, MW52, MW47, MW46 MW56 MW55, MW52, MW47, MW46 MW56 MW56 MW55, MW52, MW47, MW46 MW56 MW56 MW55, MW52, MW47, MW46 MW56 MW56 MW56 MW55, MW52, MW47, MW46 MW56 MW56 MW56 MW56 MW56 MW56 MW56 MW57 MW47, MW46 MW56 MW56 MW56 MW56 MW56 MW57 MW47, MW46 MW56 MW56 MW57 MW57 MW47 MW46 MW56 MW56 MW56 MW56 MW57 MW47 MW46 MW56 MW56 MW56 MW57 MW77 MW76 MW57 MW76 MW76 MW56 MW56 MW56 MW56 MW56 MW57 MW77 MW76 MU56 MU56 MW56 MW56 MU56

Location RED DEVIL Date 6/7/2021 Location USD DEVIC Date AG17/2021 25 24 Project/Client SPRING SAMPLING - BLM Project/Client\_SPRING SAMPLING - Bim SAFETY CHECK, BETTER SAT GUELLEE 1330-1350 HEUES PULL RUMPFROM IN TOP OF HILL, MIL-58 AND DISMANTLE APARENTLY THE BLADDER MENBRINE 13 FTATTERED 0245 SET UP ON MW-52 AND MM-47 AND WILL NOT RECHARGE WITH INATER WITH AIR PRESSURE OFFICE BUDDER RUMP WELLS WILL USE A BAILER TO SAMPET CREEN C345-0950 HELPED JUDD ON MA-52. WILL PURCHASE ANEW 34.00 EST FOR SAMPLED AND CUTANED UP · FALL 2021. 1000 - HEADED TO GEORGE TO HELP 1355-1510 MEASLED PARKETESS ON MG-47 AND SAMPED MW-52 1020-1020 SAMPLES MW-47 AND FACIED UP TO HEAD BACK TO JUDD ON 1510 HEADED TO MW 50 TOSETUP MW-46 1530 BET UP ON MW-50 TO THE 1020 AT MW-410 to HELP JUDD PARAMETERS AND SAMPLE TAKE PARKETERS AND SAMRE 530-1650 MEASURED AND SAMPLED 1020-1115 SAMED AND CURVED UP M4-50 TO MOUF TO MU-44 720 MOUES TO MW-5/ 70 SET UP 1735-1900 MEASURES AND SAMPLED 1125 HEADED OUTOR TO GEORGE AT MW-45 TO SAMPLE MW-51 1140 FINISHED OP ON MW-45 1915 PACKED UP FROM MW-51 1145 HEADED OVER TO 500D ON 1930 GET SITE FOR THE DAY MW-44 TO HECP 1945 BACK AT LODGE . 1300 FINISHING UP ON MW-44 W/ JOOD 1000 EUD OF DAY 0 1310 HEADING TO MW-53 COR 1320 AT MW-53, GFORGE NEDD HELP PULLED THE POMP FROM MW-58 Rite in the Rain

Location KED DEVIL Date 6/8/2021 26 Project / Client SPRING SAMPUNG -BLM DIRECTION DESCRIPTION TIME PHOTO # WEST DOWNLOADING MW-39 TRANSDUER 1641 463 MW-59 Bladder Punp NA 1344 464 MW-59 #0077 Bludder lunp 465 1315 NA 0

Location RED DEVIL Date 6/8/2021 27 Project/Client SPRING SAMPLING - BLM WEATHER: 45/50 UP TO 70% CHANCE OF RAIN CLOUDY TEAM : GEORGE GARNER, TUDO PARSON COLLER RUST TASKS: TO SAMPLE MW-55, MW-59, MW-40, MW-33, AND MW-57 LAST MONITORING WELLS, 2 PERI, AND COLLECT DUP MS/MSD 0730 HEALTH + SAFETY METING TO DISCUSS ACTIVIES, ATV TRAVEL WILDLIFE 0730-830 PACKED GEAR + SOPPLIES, AND CALIBRATED FOURAEDT BO LEFT LODGE FOR STIE 350 AT SITE, GEORGE TO SET UP ON MW-55, JUDD NO COULD SET OF ON MW-57 W/ BLADOTE FURP 130-1020 MEASURE AND SAMPLE MW-57 1035 JOD & COLEEN TO SET UPON MN- 59 > NO TRANSDUCER IN MW-59 WAS IN MN-39 ABOVE WATER MERSURING ATMOSPHERIC POFSERE ONLY. REMOVED AND DRINGADED Rite in the Rain

Location \_\_\_\_ VES DEVIL Date 6/9/2021 29 Location LES DEVIL Date 6/8/2021 Project / Client SPRING SAMPLING - BUM Project/Client SPRING SAMPUNG - BLM WEATHER: 45/50° RAINY -> TOOK TRANSDUCER FROM MW-39 TO TEAM: Colleen RUST GEORGE GAOLOR BEPROGRAM TO BE PLACED IN MW-59 JUDD PARSON BELOW WATER , DOWNLOADES MW-39 DATA TASKS: STREAM GAUGING AND PREMETERS AND DELETED DATA TO SET UP AS 0730 HEALTH + SAFETY MEETING MW-59. -> MW-59 WATER TUBING WAS BENT, PULLED CHANGE IN ACTIVITES PUMP AND TROUBLE SHOOT AND FIXED 4/ ZIR TIES WATER TUBE IS NOINCIES 0730-0830 BET UP FOR STREAM TOO LONG. TOOK AWHILE TO CHARGE CORGING AND ORGANIZATION OF LINE TO START TAKING MEASUREMENTS. PARERWORK 1030-1230 TROUBLE SHOOTING 0900 LET THE LODUE 1230 - 1330 LUNCH 0930 APRIVED AT SITE TO D 1330-1530 MASURING AND SAMPINE GTREAM MEASUREMENTS STARTING AT THE CONFUENCE OF LED DEDL MW-59 1530 MOUED OUER TO HELP FININGH PREEK AND THE KUSKSWIM RIVER SAMPLING ON MW-40 AND MOUNE OR ETEEN 1640 FINISHED UP ON MW-40. 100 SUDZ STRAM GURGING 1700 PACIE UP SUPPLIES AND 1100 Swold STREAM GUAGNES HEADED TO LODGE 130 SW 15 5000 MEASURETS 14/BRONE 1730 RETURNES TO LODGE, FUD OF DAY 5405 5400 GUAGING, LOCATION MAGUES WITH A STAKE 1130 SNEAM GUAGIN 6 SWID 1150 Nor 1200 WALLED AROUND STOCILPIUES Rite in the Rain

30 Location BED DEVIL Date 6/9/2021 Project / Client SPRING SAMPLING- BLM	Location LED DEVIL Date 6/9/2021 31 Project / Client SPRW6 SAMPONG - BLM
Project / Client <u>SPRING SAMPLING DEM</u> <u>Hore # TIME DESCRIPTION</u> <u>4600 951 N SWOOD at Cathene</u> <u>467 952 E Riser of Creen onl</u> <u>468 953 Erliver Lusitowin Cutter</u> <u>469 101 5 Guaghy in RD</u> <u>470 1101 5 Guaghy in RD</u> <u>471 103 5 Ureent</u> <u>473 1120 NA SEE P Menotement</u> <u>473 1120 NA SEE P Menotement</u> <u>475 1133 5 Nocard Seep on right side look of RD</u> <u>476 1137 Sinst Urent</u> <u>478 131 1 Lukin of steen</u> <u>479 1133 V Sinst Fine</u> <u>479 1133 V Sinst Fine</u> <u>479 1133 V Sinst Fine</u> <u>471 1149 11 11</u>	Piloto # Time Dilettion Description 4297 7205 North Stock Piles 490 1206 N Minor Erbosin 493 127 NEST Erosin Tures CREA 493 1207 N Stulls Piles 496 1230 Nr Lunch Break
485 1152 Swold Flow measurements 486 1152 Swold Flow measurement 480 1155 Swold in 11 488 1155 Swold in 11 488 1155 Swold in 11	Rite in the Rein

Location DEVIL Date (10/2021 33 Location RED DEVIL Date 6/9/2021 Project / Client SPRING SAMPLING -BLM Project/Client SPRING SANDUNG BLM 1230 -1300 LUNCH BRAIL NER RIVER WFATHER: 45/50 RAIDY CLOUDY TEAM: Colleen Rost, GEORGE GARNER, JUDD PARSON 1315 GPS TRACKED TRAILS AND ROADS FOR FIGURES, WILL DROP TASKS! SURFACE WATER SAMPLING TRANSDUCER IN MW-579. 1480 FINISHED OP TRACKING ROADS 1445 UDET SITE 0630 HEALTH & SAFETY MEETING CHANGE IN ACTIVITY SUBACE WATER 1500 BACK AT LODGE. 1500-1600 (REATED COC, EUTRES SAWRING AND UST DAY OF FIFEDWORK. 0630-0300 PACIL UP OF GER AND IN STREAM GAUGING DATA, DOLINLOADED PICTURES, CALIBRATED SUPPLIES YSIS FOR STREAM SAMPLES TOMORDA! OBIS GAVE LODGE FOR SITE 0830 AT SITE SETTING UP 1600 EUP OF DAY ON SWOR A THE CONFUENCE OF RED DEVIL PRETE AND THE KUSKSWIM LIVER 0845 SAMPED SHOP 0930 PACKING OP TO HEAD TO SUCG 0945 SAMPLES SWOG 1000 SAMPED SWIS (SeeP) 1915 SAMPLED SW05 1030 SAMPLES SWID 1050-1115 PACIER ALL REMAINING , GETE ON SITE 1BO DAVE SITE FOR LODGE Rite in the Rain .

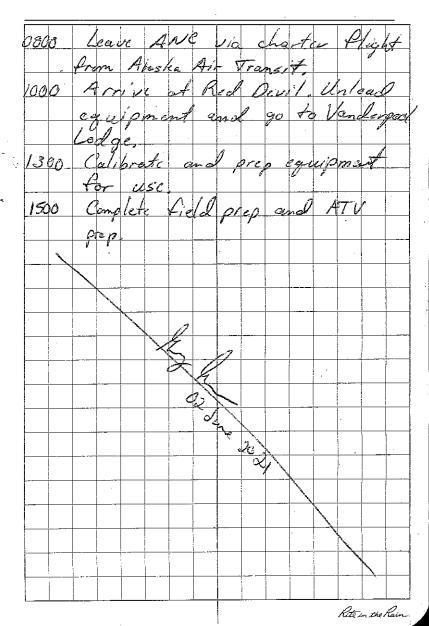
Location (DD DEVIC Date 6/10/2021 35 34 Location AFD DEVIL Date 6/10/2021 Project / Client SPRING SAMPLING - BLM Project / Client SPRING SAMPUNG - BLM 1200-1230 LUNCHAT LODEE DESCRIPTION DRECTION TIME PITOTO # 1230-1330 SAMPLE CHECK AND COC 5W08 Locking of RIVITE 1350 GOT A CALL FROM ACASKA 743 158 4 11 744 TRANSIT FOR AN FARLY PICK UP 159 1. u 812 DUE TO WEATHER ROUND IN. 160 11 11 812 161 SCHEDUED A PICK UP AT 1630. Shold Looking UP CORK 344 1350-1630 PACILEO JP LODGE GAR 162 1111 844 SUPPLIES AND HEADED TO AIRSTRIP 163 SWIS Seef 900 · 1700 ALASKA AIR TRANSIT ONSITE 164 11 11 907 1700-1930 FLIGHT TO ANCHERAGE 165 5005 913 130-2030 DROPPED OFF SMP55 166 11 11 913 AND GEAR AT WEAR HOUSE WILL 167 & NOT NEW CAMERA AND TIMES ARE OFF SHIR TO MORROW 1 HOUR SHOULD START AT #1580 843 2030 EUD OF DAY 6 SWID Upstream 935 168 935 169 MOSITIO S 935 170 SW10 Bottle Fill 171 936 SWID Creek INPUT 172 936 por Rite in the Rain

Location RED DEVIL Date 6/11/2021 36 Project / Client SPRING SAMPLING - BLM WEATHER: 65 SUNNY TEAM: GEORGE GARNER, JOPO PARSIN COLLEN RUST TASKS: SAMPLE (OC, SHIPPING, CUEAN UP 800 MET AT WAREHOUSE 800 HEACTH + SAFTER Meeting 800-1330 CUAN UP, SAMPLE COC AND PACKING ON ILE 1345 DROP OFF OF SAMPLES AT FEDEX FOR SATURDAY DEGUERY 1400 FUD OF DAY

37 Date \_\_\_\_\_ Location Project / Client Rite in the Rain.

Location Red Peril, AK Date O2 June 202

Project / Client Real Devil -BLM



Location Red Devil AK Location Red Devil AK Date 4 June 2021 Date 03 June 202/ Project / Client \_\_\_\_\_\_BLM 0620 Conduct Safety brief, Pred Sately brief 0715 Franced to site for site walk! 0800 for field work, Will collect all water levels and well inspections orientation. 1000 BLM provided keys do not work Will attempt to collect all on any locks Found Proceed on site frans lieger data Leave for Mine to collect water welk to locate and Alag all 0705 wills. evel data Complete site weather and proceed Arnin & mine to begin field work 1645 0725 back to townsite. Check MW-1 1742 Arrive back in town, Cooplete Water level at 25.97 At below TOC 1700 Casing 2.5" below outer caring Outer work for the day casin 39.5". 37" stick up. Check MW-11 Water level = 21.86' Brock 0755 Will in good condition. 0808 Check MW-10 Will Prost jacked Outer casing and cacrite pad raised several inches, Bladder sump present. Depth to water = 54.61° BTac (topotpup) 202 0820 Check MW-09, Bladder pup installed . Depth to water = 25.43 ft BTOC Top of pup = 32.03 ft BTOC Check MW 34 6835 Depth to watch: 58.13 AL Broce Rite in the Rain

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6 Location	Red 1	Devil A	<del>τ</del> κ	Date 4	ine 2021
Project /	Client	LN /	Red Devi	1 Monit	oring
	Fog				
0842		миз	5.		· · · ·
				At Broc	
0849				frist ja	
	Water a	lept :	15,74	FF BTO	C
<u> </u>	Check	NW08	, ,		
	Water de	epth:	15.59	A+ BTC	C.
0915	Check	MW07:			· · ·
	Water o	lepth:	20.35	Ft B	TOC.
0920	Check	MW13.			
	Water 1	lepth:	28,50	FF B	POC,
0925				1 order	
· ·				tour cas	
				suction	
0940	Check	MW17	Concrete .	are jack	Lup 4.
÷	Water	depth :	13,07 f.	L BTOC	
0945		MW16			· · · · · · · · · · · · · · · · · · ·
	Water d	epth: 1	1.90 f	4 BTOC	<u></u>
6950	Check	MW 03,			
	Water d	epth:	18.87	AJ BTC	×.
d958	Check	MW 20	·		· · · ·,
	Water d		7_0/	ft e	STOC
1000	Check				
·	Water	ligth:	8.48	F+ B7	<u>v</u> C,
<u> </u>		7		• • •	· · · · · ·
		·	· .		-

					•		·	. :	•			
e .		Red De							June	_20		
	Project / (	Client <u>BL</u>	n Re	<u>d De</u>	vil	Mle	mite	rin	<u>q</u>		<u> </u>	
- 	405	Fog	· · · · · · · · · · · · · · · · · · ·			,	· ·		· .		· · · · · · · · · · · · · · · · · · ·	
	1013	Check	MU	125.		-						
· · · · ·		Depth	to c	vater	*	<b>8</b> , 8	5	۲	AL.	BT	00	
•	1023	Check	Mu	118.						_		
		Popth	40 10	ater	10	27	<i>"5</i> 5	• 4	41	3700	5	
	1032	Check	E MU	19.		1						
-		Deoth	40 4	vater	- ;	17.	30	Y	<u>41</u>	370	6	
	1041	Check	NW	3.2				-	-	_		
-		Depth	to wat	ter ?	18.	51		ť	4 L	370	٥,	
-	1:08	Check	Mu	42.							· · .	
-		Depth 1	-o wad	ter;	12	7. á	20	+	24 R	8700		
- » <sup>-</sup>	118	Check	NWY	13i_								
- 1	L	hepth of	i wate	5~ 5	88.	62			£Į	BTC	C	
		Check									ъ 	
		Depth				. O	3	7	4	B72	C	
-	1133	Check	MW	28:								•
	-	Pepth.	to ,	vate	~ :	.2	7, 2	5	44	870		
- -	1140	check	MW	27	*							
-		Depil				29	,48		f	BI	OC,	
•	1143	Check						1				
		Dep 4	+0	wate	ج	34	1.3	5	4	$\mathcal{B}$	TOC	
· · ·	1147									, <i>.</i>		
		PERLL	10	wate	<u> </u>	3	، له ل	2.	A	BTO	Ľ,	
•	1156	Check	MW	<u>24 ''</u>								
		Depth	6	votic		16	.16		\$	BT	<u>60</u>	
		ч							Rite	in the l	Pain	

Location Real Devil AK Date 4 Jane 2021 Location Real Devil AK. Date 4 fine 2021 Project / Client \*\* BLM | Red Devil Monitoring, Project/Client BLM / Rod Devil Monitoring 50% Partly Cloudy Se Partly Cloudy 1158 Check MWDG. 1440 Check MW 39 Depth to water: 17, 38 Pt. BTOC. Pupth to writer: 84.81 Ft BTOC 1203 Check MW23, 1446 Check MW 59 Depth to water : 133.66 A BTOC Pipt to water : 15.49 44, BBC 1455 Check 121051. 1300 Check MWSS. Pepth to water: 12.80 At BROC Depty to water: 38.45 A BTOC 1505 Check MW 54. 1309 Check MWS2! PH BTOC. H Broc Depth to water: 30.66 Pepth to water: 29.43 1515 Check 140 50. 1314 Check MW47, Depth to water: 47.31 A-Broc Dipthe to water 36.62 ff BTOC 1525 Check My 58. 1327 Check MW40. Depth to water, 33.58 Repth to water: 30, 48 ft. BTOC, ALBTOC. 1535 Check MW 53. Check MW 45 1335 Depth to water: 43.91 ft. BTOC Dubil to water : 30 43 At Broc 1545 check MW 31. 1343 Check MWSB Depth to water: 34 80 \$4 BTOC A BTOC Pupth to water : 38.56 1553 Check #11157 Transducer Livelogger 3001 F65/MD AT BTOC Troubleshooting transducer download, Depth to water ! 32.22 1420 Issues communicating with datalogger. 1602 Check NW 44 Roth to Water \$ 33,00 A 8700 Removed Latalogger to attempt trouble shorting with interact. 1613 Chick MW48 Depth to water: 19,51 A BTOC 1429 Check MW-40 Depth to water: 127.99 At BTOC 1622 Check NW 29 ABTOC Death to water : 58.50 Rite in the Reir

Location Red Devil AK Date 4 June 2021 Project / Client BLM / Red Devil Manitoring 50s Cloudy / Light Rain 16 30 Check MW30, A BTOC Depth to water: 53,66 1636 Check MW 97 Depth to water: 29.72 LL BTOC 1649 Check NW 33. Depth to water: 613 HBTOC. Complete water level massurements. 1655 Return to townsite. Joy

Location Red Devil AK Date 5 June 2001 Project / Client BUM / Red Devil Mon for iny

0630 Conduct sutity priof 0645 Continue trouble shorting Levelbager softenare for data download. UTO Catiner packing equipment on ATU altrailer 0800 Collect trip blanks to accompan semples. Sample 10: 0621 TB01, 0621 TB02, and 0621TB03 2 0800. 0825 Leave Apr site. 0855 Arrive at site to begin sampling, Set up on MW09 and Millo. 0900 leaky value / tube Marino has a splitter that is preventing sampling and purging, Replaced Hubing and we were able to make it functional MW09 sotup and purged. Will drew down at 0.4 1/ min to unsampleable levels, Pausal purging to allow for recharge and sending at a later time. Sample collected at MW10 -1200 Rite in the Rain

A.

Location Red Devil AK Location Red Devil AK Date 5 June 21 Date 6 June 21 Project / Client BLM / Red Devil Monitoring Project/Client BLM Red Devil 305 Clear sunny 6630 Sadety brief. Move to MWIT and MW16 1230 Load ATVs site for Peristaltic pump sampling, 0700 Leave for Mine -Complete sampling of Mivile and 0740 1510 Arin at Mine Set up a 6860 | MWIZ, arca, Return to MW09 MW-27 and MW-28 are and area to sample and (Collean). Judd one team, Team 2 moves to set up is sampling / parging at MW26. on MW 4 and MW 4 1625 Co-plete sampling at MW09 and MW26. Set up on 0818 Bagin surging MW 27 Complete Jurging Sample MW27 0900 MW6 to sample with a and collect duplicate, ( peristal tic perip. Sample 10, 0621 mm 2700 0905 1658 Begin purgin MWG Dup : 0621MW95GW Collect sample Q Mille. 1600 0200 0940 Go to assist other team with Sarphe JD: 0621 MWOGGW wedged tubirgat MW42 Pack up and beave site for the 1815 1000 Attempt to dislodge pump wedged in day, MW42 after air line blew out fitting. 1200 Unable to disloge pump, Move to MW 43 315 Nove to MW29 to stlongst sampling Jude continues on MW43. 1330 MW29 has prove tube to bladder pemp, Air line is not visible but pamp is welged in well Top of pump is roughty even with Rite in the Rais

14 Decation Red Devil AK Date 6/6/21 Project / Client BLM / Red Dwit At Monstoning 65 Sunny light wind. 1330 Cont'd the top of the well screen. Possibly proken at the top of well screen and wedged pump, 1400 Attempted to sample with a bailer at MW 29. Baster will not reach water due to existing pump hose stuck in the well, More to MW 49 to attempt 1425 sampling, Begin pumping MW 49. 10 sec ruchange 1440 5 sec discharge @ 30 psi is making 0.125 L/min with near zero drawdown. Other team moves to MWSG to 1445 return transducer and sample. Continue purging MW49, Water quality 1500 parameters are stabilling. Callect sample OG21 MW49 GW at 1525 1525. Complete sampling of MW 49. <u>1545</u> 16 15 Leave site for the day, - 5/ Jun 2021

Location Red Devil AK Date 6/7/2021 Project / Client BLM / Red Devil AK Menitoring

Safdy Brict 0630 Pack equipment and load ATV5. 13700 0730 Leave for mine site. 0755 Annia at mine site. Mere to upper will lacations 1815 Set up on NEWS 2 and New Begin purging @ MUU47 0912 0930 Tossues with air in water return line, Possible crack or hok in bladder Pump is making/pumping good volume Dissolved D2 will be gruestionable for this well. 0956 All parameters stabilized, Collect GW sample 0621 MW47 GW (ba) 1000 and duplicate DLDI NEW 77 CW (1010) Complete sampling at MW 47 Marc 1020 to next well. Sctup a MW 45. 1035 Collect sample @ 1135 from Mur 45 1135 0621 MW45 GW, Questinable DO reading due to air in return line. 1215 Move and set up an MW 50. Rite in the Rain

Location Red Devil AK Date 6/7/21 Project/Client Red Devil Mon toring / BLM 50; Cloudy 1228 Begin purging MUIS8 usite bladderpamp. Very little water being produced 1235 despite air pressure in line. Pall pump to check tubing is in good condition Tubing is in good condition with 1245 no visible kinks. Retry purping. Still no water return. Pull sump 1300 to examine sump internals, 1330 Sump bladder has creased and folds up within the sump housing. Bladder is unable to reinflate without current water pressure downhole, We will replace the bladder during Fall sampling. We will attempt to sumple with 1400 hailers 1700 Sample collected at MWS8. 108 L removed ( 6 will volumes) More to next well Jocation. 1725 17.35 Set up on MW54. Bayin purgin MW 54, 1745

Location Red Pavil AK Date 6/7/21 Project / Client Red Devil Monitoring / BLM 50s Rainy Catinue purging, Abundant red-orange 18:00 algae in water. 1845 Collect sample D MWS4. 0621 MW 54GW 1795 Complete sampling. 1915 More downhill to gear storage location 1930 Leave Ster Arrive at lodge 2020 Rite in the Kai

Location Red PEVIL AK Date 6/8/21 Project / Client Red Devil Monitoring / BLim 40s Cloudy Conduct safety brief. Calibrate 0700 all equipment 0030 Leave for Mine site 8900 Arrive at Mine Pack equipment. More to MWSS for sampling. 0915 Set up en well, MWSS. " Peristaltic Pump is not functioning 0930 0945 Return to equipment where to change perpos, Begin purging with new pump. 1015 Cellect sample 0621 MWSSGW 1120 and MS/MSD wume, 1155 Constate sampling at ULUSS. 220 Mar to Mul 23 for sampling. Complete sampling at NW 33 14 20 0621 MW33 GW collected @ 1403, 1500 Sct up on MWHO, 1629 Collect gaple at MWYC. 0621 MWYOGW @ 1625. 1648 Complete sampling at MUYO. 1700 Park equipment for octurn to lodge. 1230 Return to lodge, the 6/8/2)

Location Red Devil AK Date 6/8/21 Project/Client Red Devil Monitoring / BLM 405 Rain Setty brief. 0730 Calibrated equipment. 08 00 Leave for Mine site -0200 at Mine. 1930 Arrive Bigin stream flow measurments, 6935 Sec gage 150 for macurements stream flow mensuriants. Complete 1200 Take GPS tracks off all trails. Return transducer to MW59 Leave site for the day 1445 \$ 10 2027 Rite in the Rain

20Location Red Dun LAK Date 6/10/21 Project / Client Red Devil Monitoring / BLM 50 cloudy Safely brief. Prep bottles for ABRA sampling 0759 Leave for site, Remis on ster Will start 13833 at River and work upstream for sampling, Complete sought of SWOG DA 30 6935 1050 Surface water Complete Sampling, Riturn to ledge for sample 1130 pref. Arrive at ladge 1200 Receive notice that the 1230 charter flight needs to pick us up early, ETA 3 pm. "Leave Red Devil via charter 1500 Flight 4/0

Location Red Devil Date 08/28/2021 Project / Client BLM Red Devil Conduct Safety Brief. Discuss wild life, brush charing and ATV 0745 use. Pack at for trip to mine. 0800 Leave for mine 0815 Arrive at mine site to begin 0900 water level survey. Park at covered tailing / waste rock area. Note some ropes on larger covered stockpile have been cutand sandbags moved 0905 Bigin GW Depth Survey Sugage 128 for survey measurements. 1700 Complete GW Survey, Loave site 1705

24 Location Red Devil Date B/29/2021 Project/Client BLM Red Devil Mine Monitoring 45 Rain Safety brief. Pack equipment for 0730 field. Leave for mine. 0810 Arrive at mine to begin setup. 0840 Set up on MW10, for one tem. 0900 Sct up an MWIL. 0920 Collect sample at MW14. 1045 IO # 0821 MW16GW. Set up on MW17. 1100 Collect sample at MW17. 1215 IOH OBSI MWIZGW Set up on MW33. 1315 Collect sample at MW33. 1410 TD # 0821 MW 33GW and duplicate ID# 0821 NW 99 GW C1415. Complete MW33 sampling and more 1445 : to MWOG. Begin set up on MWOL. - 1500 Begin purging MWOL. 1515 Collect sample at MWOG. 1555 ID = 0821 MWOG GW. More to MW28 to assist team. More all thread and connectors to 1620 1700 MW42 location.

Location Red Devil Date 8/29/2021 25Project / Client BLM Red Devil Mine Nonitoring 55 Cloudy 1730 Move back to MW 28 area to assist with loadout upon sample completion, 1748 Return to town. 1748 Meturn to town. 1815 Complete field work for the day. Par an

Location Red Devil Date 0/30/2021 Project / Client BLM Red Devil Mine 48 Cloudy GG, JP, RW Safety brief and go over plans for the day, Prep field equipmant 0730 For sampling. Begin loadout of fuld equipmat. 0300 Leave for mine site Arrive at mine. Set up an MW26 0820 0840 and MW27 Begin purgin MWD7. 0915 Collect sample of MW27, Optimum 1010 How @ 12 seconds recharge, 3 sec dischy 4 cpm @~22 psi. made 0.125 L/min, Sangle ID# 0821 MW 27GW and Duplicate 10# 0821 MW98GW@ 1020 Extra volume collected at this location, Complete sompling at MW27. Pack up 1045 and move to MW43, Bigin set up on MW 43. Bigin purging MW43, Judd + George 1120 .1145 nove to MW42 to try pump retrieval with all-thread, hosk, and couplers. 1330 Well retrieval successful. Pump Set at 134 ft btoc.

Location Red Peuil Date 8/30/2021 27 Project / Client BLM Red Devil Mine 58° Cloudy 1340 Begin setup for sampling at MW42, 1350 Bigin purging MWY2. Judd and 1420 George move to MW29 to atkingt 1500 Pump retrieval successful using all-thread and hook. Pump removed and tubing and rope replaced. 1535 Jump set at 66 ft. Total well depthat N. 1 At broc. Water at MW29 was at 61.40 A btoc. 1600 Complete will repair at MW29, More back to MW42. 1630 Unable to get surbidity below Pontu Collect sample and 0821 MWY 20W. All other parameters are stable. 1710 Complete sampling of MW42. 1715 Return to cabin. 1745 Return to obin and unpack gear. 1815 Collect equipment blanks. 1815 0821 EB01 - Shall Bladdor Pump SN 092 1820 0821 EB02 - Solinst 102 WLM 1823 0821 EB03 - Solinst 101 WLM(Ruful) Complete Field work for the day 1835 in the Rein

Location Red Devil Project / Client Red Peril Mine BLM 48 cloudy JP, GG, RW 0730 Safety brief. 0755 Pack up truiks and ATVs 0830 Arrive of Mine. Begin sit up on MWSS. Other toom 0845 at MW51 Begin purgin MWSS after replacing 0925 tubing. TD= 23.93 ft and water at 14.19. Tabing set at 19 At Stoc and marked tube with orange tope (toc), Collect sample and MS/MSQ volume 1020 at MWSS, Turbidity would not get below ~ 15. Fe-exides / hydroxides precipitating out in flow cell, 110 Complete sampling at MW 55. More locations, Set up an MW 52. 1130 Issue with water line connectors 1140 letting air in Causing backflow, Will Mempt to fix connector, Unable to fix connector. Water line 1155 pulled osse from pump. Repaired water line. Will need new Male coupler in 1/4" for pump Current male coupler on water line to 38" or 5". 1203

28

Location Red Devil \_\_\_\_ Date 8/31/202 ( 29 Project/Client Red Devil Mine Bim 55° Muggy, buggy, 205 Conticle Poor connection due to oversized outlet barb and poorly fitted splicone tabing Will need to replace all lines and tubing in Spring, 1380 Begin purging again 1305 Collect simple 082 MW 52GW. 1325 Complete sampling. Move to MW47. 1355 Sop up on MW47, 1410 Begin surging MW47 1430 Collect sande and duplicate at MW47 ID: 0821 MW47 GW @ 1430 Pup: 0821 MW976W@ 1440 1515 Nove to next well muric. 535 Set up on MW 461 545 Begin purgin MW 46. Cellect sample @ 1415 1615 IQ# 0821 MW466W 1645 Complete parte up at MUD46 Go to prect other team @ MW58. 715 Leave site for the day. 1742 Arrive pet lodge.

30 Location Red Devil Date 2/1/2021 Project / Client Red Peril Mine -BLM 50° Fog, JP, OG, RW Satity brick and prep. 0749 Leave for mine site. 0810 0840 Arrive at Mine, One term on MWS7 and one a MW 45. 0845 Begin set up and purging of MW45 Collect sample at new 45. 0930 ID # 0921 MW45GW. Complete sampling and pack for move to 0945 MW 56, Selfop on nulse. Begin gurging. 1005 Collect sample at MW56. 1040 ID # 0921 MW56GW 1053 Pack up and move to MW 44. Set up a MW44 after meeting with 11 30 tem at MWS9, Collect sample at MW44 1230 TD\*0921 MW446W Pack up for move to MW 49, 1245 Move to NW 49 for set up. 1300 MW49 Hubing has shifted down 1310 into well. Will use all thread and hook to pull it out. Tubing retrieved. 1340

Location Red Ocuil Date 2/1/20 21 Project / Client Red De vil Mine Menistoring - BLan Cloudy, humil 60' 1345 Set up on hole and begin purging 1436 Collect sample TO 0921 MW49GW at MW49 @ 1430, 1455 Complete sampling at MW49, More to MW 29 Collect saple 6 MW29. 1635 TO # 0921 MW296W Leave site for the day. 1705 Arrive of subin, 1785 Rite in the Rain.

32 Location Red Denil Project/Client Rel Devil Montforing - BLM 405 Cloudy - Rain Safety brick and 0730 plan for the day. 0980 Arria at mine 0845 Perform maintenence an MW-53, 0915 Replacing have connection and take photos, Return to cable for sample prop. 1100

Date 9/3/2021 33 Location Red Devil Project / Client Red Devil Monitoring -BZM 405 Rain 0730 Safet, brief 0800 Leave for mine. Arrive at miner 0830 Collect Stream measurements. 0900 0915 Collect sample # 0921RD0850 and MS/MSD. Complete sample collection 0935 RD 08 Surface water point. Collect 092/RD065W2 1000 Masure SEEP Slow using 1015 16 bottle, Flow = 0,74/5 Collect 0921 RD05 5000 1030 1030 Collect stream flow reading 3 at Scells 1040 Collect simple 0921 RD155W 1055 Collect Implicate 0921RD9950 at swis. 1100 Collect surface weter measurements 1125 at RP10 SW site. Collect 0921 RD105W @ 1135. 1135 Complete all scompling at RDM. 1200 Vack up equipment and return to capin for sample QC and prop for Philt.

36 Location RED DEVIL Date 6/11/2021 Project / Client SPRING SAMPLING - BUM WEATHER: (05 SUNN? TEAM: GEORGE GARNER, JUPO PARON. COLLEEN RUST TASKS: SAMPLE. (OC, SHIPPING, CUEAN UP 800 MET AT LAREHOUSE 800 HEALTH + SAFTE! Meeting 800-1330 CUEAN UP, SAMPLE COC AND PACKING ON ICE 1345 DROP OFF OF SAMPLES AT FEDEX FOR SATURDAY DELIVERY. 1400 FUD OF DAY

ocation Red	Devil 11 Sa	mpling -	Date 8 23 2021 37 BUM
weather team:	Silly	° ciecu Vittler, e Hame	udid privson
TOSKS' U		J	d ACC country
Photo # Stant at 174 # 174	17 me	direction	MW-ci closed
176	0924 0935 2938	Solth 2015t East	MW-01 open MW-11 closed MW-11 open
178 179 180	0949	W	MW-10 crosed MW-10 open
181	0949 0949 0954	NW WW E	MW-09 Closed MW-09 Open MW-34 Closed
183 184 186	0959 0959 0959		MW-34 open MW-35 Closed MW-35 Cpen
180 187 155	1003 1003 1025	N N N N N N N N N N N N N N N N N N N	MW-36 Gosed MW-36 Open MW-08 closed
139	1025	I NE	MW-08 OPen Rite in the Rain

38 · Location Project ,	Red K / Client Fall	Devil Sampli	Date <u>D8 28 221</u> NG -BLM		Location <u>Re</u> Project / Client	ed den Fall sa	<u>'I</u> mpling	
0,000	Cura 2	0.1 100.00		Y	Pho to	time	direction	
	amire	UT TIT	e & start suvey	7	210	1138	5	MW-22 closed MW-22 open
Photo	Time	dire aron	cusciliptions	ł	212	1140	8	MW-21 Closed
190	1033	W	MW-07 Closed		213	1140	8	MW-ZI open
191	1033	W	MW-07 open	2	219	1151	W	MW-23 Closed
192	1030	N	MW-13 Closed		215	1151	W	MW-23 Gpen
193	1036	N	MW-13 Open		216	1156	N	MW-6 ciosed
1614	1044		MW-12 Frost Jacked	1	217	1154	N	MW-4 open
195	1044	0.1	MW-12 Prost Jacked	2	218	1169	WE	MW-24 Closed
194	1100	NN	MW-7 Closed		219	1159	NE	MW-24 Open
197	1106		MW-17 open MW-16 closed	<u>\</u>	220	1235	NW	MW-26 Closed MW-20 open
199.	1100	NN	MW-16 closed MW-16 open		222	1239	NE	
200	1106	NW	MW-3 Closed		223	1239	NE	MW25 Closed MW25 open
20.1	1100	NW	MW-3 Open	ŧ	224	1243	N	MW-27 closed
202	1109	N	MW-20 closed		225	1243	N	MW-27 open
203	1109	W	MW-20 open	11	226	1244	W	MW-28 Closed
204	1119	N	MW-18 Closed	·]*	227	1244	W	MW-28 open
205	1119	N	MW-18 open		228	1250	NE	MW-4 closed
204	1125 .	N	MW-19 Closed		229	1250	NE	MW-4 open
207	1125	N	MW-19 Open	1	230	1311	ŧ	MW-55 closed
208	1132	IV	MW-B2 Closed		23	1311	E	MW-55 open
209	1132	N	MW-32 open	1				
				250				Rite in the Rain

40	Location RID DEVIL	Date 8 28 2021
	Project / Client FAIL SAMPING -BUM	

Photo	time	direction	description
222	B19	WW	MW-52 closed =
223	1319	NW	MWS2 open
234	1325	N	MW-47 Closed
235	1325	N	MW-47 open
236	1332	E	MW-4pclosed
237	1332	E	MW-46 open
238	1341	NW	MW-45 5p Closed
239	1341	NW	MW-45 open
240	1347	NE	MW-Ste Closed
241	1347	NE	MW-56 open
242	1406	N	MW-51 Closed
24344m	1406	N	MW-SI open
244	1418	SE	MW-54 Closed
245	1418	SE	MW-54 open
246	1430	E	MW-SO Closed
247	1430	E	MW-50 open
248	1444	SE	MW-58 Closed
249	1444	SE	MW-58 open.
250	1457	SW	MW- 53 Closed
251	1457	SW	MW-53 open
252	1509	EI	MW-31 Closed
253	1509	E	MW-31 open
254	1517	Ē	MW-57 closed
255	1517	E	mw 57 open

Location Red devil Date 08/28/2021<sup>41</sup> Project / Client Fall Sampling - BLM

photo	time	dupphan	000000500
		direction	
256	1529	W.	MW-39 Closed
257	1529	N	MW-39 open
258	1529	N	MW-59 Closed
259	1529	N	MW-59 Open
200	1545	W	MW-40 sportclose
261	1545	W	MW-40 open
262	1556	SW	MW-44 Closed
263	1556	SW	MW-44 open
264	1403	N	MW-48 closed
265	1603	N	MW-48 open
266	1609	$\mathbb{W}$	MW-49 Closed
267	1609	W	MW-49 open
268	1615	NW	MW-29 closed
269	1015	m	MW-29 open
210	1621	S	MW-30 Closed
211	1621	5	MW-30 open
212	1632	W	MW-420103ed
273	1632	N	MW-42 open
274	1039	W	MW-43 Closed
275	1439	W	MW-43 open
270	1053	E	MW-33 Closed
217	1653	E	MW33 open
			DECT
			Rite in the Rain .
		1	· · · · · · · · · · · · · · · · · · ·

42 Location RUA DEM Date 06 29 2021	Location Red Devil Date D8/29/20243
Project/Client Fall Sampling - BUM	Project / Client Fall Sampling -BUM
	stro
0900: amire at mine setupon .	Dav Photo time direction description
MW-10, MW-17, MW-16.	- 1278 1313 N all thread tube grabbert
0910: judd goes to judge to grave papernoek. 0900: Start on MM-10	< 279 1313 S " 11
0900: Start on MW-10	280 1491 MW-26 bladder pump
1045: Sample MWF10	281 1441 MW-26 bladder pump
1115: MOVE to MW-09 7 Start	
1215. Sample MW-09	1700: MW-28 magically starts working
1223. Finish at MW-09	Start perameter Riadings.
1225: break for lunch	1730' Sample 14W-28
1301. setupat MW-26	1934 Leave NW 28 For Lodge
1415. Collapsed bladder pumpat mw-26	
thed to massage bladder XZ and	
Still no success. Pulled full pump	
and have decided to bail well.	
1992. Just Kidding decided to move	
TO other well and use small	
rented bladder pump another	
day after deconing.	
14521 1000 2 6-22 20111 21- 12 1411-22	
1452' Move from MW-24 to MW-28	
1500: Start on MW-28	
1034: MW-28 same problemas MW-26	
bladder collapsed water hot pumping	
been trying to trouble shoot for 1.5 hours	Rite in the Rain.
	Nite in the Kain.

5.

44 Location <u>REOL DEVIL</u> Project / Client <u>FAIL SAM PLING</u> - BLM	Location Red Devil Date 08/31/25 Project / Client Fall Sampling - BLM	21 4
0800: leave lodge for minu 0845; set up on MW-260. 0930 devide to use rentae pump Since dedicated pump is strill not Working. 0945; rental pump workers a start purguine	1110: Sample MWSa	54
1100: Sample MW-26 112A: pack up anw-26 shead to mw-43 1225: Sample MW-43 Photo time direction description	H <del>35: anve at Mw -</del> Pw 1130: Start on MW-50 1255: Sample MW-50 Bos: leave MW-50 for MW-53.	
278 0947 N/A revital pump fet up. 279 1307 N/A MW-42 puiled out. 1360: move to MW:42 to assist	Photo time direction description 280 1154 N/4 MW-50 Set up 281 1601 N/A MW-58 Cetup	
(1342: SUCCESSFULLY drop new pump		22
1330: Start on MW-42 1330: Start on MW-42	1310: allive at MW-53 4 lat which. 1325: Start on MW-53 1900: Sample MW-53	
1350! Start purging. 1430! Sample MW-42. 1100: Illave MW-42 for lodge.	1410 Leave MW-53 For MW-58 1425: Start MW-58, pull tubing 3 Replace don't have to bail 1 pump inverting	**
the	1440: Sample mw-58 Retein the	Rain.

46	Location Red DCM1	Date _	09101	2021
	Project / Client Fall Sampling - BUM			

0830:	start	on My	1.97		
0905:	Sample	MW-C	57		
0915:	Finisr	MW-	57 3 M	ove to A	NW-59
6925:	Start		v		
q:45:	Replace	whing	due to a	his lea	Kage
1330:	Jampi	e mu	-99		U
1350:	finish	WW-E	59 9 h	ead to	MWZB
Photo	time	direction	MW-5	otion	
282	0848	N// >	-MW-5	1 setul	
283	1042	W/A	MIN-SO	Dulled	tubine
284	1042	NA	MW-50	1 Set up	W New tubing
285	1411	WA	MW-2	o setu	
					. 1
			t		
					4 . A. I.
1400:	start c	n mu-d	Ð	-	
1430:	samp	e Mu	1-40		
HAT:	FINISH	MW-4	10 7 90	to MW-	29.
1500!	start 1	on mw	-29.0		-
1635:	Samp	He mw	-29.		
1655 :	leave	MW-20	Ar la	dge.	1
			1	0	
			R.		

Location Red Devil Date 09/02/2021 47 Project / Client Fall Jamping-BLM

0846 amre at MW-52 For maitnenee 1/20: amive backat lodge Photo direction description time 0848 W/A N II MW-52 Weived connection 286 287 MW-52 PVC TOP 0891 11 288 MWSZ new connection 0857 11 289 Stock piles 0933 290 0923 STOCK piles 291 292 293 6924 erosion control 0925 0925 0925 0925 NOT working erosion connel 11 294 299 CUT Popes on Stock piles erosion control Cut Ropes on stock pies Unsion control. Creek-Readerul 296 297 298 0925 0925 299 0927 Creek - Red devil 300 30928 Red devil creek 301 0928 0928 0929 11 11 11 303 1. 4 304 0930 ension control Rite in the Rain .

48 Location Red Devil Date 04/02/2021 Project / Client Fall Sampling - Bus	Location Red benil Date 09/03/2029 Project / Client, Fall Sampling - Bin
Phototimedurectiondescription $30.5$ $0.930$ $W/A$ $0.0510$ h $0.0000000000000000000000000000000000$	Project / Client Peter Juling Barry DS 42: Amile at Mine DS 50: Start gauging Stheam os Phota Hine avector description 319 0857 N/A Stream os 320 0867 321 0858 VIII 322 0902 VIII 322 0902 VIII 322 0902 VIII 323 09 49 SW I Stream spot 04 324 0952 NE VIII 325 1033 N/A RO 05 SW SEEP 324 0952 NE VIII 325 1034 VIII 329 1034 VIII 329 1034 VIII 329 1034 VIII 329 1034 VIII 329 1034 VIII 320 0044 RD 05 SW not seep 331 1128 RD 332 1129 VIII 1130 amile back at locage to finish going through paperwsn's anex Amples Also to get prepped for tommorous deporture
Pro-	Rete in the Reen

#### ATTACHMENT 1.4 GROUNDWATER SAMPLING FORMS

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Client/Site:	BLM Red Devil Mine			MWOO	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6/5/2021	Samplers:	GG-ISP		
Time Start:	1658	•			
Time Finish:	1810	Checked By:	Cô\\@	n Rust	
Well & Purge Info	ormation	,			
TD (ft. bTOC):	26.05 ft	Scree	ened Interval (ft.):		
DTW (ft. bTOC):	<b>17.44</b> ft	•			
Water Column:	8.61 ft	TD-DTW=Water Colu	umn		
Liter/Foot:	0,605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	<u> </u>	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	<u>15,63</u> L	Liters in Well x 3		5/8"	0.06
Sample Depth:		Depth of Pump Intake	e	2"	0.605
		-		· 4"	2.47
Field Equipment					
Multiparameter Water	NOL CEP				
Quality Meter:	<u>YSI 556</u>	Serial No.:	14131033		
Water Level Meter:	Dipper TQ	Serial No.:	WLM07		
Turbidity Meter:	Micro VPW	Serial No.:	302000	7702	
Pump Type:	Alexis Perustaltic	Serial No.:	90048	· · ·	
Purge Method:		· .	··		······
Peristaltic Pump	🔲 Inertial	□ Other:			
Bladder Pump : 0	Optimum Flow Rate Set at S	econds Remi	_ Seconds Discharg	je	
Peristaltic Pump	□ Inertial	Other:			
			· · · · · · · · · · · · · · · · · · ·		
Bladder Pump : (	Optimum Flow Rate Set at S	econds Refill	Seconds Discharg	je	
Sample Collection	n Information	···· · · · · · · · · · · · · · · · · ·	MS/MSD? :	Yes 🗆	No 🔀
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	1	Nitric		HDPE	
Low Level Hy Total Dissolved LL Hg		NONE	1631	DB Glass DB Glass	
Dissolved LL Hg		NONE	/63/	DO GIASS	
					·····
·····					
		OPL	« <b>***</b>		<u></u>
		· · · · · · · · · · · · · · · · · · ·	-	·····-·	

Well ID: MWOG Sample ID: OG21MWOG GW									Sample Time: 1860	
Date: 6-5-21 Dup. Sample ID: NA Notes: Original tubing in well removed due to Feroxide stain								Dup Sample Time: 4		
otes: Ør	igInal	tubi.	y In u	vill re	marled	due	to Fe-	roxide	star	ning
								and *St	abilizatio	n Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	<b>DO</b> (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1655			1	STAF	RT PURG			· · · · · · · · · · · · · · · · · · ·		
1712	1.4	5.91	233	0.33	6.77	8,5	23.73	17.44	0.10	
717	1.9	5.79	231	0.33	6.78	17.7	23.55	17.44	0.125	
722	2.5	5,25	223	0.31	6.79	17.1	13.65	HE	0.15	
727	3.25	4.95	226	0.29	6.80	27.4	10.02	17.44	6.15	
732	4,00	4,85	225		6.80		8.22		0.15	
734	4,3	4,89	225	0.23	6.80		10,08	17.44	0.15	
240	5.2	4.93	225	2.31	679		10,55	17.94	0.15	
745	5.95	4.73	224	1.36	6.79	23.7		17.44	0.15	
1750	6,70	4.76	222	1.41	6.80	24.6			$\odot.15$	
										Sampled @ 1800
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				F			Sample	d2 · Va		
nitial of Sar		290	⊇							Page 2 of

	lance 15				undwater Collection Lo	g	·
Project Name: Project No.: Sample Type: Pump Type: Transducer: Sample Team:	Red Devil Mine BU06-007 GW (Pert) Bladder Yes / (Co) CR/(GG/JP)	•	•. •			W LL Mercury (only)	
Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	plastic	unfiltered	Nitric	ambient	180 days/28 days *	SET.
Total LL Mercury	8 oz	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	ÌŒ
Dissolved LL Mercury	8 oz	glass	filtered	None	4°C	48 hours/14 days*	CI-S
Comments	* The TΔL Hg ana	lyzed by FPA	Method 747(	)A has a 28 day hold :	time	3 BOTTLES	

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By: JUDSON PARSON

Reviewed By:

elleen Kust

Sundance Consulting Inc. May 2021

Page 1 of 1



Client/Site: Contract No.:	BLM Red Devil Mine		Project No.:	Well ID.: BU06-007	MW-09			
Date:	<u>6/512021</u>		Samplers:	66/3/10	. 1			
Time Start:	1107		Gampiera.	0073170				
Time Finish:	1645		Checked By:	JUDD B	ARBON			
Well & Purge Info								
······································		5 <b>6</b>						
TD (ft. bTOC):	26-06 @ 1107	ft ft	Scree	ened Interval (ft.):	<u> </u>			
Water Column:	demogra C 1101	<u>ft</u>	TD-DTW=Water Colu	Imp				
Liter/Foot:			See ***Well Volume C		***Well Volume	Calculation***		
Liters in Well:		L	Water Column x L/ft		Well Diameter	L/ft		
Three Well Volumes:	<b>.</b>	 L	Liters in Well x 3		5/8"	0.06		
Sample Depth:		 ft	Depth of Pump Intake	,	2">	(0.605)		
· · · · · · · · · · · · ·	<u> </u>				4 <sup>11</sup>	2.47		
Field Equipment								
Multiparameter Water	Ver	(CPL)		1.000				
Quality Meter:	451 556 MPS H		zserial No.:					
Water Level Meter:	Sofinst Madel 1	02	Serial No.:	29499				
Turbidity Meter:	MICRO TPW		Serial No.:	202/008	3765			
Pump Type:	BLADDER GEOTEC	ul	Serial No.:	NA				
Purge Method:						·		
Peristaltic Pump	Inertial		☐ Other:					
· · ·	Optimum Flow Rate Set at	Se	econds Refill					
Sampling Method:	· · · · · · · · · · · · · · · · · · ·							
Peristaltic Pump	🗋 Inertial	10			JOOML P	er pulse (0.44/m		
Bladder Pump:	Optimum Flow Rate Set at 1		econds Refill	Seconds Discharg		AUG Co		
Sample Collection				MS/MSD? :	Yes 🗆	No 😿		
Parameter	# Containers (fill in for each		Preservative	Method	Container Type	Note		
TAL METALS		hiter	NITRIC		Plastic			
TOTAL LL MER, RY Diss, LL MERCURY	1 802 Are	WE-	NONE		91055 41055			
	1900-			~~~	J			
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Well ID: MW-09 Sample ID: 0621MW096W										Sample Time: 1625
Date: 6	151202	L		Dup. Sample						Dup. Sample Time: NA
Notes:		EONLY								
	Volume	Temp	Spec. Cond.				Purging Turbidity	1	abilizatio	
Time (24 hrs)	Removed (L)	*± 3% *C, min ± 0.2*C	(µS/cm) *±3%	DO (mg/L) *± 10%	<b>рН</b> *± 0.1	<b>ORP</b> (mV) *±10 mV	(NTU) *± 10%	(ft)	Flow Rate	Color/Odor/Notes
					RT PURG	NG				
1120		3.65	195	1.99	6.58	/28.7	8:75	30.4	0.4 400	deur
1135		3,94	210	0,93	670	143.3	5.71	34.7	0.44m	
1140		4,26	210	0.78	6.76	126,3	5,30	30.5	0,24/mi	is Lauered rate to keep water level stendy
1145		4.31	212	0.75	678	119,9	5.20	31.9	6,2	
1150		4.51	205	0.93	6.83	90.0	7,55	2 <b>3</b> ,01	0,14	lowered rate to Keep water level steady
1155		4.81	195	0.92	6.75	63.2	16.27	32.17	01	lawared rate to keep water level steady will allow to stabile
	STOPPE	D BUDO	BR fund	TO DE	CHALGE	<u>- A~D 5</u>	TABILZE			
		TRiP	71C 100-							
1540	4	\$\$7,91	200	2.07	6.95	10.6	21.95	30.11	0.06	Lowest rate possible Br bladdes fing & head
1545		7.68	198	1.79	6.95	11.9			0.04	12 RECHARGE 3 DISCHARGE
1550		7.61	/93	1.02	696	-1.2		31,36		RIN DIRECT SUN SHADED YSI BUT LIKELY HIGH TOUP.
1555		8.00	191	1.05	1.95	-4.7	17,38	31,36	0.04	LOW DOD RATE BY 12 BEHARDE 3. DISCHARGE
1600		8.38	/91	1.10	6.95	-66	15.57	31.36	0.04	STABLE WATER (EVEL
1605		8:84	193	1.35	6.94	1.8	14.27	31.52	0.04	
1610		8.87	193	1.59	6.93	12.0	11,96	31.52	0.04	
1612		8.81	193	2.02	6.93	19.6	10,82	31.52		
1614		8.81	1941	2.24	6.93	23.4	10.23	31.52		
1616		8.80	195	2.40	6.93	26.5	9,91		0.04/	
1618		8.67	197	2.70	6.94	30.5	9.36	31.69		
1620		8.61	198	2.79	6.94	31.5	8.36	31.69	6.04	
1625	SA SA	MIE	>							$\bigcirc$
							<u>A</u> R_			
							00			
							Sample	d?: Ye	s 🕱 N	o 🗆
		3.4. 4. 12								

Initial of Sampler. Culubit

Sundance Consulting inc.	Groundwater Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW-୦୨
Project No.: BU06-007	Sample ID: 0621MW 09 GW
Sample Type: GW	Date: 6/5/2021
Pump Type: Peri (Bladder/	Time: 1625
Transducer: Yes / No	COC #:
Sample Team: (CR)/GG/JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🔨	plastic	unfiltered	Nitric	ambient	180 days/28 days *	(R
Total LL Mercury	8 oz 🗡 I	glass	unfiltered	None	4°C	48 hours/14 days <sup>*</sup>	082
Dissolved LL Mercury	8 oz XI	glass	filtered	None	4°C	48 hours/14 days⁺	CPL

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3 BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMPLE ONLY

Logged By: Colleen Kust

PARSON Reviewed By: Jupp



Client/Site:	BLM Red Devil Mine		Well ID.:	MWIO	· · · · · · · · · · · ·
Contract No.:	140L6321C0001	Project No.:	BU06-007	/*****	
Date:	6.5-21	Samplers:	JUDSON	PARSON	
Time Start:	100	oampiers.		17/23010	
Time Finish:	12.50	Checked By:		oph Rust	
		, Checked By:			
Well & Purge Info	rmation		<u> </u>		
TD (ft. bTOC):	ft	Scree	ened Interval (ft.):		
DTW (ft. bTOC):	<u>27,50</u> tt				
Water Column:	ft	TD-DTW≓Water Colu	umn I		
Liter/Foot:	0.605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	ft	Depth of Pump Intake	e .	2"	0.605
			· · · · ·	· 4"	2.47
Field Equipment	• •				
Multiparameter Water Quality Meter:	YS1 556 MPS	Serial No.:	14B103	510	
Water Level Meter:	HERON PIPPER TZ	Serial No.:	WLM074	7	
Turbidity Meter:	HF SCI MICRO TPH	✓ Serial No.:	202007	102	
Pump Type:	BLADDER PUMP	Serial No.:	·····	· <u>· · · · · · · · · · · · · · · · · · </u>	·
Purge Method:					
Peristaltic Pump	□ Inertial	C Other:			
🕱 Bladder Pump : 🛛 🛛	Optimum Flow Rate Set at $75$ S	econds Refill 7.5	Seconds Discharg	e	
Sampling Method:					
Peristaltic Pump	🗆 Inertiał	□ Other:			
💢 Bladder Pump:	Optimum Flow Rate Set at <u>7.5</u> S	econds Refill 7.5	Seconds Discharg	le	
Sample Collection	n Information		MS/MSD? :	Yes 🕱	No 🗆
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL METALS	3	NITRIC		250 ~1	
TOTAL LL MERCURY	3 3	NONE		802	
PISSOLNED LL Hy	>	NONE		307	
					>
		· · · · · · · · · · · · · · · · · · ·		Stand and a standard and a standard	=
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Name of the state	e.	·			
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	Vell ID: MW10 Sample ID: 0621MW10GW							Sample Time: 12,00		
Date: 6-5	5-21			Dup. Sample	ID:	*				Dup. Sample Time:
Notes: 65	psi,	CPM	14,7	2.5,7.	5					
							Purging	and *St	abilizatio	n Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0,2°C	Spec. Cond. (μS/cm) *±3%	DO (mg/L) *± 10%	<b>рН</b> *± 0.1	<b>ORP</b> (mV) *±10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
1100				STAF						
1107	0.7	5.84	262	2.24	6.15	86:3	31.65	28.		
1110		5,51	235	1.68	6.34	74,4	21.75	28.i	0.1	
1115	1.5	5,30	208	0.74	6.73	39.2	12.83	28.1	0.1	
1120		5.19	148	0.57	6.97	0.8	68	29.2	0.1	
1125		5.16	194	0.41	7.A	-3.5	4.65	29.6		
1130	3.0		194	0.34	7.08	-68.1	3.29			
1135	3.5	5.34	195	030	7.18	-17.0	3.04	29.8	0.1	
1140	4.0	5.17	195	0.31		-94.8	3.34	29.88	0.1	
1145	4.5	5.15	194	0:30	7.26	-232.8	2.49	29.91	0.1	
1150	5.0	5.12	193	031	7.32	-244,0	1.95	29.98	0.1	
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									:	· · · · · · · · · · · · · · · · · · ·
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	•						Sample	d?:Ye	s 🗹 N	
Initial of Sar	mpler: <u>5</u>	RC								Page 2 of 2

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Consult	lance 15						
Project Name: Project No.:	Red Devil Mine BU06-007			Sample Location: Sample ID:	MW 10 0621MW (0 GV	Ŵ	•
Sample Type: Pump Type:	GW Peri / Bladder			Date: Time:	6-5-21	•	J
Transducer: Sample Team:	Yes /(No CR/GG/JP	· ·		:#COC COC Trip Blank ID		LL Mercury (only)	<i>3</i>
Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙 🥱	plastic	unfiltered	Nitric	ambient	180 days/28 days *	AL
Total LL Mercury	8 oz ×3	glass	unfiltered	None	4°C	48 hours/14 days	SER

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4°C

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Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time.

filtered

glass

9 BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

None

MS/MSD

Logged By: JUDSON PARSON

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X2

Dissolved LL Mercury 8 oz

<u>Slleer</u> **Reviewed By:** UST

48 hours/14 days



				4 1 .	
Client/Site:	BLM Red Devil Mine		Well ID.:	MWKO	
Contract No.:	140L6321C0001	Project No.:	BU06-007	· · · · · · · · · · · · · · · · · · ·	
Date:	61572021	Samplers:	661CR	<u> </u>	
Time Start:				·····	
Time Finish:		Checked By:	JUDD PA	RSON	
Well & Purge Info	ormation			f	
TD (ft. bTOC):	ft	Scre	ened Interval (ft.):		
DTW (ft. bTOC):	15,28 ft				
Water Column:	ft	TD-DTW=Water Col	umn		·
Liter/Foot:	L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	,	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3	· .	5/8 <sup>n</sup>	0.06
Sample Depth:	ft	Depth of Pump Intak	e	(2")	0.605
• •	na n			4"	2.47
Field Equipment					
Multiparameter Water	Vi im Ri		11000	0-79	
Quality Meter:	<u>YSI 556 MPS</u>	Serial No.:	_11F100		
Water Level Meter:	- Solinst	Serial No.:	<u></u>		
Turbidity Meter:	MICRAPW	Serial No.:	202002		
Pump Type:	PETRI PUMP	Serial No.:	9004	8	
Purge Method:	· · · · · · · · · · · · · · · · · · ·				,
Peristaltic Pump	□ Inertial	☐ Other	•		
Bladder Pump:	Optimum Flow Rate Set at S	econds Refill	_ Seconds Discharg	e	
Sampling Method:	<u>.</u>		<u> </u>		
Peristaltic Pump	Inertial	□ Other	n 1		
Bladder Pump:	Optimum Flow Rate Set at S	econds Refill	_Seconds Discharg	e	
Sample Collection	n Information		MS/MSD?:	Yes 🛛	No
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL METALS	1 250 ML UNFILTERED	ADTRIC		Mustic	
TOTAL LL MERCORY	1 302 INFILTERED	NONE		4/055	
Dist LL Ha	1 802 FILTERED	NONE		21455	
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Well ID:	MWIG	0		Sample ID:	<u>Ol</u> a	21 MWI	(aGh)			Sample Time: /455
Date:	61510			Dup. Sample		ONE		;		Dup. Sample Time: NOVE
Notes:	AMPLE			· · ·	<u>, , , , , , , , , , , , , , , , , , , </u>					70.0
	AVYO2	ONLY					•	- • •		
	Volume	Temp	Spec. Cond.		1	· · · · · · · · · · · · · · · · · · ·	Purging Turbidity	and *St	abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
				STAF						
1340		6.23	347	5,41	6.39	90.3	67.65			MEDIOUS TUBE HAD A LOT OF ALGER GROWTH, RED/ORANGE
1350		6.15	346		6.43	26,9	74.06	15.32	p.11	
1400		6.15	335		6.43		59:05			Slaved down to allow for less algen protocilates
1410		6.34	341		6.42	82.4		15,50		Slaved down to allow for less algen particulates still cloudy with algen
1420 1430		6.28	346		6.41	78,6	42.36			/ J
		6.28	348			76.9	41.83			*/
1440		6.38	354	1.19	6.42	74.4	39,75	15.60	0.11	
1450		6.39	356	1.20	6.41	B\$6.1	38,34	15,61	0.11	TURBINITY STABLE AT 38, STILL HAS ALGEA WILL SAMRE
1455	<u>541</u>	1 PUED	\$							SAMUED
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					•		Sample	d?: Ye	s 🔀 N	•
Initial of Sa	ampler:	GBC -		5. Br						Page 2 of 2

Page 2 of 2

Sundance Consulting Inc.	Groundwater Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW /6
Project No.: BU06-007	Sample ID: 0621MW / 6GW
Sample Type: <u>GW</u>	Date: (0/5/202)
Pump Type: Peri/ Bladder	Time: /455
Transducer: Yes No	COC #:
Sample Team: CR/GG)JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙 l	plastic	unfiltered	Nitric	ambient	180 days/28 days *	aa
Total LL Mercury	8 oz 🗡 🕽	glass	unfiltered	None	4°C	48 hours/14 days⁺	CR
Dissolved LL Mercury	8 oz XI	glass	filtered	None	4°C	48 hours/14 days⁺	CPC

<u> 3 bott ES</u>

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMPE WITH ALGEA 38 TURBIDITY STABLE AT MESOT MNLY

Logged By: Colleen Rust

Reviewed By: J.DD PARSON



Client/Site:	BLM Red Devil Mine		Well ID.:	MWIT					
Contract No.:	140L6321C0001	Project No.:	BU06-007	/////					
Date:	61572021	Samplers:	GOICRI'SP	2	<u> </u>				
Time Start:	1230								
Time Finish:		Checked By:	JUDD PAI	0 5 m t					
Well & Purge Info				123010					
				····					
TD (ft. bTOC):	ft	Scree	ned Interval (ft.):						
DTW (ft. bTOC):	<u>/3,86</u> ft	·							
Water Column:	ft	TD-DTW=Water Colu		*******	O-1				
Liter/Foot:	L/ft	See ***Well Volume C	Calculation*** table	***Well Volume					
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft				
Three Well Volumes:	L	Liters In Well x 3		5/8"	0.06				
Sample Depth:	ft	Depth of Pump Intake		<u>2</u> " )	(0.605)				
				4"	2.47				
Field Equipment	· · · · · · · · · · · · · · · · · · ·								
Multiparameter Water Quality Meter:	151 556 MPS	Serial No.:	liFloa	278	•				
Water Level Meter:	Solinst Malel 102	Serial No.:	29 490	71					
Turbidity Meter:	MICRO TAU	Serial No.:	20200	8376					
Pump Type:	TERI PUMP	Serial No.:	900	48					
Purge Method:	1999 (A. 1997)		· · · · ·	<u></u>					
Peristaltic Pump	Inertial	☐ Other:	Υ.						
Bladder Pump :	Optimum Flow Rate Set at S	econds Refili Seconds Discharge							
Sampling Method:		:			· .				
🕅 Peristaltic Pump	🔲 Inertial	□ Other:							
Bladder Pump :	Optimum Flow Rate Set at Set	econds Refill	Seconds Discharg	je	. đ				
Sample Collectio	n Information		MS/MSD?:	Yes 🗆	No				
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note				
TAL Metals	2 UN Hilterad 2 UN Hilterad	NITRIC		250ML PLASHZ					
TOTALLL Hay	2 un Hillered	NONE		Boz 91455					
Diss LL Hg	or FILTERUN	<u>AIONE</u>		Por glass					
					·····				
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	a management of the second state of the			······					
Contraction	· · · · · · · · · · · · · · · · · · ·								

										Low-Flow Groundwater Sample & Stabilization Form
Well ID: N	1117	i	÷	Sample ID:	D(a	aIMW	176W			Sample Time: 1305
	01516	2021		Dup. Sample		21 MW 9		0 08	00 6	6/5/2021 Dup. Sample Time: 0800
			ON PE	ZI			· · · ·			
	<u> </u>						Purging	and *Sta	abilizatio	ion Data
Time (24 hrs)		Temp *± 3% °C, min		DO (mg/L) . *± 10%	<b>рН</b> *± 0.1	ОRР (mV) *±10 mV	Turbidity (NTU)	Ï.	Flow Rate	
	(L).	± 0.2°C	* ± 3%		L RT PURGI		*± 10%			
1235		6.92	127	11.99	7.26	[75,4	1.75	13.89	0.14	L/min
1240		6.78	126	9,21	7.25	175.5	1.34	13.89		
1245		6.90	127	8.72		174.5	1.34		0,14	
1250		6.91	127	8.64		174.7	1.51	13,90	0.14	
1255		6.85	128	8:66	7,22	176al	2,13	13,90	0.14	/
1300		6.39	128	8:54	7.22	177.5	1.47		0.14	
1305	SA	nhos	WITH	- DUP	Ó	621 MW	AGW	6151	2021	0 0300
										4
	L									
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1										•
Initial of Sar		DOL		· · • · · ·			Sample	d?: Ye	s 🕰 🐧	

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Sundance Consulting lac.	Groundwater Dor/SAMPC Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW $J7$
Project No.: BU06-007	Sample ID: 0621MW / 7GW
Sample Type: <u>GW</u>	Date: 1/15/21
Pump Type: (Peri) Bladder	Time: /305
Transducer: Yes No	COC #:
Sample Team: CR/GG/JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙 📿	plastic	unfiltered	Nitric	ambient	180 days/28 days *	CPL
Total LL Mercury	8 oz ×2	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	er
Dissolved LL Mercury	8 oz X2	glass	filtered	None	4°C	48 hours/14 days $^+$	CZR

6 BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

DUPLICATE: 0621MW 996W 615121 @ 0800

(FR

Logged By:

Reviewed By: JUDD PARSON



Client/Site:	BLM Red Devil Mine		Well ID.:	MWZE	- -				
Contract No.:	140L6321C0001	Project No.:	BU06-007						
Date:	6-5-21	Samplers:	JUDSON	PARSON					
Time Start:	1352			0					
Time Finish:	1635	Checked By:	Collee	A RUST					
Well & Purge Info	rmation								
TD (ft. bTOC):	34,58 ft	Scree	ened Interval (ft.):						
DTW (ft. bTOC):	59,81 ft	•							
Water Column:	ft	TD-DTW=Water Col	umn						
Liter/Foot:		See ***Well Volume	Calculation*** table	***Well Volume	Calculation***				
Liters in Well:	Ľ	Water Colúmn x L/ft		Well Diameter	L/ft				
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06				
Sample Depth:	ft	Depth of Pump Intake	9		0.605				
				4"	2.47				
Field Equipment									
Multiparameter Water Quality Meter:	YS1 556 MP5	Serial No.:	14B1035	510					
Water Level Meter:	HERON DIMER T2	Serial No.:	WLMO7		· · · · · · · · · · · · · · · · · · ·				
Turbidity Meter:	HFSCI, MICRO TPW	Serial No.:	202007						
Pump Type:	BUDDER PUMP	Serial No.:		•					
Purge Method:				· · · · ·					
Peristaltic Pump	[] [nertia]	D Other	:						
🛛 Bladder Pump : 🔾	Optimum Flow Rate Set atS	• ⊃ econds Refill2	Seconds Discharg	je					
Sampling Method:		, , <u> </u>		• • • • • • • • •					
Peristaltic Pump	□ Inertial	G Other:	:						
K Bladder Pump : 0	Optimum Flow Rate Set atS	econds Refill	Seconds Discharg	je 30 psi	4 CPM				
Sample Collection			MS/MSD? :	Yes 🗆	No				
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note				
TAL METALS		NITRIC		250 M					
POSTAL IL MERCURY Disselved LL MERCURY		NONE		802					
DISSELVED LL MORENRY		NOX12		SOL					
		DR							
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·						
		·····			· · · · · · · · · · · · · · · · · · ·				
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# Low-Flow Groundwater Sample & Stabilization Form

	Well ID: 🔨	w26			Sample ID:	662	-1 mw	26 GN	Sample Time: 1615		
	Date: 6-1	5-21			Dup. Sample		- • <del>•</del>				Dup. Sample Time:
	Notes:										
ş.			·		<u> </u>						
		Volume	Temp	Spec. Cond.		1		Purging Turbidity		abilizatio	
•	Time (24 hrs)	Removed	*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	<b>ORP</b> (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate 1/min	Color/Odor/Notes
500		P <sup>r</sup>			STAF	RT PURG	ING	<u>. 10%</u>		I	
	1505	0.5	6.62	419	3.59	6.66	29.1	51.81	35.20	0.1	
	1510	1.0	6.42	414	2.03	6.6	-34.0	56.40	35.33	0.1	
	1515	1.5	5.91	408	1.24	6:66	-27.8	75.24	35.59	ol	
	1520	420	5.88	402	1.52	6.65	-21.7	86,53	3572	0.1	
	1525	2.5	6.47	407	1.69	6:65	-18.3	80.87	35.82	0.05	Š
	1530	2.75	7.05	412	1.82	6.64	-16.0	69.63	35.84	0.05	
	1835	3.00	7.79	419	2.59	6.63	-9.1	54.46	35.85	0.05	
	1540	3.25	7.98	421	2.94	6.63	-3:7	45.61	35,86	0.05	
	1545	3.50	8.09	421	3.23	6.63	1.9	29.82	35.90	0,05	
	1550	3.75	3.15	421	3,35	6.64	0.2	31.39	35.92	.0,05	
			3.11	421	3.41	6.64	-1.7	21.04	35.95	0.05	
	1600	4,25	8.11	421	3.46	6.64	-6.7			0.05	
	1605	4.50	8.10	422	3.45	6.6A		12.04	35.99	0.05	
	1610	4.75	8.09	423	3,49	6.64	-11.5	9.09	36.0Z	0.05	
	* ÷	·									
				-							
									:	<u>.    .    .                          </u>	
								<u>.</u>			
								~			
		-			 						-
							:				
		-						Sample	d?: Ye	s 🕱 N	No 🗆
-	Initial of Sa	mpler: 🗲	) <u> </u>	<u> </u>							Page 2 of 2

Sund Consettin	ance 15				undwater Collection Lo	g	
Project Name:	Red Devil Mine			Sample Location:	MW ZG		
Project No.:	BU06-007	•		Sample ID:		N .	
Sample Type:	GW	•		Date:	6-5-21	- · ·	
Pump Type:	Peri / Bladder >	•		Time:		•	
Transducer:	Yes No			COC #:			
Sample Team:	cr/gg(/jp')	_		Trip Blank ID:		LL Mercury (only)	
		-				-	
Methods (listed in	Sample Volume	Bottle Type	Filtered/	Broconyothyo	Tomporpturo	Hold Time	lmit

prioritized order)	Sample Volume	Bottle Type	Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🔨	plastic	unfiltered	Nitric	ambient	180 days/28 days *	OR.
Total LL Mercury	8 oz 🗡	glass	unfiltered	None	4°C	48 hours/14 days⁺	Œ
Dissolved LL Mercury	8 oz X1	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup>	CZZ

2 BOTT

NST

lleen

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By: JODGON PARSON

**Reviewed By:** 

Sundance Consulting Inc. May 2021

	Sundance 15	Low-F	low Grou	ndwater Sa Stabilizat	• •
Client/Site:	BLM Red Devil Mine		Well JD.:	MW 27	
Contract No.:	140L6321C0001	- Project No.:	BU06-007	· · · · · · · · · · · · · · · · · · ·	
Date:	6/6/ 2021	Samplers:	GG-/CFR	, 	
Time Start:	0815			• • •	
Time Finlsh:	0930	- Checked By:	Collee	in Rust	
Well & Purge Info	ormation			γ	
TD (ft. bTOC):	ft	Scre	ened Interval (ft.):	1.	·
DTW (ft. bTOC):	<i>30.</i> 64 ft	-			
Water Column:	ft	-	ստո		
Liter/Foot:	0.605 Lift			***Well Volume	Calculation***
Liters in Well:	<u></u>	-		Well Diameter	L/ft
Three Well Volumes:	<u> </u>	-		5/8"	0.06
Sample Depth:	<u>Ft</u>	-	0	(2")	(0.605)
Cample Depui.	<u> </u>		C.	4"	2.47
Field Equipment		· · · · · ·		0.70	
Quality Meter:	<u>YSI 556</u>		11 F102	278	
Water Level Meter:	Dipper T2	Serial No.:	WLM OT	747	
Turbidity Meter:	Micro TPW	Serial No.:	2020 08376	)	
Pump Type:		Serial No.:	NA		
Purge Method:					
Peristaltic Pump	Inertial	Other			
🕅 Bladder Pump:	Optimum Flow Rate Set at	Seconds Refill 6, 0	_ Seconds Discharg	ge 4 com	
Sampling Method:	Inertial	Other		<u> </u>	
	Optimum Flow Rate Set at <u>9,0</u> s	Seconds Refill 6.0	_Seconds Dischar	ge 4 cpm	
Sample Collection		· · · · · · · · · · · · · · · · · · ·	MS/MSD? :	Yes 🗆	No 🖌
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAR Mutals	2	Nitric	-	HOPE/Plactic	
U. Mg. Total LL Mg. Dissolud	2 1 2	None Nome		DB Glass DB Glass	
<u>FL AG NONSONA</u>		70×11		$O_{-}$	
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	as manufacture and the second s	<u> </u>	·		
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6	**************************************			······	· · · · · ·

Well ID:	MW27			Sample ID:	0621	MW27	GW			Sample Time: 0305
Date: 6/	6/ 31	_				21 MW				Dup. Sample Time: 0 900
Notes:	O.pl	ICATE				:	•			
				<u></u>				and *St	abilizatio	on Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) * ± 3%	<b>DO</b> (mg/L) *± 10%	рН *± 0.1	<b>ORP</b> (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	e Color/Odor/Notes
0818		·	·	1		4		1		
0826	0,6	5,10	421		6.03	238.1	4.21	30.70	0.075	Clear
<i>d 3</i> 0		4.99	410 8-63-2-2	2.52	6,18	225,9		3.72	0.075	
0837	. 1.425	4,84	865×	77.1	6.24	211.1	3,75		0.075	
9840.	1.65	4,81	401	1.63	6.24	209,3	3.23		0-075	
0845	2.03	4,82	395	1.50	10.24	210,1	2.67	30,90	0,075	
0855	2.4	4.82	399	1.47	6-24	199.9	2.14	30,50	0.075	
0855	2,78	4.90	401	1.43	6.24	202,3	1.78	30.80	0,075	
0900	4	4.71	402	1,44	6.25	200,0	1.71	30.60	0.075	Clear
	-									
0905	54	MPLICA	$\triangleright$							
0900	D D	PLICA	γE				,			
					·					
. *										
							DA			
<b>..</b>							02	<u> </u>		·
							Sample	d?:Ye	s⊠ N	No 🗆
Initial of S	Sampler: _/,	12								Page 2 of 2

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Surdance 15	Groundwater Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW 27
Project No.: BU06-007	Sample ID: 0621MW 37GW
Sample Type: GW	Date: $G/(g/\partial O_R)$
Pump Type: Peri Bladder	Time: 0905
Transducer: Yes No	COC #:
Sample Team: CR/GG/JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🏹 🕽	plastic	unfiltered	Nitric	ambient	180 days/28 days *	66/LFR
Total LL Mercury	8 oz X Z	glass	unfiltered	None	4°C	48 hours/14 days⁺	66/(FR
Dissolved LL Mercury	8 oz X7	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup>	661CFR

G BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

DUPLICATE: 0621MW98GW 61012021 O 0900 elleer Rust Reviewed By: JUDD PARSON Logged By:



Client/Site:	BLM Red Devil Mine		Well ID.:	MN23	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	616121	Samplers:	CPR		
Time Start:	1010				
Time Finish:	1300	Checked By:	JUDD	PARSON	
Well & Purge Info	ormation	2 2 2		······································	
TD (ft. bTOC):	28.52 ft	Scre	ened interval (ft.):		
DTW (ft. bTOC):	ft	•			
Water Column:	ft	TD-DTW=Water Col	umn		
Liter/Foot:	L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	ft	Depth of Pump Intak	e	2"	0.605
				4"	2.47
Field Equipment					
Multiparameter Water Quality Meter:	Y51 556	Serial No.:	II FIO da	78	
Water Level Meter:	DiPUER TO	Serial No.:	WLM07		· · · ·
Turbidity Meter:	Micro TPW	Serial No.:	202000	1396	
Pump Type:	BLADDER PUNP GEOTER	(#Serial No.:	NR		
Purge Method:					
Peristaltic Pump	Inertial	C Other	<u>n</u> -		
Bladder Pump:	Optimum Flow Rate Set atS	econds Refill	_ Seconds Discharg	ge Biol 4min	
Sampling Method:					
Peristaltic Pump	🗆 Inertial	C Other	<u></u>		
Bladder Pump:	Optimum Flow Rate Set atS	econds Refill	_ Seconds Discharg	ge Oiol 4/m	И
Sample Collectio		· · · · ·	MS/MSD?:	Yes 🗆	No
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL MOTALS	IX 250mL	Nitric		plastic	
Diss. LL Hy	1 × Boz 1 × Boz	NONE	Fillered	9/455	
			TITICICU		2
			And the second	····	
	and the second se				

	NW27			Sample ID:	E E	062	IMWaz	BGW		Sample Time: /230		
te: (	01612	12021		Dup. Sample ID: NA						Dup. Sample Time: NA		
tes: 4	2AMDI =	EONLY										
· · · · · ·						_	D		- I- 11 41 -			
·	Volume	Temp	Spec. Cond.				Turbidity	T	abilizatio			
Time (24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	<b>рН</b> *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes		
				STAF	RT PURG	ING						
035		4.77	227	1,73	6.85	113.3	20.25	28.52	0.35	-el/min		
640		4.81	219	0,44	6.38	82.7	19.94	28.53	0.25			
245		4.71	218	0.37	6.79	77.1	16.84		0.25			
050		4.75	216	6,30		69.9	19,82	28.52	0.25			
055		5.01	216	0.27	6.91	63.0	18.36	23.52	0.094	millanered to 9.0/6.0 60 feet, to dreptus bidily		
100		5.08	דוב	0,25	6.93	63,1	19.73	28.52	0.09			
105		5,45	220	6.32	6.94	61.8	17.61	28.52		Clearingup		
110		5,57	221	<i>b</i> ,34	6.94	60.1		28,52	0,09	HOUSENG AROND 17 +019 NTUS		
115		5,58	221	6.37	6.95	59,4	19,30	28,52	0,09	STEMP WERMIN UP in SUN		
1120		5.60	222	6,38	6.95	58.0		28.52		can't later flow rate anymore with sequiral pressure		
125		5.79	222	6:37	6.96	58.5			0.035	Lowered cycles to 13/2		
130		5,79	222	0.37	6.96	58,5	33.67	27.52	0.025			
140		5.79	233	0.57	6.96	57.0	35,79	23.52	ant -	"Lowered cycles to 14/1 lowest cycle setting possible		
150		7,83	235	0,62		<sup>%</sup> 57.0	5.90	10.52	1			
200 -		10.00	250	0.96			32.04	28.52	<b>Gace</b> i	PSi in shade but still risky temp.		
215		10.30	252	0.98	6.97	62.2	30.36	\$8.52	Breet	DION PADANETERS STABLE, TURBIDITY @ ^ 30 NTUS		
13D	SA!	NED			1							
										7		
										*		
							~ ~					
							<u> </u>					
		<u> </u>					Sample	d?: Ye	is 🔟 I	No □		

Sundance Consulting Inc.	Groundwater Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW $\mathscr{SS}$
Project No.: BU06-007	Sample ID: 0621MW 28 GW
Sample Type: GW	Date: 6/6/2021
Pump Type: Peri Bladder	Time: /23()
Transducer: Yes / No	COC #:
Sample Team: CR/GG/JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙 }	plastic	unfiltered	Nitric	ambient	180 days/28 days *	ar -
Total LL Mercury	8 oz X	glass	unfiltered	None	4°C	48 hours/14 days⁺	Å
Dissolved LL Mercury	8 oz 🗙 I	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup>	all

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+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Bleen Rust Logged By:

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Reviewed By: JUDD PARSON



Client/Site:	BLM Red Devil Mine	-	Well ID.:	MW 33				
Contract No.:	140L6321C0001	Project No.:	BU06-007	·····				
Date:	6/8/21	Samplers:	GG					
Time Start:	1300	_						
Time Finish:	1420	Checked By:						
Well & Purge Info	ormation							
TD (ft. bTOC):	24,28 ft	Scre	ened Interval (ft.):					
DTW (ft. bTOC):	<u>6.49</u> ft	-	<b>***</b> ***		·			
Water Column:	<u>17,79</u> ft	TD-DTW=Water Col	lumn '					
Liter/Foot:	0,605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:	10.76 L	Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:	<u> </u>	Liters in Well x 3		5/8"	0.06			
Sample Depth:	ft	Depth of Pump Intak	e	$2^{2}$	0.605			
			· · · · ·	4"	2.47			
Field Equipment					-			
Multiparameter Water Quality Meter:	YSI 556 MPS	Serial No.:	14 B10 3510	· · · · · · · · · · · · · · · · · · ·				
Water Level Meter:	& dipper -T2	Serial No.:	WLM 37					
Turbidity Meter:		Serial No.:	2020 079	÷				
Pump Type:	Micro TPW Alexis Beristaltic	Serial No.:	90048	<u> </u>	,			
Fump Type:	MIGAN VETISING TIC	Serial No.:						
Purge Method:			·					
🗘 Peristaltic Pump	🗆 Inertial	Other	4.					
🛛 Bladder Pump:	Optimum Flow Rate Set at	Seconds Refill	_ Seconds Discharg	je				
Sampling Method:								
Peristaltic Pump	Inertial	🗌 Other	r:					
Bladder Pump:	Optimum Flow Rate Set at	Seconds Refill	_Seconds Discharg	je				
Sample Collection	n Information		MS/MSD? :	Yes 🗆	No 🖓			
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note			
TAL Motals	<u> </u>	Nitric		MASTIC				
LL Hy Dissolved	· · · ·	None		DB Glass				
LL My Total		None		DB Class				
··· ··· ··· ··· ···					<u> </u>			
		OPR						
		CK/C						
		a contraction of the second						
	and the second se	Q.						
		N N		1				

Well ID: N	IIID: NW33 Sample ID: 0691 MW33 GW									Sample Time: 1403
Date: (a	19/21	ļ		Dup. Sample		τ				Dup. Sample Time: NA
Notes: /	6		· ·							·
Time	Volume	Temp	Spec. Cond.	<b>DO</b> (mail)		<b>677</b> (-).0	Purging Turbidity	1		
(24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	<b>рН</b> *± 0.1	<b>ORP</b> (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1330									I	0.14
1338		5.91	119	18.20	6.20	185.9	16.84	6.50	0,14	
1340		5.90	119	9,70	6.22	185.6	10,51	6,50	0,14	
1345	L	6.00	119	8,73	6:30	185.4	10,51 7,55	6.50	0,14	
1350		6.19	118	8.90	4.35	186,3	5.68 4.53	6.50	0,14	
1355		6.21	118	8,80	6.38	188.8	4,53	6.50	0,14	
1400		6,38	117	8,79	6.40	189, 8	3.29	6.50	0.14	
	ļ	28 .								Sample & 1403
	ļ						,			
										<u> </u>
		-								
	<u> </u>		-							
		-		-						
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								105		
	ļ									
		l 					!			
		$\leq$								
							Sample	d?: Ye	s 🗶 🕴	No 🗆
Initial of Sa	impler:	5 <b>6</b>								Page 2 of 2

Consulting Inc.	Groundwater Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW 33
Project No.: BU06-007	Sample ID: 0621MW33 GW
Sample Type: GW	Date: 6/8/2/
Pump Type: (Per) / Bladder	Time: 140.3
Transducer: Yes /	COC #:
Sample Team: CR/GG/JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials	
TAL Metals	250 mL 🗙 i	plastic	unfiltered	Nitric	ambient	180 days/28 days *	17 12	
Total LL Mercury	8 oz 🔨 (	glass	unfiltered	None	4°C	48 hours/14 days⁺	12 Hz	
Dissolved LL Mercury	8 oz X1	glass	filtered	None	4°C	48 hours/14 days⁺	1314-	

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMLE ONLY

GG

Logged By:

**Reviewed By:** 

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Sundance Consulting Inc. May 2021

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Page 1 of 1

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Sundance Gonsulling Ing.	
	<b>GENE</b>

Client/Site:	BLM Red Devil Mine	_	Well ID.:	MW40	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6/0/2021	Samplers:	- 66/5P	ICR	
Time Start:	1500	<u>.</u>			
Time Finish:	1640	Checked By:	_ COZ		
Well & Purge Info	rmation	· · · · · · · · · · · · · · · · · · ·			
TD (ft. bTOC):		Scre	ened interval (ft.):	· · · ·	
DTW (ft. bTOC):	129.12 ft	135,65 (TO	~		
Water Column:	G ft	- TD-DTW=Water Co	lumn		
Liter/Foot:	L/ft	- See ***Well Volume		***Well Volume	Calculation***
Liters in Well:	L	- Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:		Liters in Well x 3		5/8"	0.06
Sample Depth:		Depth of Pump Intak	(e	2"	0.605
· · · · · <b>·</b> · · · <b>·</b> · · ·	· · · · · · · · · · · · · · · · · · ·	•		4"	2.47
Field Equipment		<u>.</u>			·····
Multiparameter Water					
Quality Meter:	VSI 55G MPS	Serial No.:	<u>14 BIO 351</u>	0	
Water Level Meter:	Solinst 102M	Serial No.:	294 991		· · ·
Turbidity Meter:	Micro TPW	Serial No.:	20200790	12	
Pump Type:	Bladder	Serial No.:	ANA		
Purge Method:					
Peristaltic Pump	Inertial	C Other	r:		
🛛 Bladder Pump:	Optimum Flow Rate Set at <u>35</u> S	econds Refill _25	_ Seconds Discharg	ge & Icpm	@ 65psi
Sampling Method:				···· • • • • • • • • • • • • • • • • •	
Peristaltic Pump		🗋 Other	r:		
D Bladder Pump : 0	Optimum Flow Rate Set at S	econds Refill	_Seconds Dischar	ge	
Sample Collection	n Information		MS/MSD? :	Yes 🗆	No 🗆
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	l	Natric		Plastic	
Total UL Hy	1	None		DB Glers Erz	
Dissolved LL Hg		None		DB Glass Soz	
				<u> </u>	·
, <u> </u>	· · · · · · · · · · · · · · · · · · ·				
· · · · · · · · · · · · · · · · · · ·		ma -			
		00			
			- <b> </b>	· · · ·	

Well ID: 🏼 🖉	NWYO			Sample ID:	6621	MW 4	OGW			Sample Time: 1625
	18/2021	1		Dup. Sample	ID: NA	r				Dup. Sample Time: NA-
Notes: NF	ſ			• • • • • • • •					-	· · · · · · · · · · · · · · · · · · ·
	Purging and *Stabilization Data									
Time (24 hrs)	(L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) <u>* ± 3%</u>	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
1530				1	RT PURGI	NG	1		_	
1535		7,90	325	5,82	7.10	145.3			0.05	
<i>j54</i> 0		7,21	327	3,77	7.07	125,2	31.47	129.3	0.05	
1540 11555		6.81	327	3,19			10.55			
1600		7.01	327	1.96	7.04	102.6	8,58	129.3	0.05	
1605		7.10	328	1.80	2.06	98.3	6,83	129.3	0,05	
1605 1610 1615		7.18	329	2.61	7.07	94,6	6.61	129.3	0,05	
1615		7,21	329	2,48	7.07	92.0	6,01	129.3	0,05	
1620		7.22	331	2.42	7.09	98.0	4.07	129.3	0.05	
				-						
1625	- SA	MED								
							NOS			
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										······································
			-							
				·1			Sample	d?: Ye	s 🖾 N	o 🗆
Initial of S	Sampler:	12.28								Page 2 of 2

Sund Consulti	lance 15		undwater Collection Log	ł
Project Name:	Red Devil Mine	Sample Location:	MW 40	
Project No.:	BU06-007	Sample ID: 0	0621MW <i>40</i> GW	V
Sample Type:	GW	Date:	61812021	
Pump Type:	Peri Bladder	- Time:	1625	
Transducer:	Yes (No)	COC #:		
Sample Team: (	CR/GG/JP)	Trip Blank ID:		LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙 (	plastic	unfiltered	Nitric	ambient	180 days/28 days *	CR_
Total LL Mercury	8 oz ⊀ I	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	CQ
Dissolved LL Mercury	8 oz 🔨 l	glass	filtered	None	4°C	48 hours/14 days⁺	CRL

3 BOTTES

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+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAM Ŧ ONLY

Elleen

Logged By:

**Reviewed By:** 



Client/Site:	BLM Red Devil Mine		Well ID.:	MW 43	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6-6-21	Samplers:		RSON	
Time Start:	1200	oumpiers.	GEORGE	GARNER	
Time Finish:	1420	Checked By:	Bllee	0	
Well & Purge Info	· · · · · · · · · · · · · · · · · · ·		Concer	1 10031	
<del>_</del>	·····				
TD (ft. bTOC);	ft	Scree	ened Interval (ft.):		
DTW (ft. bTOC):	<u>~~~~~~ ft</u>				
Water Column:	ft	TD-DTW=Water Colu	amn Í		<u></u>
Liter/Foot:	·L/ft	See ***Well Volume	Calculation*** table	***Well Volume	
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	ft	Depth of Pump Intake	9	2".	0.605
				4"	2.47
Field Equipment		- 			
Multiparameter Water Quality Meter:	151 556 MPS	Serial No.:	14B1035	510	
Water Level Meter:	SOLINST 102	Serial No.:	294991		
Turbidity Meter:	HESCI MICRO TPW	Serial No.:	202007	902	
Pump Type:	GEOTECH BLADDOZ	Serial No.:	NA		
Purge Method:	•				
Peristaltic Pump		C Other:			
🕅 Bladder Pump :	Optimum Flow Rate Set at <u>トロル</u> S	econds Refill <u>5-0</u>	Seconds Discharg	ie ~ 80 psi	
Sampling Method:					
Peristaltic Pump	🗋 Inertial	D Other:			
🗷 Bladder Pump : 🛒	Optimum Flow Rate Set at 10 S	econds Refill <u>5</u>	Seconds Discharg	je	
Sample Collection	n Information		MS/MSD7:	Yes 🗆	Non
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL METALS	<u> </u>	NITRIC		250 MI	4
TOTAL LL MERCURY	1	NONE		80Z GLASS	
DISSOLVED LL MARCURY		NONE	-	807 CLASS	
		· · · · ·		$\frown$	
······································	· · · · · · · · · · · · · · · · · · ·	·····			
					· · · · · · · · · · · · · · · · · · ·
		R		· · · · · · · · · · · · · · · · · · ·	
		CO	· · · · · · · · · · · · · · · · · · ·		<u> </u>

Well ID: 🔨	W43			Sample ID:	Sample ID: 0621 MW 43 GW					Sample Time: 14-00			
Date: 6-6	s-21			Dup. Sample ID: NR						Dup. Sample Time: NA			
Notes:	S	MPE							•				
			on Data										
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	DO (mg/L) *± 10%,	рН *± 0.1	<b>ORP</b> (mV) *±10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	e Color/Odor/Notes			
1212					RT PURGI								
1300	0.1	8.28	176	8.07	6.29	172.1	11.27	88.8		· · · · · · · · · · · · · · · · · · ·			
305	0.6	7.56	155	5.03	6-32			98,99		· · · · · · · · · · · · · · · · · · ·			
1310	1.1	6.93	149	3.69	6.37	113.9	17.76	58.90	0.1				
1315	1.6	6.43	144-	3.02			24.32	- 98.90	0.1	~i			
1320	2.1	6.42	142	271	6.43			38.90					
1325	2.6	6.25	142	2.66	6.44	9 <u>%</u> .0	24.48			۰			
1330	3.1	6.08	142	2.67	6.47	38.7	22.41						
1335	3.6	6.08	143	2.54	6.48	86.7	19.60	88.90	0.1				
1340	4.1	6.06	143	2.46	6.49	\$8.Z	13.76	88.89	6.1				
1345	4.6	6.14	143	2.43	6.50	86.7	10 87	88.91	0.1				
350	5.1	6.20	144	2.41	6.51	833	6.59	88.90	0.1	MORE			
										5			
1400	SAM	PUED											
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	مرجعها					· Og				х. —			
			÷.,										
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				ť	I		Sample	d?: Ye	s 🕱 🛛 N	No 🗆			
Initial of Sa	mpler: <u></u>	LOR	<u>۶</u>		•				. 4				

Sundi			undwater Collection Log
Project Name:	Red Devil Mine	Sample Location:	MW 43
Project No.:	BU06-007	Sample ID:	0621MW43 GW
Sample Type: 🛛	GW	Date:	6-6-21
Pump Type:	Peri / Bladde	Time:	1400
Transducer:	(es/(No)	COC #:	
Sample Team:	CR/GG/JP)	Trip Blank ID:	LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	plastic	unfiltered	Nitric	ambient	180 days/28 days *	Ja .
Total LL Mercury	8 oz	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	LR.
Dissolved LL Mercury	8 oz	glass	filtered	None	4°C •	48 hours/14 days⁺	CR.

3 BOTTLE

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By: JUDD PARSON

Reviewed By:

olleen Rust

Sundance Consulting Inc. May 2021



Client/Site:	BLM Red Devil Mine		Well ID.:	MW44	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6-7-21	Samplers:	J. PARSON		
Time Start:	1120				
Time Finish:	1255	Checked By:	CR		
Well & Purge Info	ormation	· · · ·		·	
TD (ft. bTOC):	. ft	Scree	ened interval (ft.):	· · · · · · · · · · · · · · · · · · ·	
DTW (ft. bTOC):	34.14 ft				
Water Column:	ft	TD-DTW=Water Colu	ımn		
Liter/Foot:	L/ft	See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0,06
Sample Depth:	<u>59.7</u> tt	Depth of Pump Intake	9	<u>(2")</u>	0.605
				4"	2.47
Field Equipment					
Multiparameter Water Quality Meter:	VSI 556 MPS	Serial No.:	11F1022		
Water Level Meter:	HERON DIPPER TZ		WLMO74		
Turbidity Meter:	HE SCI MICRO TPW		202008		· ···· ·
-	Λ				
Pump Type:	GEOTECH BUDDER	Serial No.:	<u>MA-</u>		
Purge Method:				-	
Peristaltic Pump	Inertial	□ Other:			
🔏 Bladder Pump:	Optimum Flow Rate Set at <u>12</u> Set	econds Refill <u>3</u>	Seconds Dischar	je Oil 4/mm	
Sampling Method:					
Peristattic Pump	Inertial	□ Other:	· · · · · · · · · · · · · · · · · · ·	····	
🛛 Bladder Pump:	Optimum Flow Rate Set at 12_S	econds Refill <u>3</u>	Seconds Discharg	Bet CPM N	35 psí
Sample Collection			MS/MSD?:	Yes 🗆	No à
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL METALS	1 250ML	Norric		Plastic	
TOTAL UHg	1 802	NONE	E. alto	Glass	
Diss LL Ha	1 807	NONE	FLIEBE	lolass	
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
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Well ID: M	sil ID: MW 44 Sample ID: 0621 MW 44 GW						Sample Time: 1245			
Date: 6-1	7-21			Dup. Sample		IA				Dup. Sample Time: NA
Notes:				•						
							Purging	and *St	abilizatio	on Data
Time	Volume	<b>Temp</b> *± 3% °C, min	Spec. Cond. (µS/cm)	DO (mg/L)	рН	ORP (mV)	Turbidity (NTU)	DTW	Flow Rate	
(24 hrs)		± 0.2°C	(µ3/cm) *±3%	*± 10%	*± 0.1	*± 10 mV	(N10) *± 10%	(ft)	L/min	Color/Cdor/Noles
1145 START PURGING 1150 0.5 4.23 258 4.10 6.28 179.4 82.24 34.29 0.1										
1150	05	4.23		4.10	6.23	179.4				
1155	1.0	3.82	224		6.68	116.7		34,20		
1200		3.67	221	0.83	6.77	100,1		34.27		
1205	20	3,71	218		6.86	85,3		34.29		
1210	2.5	3.60		0,52				34.29		
1215	3.0	3.51	216	0.72	<u>6.92</u>		21.55		0.1	· · · · · · · · · · · · · · · · · · ·
1220	3,5	3.47			6.92		21.34	24:29	1	
1225	4.0	3.43		0.71	6.93	70.6	13.85	3429		
12.20	4.5	3.40	216		6.95		9.44	34,30		
1235	5.0	3.42	216				8.92		-	· · · · · · · · · · · · · · · · · · ·
1240	5.5	3.44	216	0.68	6.97	64.2	8.41	34.30	0,1	
10										
1245	SAI	NRED								
									- 7	$\sim$
					-					
										· · · · · · · · · · · · · · · · · · ·
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										· ·
	,						Sample	d?:Ye	s 🔬 N	No 🗆
Initial of Sa	mpler. 9									Page 2 of 2

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	lance 15				undwater Collection Lo	g
Project Name: Project No.: Sample Type: Pump Type:	GW Peri (Bladder)			Sample ID: Date: Time:	MW44 0621MW44GV 6-7-21 1245	<b>N</b>
Transducer: Sample Team:	Yes/(No) CR/GG/(P)			COC #: Trip Blank ID:		LL Mercury (only)
Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Préservative	Temperature	Hold Time

prioritized order)	Sample Volume	Bottle Type	Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙 '	plastic	unfiltered	Nitric	ambient	180 days/28 days *	VRP
Total LL Mercury	8 oz 🗙 🕻	glass	unfiltered	None	4°C	48 hours/14 days⁺	OPP
Dissolved LL Mercury	8 oz 🥆 (	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup> <sup>⊄</sup>	(BD)
					·		

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMPLE ONLY

Logged By: JUDD PARSON

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**Reviewed By:** 

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Client/Site:	BLM Red Devil Mine		Well ID.:	MW45		
Contract No.:	140L6321C0001	Project No.:	BU06-007			
Date:	6/7/21	Samplers:	<u>66-</u>			
Time Start:	1040					
Time Finish:	1145	Checked By:	CPR			
Well & Purge Info	ormation					
TD (ft. bTOC):	ft	Scre	ened Interval (ft.):			
DTW (ft. bTOC):	<u>44,4</u> ft	660	92 top of pump	)		
Water Column:	ft	TD-DTW=Water Col				
Liter/Foot:	0.605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***	
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft	
Three Well Volumes:	· L	Liters in Well x 3		5/8"	0.06	
Sample Depth:	~65 ft	Depth of Pump Intak	e	2"	0.605	
				4"	2.47	
Field Equipment						
Multiparameter Water Quality Meter:	YSI SSG MPS	Serial No.:	14 13 10 35	510	<u></u>	
Water Level Meter:	Sullinst 102	Serial No.:	294991			
Turbidity Meter:	MicroTPW	Serial No.:		207007900		
Pump Type:	Bladder	Serial No.:	NIA			
		, Ochar No				
Purge Method:						
Peristaltic Pump	□ Inertial	🛛 Other				
Diadder Pump:	Optimum Flow Rate Set atS	econds Refill <u>7</u>	Seconds Discharg	je @ ~37 ps	1 C4 cpm	
Sampling Method:						
Peristaltic Pump	Inertial	🗆 Other	· · ·			
Ø Bladder Pump :	Optimum Flow Rate Set atS	econds Refill7_	_Seconds Discharg	ee~37ps/	Q 4cpm	
Sample Collection	n Information		MS/MSD? :	Yes 🗆	Noy	
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note	
TAL Metals	1	Nitric		Plastic		
LL total Hg LL Dissolved Hg	<u>l</u>	NONE		DB Glass		
Le Dissoluce My	· · · · · · · · · · · · · · · · · · ·	10000		DB Glass	2	
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		192				
			· ·			
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Well ID;	MW45			Sample ID:	0621	MW 45	GW			Sample Time: // 3.5
Date:	6/7/01			Dup. Sample	ID: ASA	-	-			Dup. Sample Time: Al A
Notes:	Unable	to rem	nox lelin	inste es	KCE55	air in	weter	reta	ms I	Dissidued On readings are questionable due to excess in it
return	, line.	<u> </u>								
Time	Volume	Temp	Spec. Cond.				Purging Turbidity	1	abilizatio	n Data
(24 hrs		*± 3% °C, min ± 0.2°C	a (µS/cm) *±3%	100 (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1050		T		STAF	RT PURG	ING				Varied flow to get best results 8/7 and 37 ps/
1105		3,90		10,27		196,3	6.79	44.53	0.10	
110		3.65	106	10,04	6.74	196.6	1.00 7.75	44.53	0,10	
1115		3,51	105	9,79	6.76	197.0	7.45	44.53	0.10	
iiao		3.42	105	9.59	6.75	197.5		44.55		
1125		3,47	105	9.01	6.76	196.7	4,63			
11 30		3.55	105	8.91	6.77	19611	4,23	44.55	0,10	
										Sample @ 1135
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		2								
		<b>I</b>	L			I	Sample	d?: Ye	s Al N	lo 🗆
Initial of	Sampler 1/2	G-					-		1	Page 2 of 2

Sundance Consulting Inc.	Groundwater Sample Collection Log
Project Name: Red Devil Min	e Sample Location: MW 45
Project No.: BU06-007	Sample ID: 0621MW4/5GW
Sample Type: GW 🐓	Date: 6/7/21
Pump Type: Peri (Bladder)	Time: 1/35
Transducer: Yes / NO	COC #:
Sample Team: CR/GG/JP	Trip Blank ID:

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗡	plastic	unfiltered	Nitric	ambient	180 days/28 days *	Je h
Total LL Mercury	8 oz ★1	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	カタ
Dissolved LL Mercury	8 oz 🗙 (	glass	filtered	None	4°C	48 hours/14 days⁺	MH

3 BOTTLES

LL Mercury (only)

Ce

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMPLE UNLY

Logged By: <u>GG</u>

Reviewed By:

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Sundance Consulting Inc.	<u>ן</u>	5
	<b>F</b> 44	E.S.

Client/Site:	BLM Red Devil Mine			Well ID.:	MW 46			
Contract No.:	140L6321C0001		Project No.:	BU06-007				
Date:	6-7-21		Samplers:	J. PARS	ON			
Time Start:	1005							
Time Finish:	100		Checked By:					
Well & Purge Info	rmation					· · · · · · · · · · · · · · · · · · ·		
TD (ft. bTOC):		ft	Scree	ened Interval (ft.):				
DTW (ft. bTOC):	33.82	ft			· · ·			
Water Column:		ft	TD-DTW=Water Colu	ımn				
Liter/Foot:	0.605	L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***		
Liters in Well:		L	Water Column x L/ft		Well Diameter	- L/ft		
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06		
Sample Depth:	47.50	ft	Depth of Pump Intake	2	2"	0.605		
					, 4"	2.47		
Field Equipment								
Multiparameter Water Quality Meter:	YS1 556 MPS		Serial No.:	11F10227	8			
Water Level Meter:	HERON PIPPER	T2	Serial No.:		wlm0747			
Turbidity Meter:	HF SCI MICRO TR	w	Serial No.:	2020083	576			
Pump Type:	BLADDER		Serial No.:	NA	NA			
Purge Method:								
Peristaltic Pump	🛛 Inertial		Other:		·			
′⊠、Bladder Pump:	Optimum Flow Rate Set at	<u>.16</u> s	econds Refill _5	Seconds Discharg	je 4 CPM ~	25 psi		
Sampling Method:								
Peristaltic Pump	🗋 Inertial		Other:					
🕺 Bladder Pump:	Optimum Flow Rate Set at	<u>to</u> s	econds Refill <u>5</u>	Seconds Discharg	je			
Sample Collection				MS/MSD? :	Yes 🗆	Nox		
Parameter	# Containers (fill in for ea	ch well)	Preservative	Method	Container Type	Note		
TAL METALS	1		NVERIC		250 M PLASTIC	-		
TOTAL LL MERCURY DISSOLVED HL MERCURY			NONE		Soz GLASS			
VISSELVEV - ABRENT	( (		NONE		80E 61-163			
			·····		The second se			
						-		
			-10					
		A DESCRIPTION OF THE OWNER OF THE	<u> </u>		·			
·····	- TREAST NAME OF TREAST OF TREAST OF TREAST OF TREAST OF TREAST OF TREAST							
						<u>, , , , , , , , , , , , , , , , , , , </u>		
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Well ID: M	w 46			Sample ID:	0621	mw146	Sample Time: 1105					
Date: 6-	7-21	1		Dup. Sample	ID: NA	,				Dup. Sample Time: NA		
Notes: AVR	BUBB	ies in	WATE	R LAN	E PR	ron 3	RD LIN	ie (o	NNEC	TED TO WATER LINE		
	Purging and *Stabilization Data											
	Volume	Temp	Spec. Cond.				Purging Turbidity					
Time (24 hrs)		*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	<b>DO</b> (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes		
1015		·	1	STAF		ING	2 10 /0	·				
1020	0.5	4.15	148	10.66	5.56	204.9	48.98	33.S	0.1			
1025	1.0	3.86	11/1	8.75	6.22	193.8	77.46	33.8	0.1			
1030	1.5	3.73	99	8.44	6.35	188.8	51.84	33.%	0.1			
1035	2.0	3.80	96	8.38	6.40	187.3	29.65	33.85	0.1			
1040	2.5	3,72	95	\$.37	6.46	187.7	20.43	33.86	0.1			
1645	3.0	3.66	94	8.38	6.48	188.9	13.42	33.87	0.1			
1050 1055		3.58	92	8.26	6.51	190.7	13.41	33,87	0.1			
1055	4.0	3,49	92			192.4	8.82	33.%	0.1			
1100	4.5	3,47	92	8.24	6.54	194,6	6.90	33.8				
1105	<u>SA</u>	MPLES	>									
						-						
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						<u> </u>		ļ				
								<u> </u>				
$\vdash$	Ì											
	Sampled?: Yes 😿 No 🗆											
Initial of Sa	mpler: <u>C</u>	<u>JOKO</u>	e							Page 2 of 2		

Contail	dance 15			-	oundwater Collection Lo	g	
Project Name:		-		Sample Location:		<del>.</del>	
Project No.: Sample Type:	BU06-007 GW			Sample ID:	0621MW46 G	<b>····</b>	
Pump Type:	Peri /Bladder	•			$\frac{6-7-21}{105}$	-	
Transducer:	Yes No	•	÷	COC #		-	
Sample Team:	CR/GG/JP	•	~	Tŕip Blank ID	· · · · · · · · · · · · · · · · · · ·	LL Mercury (only)	
Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL XI	plastic	unfiltered	Nitric	ambient	180 days/28 days *	330
Total LL Mercury	8 oz 🗙 (	glass	unfiltered	None	4°C	48 hours/14 days⁺	LEC
Dissolved LL Mercury	8 oz 🗙 (	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup>	
	+ According to the laborate			A has a 28 day hold		BOTTLES	
Logged By:	JUDD PARS	ON	-		Reviewed By:	<u>C</u> R	
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Client/Site:	BLM Red Devil Mine	- · ·	Well ID.:	MWY7	
Contract No.:	140L6321C0001	Project No.:	BU06-007	·····	
Date:	6/7/21	Samplers:	GG		
Time Start:	0855				
Time Finish:	1020	Checked By:	Colleer	Russ	
Well & Purge Info	rmation				
TD (ft. bTCC):	<del>57.41</del> ft	Scree	ened Interval (ft.):	· · · · · · · · · · · · · · · · · · ·	<u>_</u>
DTW (ft. bTOC):	37.03 ft	Tup of Punp:	57.3/		
Water Column:	ft	. , , , , , , , , , , , , , , , , , , ,			
Liter/Foot:	0.605 L/ft	See ***Well Volume		***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft	i	Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	ft	Depth of Pump Intake	9	2"	0.605
		- · · ·		4"	2.47
Field Equipment		·			
Multiparameter Water Quality Meter:	VSI 556 MPS	Serial No.:	M BIO 351	Ø	·
Water Level Meter:	Solinst 102	Serial No.:	294 99/	-	
Turbidity Meter:	Micro VPW	Serial No.:	202007	,	· · · · · · · · · · · · · · · · · · ·
Ритр Туре:	Bladder	Serial No.:	NA	·····	
Purge Method:		· · ·			· .
Peristaltic Pump	🗋 Inertial	Other:		•	
Bladder Pump:	Optimum Flow Rate Set atS	econds Refill 6	Seconds Discharg	e ( 33 ps/	=0.125 L/min
Sampling Method:	,				
D Peristaltic Pump		□ Other:			
占 Bladder Pump: 0	Optimum Flow Rate Set atS	econds Refill <u>6</u>	Seconds Discharg	1°€ 33 psi	= 0.125 U/min
Sample Collection		······	MS/MSD? :	Yes 🗆	No 😥
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	<u>a</u> a	NATIC.		Plestic	
LL Hg Total	2	None		DB Glass	
4 Hy Pissolved		Nonc.		DB Glass	
		· · ·		0	
					·····
	08	<u>P</u>	With the second		
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Well ID: 🕅	1647			Sample ID:	06 21	MW47	Sample Time: 1000			
Date: 6/	7/21			Dup. Sample	ID: 00	21 MI	J97G	ω		Dup. Sample Time: /0/0
Notes: Ú	nable t	b get	air out	of in	net com	return	line,	Possibl	k hde	Dup. Sample Time: 1010 in tetlen bladder
	Volume	Temp	Spec. Cond.		<u> </u>		Purging Turbidity		abilizatio	n Data
Time (24 hrs)	Removed	*± 3% °C, min ± 0.2°C	(μS/cm) *±3%	DO (mg/L) *± 10%	<b>рН</b> *≟ 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
0912				STAF	RT PURG	NG				adjusted signator to get best flow
0934		3.52		9.01		197.1	2.64	37.03	0.125	Bubbles in water return line
0241	ļ.	3.51	99	8.99		197.4			0.125	
0746		3,51	100			197.7	2.21		0=125	
OgSi	-	3.43	99	8,92	6.71	198.4			0.125	
09.5 <b>5</b>		3.42	99	8.93	6.73	199.1	1.31	37.03	0.125	
		<u> </u>	· ·				÷		-	Collect sample a 1000 and duplicate a 1010
	``````````````````````````````````````		ŕ							<i>a</i> ,
	<u> </u>	· · · · · · · · · · · · · · · · · · ·					· · ·			
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	<u>I</u>	F	<u>,                                    </u>	I	I	L, , , , , , , , , , , , , , , , ,	Sample	ed?:Ye	is 🕅 I	
Initial of Sa	ampler:	6E0L6E 6A	ait						- 71	Page 2 of 2

Sundance 15 Consulting Inc.	Groundwater Sample Collection Log
Project Name: Red Devil Mine	Sample Location: MW 47-
Project No.: BU06-007	Sample ID: 0621MW 47GW
Sample Type: GW	Date: $\frac{6}{7}$
Pump Type: Peri (Bladder)	Time:
Transducer: Yes 🖽	COC #:
Sample Team: CR/GG/JP	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials	
TAL Metals	250 mL 🗙 🔍	plastic	unfiltered	Nitric	ambient	180 days/28 days *	JU /1	
Total LL Mercury	8 oz ×2	glass	unfiltered	None	4°C	48 hours/14 days⁺	NJ	
Dissolved LL Mercury	802 X7	glass	filtered	None	4°C	48 hours/14 days⁺	1944	

6 BOTHES

Colleer Russ

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Puplicate 0621 MW97 GW @ 1010

Logged By: <u>G</u>G

**Reviewed By:** 

Sundance Consulting Inc. May 2021



Client/Site:	BLM Red Devil Mine		Well ID.:	MW49	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6/6/2021	Samplers:	<u>B000-001</u> BCD-		
Time Start:	_1440	oumpiers.			
Time Finish:		Checked By:	Collaen	WST-	
		onecked by.	<u> </u>		
Well & Purge Info					·
TD (ft. bTOC):	63.75 (from report) At	Scree	ened Interval (ft.):	·	
DTW (ft. bTOC):	<u> </u>				
Water Column:	<u>33.7/</u> ft	TD-DTW=Water Col	սորո ՛ I		
Liter/Foot:	0,605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	61,2 L	Liters in Well x 3		. 5/8"	0.06
Sample Depth:	ft	Depth of Pump Intake		2"	0.605
		top of pump .	-51,15 ft	4"	2.47
Field Equipment					
Multiparameter Water	YSI 556 MP3			2070	
Quality Meter:		Serial No.:	11 F10.		
Water Level Meter:	dipper-T2	Serial No.:	WLM 074		
Turbidity Meter:	Micro TPW	Serial No.:	20200837	6	
Pump Type:	GEOTECH BUHDOB	Serial No.:		.,	
Purge Method:				······································	
Peristaltic Pump	Inertial	☐ Other	:		
🕅 Bladder Pump:	Optimum Flow Rate Set atS	econds Refill	_Seconds Discharg	je @ 30° ps/ a	mel 4 epm
Sampling Method:	•	· · · · · ·			······································
Peristaltic Pump	Inertial	🗌 Other			
🛛 Bladder Pump:	Optimum Flow Rate Set at <u>ノク</u> S	econds Refill	_ Seconds Discharg	e C.D. pst	and Yepm
Sample Collection			MS/MSD? :	 Yes □	No 🗆
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	1	Nitric		Plastic	
LL Hee Total				DB Glass	
LL Hg Dissohred	. /			DB Glass	filtered
<u>, , , , , , , , , , , , , , , , , , , </u>					
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	Ca				· · · · · · · · · · · · · · · · · · ·
Contraction of the local division of the loc		··········			

Well ID: M	W \$9		<u>-</u>	Sample ID:	0621	MW 49	Gω			Sample Time: 1525
Date: 6/0	6/202	1		Dup. Sample			1A	· • • • ·		Dup. Sample Time: NA
Date: <u>C</u> /C Notes:	Sam	9E								
				· · · · · · · · · · · · · · · · · · ·			Bureine		obilizatio	an Data
Time	Volume	Temp	Spec. Cond.	DO (mg/L)	рН	ORP (mV)	Turbidity		abilizatio	
(24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	*± 10%	рл *± 0.1	*± 10 mV	(NTU) *± 10%	(ft)	Flow Rate	Color/Odor/Notes
1440				STAF	RT PURG					
111/3-	+						1212		8.125	Ś.
1455		6.27	75		6.16	129.7	3,85	30.04	0.125	
1500		6.22	73	3.66	6.15	133.3			0.125	
1505	3.125		72	5,72				36.84		
1510		5,85	71	5.70			3.69	30.04	0.125	
1515	4,375	5.91	7/	5.69	6,11	144.9	3.93	30.04	0,125	
1520	5	6.64	71	5.65	6.10	147.3	2,57	30.04	0.125	
							-			Sempted at 1525. (3 bottles)
				· •	1999 - A.L.					
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				<u> </u>			Sample	d?: Ye	s 🗶 N	No 🗆
Initial of Sa	molec /	52								Page 2 of 2

Sun Conse	dance 15		Groundwater Sample Collection Log						
Project Name:	Red Devil Mine	Sample Location:	MW 49						
Project No.	: BU06-007	Sample ID:	0621MW G\	N					
Sample Type:	GW	Date:	6/6/21	<u>-</u>					
Pump Type:	Peri (Bladder)	Time:	1525	-					
Transducer:	Yes / 👧	COC #:	-	•					
Sample Team:	CR/GG/JP	Trip Blank ID:		LL Mercury (only)					
			<u>.</u>	-					

Methods (listed in prioritized order)	Sample Volume	Bottle Type Filtered/ Unfiltered		Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	plastic	unfiltered	Nitric	ambient	180 days/28 days *	66
Total LL Mercury	8 oz	glass	unfiltered	None	4°C	48 hours/14 days <sup>*</sup>	66
<b>Dissolved LL Mercury</b>	8 oz	glass	filtered	None	4℃	48 hours/14 days <sup>+</sup>	66-

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By: <u>GG</u>

Reviewed By:

Collea Rust

Sundance Consulting Inc. May 2021



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# Low-Flow Groundwater Sampling & Stabilization Form

Client/Site:	BLM Red Devil Mine	,	Well ID.:	MH-50	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	617/2021	Samplers:	CR	·	
Time Start:	1530				
Time Finish:	1650	Checked By:	JUDD PAR	SON	
Well & Purge Info	ormation			· · · · · · · · · · · · · · · · · · ·	
TD (ft. bTOC):	81.42 TOP OF RUMP At	Scre	ened Interval (ft.):		
DTW (ft. bTOC):	47.66@1531 ft		-		
Water Column:	ft	TD-DTW≕Water Colu	umn		
Liter/Foot:	L/ft	See ***Well Volume	Calculation*** table	***Weli Volume	Calculation***
Liters in Well:	<u> </u>	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	ft	Depth of Pump Intake	e	(2 <sup>11</sup> )	0.605
· ·	· · · · · · · · · · · · · · · · · · ·	· ·		4"	2.47
Field Equipment			······		
Multiparameter Water			h Charl		
Quality Meter:	<u></u>	Serial No.:	11 Floga	·····	
Water Level Meter:	Dipper 2	Serial No.:	WLM074	<u>п</u>	
Turbidity Meter:	Micho TAW	Serial No.:	20200837	16	
Pump Type:	GEOTECH BLADDE	Serial No.:	NA		
Purge Method:					
Peristaltic Pump	🗌 Inertial	□ <sup>:</sup> Other	·	·	
Bladder Pump : 0	Optimum Flow Rate Set at <u>12</u> Se	econds Refill	_Seconds Discharg	le	, <u>, , , , , , , , , , , , , , , , , , </u>
Sampling Method:			· .	· · · · · · · · · · · · · · · · · · ·	
Péristaltic Pump	🗋 Inertial	□ Other	:		
Bladder Pump :	Optimum Flow Rate Set at 12- Set	econds Refill	_ Seconds Discharg	ie ~58 to 60	P3i
Sample Collection	n Information		MS/MSD7 :	Yes 🗆	No
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	1 250ML	Northic		Plastiz	
TOTAL IL Hg	1 302	NONE		<u> </u>	
Diss. LL Ha	302	NONE		Glass	
	······				: 
	·····	002			
	a manufacture and the second s				

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Well ID:	Mw-5	0		Sample ID:	00	BRIMW	50 GW			Sample Time: 1650
Date:	6/7/2	2021		Dup. Sample	ID.	V.A-				Dup. Sample Time: NA
Notes:			N WATER	LINE	···					
4. 4							Derester er		- 1- 11 41	
Time	Volume	Temp	Spec. Cond.	DO (mg/L)	рН	ORP (mV)	Turbidity	DTW	abilizatio	n Data
(24 hrs)	Removed	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	*± 10%	*± 0.1	*± 10 mV	(NTU) *± 10%	(ft)	Flow Rate	Color/Odor/Notes
		· · · · · · · · · · · · · · · · · · ·	·		RT PURG	ING			·	
1545	0.00	5.37	388	4.26	6.69	105.2	55.36	47.92	0.075	Mal/min
1550	0.075		387	4,13	6,70					ATR BOBBLES IN WATER LINE
1555	/w	4.96	384	377	6.77	88.3	63.94	47.95	0.10	INCLOSED CYLLES TO 10/5 BOPS
1600		4.93	384		6.72		60,94	49.00	0.050	DECREASED CYCLES 12/3~5005
1605		5,44	390	4.31	6.75	82.3	56,79	48.00	0.050	
. 1610		5.71	393	4.44	6.75		42.90	48.02	0.050	Algen BRUN/RD FLOATING IN WATER
1615		5.6	391	4.50	6.76	79.9	31.95	48.05	0.050	Note sur care out ad temp is They in shade
1620	· .	5.53	390	4.43	6.77	79.1	35.51	48.10	0.050	· · · · · · · · · · · · · · · · · · ·
1625		5.67	389	4.57	6.77		31.50		<i>G.</i> 05D	
1630		5,44	389	4.52				88.13	0.050	WILL FUR AN HOUR AND SAMPLE, NOUS aROUND 3 0 NOTOS TORDIFICA
1635		5,40	389	4.65	6.77	78,2	23.11	48.12	0.050	STILL HORE BROWN/EDD ALGA IN WATER
1640		5.50	ଅ ା	4.78	6.77	78.0	22.92	48.14	0.050	
1645							20.51			
	-	:								
1650	SAA	NUED								
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							Sample	d?: Ye	s 🕱 🛽	lo 🗆
Initial of Sa	mpler:	GOL							1	Page 2 of 2

Sundance Consulting Inc.		-	undwater Collection Log	Ţ
Project Name: Red Devil Mine		Sample Location:	MW SO	ч -
Project No.: BU06-007		Sample ID:	0621MW 50 GW	/
Sample Type: GW		Date:	617/21	
Pump Type: Peri / Cladder	RER	Time:		
Transducer: (Tes)/ No	DouwLonder 61712021	COC #:		
Sample Team: CR//GG/JP	GINDE	Trip Blank ID:		LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗡	plastic	unfiltered	Nitric	ambient	180 days/28 days *	CRL
Total LL Mercury	8 oz XI	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	CØZ
<b>Dissolved LL Mercury</b>	8 oz 🗶 !	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup>	COZ

3 BETTES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAME ONLY elleen Kust Logged By:

Reviewed By: JUDD PARSON



Client/Site:	BLM Red Devil Mine		Well ID.:	MW51	
Contract No.:	140L6321C0001	Project No.:	BU06-007	·	
Date:	6-7-21	Samplers:	C. RUST		······································
Time Start:	1730	_	J. PARS		
Time Finish:	1900	Checked By:	CR		
Well & Purge Info	ormation				······
TD (ft. bTOC):	ft	Scree	ened Interval (ft.):		
DTW (ft. bTOC):	38.45 ft				
Water Column:	ft	TD-DTW=Water Colu	umn		
Liter/Foot:	L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	66,05 ft	<ul> <li>Depth of Pump Intake</li> </ul>	9	2"	0.605
		-		4"	2.47
Field Equipment					
Multiparameter Water Quality Meter:	Ysi	_ Serial No.:	IFIORA78	)	
Water Level Meter:	DIPPER 2	Serial No.:	WL MOTY	7	
Turbidity Meter:	Micho TRW	Serial No.:	202008	376	
Pump Type:	COEDTECT BLADDER	Serial No.:	NA		
Purge Method:					— — i
Peristaltic Pump	🗋 Inertial	☐ Other:			
🕱 Bladder Pump :	Optimum Flow Rate Set at <u>12</u> s	Seconds Refill	Seconds Discharg	10 NO.154/	nin
Sampling Method:				· · · · ·	
Peristaltic Pump		C Other:			
	Optimum Flow Rate Set at 12 s	Seconds Refill 3	Seconds Discharg	10 ~0,15 Ymi	Λ
Sample Collection			MS/MSD? :	Yes 🗅	No 🖌
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL METALS	1250mL	Niterc		flastic	
Diss. LL HQ	1 802	NONE	· · ·	glass glass	
u.a. ce iy				- glass	~ ``
				-	
	<b></b>	100-			
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May 2021

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Page 1 of 2

Well ID: M	~5			Sample iD:	062	Imue	SIGW			Sample Time: 1850
Date: 6-7	7-21			Dup. Sample		1A				Dup. Sample Time: NA
Notes:										
							<u> </u>			
	Volume	Temp	Spec. Cond.	1	1	1	Purging Turbidity	1	abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		<b>DO</b> (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1235				-	RT PURG	ING	1		-	
1740		4.40	146	7.51	7.01	131.5	69.77	31.01	0.15	
1745		4.08	137	4,31	6.71	130.8	85,03	39.20	0.15	
1750		3,40	135	4.06	6.69	131.8	\$0.53		0,15	FLOATING RED ALCAE
i755	3,00	3.79	136	4.02	6.69	134.8	45.11		0.5	
1800	3.75	3,80	138	3,93	6.70	136,0	32,42			NO MR BOBBLES IN LINE
1805	4.50	3.76	138	3.78	6.70	139.7	57,12	39.22	0.15	
1810	335	3,93	139	3.82	6.70	140.8	43,42	39,22	0.15	•
1815	6.00	3.92	140	3.78	6.70	142.5	28.13	39,25	0.15	
1820	6.75	3.96	141	3,79	670	144.8	21.58		0.15	
1825	7.50	3.92	142	3.75	671	146.5	78,7	39.28	0.15	
1830	8,25	3,89	143	3,73	6.71	147.6	12.20		0.15	
1835	9.00	3.90	144	3.69	6.71	148.8	9.61	39,28		
1840	9.75	3.89	144	3.68	6.71	149.7	9.43	39.27	0.15	
1843	10.20	3,88	144	3,74			8.81	39.28	0,15	
·										
1850							-			SAMPLED @ 1850
				:						<i>^</i>
	-						NOS	<b>F</b>		
										ę.
							Sample	ed?:Ye	es⊠ N	lo 🗆
Initial of Sa	mpler:	<u>) R</u>	N.							Page 2 of 2

	lance 15				undwater Collection Lo	g	
Project Name: Project No.: Sample Type: Pump Type: Transducer: ( Sample Team:	GW Peri (Bladder)	DOUN LON 617/8	1050 2021	Sample Location: Sample ID: Date: Time: COC #: Trip Blank ID:		W LL Mercury (only)	
Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗙/	plastic	unfiltered	Nitric	ambient	180 days/28 days *	OER
Total LL Mercury	8 oz 💉 (	glass	unfiltered	None	4°C	48 hours/14 days <sup>+</sup>	COR)
Dissolved LL Mercury	8 oz 🗙 I	glass	filtered	None	4°C	48 hours/14 davs <sup>+</sup>	030

3 BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SANCEONLY

Logged By: TOD PARSON

Reviewed By:

COL



Client/Site:	BLM Red Devil Mine		Well ID.:	MW5Z				
Contract No.:	140L6321C0001	Project No.:	BU06-007					
Date:	6-7-21	Samplers:	J. PARSO	N				
Time Start:	0845		C. RUST					
Time Finish:	0945	Checked By:	_CP					
Well & Purge Info	rmation	· · · · · · · · · · · · · · · · · · ·		ş .				
TD (ft. bTOC):	ft	Scre	ened Interval (ft.):	÷				
DTW (ft. bTOC):	31.07 #			1				
Water Column:	. ft	TD-DTW=Water Col	umn	; <sup>*</sup>				
Liter/Foot:		See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06			
Sample Depth:	<u>45.76</u> tt	Depth of Pump Intak	e	2"	0.605			
·				4"	2.47			
Field Equipment								
Multiparameter Water Quality Meter:	YS1 556 MPS	Serial No.:	11F 1022	78				
Water Level Meter:	HERON DIPPERT2	Serial No.:	WLM O	747				
Turbidity Meter:	HF SCI MICRO TPW Serial No.: 202008376							
Pump Type:	BLADDER	Serial No.:	MA					
Purge Method:			<u></u>					
Peristaltic Pump	🗌 Inertial	🛛 Other	·					
"द्⊂ Bladder Pump ; 0	Optimum Flow Rate Set at <u>11</u> S	econds Refill <u></u>	_ Seconds Discharg	je				
Sampling Method:		· · .						
Peristaltic Pump	Inertial	C Other		·				
🕅 Bladder Pump : 🛛 🕻	Optimum Flow Rate Set at <u>1</u> S	econds Refill <u>4</u>	_ Seconds Discharg	e 4 cpm ~ 3	30 p3)			
Sample Collection	n Information		MS/MSD?:	Yes 🗅	No 🗙			
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note			
TAL METALS		NITRIC		250 M PLAST	17			
TOTAL LL MERCURY Dissolved LL Mercury		NONE .		802 61195 802 61195	<u>Y</u>			
POSTABN FT WEIRON	· · · · · · · · · · · · · · · · · · ·	PONE		-305 CM34	2-7			
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	Version and the second s							
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Well ID: M	N52			Sample ID:	062	1MW52	26-W					
Date: 6-	7-21			Dup. Sample	ID: AN	A					Dup. Sample Time: MA-	
Notes: AIR	. 12	LINE F	zran	JRD W	WE C	ion &					R MOVES BACK	12 TUBE
DURI	NG F	recharg	ng cyn	uE, R	N 9MU	vay be					SAMPLEABLE.	
	Volume	Temp	Spec. Cond.		1	1	Purging Turbidity	1	abilizatio	n Data		
Time (24 hrs)	$\begin{array}{c c c c c c c c c c c c c c c c c c c $										Color/Odor/Notes	
CASO START PURGING												
<u>p910</u>		4.55	71	12-15	5.79	203,4	11.41	31,20	0,125	·	·	
0915		4.17	69	12.37	5,93	206.1	7.33	31.19	0.125			<u>-</u>
		4.20	70	12.66	60	207.8	6.62	31.21	0.125			
0925	3.125	3.91	68	12.76	6.03	209,7	5.95	31.20	0.125			
0930	3.75	3.79	64	12.36	6.06	210.5	5.38	31.18	0.12	5		
0735	4.375	3.76	64	12.59	6.10	210.5	4.75	3121	0,125			
		· · ·	·									<u> </u>
0940		•.								SAMPLED	0621MW 52 GW	C 0940
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							Sample	d?:Ye	s 🗶 N	lo 🗆		
Initial of Sa	mpler: 🟒	25X	<u>}</u>				,					Page 2 of 2

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Sure Consul	tance 15				undwater Collection Lo	g						
Project Name: Project No.:	Red Devil Mine BU06-007		Sample Location: <u>MW 52</u> Sample ID: 0621MW52_GW									
Sample Type:	GW		Date: 6-7-21									
Pump Type:	Peri Bladder			Time:	0140	-						
Transducer:	Yes/No			COC #:								
Sample Team:	(CR/GG/IP)	-		Trip Blank ID:		LL Mercury (only)						
		-	· · ·									
Methods (listed in	Sample Volume	Bottle Type	Filtered/	Preservative	Temperature	Hold Time	Initials					
prioritized order)	· · · · · · · · · · · · · · · · · · ·		Unfiltered			noid fille						
TAL Metals	250 mL 🔨 t	plastic	unfiltered	Nitric	ambient	180 days/28 days *	SAR					

unfiltered

filtered

glass

glass

BOTTLES

48 hours/14 days

48 hours/14 days

PR

2

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

None

None

SAMPLE ONLY

Logged By: JUDD PARSON

XI

8 oz

8 oz 🗙 (

Total LL Mercury

Dissolved LL Mercury

Reviewed By:

4°C

4℃

to a stranger -	Sundance	
	Consulting inc.	
		<b>ABLAND</b>

Client/Site:	BLM Red Devil Mine	· · · · · · · · · · · · · · · · · · ·	Well ID.:	MW	-53
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	* 1355	Samplers:	TPTE	E OPR	
Time Start:	· (0/7/2021				
Time Finish:	1500	Checked By:	JUDD	PARSON	
Well & Purge Info	ormation				
TD (ft. bTOC):	4919 TOPOFRUMP At	Scree	ened Interval (ft.):	· · · · · · · · · · · · · · · · · · ·	
DTW (ft. bTOC):	30,92 /355 ft				
Water Column:	ft	TD-DTW=Water Colu	imn	•	
Liter/Foot:	L/ft	See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L	Liters in Well x 3		5/8"	0.06
Sample Depth:	ft	Depth of Pump Intake	).	(2")	0.605
				4"	2.47
Field Equipment			· · · · · · · · · · · · · · · · · · ·		
Multiparameter Water Quality Meter:	VGI	Serial No.:	_11F1022	7'8	
-	DOUBLE DIPPORD		WLM 0		
Water Level Meter:	MICR TPW	Serial No.:		•	
Turbidity Meter:		Serial No.:	2020 083	10	· · · · · · · · · · · · · · · · · · ·
Ритр Туре:	GEOTECH BUDDER	Serial No.:	NA		
Purge Method:				·····	
Peristaltic Pump	Inertial	□ Other:			
🕱 Bladder Pump:	Optimum Flow Rate Set at 13 Set	econds Refill	Seconds Discharg	je 0.054/mil	1
Sampling Method:					
Peristaltic Pump	Inertial	☐ Other:	_		
Bladder Pump :	Optimum Flow Rate Set at <u>1</u> う Se	econds Refill _2	Seconds Discharg	90 0.05 4/min	
Sample Collection		·····	MS/MSD? :	Yes 🗆	No
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL METALS		NITRIC		dome	
TOTAL IL Hay		NONE NONE	FILTERED	802	
Diss. LL Hay		100100	· 12 + 0 0+3	802	
				0	
••••••••••••••••••••••••••••••••••••••		· · · · · · · · · · · · · · · · · · ·			
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Well ID:	MW -9			Sample ID:	0621	MW 536	3W			Sample Time: /435
Date:	61718	2021		Dup. Sample						Dup. Sample Time: AtA
Notes:										·
							D	and 401		- Deta
<u> </u>	Volume	Temp	Spec. Cond.	I			Turbidity		abilizatio I	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C	<b>Spec. Cond.</b> (μS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
1355						,		1		
1400	0.00	5.13	124	8.27	62	185,6	13.40			min Clear
1405	0.25		114	8.19	6.25	185.3	12.72 10.85	31.12	0.05	no ais bubbles in water line
1410	0.50	4.82	/03	210	6.36	182.2				·
1415	0.75		97	7.95	6.40	183.5		31,17		·
1420	1.00		95	7.76	6.43	185.9	8.87	31.17	0.05	<u>.</u>
1425	1.25	4.69	95	7.67	6.45	189.2	7.99	31.17	ු.ල	
1430	1.50	4.64	95	7.57	6.48	194.6	7.02	31.19	0.05	
	_									· · · · · · · · · · · · · · · · · · ·
1435	5AM	NES								
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			:							

	dance 15	Groundwater Sample Collection Log						
Project Name:	Red Devil Mine	•	Sam	ple Location:	MW 53			
Project No.	: BU06-007			Sample ID:	0621MW 53 GW	1		
Sample Type:	GW			Date:	(d712021			
Pump Type:	Peri / Bladder >>		1 1-1	Time:	1435			
Transducer:	(Yes) No	DOLINLOADED	6/7/202/	COC #:	· · · · · · · · · · · · · · · · · · ·			
Sample Team:	(CR/GG(JP)			<b>Trip Blank ID:</b>		LL Mercury (only)		

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	plastic	unfiltered	Nitric	ambient	180 days/28 days *	(2
Total LL Mercury	8 oz	glass	unfiltered	None	4°C	48 hours/14 days⁺	CR
Dissolved LL Mercury	8 oz	glass	filtered	None	4°C	48 hours/14 days⁺	CAC

3 BOTUES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMPLE ONLY Inon K Logged By: 1357

Reviewed By: JUDP PARSON

Page 1 of 1

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<ul> <li>Safety and a second seco</li></ul>	Jundance	
	Consulling Inc.	Same Col

Cllent/Site:	BLM Red Devil Mine		Well ID.:	MW54	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6/7/21	Samplers:	G-(-		
Time Start:			<u>.t=2</u>	· · · · · · · · · · · · · · · · · · ·	
Time Finish:	1905	Checked By:	Colleen 14	-555	·
Well & Purge Info	rmation				······································
TD (ft. bTOC):	ft	Scree	ened interval (ft.):		
DTW (ft. bTOC):	<u></u>	Topol Prip = 39,85			
Water Column:	t	TD-DTW=Water Colu	1		
Liter/Foot:	0.605 L/ft	See ***Well Volume (		***Well Volume	Calculation***
Liters in Well:	<u></u>	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:		Liters in Well x 3		5/8"	0.06
Sample Depth:	<u>_</u>	Depth of Pump intake	·	2"	0.605
oumple Depuin			,	4"	2,47
Field Equipment	······ · · · · · · · · · · · · · · · ·	W			
Multiparameter Water					
Quality Meter:	YSI 556 MPS	Serial No.:	141310351	0	
Water Level Meter:	Solinst 102	Serial No.:	294 991	· · ····=	
Turbidity Meter:	MicroTPW	Serial No.:	2020079	02	
Ритр Туре:	BADDER Ruf.	Serial No.:	MA	· · · · · · · · · · · · · · · · · · ·	
Purge Method:					
Peristaltic Pump	Inertial	□ Other:			
🖾 Bladder Pump : C	Dptimum Flow Rate Set atS	econds Refill	Seconds Discharg	je 30 je	
Sampling Method:				<u></u>	
Peristaltic Pump	🗆 Inertial	C Other:			
🕅 Bladder Pump : 🛛 🔾	Dptimum Flow Rate Set at <u>///</u> S	econds Refill 🌫	Seconds Discharg	je 30 ps1	
Sample Collection	n Information		MS/MSD? :	Yes	No 🕱
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	1	Nitric		Plastic 250m	· · · · · · · · · · · · · · · · · · ·
LL Mg Total	/	None		DB Glass	
LL Mg Dissolved	//	Mone	· · · · · ·	OB Glass	
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Page 1 of 2

Well ID: N	1W 5'	54 Sample ID: 0621 MW54CW						Sample Time: 1845			
Date:	5/7/2	21.		Dup. Sample	id: NP	7				Dup. Sample Time: AA	
Date: ( Notes: fun	ped t	or first	30 m/n	to rem	<i>iore</i> a	lgae fra	n punp,				
								and *St	abilizatio	n Data	
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) * ± 3%	DO (mg/L) *± 10%	<b>рН</b> *± 0.1	<b>ORP</b> (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes	
1745		1		STAF	RT PURG			1		Reddich orange dage is abundant even at 0:075 L/min	
1815		4,77	245	3,24		37.2	45.42	29.70	0.075		
1820		4,35	243	3,70	6.97	34.7	33.21				
1825		4,40	243	3.10	6.99	31,4	24.73	29.70	0.075	· · · · · · · · · · · · · · · · · · ·	
1838		4,29	242	3.04	7.00		17,20				
<del>1835</del> 1831	ĸ	4,27	242	3.03	7:00		16.85				
1934		4,23	242	3.01	7.01	27,1	15.69	29,70	0,075		
1837		4.20	242	2,99	7.02	26.4	10.47	29.70	0,075		
1840		4.18	242	2.92			9,94				
1843		4,17	243		7.03				0.075		
										Sample @ 1845	
	3										
					::						
					-		NO-				
							0				
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Initial of Sar	mpler:	L.A						-	<u> </u>	Page 2 of 2	

Sundance Consulting Inc.		Groundw Sample Collec	
Project Name: Red Devil Mine Project No.: BU06-007		Sample Location: <u>MW 3</u> Sample ID: 0621N	
Sample Type: GW	•	Date: 6/7	121
Pump Type: Peri (Bladde) Transducer: Ves / No	DOLINICADER 617/21	Time: <u>184.</u> COC #:	5
Sample Team: CR/GG/JP	61712	Trip Blank ID:	LL Mercury (only)
Methods (listed in	Filtered/		

Methods (listed in prioritized order)	Sample Volume	Bottle Type Filtered/ Unfiltered		Preservative	Temperature	Hold Time	Initials	
TAL Metals	250 mL 🤸	plastic	unfiltered	Nitric	ambient	180 days/28 days *	H /2	
Total LL Mercury	8 oz 🗶 1	glass	unfiltered	None	4°C	48 hours/14 days⁺	HH.	
Dissolved LL Mercury	8 oz 🗶 t	glass	filtered	None	4℃	48 hours/14 days⁺	Jak .	

3 BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAME ONLY

Logged By:

Reviewed By:



Client/Site:	BLM Red Devil Mine		Well ID.:	MWSS	
Contract No.:	140L6321C0001	Project No.:	BU06-007	<i>p</i>	
Date:	6/8/21	Samplers:	<u>66</u>		· · · · ·
Time Start:	(1930	Cumpicio.			
Time Finish:	1/55	Checked By:	CPZ	·····	
		Checked By.			
Well & Purge Info		<u> </u>			
TD (ft. bTOC):	<u>24.09</u> tt	Scre	ened Interval (ft.):		
DTW (ft. bTOC):	<u>/3.06</u> #				
Water Column:	11.03 tt	TD-DTW=Water Col	lumn	· · · · · · · · · · · · · · · · · · ·	
Liter/Foot:	0.605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	<u> </u>	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	20.02 L	Liters in Well x 3		5/8"	0.06
Sample Depth:	<u>20 ft</u>	Depth of Pump Intak	æ	2"	0.605
				4"	2.47
Field Equipment					
Multiparameter Water Quality Meter:	VSI SSGMPS	Serial No.:	14B10 3	510	
Water Level Meter:	Solinst 102M		294 991	570	<u>.</u>
	_	Serial No.:		30	
Turbidity Meter:	Micro VRW	Serial No.:	20200790		
Pump Type:	Alexis Peristaltic	Serial No.:	24243-	90048	
Purge Method:				· · · ·	· ·
Peristaltic Pump	Inertial	_ D Other	r:		
🛛 Bladder Pump :	Optimum Flow Rate Set at S	econds Refill	_ Seconds Discharg	je	
Sampling Method:					
Peristaltic Pump	□ Inertial	Other	r:		
🛛 Bladder Pump :	Optimum Flow Rate Set at S	econds Refill	Seconds Discharg	je	
Sample Collectio	n Information		MS/MSD? :	Yes	No 🗆
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Motals	At 3	Nitric		Plastic 250mL	
Total Hg 24	<u>3</u> Mi 3 3 Mi 3	NONE		DB Glass 802	·
Dissolved LL Hg		NONE		DB Glass Goz	
· · · · · · · · · · · · · · · · · · ·					
	· · · · · · · · · · · · · · · · · · ·				
		10l			
	· · · · · · · · · · · · · · · · · · ·	<u> </u>			
					·
			-		
			1		

Page 1 of 2

Low-Flow Groundwater Sample & Stabilization Form

Well ID:	MW 5-	5	1.	Sample ID:	0621	MWSS	GW			Sample Time: //20
Date: 6	18/21	•		Dup. Sample	ID: AJP					Dup. Sample Time: NA
Notes:	ed-ora	nge a	lgae in	well.			MS / MS	Ð		
							Purging	and *St	abilizatio	ion Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	<b>DO</b> (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	
1013				· · · · · · · · · · · · · · · · · · ·	RT PURGI		;			
1020	0,625	5.09	233	1.01	5,49	103.1	130,9	13,23	6.125	5
1025	1.25	4,42		1.41	5.85	75,3			0:125	
10 30	2123		186	1.04	5.9/	71.7			0,125	· · · · · · · · · · · · · · · · · · ·
1033	25	4.41	184		5,95	72.4	93.05			
1038	2,875	4.49	179	0.32	6.00	66.4			0,125	
1043	3.5	4.49			6.04.	59.4	68.50	13.23	0,125	5
1048 1053	4,125						54.72	13.23	0,125	
1053	4.75		162	8,45		60.7		13,23	0,125	
1058	5,375		159		6.13	61.0	46.63	13,23	0,125	
1103 1106		4.37			616	65.0	39,06	13.23	0,125	5
						68.1			0,125	
1109	6,75		152			i69.4	33,96	13,23	0,125	
1112	7.125				619	71.7	27.40	13.23	0,125	
1115		4,47	]5/			72,8	29.21	13,23	01125	
/118	7,875	4.50	150	0,54	621	<del>7</del> 4,5	26.79	13,23	0,125	
· •										Simple @ 1120 MS/MSD
							P8	2		
									ف	
								4		and the second se
			_							
							Sample	d?:Ye	s⊠́N	No 🗆
Initial of Sa	ampler:	H.Y								Page 2 of 2

	lance 15				undwater Collection Lo	g	
Project No.: Sample Type:	Red Devil Mine BU06-007 GW Per / Bladder Yes ( No CR/GG/JP	- - - -		Sample Location: Sample ID: Date: Time: COC #: Trip Blank ID:		W LL Mercury (only)	
Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initia
TAL Metals	250 mL × 3	plastic	unfiltered	Nitric	ambient	180 days/28 days *	NH.
Total LL Mercury	8 oz x 3	glass	unfiltered	None	4°C	48 hours/14 days⁺	J.S.
Dissolved LL Mercury	8 oz <i>X 3</i>	glass	filtered	None	4°C	48 hours/14 days⁺	H.
Comments:		ory project manager		DA has a 28 day hold ad analyzed in original container, AND SAMRE		9 BOTTLE	\$
Logged By:	/Y /2	2			Reviewed By:	æ	)

Initials

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Client/Site:	BLM Red Devil Mine		Well ID.:	MW56	•						
Contract No.:	140L6321C0001	Project No.:			· · · ·						
	6-6-21	-	BU06-007								
Date:		Samplers:	4 0	SON							
Time Start:	1440		<u>C. Rust</u>								
Time Finish:	1547	Checked By:	<u> </u>	COLER fust							
Well & Purge Info	rmation			· · ·							
TD (ft. bTOC):	ft	Screened Interval (ft.):									
DTW (ft. bTOC):	<u>35.07</u> ft										
Water Column:	ft TD-DTW=Water Column										
Liter/Foot:	L/ft	See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***						
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft						
Three Well Volumes:	<u> </u>	Liters in Well x 3		5/8"	0.06						
Sample Depth:	<u>65.56</u> t	Depth of Pump Intake	•	2"	0.605						
	· · · · · · · · · · · · · · · · · · ·			4"	2.47						
Field Equipment											
Multiparameter Water Quality Meter:	191 556 MPS	Serial No.:	14B103	510							
Water Level Meter:	SOLINSTICZ	Serial No.:	2-94-99		······································						
Turbidity Meter:	HE SCI MICRO TPW	Serial No.:	20200								
	BEDIECH BLADDER PUP	<u>лА-</u>									
Pump Type:	DEELECH DUHUBCINF	Serial No.:		·····	· · · · ·						
Purge Method:											
Peristaltic Pump	🛛 Inertial	□ Other:									
🛛 Bladder Pump : 🛛 🤇	Optimum Flow Rate Set at <u>12</u> S	econds Refill 3	Seconds Discharg	e @ ~ 4 @	) p51						
Sampling Method:					•						
Peristaltic Pump	□ Inertial	☐ Other:									
℃ [ [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	Optimum Flow Rate Set at <u>MZ</u> S	econds Refill 🔔	Seconds Discharg	e							
Sample Collection	n Information		MS/MSD7 :	Yes 🗆	No						
Parameter	# Containers (fill in for each well)	Preservative	Method	Container Type	Note						
TAL METALS	1	MITRIC		250ML							
TOTAL LL MERCURY	1	NONE		802 GLASS	· · · ·						
DISCLUED LL MERCURY	ł	NONE		BOR GLASS							
	· · · · · · · · · · · · · · · · · · ·	······································		<u> </u>							
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Well ID: A	WEG			Sample ID: (	0621	MWSG	GN				Sample	Sample Time: 1540			
Date: 6-				Dup. Sample							Dup. S	ample Time:			
Notes:	273	or Av	e in	MATE	RI	INF	PROM	ЗRD	Hose	CONNECTED	10	WATER	LWE.		
								and *St	abilizatio	n Data					
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	<b>DO</b> (mg/L) *± 10%	<b>рН</b> *± 0.1	ORP (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min			Color/Odor/I	lotes		-
1450	·				RT PURG	1	,						<u> </u>		
1455	0.5	6.338	146	34.57	6.76	173.6	54.21	35.35	0,1	Clear			· .		a second
1500	1.0	6.24	267	9.41	6.87	128.0	31.09					<u> </u>			
1505	1.5	5.36	261	4.61	6.73	123.1	22.69								
1510	2.0	4.94	260	4,89	6.72	125.7	14.90	35.46	0,1	•					
1515	2.5	4.77	263	3.6Z	6.72	130.6	13.8)	35.47	-0.1						
1520	3.0	4.67	266	3.74	GFZ	133.7	10.38	35.53	0.1			•			
152.5	3.5	4.60	269	3AL	6.72		7.92	35.55	6.1						
1530	4.0	4,67	272	3,66	673	137.3	7.29	35.60	0,1						
1535	4.5	4.57	273	3.27	6.73	138.9	8.35	35.57	0,1	Clear					
										·					
1540	5	MRO	$\mathbf{b}$								$\leq$				
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<u>.</u>															
						-			<u> </u>				<b>-</b>		
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	<u> </u>														
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							Sample	d?: Ye	s 🔀 🛛 N	• 🗆		•			
Initial of Sa	ampler. Se	XX	J						· · · · ·			÷ .		Pa	ge 2 of 2

	lance 15				undwater Collection Lo	g	
Project Name: Project No.: Sample Type: Pump Type: Transducer: Sample Team:	GW Dani / Aladan	6-5-2 6-5-2 6-3-2	=D 1 6-6-21		0621MW56 G 6-8-21 1540	W - - - LL Mercury (only)	
Methods (listed in prioritized order)	Sample Volume		Filtered/	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	plastic	unfiltered	Nitric	ambient	180 days/28 days *	SOF
Total LL Mercury	8 oz	glass	unfiltered	None	4°C	48 hours/14 days⁺	SOST
Dissolved LL Mercury	8 oz	glass	filtered	None	4°C	48 hours/14 days⁺	
Comments:		ory project manager	•	DA has a 28 day hold analyzed in original container,		BOTTLES nold time of 14-days.	

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Logged By: JUDD PARSON

v.

Reviewed By:

Blen lust



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Client/Site:	BLM Red Devil Mine		Well ID.:	MW57	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6-8-21	Samplers:	J. PARSO	N	
Time Start:	0925		L. RUST	F	
Time Finlsh:	1028	Checked By:	CP	re l	
Well & Purge Info	ormation		······		
TD (ft. bTOC):	48.10 Tolof Rung A	Scree	ened interval (ft.):		· · · · · · · · · · · · · · · · · · ·
DTW (ft. bTOC):	32.88 @ 930 ft				
Water Column:	ft	TD-DTW≃Water Colu	ımn		
Liter/Foot:	L/ft	See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	<u> </u>	Liters in Well x 3	••	5/8"	0.06
Sample Depth:	. <u>.</u>	Depth of Pump Intake	3	2"	0.605
	·		•	4"	2.47
Field Equipment			-		
Multiparameter Water Quality Meter:	YSI 556 MPS	Serial No.:	11F10225	78	
Water Level Meter:	HERON DIPPER TZ	Serial No.:	WLM07	47	
Turbidity Meter:	HE SUBNTIFIC MILRO TPW	Serial No.:	202008		
Pump Type:	BLADDER	Serial No.:	<u></u>	·····	
Purge Method:	· · · · · · · · · · · · · · · · · · ·		t	· · · · · · · · · · · · · · · · · · ·	
Peristaltic Pump	□ inertial	□ Other:			
Peristaltic Pump				ge 4 0pm ~2	8 psi
Peristaltic Pump	☐ Inertial Optimum Flow Rate Set at <u>12</u> S			ge $4 \text{ OPM } \sim 2$	8 psi
Peristaltic Pump     Bladder Pump :			Seconds Discharg	ge 4 0pm ∼2;	8 psì
<ul> <li>Peristaltic Pump</li> <li>Bladder Pump :</li> <li>Sampling Method:</li> <li>Peristaltic Pump</li> </ul>	Optimum Flow Rate Set at <u>12</u> S	econds Refill <u>3</u>	Seconds Discharg	· ·	8 psi
<ul> <li>Peristaltic Pump</li> <li>Bladder Pump :</li> <li>Sampling Method:</li> <li>Peristaltic Pump</li> </ul>	Optimum Flow Rate Set at <u>12</u> S Inertial Optimum Flow Rate Set at <u>12</u> Se	econds Refill <u>3</u>	Seconds Discharg	· ·	8 psi No ka
<ul> <li>Peristaltic Pump</li> <li>Bladder Pump :</li> <li>Sampling Method:</li> <li>Peristaltic Pump</li> <li>Bladder Pump :</li> <li>Bladder Pump :</li> </ul>	Optimum Flow Rate Set at <u>12</u> S Inertial Optimum Flow Rate Set at <u>12</u> Se	econds Refill <u>3</u>	Seconds Discharg	ge <b>Yes</b> □ Container Type	No tự Note
Peristaltic Pump Bladder Pump : Sampling Method: Peristaltic Pump Bladder Pump : Sample Collection Parameter TAL MSTALS	Optimum Flow Rate Set at <u>12</u> Set Inertial Optimum Flow Rate Set at <u>12</u> Set In Information # Containers (fill in for each well)	econds Refill <u>3</u> Other: econds Refill <u>3</u> Preservative	Seconds Discharg Seconds Discharg	ge Yes □ Container Type 2BO m1 PLA≤n;	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note
Peristaltic Pump Bladder Pump : Sampling Method: Peristaltic Pump Bladder Pump : Sample Collection Parameter TAL MSTALS	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill <u>3</u> Other: econds Refill <u>3</u> Preservative	Seconds Discharg Seconds Discharg	ge Yes □ Container Type 2BO m1 PLA≤n;	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note
Peristaltic Pump  Bladder Pump  Sampling Method:  Peristaltic Pump  Bladder Pump  Bladder Pump  Callection  Parameter  TAL METALS  ToTAL LL MERCURY	Optimum Flow Rate Set at <u>12</u> Si Inertial Optimum Flow Rate Set at <u>12</u> Si <b>n Information</b> # Containers (fill in for each well) 1	econds Refill 3 Other: econds Refill 3 Preservative NITRIC NONB	Seconds Discharg Seconds Discharg	yes □ Container Type 2BO ml PLASA 802 GLASS	No tự Note

Well ID: 📈	W57	B7 Sample ID: OC21MW57GW							Sample Time: 1015	
Date: 💪 👡	8-21			Dup. Sample	ID: N	A				Dup. Sample Time:
Notes: NA				<u> </u>						
_	_							and *Sta	abilizatio	n Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	DO (mg/L) *± 10%	<b>рН</b> *± 0.1	<b>ORP</b> (mV) *± 10 mV	Turbidity (NTU) *± 10%	<b>שדש</b> (ft)	Flow Rate L/min	Color/Odor/Notes
0930					RT PURG					
092-0	0.5		112	14.85	4.53	279,0	6.35	3228		
0945		4.60	70			264.8		32.96		
0950		4.46	56			264.9		32.95		
0955		4,30	50	10.73	5.63	267.8	5.01	32.97	1.01	
1006		4.22	48			263.4		32.96	0.1	2 
1005		4.20	46	10.60	5,84	254.7	7.45	32.8		
1010	3.5	4.17	45	10.66	5.89	248.0	8.21	32.98	0.1	· · · · · · · · · · · · · · · · · · ·
1015	<u>5</u> 4	MRE								· · · · · · · · · · · · · · · · · · ·
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	1									
							Sample	d?:Ye	s ⊈ N	o 🗆
Initial of Sa		DPP								Page 2 of 2

	dance 15				oundwater Collection Lo	g	
Project Name: Project No. Sample Type: Pump Type: Transducer: Sample Team:	BU06-007	NNLOADEL	21	Date	0621MW57 G 6-9-21 1015	LL Mercury (only)	
Methods (listed in	Sample Volume	D-Min Trans	Filtered/				
prioritized order)		вотпе туре	Unfiltered	Preservative	Temperature	Hold Time	Initials
prioritized order) TAL Metals	· · · · · · · · · · · · · · · · · · ·	plastic	<b>Unfiltered</b> unfiltered	Preservative Nitric	ambient	Hold Time 180 days/28 days *	Initials
	250 mL ×1		Unfiltered		•		Initials

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By: JUDD PARSON

Reviewed By:

200



Client/Site:	BLM Red Devil Mine		Well ID.:	MWSB	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6/7/21	Samplers:	66		,
Time Start:	1220			1 T 10000	
Time Finish:	<b>.</b>	Checked By:	CL_		
Well & Purge Info	ormation				
TD (ft. bTOC):	60, 70 ft	J. A Scre	ened Interval (ft.):		
DTW (ft. bTOC):	30,69 ft	topof pump = 4	7.46	· · · · · · · · · · · · · · · · · · ·	
Water Column:	30.0/ ft	TD-DTW=Water Col			
Liter/Foot:	0.405 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	<u>/8</u>	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	54 L	Liters in Well x 3		5/8"	0.06
Sample Depth:	~49 ft	Depth of Pump Intak	e .		0.605
•				4"	2.47
Field Equipment					
Multiparameter Water Quality Meter:	VSI 556 MPS	Serial No.:	141310 3510		
Water Level Meter:	Soliust 102	Serial No.:	294 991		
Turbidity Meter:	Micro TPW	Serial No.:	20200290	2	
Pump Type:	Bladder	Serial No.:	NA		
Purge Method:		· · · · ·	· · ·	•	
Peristaltic Pump	🗍 Inertial	区 Other	Bailer		
-Bladder Pump:	Optimum Flow Rate Set at S	econds Refill	_ Seconds Discharg	je	
Sampling Method:			······ - · · · · · · · · · · · · · · ·	···· ··· ··· ··· ··· ··· ··· ··· ··· ·	
Peristaltic Pump		🛛 Other	Bailer		
-Badder Pump :	Optimum Flow Rate Set at S	econds Refill	_Seconds Discharg	je	
Sample Collection	n Information		MS/MSD? :	Yes 🗆	No 😿
Parameter	#Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Motals	<u> </u>	Nitric		Plastic	
U Total Hg LL Dissolved Hg		None		DB Gloss	······································
LL INSCOLVED Mg.	<u> </u>	None		OB Glass	
				Sie	<i></i>
	n				· · · · ·
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Well ID: M	l W 58	- ·		Sample ID: C	5621	MW58	GW			Sample Time: 1700	
Date: 6/	12/21			Dup. Sample	id: Na	r				Dup. Sample Time:	
Notes:	n NGD	UITH	BAIC	EL_							
						-	Duraina	and *Ct	abilizatio	nn Data	
Time	Volume	Temp	Spec. Cond.	DO (mg/L)	_11	000 (**) 0	Turbidity				
(24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	*± 10%	рН *± 0.1	<b>ORP</b> (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes	
1228-14	ę.				RT PURG	ING					
1500	12	7,13	130	5,44	6,40	190,5	202,4	30,67	NA		
1515	io L	3.75	151	2.25	6.83	96,2	71.81	2069	NA		
1530	181	3.75	152	2.21	7.05	560	101.7	31	NA		• •• ••
1535	27	3.80	152	2,30	7.07	53.Z	138.2	31.0	NA		
1544	K.	3.98	1.54	2.21	7,07	49.9	102.1	-33.6	NA		
1554	45	3.84	155	2.18	711	48.3	144.4	34.2	NA		
1600	54	3.89	155	2,20	7.12	46.3	190.1	35.6	NA		
1605	63	3.80	156	2.17	7.16	46.8	189.7	36.6	NA		
1610	72	3.86	157	2.15	7.17			41.02	NA		
1625	81	3.97	154	2,19	7.24	48.2	77.93	38.22	LNA		•
1633	90	3.84	155	2.14	7.14	15,4	21.54	34.90	NA		
1640	99	3,82	154	221	7.18	49.5	9.16	35,13	NA		
1649	108	3.96	162	2.25	7,22	42.3	68.78	3A,N	NΑ		
							-				
1700										SAMPLE, 6 WELLBORE VOLUMES	REMOVED
						·				SAMPLED WITH BAILER NOT BLADDER	
								× 1			
	-								Ģ		
									_		
							NO				
										· · · ·	
							Sample	d?: Ye	s 🏹 🛛	No 🗆	
Initial of Sar	mpler:	140									Page 2 of 2

Sum Consul	lance 15		, – –	undwater Collection Log	5
Project Name:	Red Devil Mine		Sample Location:	MW <i>_SB</i>	
Project No.:	BU06-007		Sample ID:	0621MW58 GW	/
Sample Type:	GW		Date:	6/7/21	
Pump Type:	Peri/Bladder	Parler D	Time:		
Transducer: (	Yes / No	DOLINICADED	COC #:		
Sample Team:	CR/GG7JP	6111300	Trip Blank ID:		LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL★\	plastic	unfiltered	Nitric	ambient	180 days/28 days *	12/7
Total LL Mercury	8 oz ⊀ i	glass	unfiltered	None	4°C	48 hours/14 days⁺	44
Dissolved LL Mercury	8 oz 🔀 i	glass	filtered	None	4°C	48 hours/14 days $^{+}$	MM

Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time.

3 BOTTLES

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By:

2

**Reviewed By:** 



Client/Site:	BLM Red Devil Mine		Well ID.:	MW 59	
Contract No.:	140L6321C0001	Project No.:	BU06-007		
Date:	6-8-21	Samplers:	J. PARSE	M	···
Time Start:	1350 Hertes /350		C. RUST	- 1 <u>11</u>	
Time Finish:	1545	Checked By:	CER	······································	
Well & Purge Info	ormation	- · · · · · · · · · · · · · · · · · · ·			
ुTD (ft. bTOC):	157.20 TOP of Rung At	Scre	ened interval (ft.):		
DTW (ft. bTOC):	133.22 ft				
Water Column:	ft	TD-DTW≕Water Col	umn		
Liter/Foot:	Uft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	L.	Liters in Well x 3		5/8"	0.06
Sample Depth:	151.20 ft	Depth of Pump Intak	e	2"	0.605
				4"	2.47
Field Equipment			. •		
Multiparameter Water Quality Meter:	VSI	Serial No.:	11 FIO 22	78	
Water Level Meter:	Solinst	Serial No.:	29499		
Turbidity Meter:	Mico TPW	Serial No.:	2020 0837		
-					
Pump Type:	GEOTECH BLADDER	Serial No.:	<u>NA</u>	<u>_</u>	······
Purge Method:			A CPMI	85 to 90 /31	
Peristaltic Pump	🗆 Inertial	☐ Other			
🕅 Bladder Pump:	Optimum Flow Rate Set at 30_S	econds Refill <u>30</u>	Seconds Discharg	le	
Sampling Method:	· · · · · · · · · · · · · · · · · · ·			new manuficki	
Peristaltic Pump	Inertial	☐ Other	•		
🕅 Bladder Pump :	Optimum Flow Rate Set at Set	econds Refill	_Seconds Discharg	e	
Sample Collection		·····	MS/MSD7:	Yes 🗆	No
Parameter *	# Containers (fill in for each well)	Preservative	Method	Container Type	Note
TAL Metals	1 250mL	MITRIC		Plastic	
DISS LL HZ	1 <del>2001 802</del> 1 802	NONE NONE		61455 61455	
	<u> </u>	NOVE		6127	
			- All and a second s		
		0 <sup>pl</sup>			
		- Yerren and a second s			
· · · · · · · · · · · · · · · · · · ·					
and the second					
C. C					

Well ID: M	W 59			Sample ID:		0621M	W509	GW		Sample Time: $/505$
Date:	6			Dup. Sample				<u> </u>		Dup. Sample Time: NA
Notes:	VA			•			· ·			· · ·
· · ·					• • • •					
	Volume	Тетр	Spec. Cond.				Purging Turbidity		abilizatio	n Data
Time (24 hrs)	Removed	*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0,1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
<u> </u>		/ _ ···		STAF	T PURG	NG		I.		
1400	0,015	8:39	394	11.56	7,19	115.3	9,49	133,21	0.015	LOTS OF BUBBLES IN LINE, TURBITY OF WATER IN LINE
1405		8.76	400	9.67	7,11	97.8	105.5	133.21	0.95	1
1410		8.88	403	8.92	7.08	88.5	112.5	133,929	0.015	
1415		8195	405	8.12	7.08	83.2	165.3	133.36	0.015	
1420		7,11	408	7,87	7.06	79.5	141.6	133.22	0.015	Bun care out in shade but heating up
1425		7118	410	7.22	7.05	73.3	129.7		hois	
1430		9.16	410	6197	7.05	69.8	141.3	133.24	0.015	
1435		9.26	411	6.39	7.04	65.1	134.1	133,24	0.015	
14 4Ò		9.27	412	6.40	7.05	64.1	129.4	133.24	0.015	BED BROWN ALGER IN WATER, HIGHER TORBOTTY
1445		9,51	413	6,43	7.03	58.5	125.8	133.24	0.015	
1450		9.52	414	6:47	7.03	56.9	112.5	133.24	0.015	AD Blan AUSTA
1455		9,75	417	6.45		54.5	127.5	133.24	10.015	<u>(† )/</u>
1500		9.85	418	5.97	7.03	53.8	112.2	133,24	0.015	h 17
1505	SA	WED								
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							and the second s			
	<u>-</u>					(	P-			
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	r	1								
						-	Sample	d?:Ye	es 🗙 M	
Initial of Sa	mpler:	UPL								Page 2 of 2

Sund Consult	lance 15				undwater Collection Lo	g	
Project Name: Project No.: Sample Type:	Red Devil Mine BU06-007 GW	• •		Sample Location: Sample ID: Date:	MW 59 0621MW 59GV	N	
Pump Type: Transducer: Sample Team:	Peri / Bladder Yes / No	TO MAN-30 TO MAN-6 Down	NEXT 59 WADD>		1505	LL Mercury (only)	
Methods (listed in prioritized order)	Sample Volume		Filtered/	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL X i	plastic	unfiltered	Nitric	ambient	180 days/28 days *	CR
Total LL Mercury	8 oz 🔨 l	glass	unfiltered	None	4°C	48 hours/14 days⁺	CR
Dissolved LL Mercury	8 oz X/	glass	filtered	None	4°C	48 hours/14 days <sup>+</sup>	COL

Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time.

3 BOTTLES

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+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

SAMPLE OULY

olleer

Logged By:

**Reviewed By:** 

Sundance Consulting Inc. May 2021



Client/Site:	BLM Red Devil	Mine			Well ID.:	MWOG				
Contract No.:	140L6321C000	1		Project No.:	BU06-007	<u> </u>	-			
Date:	8/29/2021			Samplers:	66-					
Time Start:	1\$15			-						
Time Finish:	1620			Checked By:	cked By: RIWIHLY					
Well & Purge Info	ormation									
TD (ft. bTOC):	26.17	ı	ft	Scree	ened Interval (ft.):	· · · · ·				
DTW (ft. bTOC):		00	ft							
Water Column:	7.15	/	ft	TD-DTW=Water Colu	umn					
Liter/Foot:	0.605 L/ft			See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:		1.32	L	Water Column x L/fl		Well Diameter	L/ft			
Three Well Volumes:		2.96	L	Liters in Well x 3		5/8"	0.06			
Sample Depth:			ft	Depth of Pump Intake	Э	2"	0.605			
						4"	2.47			
Field Equipment		· · · · ·								
Multiparameter Water Quality Meter:	YSI 556				38 C. IN Und					
-		<u>~</u>		Serial No.:	106-101 486	· · ·				
Water Level Meter:	Solinst 10	ol		Serial No.:	294991		<del></del>			
Turbidity Meter:	MicroTPW		. <u> </u>	Serial No.:	2018 10324	·	<del>.</del>			
Pump Type:	Alexis Per	istablic_		Serial No.:	90648	<u></u>				
Purge Method:	•									
卤 Peristaltic Pump		Inertial		Other:						
🗇 Bladder Pump:	Optimum Flow Ra	ate Set at	S	econds Refill	Seconds Discharg	ae				
Sampling Method:					······································		х 			
🖄 Peristaltic Pump		Inertial		Other:						
Bladder Pump:	Optimum Flow Ra	até Set at	S	econds Refill	Seconds Discharg	ge				
Sample Collection	n Informatio	n			MS/MSD? :	Yes 🗆	No pr			
Parameter	# Containers	Filtered	?	Preservative	Method	Container Type	Initials			
TAL Metals	1	No		Nitric	6020B LL, 7470A		A.4			
Total LL Mercury	1	No		None	1631 LL Hg	8oz Amber Glass	y y			
Dissolved LL Mercury	/	Yes		None	1631 LL Hg	8oz Amber Glass	HH-			
	· · · · ·									
<u></u>										
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						·····				

Well ID: M	WBb			Sample ID:	0821 N	WOLG	ω		Sample Time: 1555			
Date: $g/\mathcal{F}$	3/2021			Dup. Sample		NA				Dup. Sample Time:		
Notes:	£											
							Burging	and *Ct	abilizatio	n Data		
	Volume	Temp	Spec. Cond.			077 ( )0	Turbidity	i i				
Time (24 hrs)	Removed	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	DO (mg/L) *± 10%	pH *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	D <b>TW</b> (ft)	Flow Rate	Color/Odor/Notes		
152D				STAF	RT PURG		,					
1530	1,0	6.16	272	2.80		75,5	36.90	19.03	Oil			
53 <b>5</b>	1.5	5,84	255	0.92	6.60	57,2		19.03	0,1			
	2.0	5.74	245		6.67	55,4	13.43	19.03	0,1			
1544 1548		5.62				54.5		19.03				
1548	2.8		241	0,62	6.72	49.2	7.30	19,03				
1552	3.2	5.54	240	B.58	6.74	47.8	9.58	19.03	0.1			
1555										Collect Sample 0821 MW0666W		
										,		
		-					· .					
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						,						
			·									
			-				Sample	ed?: Ye	s 🛒 N	No 🗆		
Initial of Sa	nitial of Sampler. 195 g 110 Page 2 of 2											



Client/Site:	BLM Red Devil	Mine		Well ID.:	MWO9			
Contract No.:	140L6321C000	1	Project No.:	BU06-007				
Date:	3-29-2		Samplers:	J PARSO	N			
Time Start:	1115		-	R WITTL	-ER			
Time Finish:	1220		Checked By:	RWIH	ter			
Well & Purge Info	rmation				•			
TD (ft. bTOC):		ft	Scre	ened Interval (ft.):				
DTW (ft. bTOC):	25.30	ft						
Water Column:	27.71	ft	TD-DTW=Water Col	umn				
Liter/Foot:	0.605	L/ft	- See ***Well Volume	Calculation*** table	***Well Volum	e Calculation***		
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft		
Three Well Volumes:	-	L	Liters in Well x 3		5/8"	0.06		
Sample Depth:		ft	Depth of Pump Intak	e	2"	0.605		
					· 4"	2.47		
Field Equipment								
Multiparameter Water Quality Meter:	Y51 5	56 Mps	Serial No.:	OGEIC	6724			
Water Level Meter:	SamsT	101	Serial No.:	77297				
Turbidity Meter:	HF MICI	to TPW	Serial No.:	20200		· · · · · · · · · · · · · · · · · · ·		
Pump Type:	BLADDE	R	Serial No.:	NA				
Purge Method:								
Peristaltic Pump		Inertial	☐ Other					
- /			Seconds Refill 2	<u> </u>	 1e			
Sampling Method:						*		
Peristaltic Pump		Inertial	C Other	·				
IX Bladder Pump:	Optimum Flow Ra	ate Set at <u>13</u> s	econds Refill 2	_Seconds Discharg	je @ 30	ipsi		
Sample Collection				MS/MSD?:	Yes 🗆	No 🛒		
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials		
TAL Metals Total LL Mercury		No No	Nitric None	6020B LL, 7470A	250 ml Plastic 8oz Amber Glass	Stores-		
Dissolved LL Mercury		Yes	None	1631 LL Hg 1631 LL Hg	802 Amber Glass			
						2233		
<u> </u>	<u> </u>							
						· · · · · · · · · · · · · · · · · · ·		
				1		·		
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Well ID: M	WO9			Sample ID: C	23211	POWN	GW			Sample Time: 1215									
Date: ターン	1-21			Dup. Sample						Dup. Sample Time:									
Notes:																			
	Volume	Temp	Spee Cond	·				and *Sta	abilizatio	n Data									
Time (24 hrs)		*± 3% °C, min ±_0.2°C	Spec. Cond. (µS/cm) * ± 3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	Turbidity (NTU) *± 10%	<b>DTW</b> (ft)	Flow Rate L/min	Color/Odor/Notes									
1135					RT PURGI	NG													
1140		5.76	166	1.70	675	3,6	21.44	25.30	0.2										
1145	2,0	5.53	162		6.53	4.2	20,90												
1148	2.6	5,47	161	0.72	6.46	4.0	23.21	26.15	0.2										
1151		5.58	160	0.74	6.40	-2.6		76.20											
	3.8_	5,52	161	0.75	6.39	0,3	21.21	26.25	0.2										
1157		5.46	162	0,91	6.35	-1.0	18.90	26,32											
1200	5.0	5,47	165	1.09	6.32	-3;7	13.37	26,65	02										
203	5.6	5.42	67	1.17	6.31	-4.2	10,59	26.73	0,2										
1206	6.2	5,41	169	1.20	6.30	-5.2	10.51	26,80	0.2										
1209	6.8	5,46	171	1.20	6.33	-6.4	8.54	26.93	0.2										
									•										
<b></b>																			
							Sample	d?:Ye	s 🕅 N	o 🗆									
Initial of Sar	npler: 🧲	YAO-						nitial of Sampler: CARCH Page 2 of 2											



Client/Site:	BLM Red Devil	Mine	· · · · · · · · · · · · · · · · · · ·	Well ID.:	MNIO	· · · · · · · · · · · · · · · · · · ·					
Contract No.:	140L6321C000	1	Project No.:	BU06-007							
Date:	8-29-21		Samplers:	J PARSON	]						
Time Start:	0900			R WITTLE							
Time Finish:	1100		- Checked By:	Riwittler							
Well & Purge Info											
TD-(ftr-bTOG):	55,22	, TO PUMP H	Screened Interval (ft.):								
DTW (ft. bTOC):	30.10	ft									
Water Column:		ft	- TD-DTW=Water Col	TD-DTW=Water Column							
Liter/Foot:	0.605		- See ***Well Volume		***Weli Volume	Calculation***					
Liters in Well:	<u> </u>	L	- Water Column x L/ft		Well Diameter	L/ft					
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06					
Sample Depth:		ft	<ul> <li>Depth of Pump Intak</li> </ul>	e	2"	0.605					
	-			4" 2.4							
Field Equipment	•				· · · · · ·						
Multiparameter Water	VCI CCC										
Quality Meter:	YSI 55G	MłS	Serial No.:	09 E100 724							
Water Level Meter:	SELINST	101	Serial No.:	77297							
Turbidity Meter:	HF MKRO	TPW	Serial No.:	202007	903	· · · · · · · · · · · · · · · · · · ·					
Pump Type:	BLADDER		Serial No.:	NA							
Purge Method:			· · ·								
Peristaltic Pump		Inertial	Other	-		· · ·					
🛛 Bladder Pump:	Optimum Flow R	ate Set at 7.5 s	Seconds Refill 7.5	Seconds Dischard	ne .						
Sampling Method:					,						
Peristaltic Pump		Inertial	Other								
🖾 Bladder Pump :	Optimum Flow R	ate Set at 7.5 s	Seconds Refill 7.5	Seconds Dischard							
					<u> </u>						
Sample Collection	# Containers	Filtered?	Preservative	MS/MSD? : Method	Yes 🕅 Container Type	No □ Initials					
TAL Metals	3	No	Nitric		250 ml Plastic	()R)					
Total LL Mercury	3	No	None	1631 LL Hg	8oz Amber Glass	EN20					
Dissolved LL Mercury	3	Yes	None	1631 LL Hg	8oz Amber Glass	SAR					
				-							
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<u>-</u>											
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											Low-Flow Groundwater Sample & Stabilization Form			
<u> </u>	/ell ID: M	WIO			Sample ID: (	08211	vw10	GW			Sample Time: 1045			
		.29-			Dup. Sample						Dup. Sample Time:			
Ň	otes:													
			Ĵ.											
⊢		Volume	Temp	Spec. Cond.	<u> </u>			Purging Turbidity	1	abilizatio	n Data			
	Time (24 hrs)		*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes			
F	1000	<u>          (=)                          </u>	<u> </u>	1 1370	STAF		ING	1 102	<u> </u>	<u>I</u>				
	015	1	6.64	270	4.25	4.96	169.8	3,45	31.0	0.2				
	020	2_	5.76	208	0.54		242.6	1.05	31.72					
1	c23	2.6	5.45	193	0.60	3.32	232,5	0.78		0.2				
1	026	3.2	5.33	187	6.49	3.51	217:7	0.71	32.23	F				
4	029	3.8	5.32	185	0.42	3.80		0.98	32.30					
ł	032	4.4	5,26	183	0.39	4.07		2.53	31.30	0.2				
ì	035	5,0	5.20	182	0:36	4.41	159.1	1.71	31.44	0.2				
1	03%	5.6	5.20	182	0.32	4.48			31.60	0.2				
1	041	6.2	5.19	18Z	0.30	4.49	153,5	1,43	3.54	0.2				
		•												
L														
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	-													
L								Sample	d?: Ye	s 🛛 🕴	lo 🗆			

Initial of Sampler:

Page 2 of 2



Client/Site:	BLM Red Devil	Mine		Well ID.:	MW 14						
Contract No.:	140L6321C000	1	Project No.:	BU06-007							
Date:	8/29/2021	,	Samplers:	GG/R							
Time Start:	0945	•	_								
Time Finish:	1100		- Checked By:	R.WITTLEY							
Well & Purge Info					· · · · ·						
TD (ft. bTOC):	24.12	ft	Scre	Screened Interval (ft.):							
DTW (ft. bTOC):	13.54	ft	-		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·					
Water Column:	10.58	, ft	– TD-DTW=Water Co	TD-DTW=Water Column							
Liter/Foot:	0.60	لا کے	- See ***Well Volume	Calculation*** table	***Well Volume	Calculation***					
Liters in Well:	6.4	L	- Water Column x L/ft	:	Well Diameter	L/ft					
Three Well Volumes:	19.2		- Liters in Well x 3		5/8"	0.06					
Sample Depth:		ft	<ul> <li>Depth of Pump Intal</li> </ul>	(e	2"	0.605					
. •	<b>.</b>		-		4" 	2.47					
Field Equipment			······································								
Multiparameter Water Quality Meter:	YSI 556	*		AL IAS UP	1.						
			_ Serial No.;	106101486 2011991							
Water Level Meter:	Solinst		_ Serial No.:	294991							
Turbidity Meter:	MicroTPW)		_ Serial No.:	20181038		· · · · · · · · · · · · · · · · · · ·					
Pump Type:	Alexis Peris	taltik	Serial No.:	1176570	9						
Purge Method:	-		-		· .						
Peristaltic Pump		Inertial	🗆 Othe	r:		•					
Bladder Pump :	Optimum Flow Ra	ate Set at S	Seconds Refill	Seconds Discharg	ge						
Sampling Method:				· .	-						
- Peristaltic Pump		Inertial	🌾 🗌 Othe	r:							
Bladder Pump:	Optimum Flow R	ate Set at S	Seconds Refill	Seconds Discharg	je						
Sample Collectio	n Informatio	n		MS/MSD? :	Yes 🗆	No 🗙					
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials					
TAL Metals	1	No	Nitric	6020B LL, 7470A		the the					
Total LL Mercury	ļ	No	None	1631 LL Hg	8oz-Amber Glass	12.13					
Dissolved LL Mercury	<u> </u>	Yes	None	1631 LL Hg	8oz Amber Glass	为水					
	-		· · · · · · · · · · · · · · · · · · ·								
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					<u>k k</u>	1.							
[	1016			Sample ID:		H RD MI	ừ tự	0821 M	wi46	ω		ample Time: 1045	
Date: 8/	<del>99 / 20</del>	21		Dup. Sample	ID:	NA					0	up. Sample Time: MA	
Notes:						۲ <u>.</u>							
							Duranina	and *Ct	- hili-atia	n Data			
<u> </u>	Volume	Temp	Spec. Cond.				Turbidity		abilizatio	n Data		· · · · · · · · · · · · · · · · · · ·	
Time (24 hrs)	Removed	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate			Color/Odor/Notes	
0945	:			STAF	T PURG	NG							
0752	1.4	6.79	541	3.87	6.05	-59,9	33.44	13.54	0.2	-			
0958	2.0	7.21	529	1.57	4.39	-0,5	29.96	14.56	0.1				· · · · ·
1003	2.5	7.25	529	1.32	6.41	16.9	27.66	14.56	0.1				
1007	2.9	7.32	<u>528</u>	1.09	6.44	55.0	25,43	H.56	0,1				
1011	3.3	7.41	528	0,99	6.44		21.50	14.56	0.1				-
1015	3.7	7.54	528	0,89	6.44	61.8	16.65	14.56	0,1				
pib	4,0	7.67	529		6.45	62.4	16.32	14.56	0.1				
1021	4.3	7,73	530	0,85	646	64.6	14.86	14.56	0.1				
1024	4.6	7.82	5.34	6,77	647	66.3	10.81	14.56	0,1				
1028	5,0	7,86	541	0.70	6.46	56,3	15.12	14.56	<i>0.</i> [				
1031	5.3	7,81	542	6,73	6.47	53,3	15.04	14-56	0,1				
10.34	5.6	7.69		0.74		50,7	21.77	14.56	0,1				
1037	5.9	7.68	540		6,49	48.5	7,76	14.56	0.1				
1040	6.2	7.70	541	0.68	6.49	48,2	6.50	14.56	0:1				
1043	6.5	7,71	542	0.73	6.49	46.8	6,21	14.56	0,1				
1045										Collect	Semple	OBDI MWILGW	
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							Sample	ed?:Ye	s 🖄 I	No 🗆			

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Initial of Sampler: 66



Client/Site:	BLM Red Devil	Mine		Well ID.:	MWI7	
Contract No.:	140L6321C000		- Project No.:	BU06-007	_//(W 1 - 7	
Date:	8/29/2021		Samplers:	<u>66</u>		
Time Start:	1130		- gamhterar			
Time Finish:			- Observational Days	RIVITAL	A A	
	1300		Checked By:	RUMITC	<u>v/v</u>	
Well & Purge Info						
TD (ft. bTOC):	<i>55.8</i> 0	ft	Scre	ened Interval (ft.):	-	
DTW (ft. bTOC):	15.92	ft	-			
Water Column:		ft	TD-DTW=Water Co	lumn		
Liter/Foot:	0.1	605 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***
Liters in Well:	<u></u> 24	1.14 L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:	72	,4 L	Liters in Well x 3		5/8"	0.06
Sample Depth:		ft	- Depth of Pump Intal	æ	2"	0.605
		· _ ·			4"	2.47
Field Equipment						
Multiparameter Water					· · · · · · · · · · · · · · · · · · ·	· · ·
Quality Meter:	<u>YSI 55</u>	56	Serial No.:	106 101 48	76	
Water Level Meter:	Solinst	102	Serial No.:	294991		
Turbidity Meter:	MicroTPW		Serial No.:	2018 1038	24	
Pump Type:	Alexir Per	ristaltic	Serial No.:	90048		
Purge Method:	·····		· · · · · · · · · · · · · · · · · · ·			
_ ⊠ Peristaltic Pump		Inertial	🗆 Othe	r:		
Bladder Pump:	Optimum Flow R	ate Set at S	Seconds Refill	Seconds Discharg	je	
Sampling Method:	. <u></u>					
🛛 Peristaltic Pump		Inertial	⊡ Othe	r:		
Bladder Pump:	Optimum Flow Ra	ate Set at S	Seconds Refill	_ Seconds Discharg	je	
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗆	No 🗆
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials
TAL Metals		No	Nitric		250 ml Plastic	JI JI
Total LL Mercury	<u> </u>	No	None	1631 LL Hg	8oz Amber Glass	54
Dissolved LL Mercury	<u>                                      </u>	Yes	None	1631 LL Hg	8oz Amber Glass	M. H.
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well ID: بند زمد	ハマ			Sample ID:	0821.	MWI7G	$\omega$			Sample Time: 1215			
Date: $\mathcal{B}/\mathcal{Q}$ Notes:	9/202	4		Dup. Sample	ID:					Dup. Sample Time:			
Notes:					·								
								and *St	abilizatio	n Data			
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes			
1150									-				
1200	1,0	7.29	160	8,38	7.33	135,5	2.45						
1203	1.3	7.28	160	7.91	7,32	141.1		15.92					
1206	1,6	7.23	160	7.88	7,33	146.3	1.86	15.82					
1209	1.9	7.24	160	7.91	7,34	150.4	2.50	15.92	0.1				
1212	3.2	7.22	159	7,83	7.34	156.0	111	15,92	0:1				
1215										Sample 0821 MWIZGW			
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		4		1			Sample	d?: Ye	s 🖄 N	o 🗆			
Initial of Sar	nitial of Sampler. A Page 2 of 2												
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Client/Site:	BLM Red Devil	Mine	-	Well ID.:	MW26	
Contract No.:	140L6321C000	1	Project No.:	BU06-007		
Date:	_ 8-30-	21	Samplers:	J PARSO	N	
Time Start:	0845		•	RWITTLE		
Time Finish:			Checked By:	R.WH	1 4	
Well & Purge Info	rmation			•		
和 (ft. bTOC): 10 PJM	p 38.6	ft	Scree	ened Interval (ft.):		
DTW (ft. bTOC):	36.24	- ft	_			
Water Column:		ft	TD-DTW=Water Colu	umn		
Liter/Foot:	_	L/ft	See ***Well Volume	Calculation*** table	***Well Volume	e Calculation***
Liters in Well:		L	Water Column x L/ft	· _	Well Diameter	L/ft
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06
Sample Depth:		ft	Depth of Pump Intake	e	2"	0.605
			- · ·		4"	2.47
Field Equipment						
Multiparameter Water Quality Meter:	YSI 556	MPS	Serial No.:	106-1014	21	
-			•			
Water Level Meter:	SULINGT	10)	Serial No.:	77262		
Turbidity Meter:		TPW	Serial No.:	2018103	524	
Pump Type:	TIT MINI	BRADDER	Serial No.:	092	· ·	
Purge Method:						
Peristaltic Pump		Inertial	□ Other	:		
🖾 Bladder Pump :	Optimum Flow R	ate Set at <u>12</u> S	econds Refill <u>3</u>	Seconds Discharg	ge	u.
Sampling Method:			· ·		·	.81
Peristaltic Pump		Inertial	☐ Other:	:		<b>'#</b>
🛛 🕅 Bladder Pump	Optimum Flow R	ate Set at <u>12</u> S	econds Refill <u>3</u>	Seconds Discharg	ge@25 psi	
Sample Collection	n Informatio	n		MS/MSD7 :	Yes 🗆	No 🙀
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials
TAL Metals		No	Nitric	6020B LL, 7470A		933
Total LL Mercury Dissolved LL Mercury	1	No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass 8oz Amber Glass	
Dissolved LL Mercury	- <u> </u>	Yes	None		1002 Alliber Glass	Const Con
· · · · · · · · · · · · · · · · · · ·						
				· · · · ·	· ·	

Well ID: 🔊	w26			Sample ID:	082	IMW2	L6GW	Sample Time: 1100		
Date: Q ~?		1		Dup. Sample						Dup. Sample Time:
Notes:										
					-		<b>B</b>		- 1- 112 47 -	
	Volume	Temp	Spec. Cond.	r	<b>I</b> i	1	Purging Turbidity			n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	pH` *±0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
0945		· · · · · · · · · · · · · · · · · · ·	· · · · · ·	STAF	RT PURG	ING		-		
0945 1025	1.6	9.54	819	4,46	6.52	0.3			0.04	
1028	1.72	9.52	ଞ୍ଚାଷ୍ଠ	4.3A	6.51	1.6	37.45	36.25	0.04	
1031	1.84	9.47	814		6.51	0.4	34.72	36,25	0.04	· · · ·
1034	1.96	9.48	314	4.78	6.51	0.4	34.10	36.25	0.04	· · · ·
1037	2,68	9.50	814	4.93	6.51	0.2	23,64	34.24	0.04	•
1040	2.20	9.5\$	817	4.82	6.50	0.1	26.16		0,04	
1043	2.32	9.56	819	4.91	6.52	-0.7	27.04	36.25	0.04	
1046		9.57	821	4.99	6:52		27.20	36.25	0.04	
1049		9.54			6.52	-2,4	26.68			
1052	2,68	9.61	826	4.92	6.52		27.24			
1055	2,30	9.69	829	5.00	6.52	-4.5	25.95	36.24	0.04	
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		:								
							Sample	d?:Ye	⊧s⊠ I	lo 🗆
Initial of Sa	mpler: 🧲	HE CY	2	1. 10 March				:		Page 2 of 2

#### Sundance Consulting Inc.

# Low-Flow Groundwater Sampling & Stabilization Form

Client/Site:	BLM Red Devil	Vine		Well ID.:	MW27			
Contract No.:	140L6321C000 <sup>4</sup>	l	Project No.:	BU06-007				
Date:	8/30/202	/	Samplers:	CG-				
Time Start:	0915		_					
Time Finish:	1045		 Checked By:	Riwittler				
Well & Purge Info	rmation	· · · · · · · · · · · · · · · · · · ·						
TD (ft, bTOC):		ft	Scre	ened Interval (ft.):				
DTW (ft. bTOC):	30,92	ft	_	( )				
Water Column:		ft	 TD-DTW=Water Col	lumn				
Liter/Foot:	0.605	L/ft	<ul> <li>See ***Well Volume</li> </ul>	Calculation*** table	***Well Volume	Calculation***		
Liters in Well:	P	L	 Water Column x L/ft		Well Diameter	L/ft		
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06		
Sample Depth:		ft	 Depth of Pump Intak	æ	2"	0.605		
			-		4"	2.47		
Field Equipment					<u> </u>			
Multiparameter Water	1165 rel.				5 a - 204			
Quality Meter:				09E 100 724				
Water Level Meter:	Solinst		Serial No.:	2949				
Turbidity Meter:	Micro TPI		_ Serial No.:	· ·	007903			
Ритр Туре:	Bladder	· .	Serial No.:	MP50-136:	5			
Purge Method:								
Peristaltic Pump		Inertial	Other	••				
🗹 Bladder Pump	Optimum Flow Ra	ate Set at 👂	Seconds Refill 🧕 🧿	Seconds Dischard	ge <i>4 c.pm C</i>	22 psi		
Sampling Method:				<b>`</b>				
Peristaltic Pump		Inertial	□ Other	[]				
🗹 Bladder Pump:	Optimum Flow Ra	ate Set at <u>/2</u>	Seconds Refill 3	_ Seconds Discharg	ge 4cpm @ 22	psl		
Sample Collection			··	MS/MSD? :	Yes 🗆	No ję		
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials		
TAL Metals	3	No	Nitric	6020B LL, 7470A		19.9		
Total LL Mercury	3	No	None	1631 LL Hg	8oz Amber Glass	14 Ju		
Dissolved LL Mercury	3	Yes	None	1631 LL Hg	8oz Amber Glass	Ny In		
	<u>,</u>							
	<b>†</b>							
		· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·		

N. . .

Well ID: MW27 Sample ID: 0821 MW2760										Sample Time: /0/0
Date: 8	/30/;	202)		Dup, Sample	in 74	al MWg	BGW			Dup. Sample Time: 1020
Notes: Exe	ra volum	re collecte	d and	fuolicate .						• • • • • • • • • • • • • • • • • • • •
									•	
	Volume	Тетр	Spec. Cond.	1			Purging Turbidity	1	abilizatio I	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
0915	· ·				RT PURG				0.15	
0925	1.4	5-61	452	4,30	3.80	23,0	2.44	31.34	C.A.S	0.125
0932	21	5,60	448	1.66		55.7	3.86	31.34	0.125	
0935	2.5	5.60	447	1.42	4.30	46.5	3.67	31.34	0.125	
0940	3,0		445	1.09	4.53	24.4	2,39	31.34	0,125	•
0945			444	0:93	4.72		2.55	31.34	0.125	
0950		5.53					1.32	31.34	0,125	
<u>0955</u>	4.9	5,52	444			-23.1	0.71	31,34	0,125	
1000	5H	5.52	444-		5.10	-27.5	1.37-	31,34	0,125	
1005	6.0	5,50	444	0,80	5.14	-30,1	1.44	31.34	0.125	
j010										Collect Soft 6 1010
										•
									-	· · · · · · · · · · · · · · · · · · ·
										· · · · · · · · · · · · · · · · · · ·
										•
		· >					Sample	d?: Ye	s 🖾 🛚 🛉	
Initial of Sa	mpler:	rje L								Page 2 of 2



Client/Site:	BLM Red Devil	Mine		Well ID.:	MNZ8				
Contract No.:	140L6321C000	1	Project No.:	BU06-007					
Date:	8-29-2	l .	Samplers:	_T PARS	N				
Time Start:	1500			R WITTLER					
Time Finish:	1740		- Checked By:		R.Wittler .				
Well & Purge Info	rmation	······································				· · · · · · · · · · · · · · · · · · ·			
TEP (ft. bTOC): Ter But	r58.02	ft	Screened Interval (ft.):						
DTW (ft. bTOC):	29,51	ft							
Water Column:		ft	- TD-DTW=Water Col	lumn .		· · · · · · · · · · · · · · · · · · ·			
Liter/Foot:		L/ft	 See ***Well Volume	, Calculation*** table	***Well Volume	e Calculation***			
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:		L	Liters in Well x 3		5/8"	0,06			
Sample Depth:		ft	Depth of Pump Intak	e	.2"	0.605			
·					4"	2.47			
Field Equipment				-					
Multiparameter Water Quality Meter:	YS1 556	MPS	Serial No.:	9E1007	24	. م ب ب			
Water Level Meter:	SOLINS	-	- Serial No.:	77297					
Turbidity Meter:		O TRW	Serial No.:	202007	-	· · · · ·			
Pump Type:	BLADDER		- Serial No.:	NA					
				·····	·····				
Purge Method:						·			
Peristaltic Pump		Inertial	☐ Other	··					
🖾 Bladder Pump : 🛛 🤇	Optimum Flow Ra	ate Set at <u>23</u> s	Seconds Refill	_ Seconds Discharg	је				
Sampling Method:	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de								
Peristaltic Pump	·	Inertial	Other			-			
⊠ Bladder Pump : 0	Optimum Flow Ra	ate Set at <u>23</u> s	Seconds Refill 7	_ Seconds Discharg	ge @ 40 pe	51			
Sample Collection				MS/MSD?:	Yes 🗆	No 🛒			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metals Total LL Mercury	[	No No	Nitric None	6020B LL, 7470A	250 ml Plastic 8oz Amber Glass	900			
Dissolved LL Mercury	1	Yes	None	1631 LL Hg 1631 LL Hg	802 Amber Glass	200			
		100		TOOT LE Hig		130			
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			·						
- 					··········				

Well ID: MN	128			Sample ID:	0821	MWZ9	GW			Sample Time: 17-30
Date: g-Zo				Dup. Sample						Dup. Sample Time:
Notes:										
	Volume	Temp	Spec. Cond.	l	1	1	Purging Turbidity	1	abilizatio	n Data
Time (24 hrs)	Removed (L)		(µS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
-	1650		ł		RT PURG					
1653	0,9	5.80	243			-7.2	84.4	29.7		<u></u>
1656	1.8	5.54	241	0.73	6.07	-1.0	59.65	29.7	0,3	
1659	2.7		239	0.62	5,96	-1.1	57.64	29.9	0.3	
1702	3.6				5.89	-4.3	36.98	29.80	0.3	
1705	4.5	5.25	237	0,45	5,6	-8.3		29.82		
1708	5.4	5:23	237	0.44	5.17	-15.7	28.43	29.82	0.3	
1711	6.3	5,24	236	0.45	6.08	-24.1	22.52	29.83	0.3	
1714	7.2	5.24	236	0.45	6.16	-29.5	19.92	29.82	0.3	
1717	S.I	5.20	236		6.25	-36.1	15,42	29.80	0.3	
1720	9.0	5,20	236	0.41	6.32	-40.0	13.04	29.84	0.3	
1723	9.9	5.23	236	038	6,36			29.8Z		
1725	1.5	5,23	236	0.37	6.36	- 43.8	9.72	29.82	0.3	
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Initial of Sampler.

Page 2 of 2



Client/Site:	BLM Red Devil I	Vine		Well ID.:	MWZ9					
Contract No.:	140L6321C0001		Project No.:	BU06-007	<u>.</u> .					
Date:	9-2-21		Samplers:	J PARSON						
Time Start:	1500			R WITTLER						
Time Finish:	1655		- Checked By:	RIWITT						
Well & Purge Info	rmation		•							
TO TO PU	MP 68.40	ft	Screened Interval (ff.):							
DTW (ft. bTOC):	64.00	ft	· /							
Water Column:		ft	- TD-DTW=Water Colu	ımn						
Liter/Foot:		L/ft	- See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***				
Liters in Well:		. · L	- Water Column x L/ft		Well Diameter	L/ft				
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06				
Sample Depth:		ft	Depth of Pump Intake		2"	0.605				
			-		4"	2.47				
Field Equipment										
Multiparameter Water Quality Meter:	Y51 556	MDS	Serial No.:	106-101 4	-86					
Water Level Meter:	SOLINST	102	Serial No.:	294991						
Turbidity Meter:	HF MICRO		Serial No.:	202007	405					
-	BLADDER	· · ·	•							
Pump Type:			Serial No.:	NA		· · · · · · · · · · · · · · · · · · ·				
Purge Method:	· .		· .	•.						
Peristaltic Pump		Inertial	Other:		• .					
😡 Bladder Pump :	Optimum Flow Ra	ate Set at <u>23</u> s	econds Refill <u>7</u>	Seconds Dischar	ge					
Sampling Method:										
Peristaltic Pump		Inertial	☐ Other:							
🙀 Bladder Pump :	Optimum Flow Ra	ate Set at 23 s	Seconds Refill	Seconds Discharg	ge Z CPM O	35 psi				
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗅	No 📈				
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials				
TAL Metals		No	Nitric	6020B LL, 7470A		STR				
Total LL Mercury	1	No	None	1631 LL Hg	8oz Amber Glass	SPO				
Dissolved LL Mercury		Yes	None	1631 LL Hg	8oz Amber Glass	good-				
						· · · · · ·				
	1	. <u></u>								
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Well ID: M	N29			Sample ID:	2921	mwz.	jGW			Sample Time: 1635
Date: 9-1	-21			Dup. Sample		·			۰. ۱	Dup, Sample Time: $\mathcal{N}A$
Notes:		· .					·			
	Volume	Temp	Spec. Cond.	1	1		Purging Turbidity	1	abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	pH *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1520			-		RT PURG	NG				
1533	0.65	12.81	322	5.08	6.86	24.6	392.7	64.2	0.05	
1538	0.40	12.22	316	3.73	6.88	18.6	324.9	64.2	0.05	
541	1.05	11.80	312	2,77	6.38	13.5	284.3	64.Z	0,05	
1544	1,20	11.53	308	2.87	6.88	5.7	239,3	A.2	0,05	
1547	1.35	11.37	307	2.62	6,88	2.1	208.6	64.2	0,05	
1550	1.50	11.29	306	1.13	6.98	-2.4	172.3	64.2	0.05	
1553	1.65	11.41	306	1.58	6.88	-8.0	171.1	64.2	0.05	
1556	1.80	11.47	306	1.41	6.88	-6.5	186.4	64.1	0.05	
1559	1.95	11.36	306	1.35	6.89	-4.3	166.1	64.1	0.05	
1602	2.10	11.47	306	1.32	6,89	-3.9	193.9	67.Z	0.05	
1605	2.25	11.37	306	1.31	6,90	-2.8	144.9	64.1	0.05	
1608	2.40	11.34	305	1.29	6.90	-1.6	135.5	64.2	0.05	
1611	2.55	11.46	306	1.30	6.96	-1.5	124.4	64.2	0.05	
1614	2.70	11.34	305	1.34	6.90	-1.7	115.2	64.2	0,05	
1617	2.85	11.29	205	1.36	6.90	1.3	103.6	4.2	0.05	
1620	3.0	11.38	305	1.34	6.40	2:3	113.2	64,2	0.05	•
1623	3.15	11.34	304	1.38	6.90	3.2	105.7	64.2	0.05	
1626	3,30	11, 38	305	1.31	6,91	4.9	104-18	642	0,05	
1629	3,45	11.37	304	1.32	6.91	6,2	105.2	64,2	0.05	
			· ·							
	ĺ									· · · · · · · · · · · · · · · · · · ·
							Sample	d?:Ye	s⊠ N	lo 🗆

Initial of Sampler:



Client/Site:	BLM Red Devil	Mine		Well ID.:	MW 33					
Contract No.:	140L6321C000	1	Project No.:	BU06-007						
Date:	8/29/2021		Samplers:	GG						
Time Start:	1320					<u></u>				
Time Finish:	1445		— Checked By:	RWITTLe	4					
Well & Purge Info						· · · · · · · ·				
TD (ft. bTOC):	дч	<i>.36</i> ft	Scr	Screened Interval (ft.):						
DTW (ft. bTOC):	8.				· · ·					
Water Column:	16,	22 ft	TD-DTW=Water Co	TD-DTW=Water Column						
Liter/Foot:	0.60	5 L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***				
Liters in Well:	4.9	<u>⊳/ ∟</u>	Water Column x L/f	t.	Well Diameter	L/ft				
Three Well Volumes:	<u> </u>	.44 L	Liters in Well x 3		5/8"	0.06				
Sample Depth:	·	ft	Depth of Pump Intal	ke	2"	0.605				
					4"	2.47				
Field Equipment										
Multiparameter Water Quality Meter:	IST. 556		Serial No.:	10 6-101 486	,					
•	Solinst 10%		Serial No.:							
Turbidity Meter:	Micro TPU		Serial No.:		4					
Pump Type:	Alexie Per		_		<u> </u>					
		istrattic	_ Serial No.:	90048	<u> </u>					
Purge Method:										
⊇́ Peristaltic Pump		Inertial	🗆 Othe	r:						
Bladder Pump :	Optimum Flow Ra	ate Set at	Seconds Refill	econds Refill Seconds Discharge						
Sampling Method:										
I Peristaltic Pump		Inertial	🗆 Othe	r:						
Bladder Pump : 0	Optimum Flow Ra	ate Set at	Seconds Refill	_Seconds Discharg	ge					
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗆	No 😹				
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials				
TAL Metals	2	No	Nitric	6020B LL, 7470A		<u>lily</u>				
Total LL Mercury	8	No	None	1631 LL Hg	8oz Amber Glass	Ly Jy				
Dissolved LL Mercury		Yes	None	1631 LL_Hg	8oz Amber Glass	HA				
Duplicate " Collected	·				· · · · · ·					
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		· · · · · · · · · · · · · · · · · · ·								
				<u> </u>						
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Page 1 of 2

Well ID: Mi	033			Sample ID:	06211	MW 33 G	w			Sample Time: 1410			
Date: 8/29	12021					MW996				Dup. Sample Time: 1415			
Notes:	Ŧ												
-							Burging	and *St	abilizatio	n Data			
	Volume	Temp	Spec. Cond.	<b>DO</b> (mell)	рН	ORP (mV)	Turbidity		Flow Rate				
Time (24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	DO (mg/L) *± 10%	*± 0.1	*± 10 mV	(NTU) *± 10%	(ft)	L/min	Color/Odor/Notes			
1335					RT PURG	1	·	<u> </u>					
1345	1.0	7,17	144	601	6.15	J43.1	13:71	8,14	011				
1348	1.3	6.70	127	5.85	6.27	230+8	14.99	8.14	0.1				
1350	j.5	6.73	128	5.59	6.35	229.5	13.67	8.14	0.1				
1355	2.0	6.84	125	5.21	6.43			8.14	Od				
1400	2,5	6.68	121	5,26	1.48	223.9	10.15	8.14	0.1				
1350  3 <i>55</i>  400  40 <b>3</b>	2.8	6.66	120 Ì	5.35 <sup>5,70</sup>	6.54	222.7			0,1				
140 le	3.1	6.60	119	5,24	6.55	222.0	8,33	8.14	Q.1				
ìHIO										Collect sample C 1410 Duplicate @ 1415			
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	I						Sample	d?: Ye	⊨ s⊠, l				
Initial of Sa	mpler:								2.1	Page 2 of 2			

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Client/Site:	BLM Red Devil N	line		Well ID.:	MW40	
Contract No.:	140L6321C0001		Project No.:	BU06-007		
Date:	9-1-21		Samplers:	J PARSON		
Time Start:	1400			R WITTLER	3-	
Time Finish:	1445		Checked By:	R.WIHEr	~	
Well & Purge Info	rmation		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
-TB.(ft. bTOC): TO PUMP	135.30	ft	Scree	ened Interval (ft.):	· · · · · · · · · · · · · · · · · · ·	
DTW (ft. bTOC):	12-9.0	ft				
Water Column:		fť	TD-DTW=Water Colu	ımn		
Liter/Foot:		L/ft	See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***
Liters in Well:		L	Water Column x L/ft		Well Diameter	L/ft
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06
Sample Depth:		ft	Depth of Pump Intake	)	2"	0.605
					. 4"	2.47
Field Equipment						
Multiparameter Water Quality Meter:	YSI 556	MPS	Serial No.:	106-1014	ЯĞ.	
Water Level Meter:		102	Serial No.:	294991		
Turbidity Meter:	_		Serial No.:	2020079	03	
		<u></u>	· -	B		
Ритр Туре:	BL ADDER		Serial No.:	NA	·····	
Purge Method:						
Peristaltic Pump		Inertial	□ Other:		•	
🗵 Bladder Pump: 🛛	Optimum Flow Ra	nte Set at <u>35</u> S	econds Refill <u>25</u>	Seconds Discharg	ge	
Sampling Method:						
Peristaltic Pump		Inertial	Other:			
🕅 Bladder Pump	Optimum Flow Ra	ite Set at <u>35</u> s	econds Refill 25	Seconds Discharg	ge I CPM @	65 psi
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗆	No 🛪
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials
TAL Metals	1	No	Nitric	6020B LL, 7470A		8987
Total LL Mercury	1	No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass 8oz Amber Glass	
Dissolved LL Mercury	· · · · · · · · · · · · · · · · · · ·	Yes	None		602 Alliber Glass	JPO/
				·	-	
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	-					
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Well ID: M	w40			Sample ID:	0921	MW 400	5-W		Sample Time: 1430		
Date: G - I	-21			Dup. Sampie	ID:						Dup. Sample Time:
Notes:	NKY A	AR FITTI	US, 571	IL PR	OVIDES	ENO	JGH PR	ESSUR	E TO	PUMP	
			-						abilizatio		
Time	Volume	Temp	Spec. Cond.		pН	ORP (mV)	Turbidity		Flow Rate		
(24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) *±3%	<b>DO</b> (mg/L) *± 10%	*± 0.1	*± 10 mV	(NTU) *± 10%	(ft)	L/min		Color/Odor/Notes
1407				-							
143	0.6		276			128.4					
1418	1.)	6.5Z	294		7.40		26,33	129.5	0,1		·
1421	1.4	6.54	240	-		-13,8	12.55				
1424	1.7	6.54			7.40	-11.5	16.02	129.4	0.1		
1427	2.0	6.51	236	2.83	7.38	-8.5	8.79	129.4	0.1		
								SAMPLED @	1430		
								-			
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										· · · · · · · · · · · · · · · · · · ·	
							Sample	d?: Ye	es ¥∕ N	No 🗆	
Initial of Sa	impler: 🧲	QQ	<b>.</b>								Page 2 of 2



Client/Site:	BLM Red Devil	Mine		Well ID.:	MW 42					
Contract No.:	140L6321C000	1	Project No.:	BU06-007						
Date:	8-30-7	51	Samplers:	H	J PARSON					
Time Start:	1330	<b>Z</b>	-	RWITTLER						
Time Finish:			- Checked By:	A	RIWITTLER					
Well & Purge Info	rmation	*			<u> </u>					
和回-(ft. bTOC): で Pu		ft	Screened Interval (ft.):							
DTW (ft. bTOC):	128.6	****			<b></b>					
Water Column;		ft	- TD-DTW=Water Co	lumn						
Liter/Foot:	H	L/ft	- See ***Well Volume		***Well Volume	Calculation***				
Liters in Well:		<u>BR</u>	- Water Column x L/ft		Well Diameter	L/ft				
Three Well Volumes:		L	- Liters in Well x 3		5/8"	0.06				
Sample Depth:		ft	<ul> <li>Depth of Pump Intak</li> </ul>	(e	2"	0.605				
					4"	2.47				
Field Equipment			······································		3					
Multiparameter Water		MO								
Quality Meter:	171 00	e MPS	Serial No.:	106161486						
Water Level Meter:	Solinstal	V-	Serial No.:							
Turbidity Meter:	HF MICPI	) TPW	Serial No.:	201810324						
Pump Type:	Bladder	······	Serial No.:	_1010	· · · · · · · · · · · · · · · · · · ·					
Purge Method:						· · · · · · · · · · · · · · · · · · ·				
Peristaltic Pump		Inertial	□ Other	r:						
🖾 Bladder Pump ;	Optimum Flow R	ate Set at <u>45</u> s	Seconds Refill 15	_ Seconds Discharg	je PS1: 68-208	st Shy of 70				
Sampling Method:										
Peristaltic Pump		Inertial	□ Other	r:						
Bladder Pump : 0	Optimum Flow R	ate Set at <u>45</u> s	Seconds Refill <u>1</u> ら	_Seconds Discharg	je					
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗆	No 🗆				
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials				
TAL Metals	<u> </u>	No	Nitric		250 ml Plastic	he				
Total LL Mercury Dissolved LL Mercury	<u> </u>	No	None	1631 LL Hg	8oz Amber Glass 8oz Amber Glass	el				
	<u>   </u>	Yes	None	1631 LL Hg	602 Amber Glass	RW				
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		·								
				· · · · · · · · · · · · · · · · · · ·	•					
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										Low-Flow Groundwater Sample & Stabilization Form
	N- 42			Sample ID:	8-11-12	1 <del>7.</del> 0	821MW4	26W		Sample Time: 1630
Date:	<u>N- 42</u> 8-30-	2021		Dup. Sample		···				Dup. Sample Time:
Notes:										
	Volume	Temp	Spec. Cond.				Purging Turbidity			n Data
Time (24 hrs)	Removed (L)	*± 3% °C, min ± 0.2 <u>°C</u>	(µS/cm) * ± 3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
	(L) )	<u><u> </u></u>	10%	STAR	T PURGI	NG				
1616	.03	9.01	0.671	H-320	6.71	14.8	100.8	128.68	.03	
1619	.15	9.02	0.671	2.07	(0.7]	15.2	94.00	128.48	103	
1622	0.27	9.03	0.669	2.02	6.71	15.	87.43	12848	.03	
1025	0.39	9.04	0.669	2.04	6.71	16.3	72.08	128.60	103	
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		· ·					Sample	d?: Ye	es 🖳 I	No 🗆

Initial of Sampler: \_



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Client/Site:	BLM Red Devil I	Vine	·	Well ID.:	MW-43						
Contract No.:	140L6321C0001	l	Project No.:	BU06-007							
Date:	08-30-2021	I	Samplers:	Riley Witti	er						
Time Start:	1130			J							
Time Finish:	1245	· · · · ·	Checked By:	RWITTE	x						
Well & Purge Info	rmation										
PD (ft. bTOC): POMP	109	ft	Screened Interval (ft.):								
DTW (ft. bTOC):	90.06	ft			-						
Water Column:		ft	TD-DTW=Water Colu	TD-DTW=Water Column							
Liter/Foot:		L/ft	See ***Well Volume (	Calculation*** table	***Well Volume	e Calculation***					
Liters in Well:		L	Water Column x L/ft		Well Diameter	L/ft					
Three Well Volumes:		L	Liters in Well x 3	·	5/8"	0.06					
Sample Depth:		ft	Depth of Pump Intake	3	2"	0.605					
<b>_</b>			- 	•	4"	2.47					
Field Equipment											
Multiparameter Water Quality Meter:	YSI 556		Serial No.:	09E 1007.	24	Â					
Water Level Meter:	Sollinst 102	ļ	Serial No.:	294 991							
Turbidity Meter:	Micro		Serial No.:	202007	903						
Pump Type:	Bladder		Serial No.:	MP 50 - 13							
Purge Method:											
Peristaltic Pump		Inertial	C Other:								
Bladder Pump:	Optimum Flow Ra	ate Set at <u>10</u> s	econds Refill <u>5</u>	Seconds Dischar	ge						
Sampling Method:											
Peristaltic Pump		Inertial	🗋 Other:								
🖄 Bladder Pump :	Optimum Flow Ra	ate Set atS	econds Refill	Seconds Discharg	ge						
Sample Collection	n Informatio			MS/MSD? :	Yes 🗆	No 🗆					
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials					
TAL Metals	1	No	Nitric	6020B LL, 7470A	250 ml Plastic 8oz Amber Glass	RU					
Total LL Mercury Dissolved LL Mercury		No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass	RAY					
Dissured LL Mercury	1	Yes	None		602 Amber Glass	Rep					
1466-											
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Well ID: 🏹				sample ID: 0821 MW43 GW						Sample Time: 1775	
Date: 08	36-202	1		Dup. Sample ID:						Dup. Sample Time:	
Notes:											
Purging and *Stabilization Data											
Forging and Stabilization Data       Time     Temp     Spec. Cond.     DO (mg/L)     pH     ORP (mV)     Turbidity     DTW     Flow Rate     Color(Odor/Notes											
Time (24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	*± 10%	pn. *±0.1	*± 10 mV	Turbidity (NTU) *± 10%	(ft)	L/min	Color/Odor/Notes	
	START PURGING										
1145		6.23	0.280	11.97	5,95		14.44	90.06		•	
1150	1953	\$5.94	0.251	1.63	5.65		11.63	10.00	.08		
1155	0.88	5.6୪	0.236	505	5.58	(v. 1	7.79	90.06	<i>i</i> 08		
1158	1.12	6.21	0.229	4.06	5.15	-10.3	8.51	90.06	-		
1202	1.44	6.26	0.228	2.78	591	-23:2	7.15	90.00	.05		
1206	1.76	6.23	0.227	1.91	5.92	-26.0	1.72	90.06			
1210	2.08	6.21	0.227	1.80	5,93		670	90.16	108		
1213	2.32	6.22	0.227	1.85	5.92	-307	7.01	90.06	.08		
1214	2.64	6.72	0.227	1.82	593	-31.7	0.69	90.06	-05		
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L	Sampled? : Yes 🗹 No 🗔										



Client/Site:	BLM Red Devil I	Vine		Well ID.:	MW44						
Contract No.:	140L6321C0001		Project No.:	BU06-007							
Date:	9/1/2021		Samplers:	GG							
Time Start:	1130					····					
Time Finish:	1245		Checked By:	Riwittle	N	-					
Well & Purge Info	rmation		• • • • • • • • • • • • • • • • • • •		•						
TD (ft. bTOC):		ft	Scre	ened Interval (ft.)							
DTW (ft. bTOC):	35.49	ft	-								
Water Column:		ft	TD-DTW=Water Co	TD-DTW=Water Column							
Liter/Foot:	0.605	L/ft	- See ***Well Volume	Calculation*** table	***Well Volume	Calculation***					
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft					
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06					
Sample Depth:		ft	- Depth of Pump Intal	(e	2"	0.605					
					4"	2.47					
Field Equipment		· · · · ·		· · · · · · · · · · · · · · · · · · ·							
Multiparameter Water	VACEL			· Com in the set							
	<u>Y51556</u>		•	Serial No.: 09E 100724							
Water Level Meter:	Solinst	101	Serial No.:	77263							
Turbidity Meter:	MicroT		Serial No.:	2018 103	124						
Pump Type:	Budder (B.	whech 10")	Serial No.:	unknown	,						
	Under (U										
	<u>ormacr ( 00</u>										
Purge Method:		Inertial	•								
Purge Method:		Inertial	D Othe	r:	ne ~ 35 aci' 4	com Oil La					
Purge Method:         Peristaltic Pump         Sladder Pump :		Inertial	D Othe	r:	ge <u>~35 psi 9</u>	cpm 0:1 L/m					
Purge Method:         Peristaltic Pump         Ø: Bladder Pump :       0         Sampling Method:		Inertial ate Set at <u>/.2.</u> S	Dothe	r: Seconds Dischar	ge <u>~35 psi 4</u>	cpm 0:1 L/m					
Purge Method:         Peristaltic Pump         Sampling Method:         Peristaltic Pump	Dptimum Flow Ra	Inertial ate Set at <u>12</u> S	□ Othe econds Refill <u>3</u> □ Othe	r:Seconds Dischar r:							
Purge Method:         Peristaltic Pump         Ø Bladder Pump :       Ø         Sampling Method:         Peristaltic Pump         Ø Bladder Pump :       Ø	Dptimum Flow Ra	Inertial ate Set at <u>12</u> S Inertial ate Set at <u>12</u> S	Dothe	r:Seconds Dischar r:	ge ~35 i si 4 ge ~35 j 4						
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Bladder Pump :       C         Sampling Method:       C         Sampling Method:       C         Sample Collection       C	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S	Othe ceconds Refill 3 Othe Conds Refill 3	r: Seconds Dischar r: Seconds Dischar MS/MSD? :	ge ~35 p9/ -4 Yes □	tcpm = 0,1 L), No X					
Purge Method:         Peristaltic Pump         Sampling Method:         Peristaltic Pump         Bladder Pump         Bladder Pump         Bladder Pump         Bladder Pump         Bladder Pump         Bladder Pump         Peristaltic Pump         Bladder Pump         Parameter	Dptimum Flow Ra	Inertial ate Set at <u>12</u> S Inertial ate Set at <u>12</u> S n Filtered?	Othe conds Refill 3 Othe conds Refill 3 Preservative	r:Seconds Dischar r:Seconds Dischar Seconds Dischar MS/MSD? : Method	ge <i>~35 ∧9/ 4</i> Yes □ Container Type	lcpm=0,1L/ No X Initials					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals	Dptimum Flow Ra	Inertial ate Set at <u>12</u> S Inertial ate Set at <u>12</u> S n Filtered?	Othe econds Refill 3 Othe econds Refill 3 Preservative Nitric	r: Seconds Dischar r: Seconds Dischar <b>MS/MSD? :</b> Method 6020B LL, 7470A	ge ~35 ps/ Yes □ Container Type 250 ml Plastic	Hcprv = 0,1 L No A Initials NA					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refile 3 Conds	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	Hopm = 0,1 L), No X Initials NH MM					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals	Dptimum Flow Ra	Inertial ate Set at <u>12</u> S Inertial ate Set at <u>12</u> S n Filtered?	Othe econds Refill 3 Othe econds Refill 3 Preservative Nitric	r: Seconds Dischar r: Seconds Dischar <b>MS/MSD? :</b> Method 6020B LL, 7470A	ge ~35 ps/ Yes □ Container Type 250 ml Plastic	Hcprv = 0,1 L No A Initials NA					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refile 3 Conds	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	Hopm = 0,1 L), No X Initials NH MM					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refill 3 Conds Refile 3 Conds	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	$\frac{Hc}{No} \approx 0.1 L/r$ $\frac{No}{\approx}$ Initials $\frac{M_{H}}{M_{J}}$					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	C Othe C	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	Hopm = 0,1 L), No X Initials NH MM					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	C Othe C	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	Hopm = 0,1 L), No X Initials NH MM					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	C Othe C	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	Hopm = 0,1 L), No X Initials NH MM					
Purge Method:         Peristaltic Pump         Bladder Pump :       C         Sampling Method:         Peristaltic Pump         Bladder Pump :       C         Sample Collection         Parameter         TAL Metals         Total LL Mercury	Dptimum Flow Ra	Inertial ate Set at $\underline{1.2}$ S Inertial ate Set at $\underline{1.2}$ S <b>n</b> Filtered? No	C Othe C	r: Seconds Dischar r: Seconds Dischar Seconds Dischar MS/MSD? : Method 6020B LL, 7470A 1631 LL Hg	ge ~35 ps/ Yes Container Type 250 ml Plastic Boz Amber Glass	Hopm = 0,1 L), No X Initials NH MM					

Date: 9%	ID:         M W 4 4         Sample ID:         Sample ID:         Sample ID:           :         % / / 2021         Dup. Sample ID:						Sample Time: 1230			
										Dup. Sample Time:
Notes:										
								1+04		
	Volume	Temp	Spec. Cond.	The second			Turbidity	1	abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1140			_	-	RT PURG					
1155	15	5.91	250	4.06e	4:46	-0.4	8.82			
1200	2.00	5.7.5	238	2.78	6.37	-17	10,35	35.50	Oil	
205	2,50	4192	230	1.99	6128	-4.9	213	35.50	01	
1210	3.00	9.72	227	1.03	6.38	-13.7	4.06	35.50	0,1	
213	3.30	4.71	227	0,97	6.42	+6.7	5.00	35.50	0.1	
1216	3.6	4.71	226	0,91	6.51	-24.4	3.73	33.50	Oil	
1219	3.9	4.75	226	0.94	6.62	-30.5	3.96	35.50	0.1	
222	4.2	4.75	226	0.85	6168	-32.9	2,84	35.50	01	
1155 1205 1205 1210 1213 1216 1219 1222	4.5	4.79	226	0,80	6.70	-36,2	3.12	35,50	0.1	
12 30	-									Collect sample
					1		1			
						1.1.1				
1							1.11			
1.1							1			
1							1.1			
C	1									
	-						1			
					1					
	-						-			
-								1.1		
	1				-					
							Sample	d?: Ye	SXIN	lo 🗆
Initial of Sa	moler Y	R					cample		A	Page 2 of 2



Client/Site:	BLM Red Dev	il Mine		Well ID.:	MW 45						
Contract No.:	140L6321C00	01	Project No.:	BU06-007							
Date:	9/1/2021	Ĩ	Samplers:	Gb							
Time Start:	0845										
Time Finish:	0945		Checked By:	Riwitte	RIWITHER						
Well & Purge Inf	ormation										
TD (ft. bTOC):		ft	Scr	eened Interval (ft.)	:						
DTW (ft. bTOC):		47.00 ft									
Water Column:		ft	TD-DTW=Water C	TD-DTW=Water Column							
Liter/Foot:		L/ft	See ***Well Volum	e Calculation*** table	***Well Volume	Calculation***					
Liters in Well:		Ĺ		ft	Well Diameter	L/ft					
Three Well Volumes:		Ĺ	Liters in Well x 3		5/8"	0.06					
Sample Depth:		ft	<ul> <li>Depth of Pump Inta</li> </ul>	ake	2"	0.605					
	1				4"	2.47					
Field Equipment					·						
Multiparameter Water	Vet	ci.	and the second	no to van	- nati						
Quality Meter:	YST 5	56	Serial No.:	09 E 100							
Water Level Meter:	Solinst	101	Serial No.:	7726	2						
Turbidity Meter:	MiroT	PW	Serial No.:	2018 103	24						
Pump Type:	Budder (	Gasterk 18")	Serial No.:	NH							
	27700 0 0										
Purge Method:											
Peristaltic Pump	[	Inertial	C Othe	er:							
Bladder Pump :	Optimum Flow	Rate Set at 🧔 9	Seconds Refill	6 Seconds Dischar	rge ~37 g≤1 €	41 pm = 0.2					
Sampling Method:		-1466-01782-		_	30 21 1	1 mp					
Peristaltic Pump	C	Inertial y	Othe	er:							
	0. Ú										
			Seconds Refill 🦉	Seconds Dischar	rge ~37,051 @40	pr = 0, 24/2					
Sample Collection	a subscription of the subs			MS/MSD? :	Yes 🗆	No R					
Parameter	# Containers		Preservative	Method	Container Type	Initials					
TAL Metals	1	No	Nitric	6020B LL, 7470A	8 250 ml Plastic	114					
Total LL Mercury Dissolved LL Mercury	1	No Yes	None None	1631 LL Hg 1631 LL Hg	802 Amber Glass	14 M					
DISSONGU EL IVIERCULY		105	None	1001 LL Hg	UUL ANNUER GIASS	1312					
	1										
				1.1							
ć											
	-										
		-									
	-	-			1						
			- Q-								

Well ID: N	WY5			Sample ID:	0921	MW450	ςω			Sample Time: 0930
Date: 9/1	12021			Dup. Sample	ID:		NA			Dup. Sample Time: NA
Notes:	PH .	roulding	questi	nable						· · · · · · · · · · · · · · · · · · ·
								and *St	abilizatio	n Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% *C, min ± 0.2*C	Spec. Cond. (μS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
0853		· ··· = ··		1	RT PURG			<b>.</b>		
090.3	2.0	3.18	118	11,50		168.3	6.06	47.00		pH readings are questimetale
0907	2.8	3.06	117	9.75	3.01		4.43	17.08	02	
0910	3.\$	3.01	117	10.79		128,3	5.65	47.00	0.2	
0913	4.0	2.99	117	10.47	3.69	108.3	2.67	47.00		
0916	4.6	2.97	117	8.37		86.0	2.48	47.00		
0920	5.4	2.95	117	8.41	4.34	7108	2.86	47.00		
0923	6.0	2.94	117		4.48	64.0	1.64		0.2	
0926	4.6	2.94	4	0.75	4.58	57.5		47.00		
0929	7.2	2.94	116	8.34	4.76	54,3	2.16	47.60	0,2	
0930					ļ					Collect sample
										¥
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							Sample	ed?:Ye	s 🗆 N	o 🗆

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#### Sundance Consulting Ino.

## Low-Flow Groundwater Sampling & Stabilization Form

					A 310				
Client/Site:	BLM Red Devil N	line	1	Well ID.:	MW 46				
Contract No.:	140L6321C0001		Project No.:	BU06-007	······				
Date:	<u> </u>	02/	Samplers:	66					
Time Start:	1538				····				
Time Finish:	1633		Checked By:	R. WITTLES	<u> </u>				
Well & Purge Info	rmation								
TD (ft. bTOC):		ft	Scre	ened Interval (ft.):					
DTW (ft. bTOC):	35,8	0 ft	-						
Water Column:	••••••••••	ft	TD-DTW=Water Column						
Liter/Foot:		L/ft	- See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:		L	- Liters in Well x 3		5/8"	0.06			
Sample Depth:		ft	- Depth of Pump Intak	æ	2"	0.605			
• •	<u> </u>				4"	2.47			
Field Equipment				· · · · · · · · · · · · · · · · · · ·	······································				
Multiparameter Water	. او میردیس مسینی ا	<u></u>		OC INTU	8/	· · · · · · · · · · · · · · · · · · ·			
Quality Meter:	<u>YSI 556</u>		Serial No.:	1061014					
Water Level Meter:	Solinst 10	、 、	Serial No.:	77262	·				
Turbidity Meter:	Micro TPL	$\omega$ .	Serial No.:	261010		<b>.</b>			
Pump Type:	Bkalder		Serial No.:	NA	ļ	<b></b>			
Purge Method:		:	•		·····				
Peristaltic Pump		Inertial	🗋 Othe	r:					
Bladder Pump:					ge. 4cpm ~ 26,	051			
Sampling Method:			· · · · · · · · · · · · · · · · · · ·	<b>_</b>					
Peristaltic Pump		Inertial	☐ Othe	r.					
.⊠ Bladder Pump ∶	Optimum Flow Ra	nte Set at e	Seconds Refill	Seconds Discharg	ge 40pm no	6951			
Sample Collectio				MS/MSD? :	Yes 🗆	No 🕱			
Journe Source in	// ////////////////////////////////////			MIS/MISD? :	· · · · · · · · · · · · · · · · · · ·				
	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
Parameter TAL Metals			Preservative Nitric	the second second second second second second second second second second second second second second second s	Container Type 250 ml Plastic	Initials J.J.			
Parameter		Filtered?		Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals		Filtered?	Nitric	Method 6020B LL, 7470A	Container Type 250 ml Plastic	13/19			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			
Parameter TAL Metals Total LL Mercury		Filtered? No No	Nitric None	Method 6020B LL, 7470A 1631 LL Hg	Container Type 250 ml Plastic 8oz Amber Glass	13 /3 14 /3			

Well ID: M	WH.			Sample ID:	0821	MW46	GW				Sample Time:	1415
Date: 8/3/	i / 2021			Dup. Sample		NA					Dup. Sample Tin	
Notes:	•			•							· ·	
	Volume	Temp	Spec. Cond.		1		Purging Turbidity		abilization	1 Data		····
<b>Time</b> (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate		Col	or/Odor/Notes
1545	(=/		1	STAF		ING	1	•	L[	1015	4com Q	N26 pS1
1555		4,20	121	7.30	6-23	172.6	10,95	35,80	015		1	
1558		4,05	119	7.00	6.37	163.8	3.16	35.50	0.15	_		
1601		3,97	118	6.71	6.48	154.9	2.46	35,80	0,15			
1601 1605 1608 1611		3,95	118	6.59	6.57	152.2	2.27 1.69	35.90	0.15			
1608		3.92	118	6,54	6.60	150.3	1.69	35.80	0,15			
1611		3.93	แย	6.49	6.63	148.7	1,87	35.60	0.15			
1615										· Collect	sample Q 10	615
												······································
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	1						:					
					. <u> </u>		Sample	d?: Ye	s 🕅 N	o 🖸		
Initial of Sa	ampler:	72					<u> </u>	· · · ·		۰.		Page 2 of 2



Client/Site:	BLM Red Devil	Mine		Well ID.:	MWYZ				
Contract No.:	140L6321C000 <sup>2</sup>	1	Project No.:	BU06-007					
Date:	8/31/203	2/	Samplers:	66					
Time Start:	1355			······································		· ·			
Time Finish:	1515	<u> </u>	Checked By:	Checked By: RIWHHW					
Well & Purge Info	rmation			· · · · · · · · · · ·	*** · · · ·				
TD (ft. bTOC):	Topof Pump = :	57,31 ft	Scre	ened interval (ft.):		······································			
DTW (ft. bTOC):	39.0		•		· · · · · ·				
Water Column:		ft	- TD-D⊺W=Water Coli	umn					
Liter/Foot:	0.605	L/ft	- See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06			
Sample Depth:		ft	Depth of Pump Intak	e	I)	0.605			
					4"	2,47			
Field Equipment	`								
Multiparameter Water	VAT ACT								
Quality Meter:	YSI 556		Serial No.:	10 & 10148	6				
Water Level Meter:	Solwst	-	Serial No.:	77362					
Turbidity Meter:	Micro		Serial No.:	2018 1038 JA-90046-	19				
Pump Type: Bladder	Alexis Perr	stattic	Serial No.:	17-90046-					
Purge Method:					<u> </u>				
Peristaltic Pump		Inertial	□ Other						
•			econds Refill _6		10 (2.3-33 ASL	~014 is			
Sampling Method:				_ Seconds Dischart		,			
Peristaltic Pump		Inertial	□ Other						
•									
			econds Refill	_Seconds Dischar	יד ב דר C D שיר הרי שור שיר שיר שיר שיר שיר שיר שיר שיר שיר שי	0.1 4/m.n.			
Sample Collection				MS/MSD? :	Yes 🗆	No~,≝∽			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metals	2	No	Nitric	6020B LL, 7470A		6.8			
Total LL Mercury Dissolved LL Mercury	2	No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass 8oz Amber Glass	- Vy			
		Yes	None	1001 EE fig	JUZ AINDEL GIASS	N.S.			
·····									
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記録構成し

Well ID: M	WYZ			Sample ID:	0821 n	100470	Gω			Sample Time: 1430
Well ID: M Date: 8/3) Notes:	12021			Dup. Sample	1D: 082	I MW9	7GW			Dup. Sample Time: 1440
Notes:	1									
		,								
	Volume	Temp	Spec. Cond.	1	<u> </u>		Purging Turbidity		abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	DO (mg/L) *± 10%	<b>pH</b> *± 0.1	<b>ORP</b> (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
1710			<del>*</del> .*/*	STAF	RT PURGI	NG		1	• • • • • • • • • • • • • • • • • • • •	9-6 4cpm ~35 psi = 0.1 4/min
14.20	1.0	6.36	136				10.61	39.09	0.1	
1423	1,3	6.10	136	6.44	6.65	184.6	5.01	39.09	0,1	
1426 1429	1. C	5.90	136	6.02	6.70	183,6	2.76	39.09	0.1	
1429	1.9	5.70	135	5176	6.76	182.1	2.89	39.09	0.1	
1432	2.2	5,56	135	5.58	6-80	180.6	2.72	39.09	0,1	
1435 1438	2.5		134			179.9	1,88	39.09	0-1	
1438	a.9	5.41	135	5.45	6.82	179.1	1.106	3209	01	
1430										Collect sample @ 1430 Duplicate @ 1440
										, , , , , , , , , , , , , , , , , , , ,
									-	
								ļ		
							Sample	d?: Ye	s 🕅 M	io 🗆
		'nй			_					



Client/Site:	BLM Red Devil	Vine		Well ID.:	MW 49				
Contract No.:	140L6321C0001		Project No.:	BU06-007					
Date:	9/1/002	1	Samplers:	66-		•			
Time Start:	1300	-							
Time Finish:			Checked By:	RIWITTLEN					
Well & Purge Info	rmation		· · · · · · · · · · · · · · · · · · ·						
TD (ft. bTOC):	·	ft	Scre	ened Interval (ft.):		- <u></u>			
DTW (ft. bTOC):	30,45	ft	_						
Water Column:		ft	TD-DTW=Water Col	umn					
Liter/Foot:		L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:	-	L	Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:	· · ·	L	Liters in Well x 3		5/8"	0.06			
Sample Depth:		ft	Depth of Pump Intak	e	2"	0.605			
					4"	2.47			
Field Equipment									
Multiparameter Water Quality Meter:	YSI 556	· · · · · · · · · · · · · · · · · · ·	Serial No.:	09E 100729	4				
Water Level Meter:	Solihst	101	Serial No.:	77262					
Turbidity Meter:	MicroTPU	)	Serial No.:	2018/03	24				
Pump Type:	Bladder (	Geotech 18")	Serial No.:	unknow					
Purge Method:	s		<b>,</b>						
Peristaltic Pump		Inertial	🗌 Other						
Bladder Pump:	Optimum Flow Ra	ate Set at <u>//</u> /S	Seconds Refill <u>5</u>	Seconds Dischar	ge ~30ps/ =	0.15 Emin			
Sampling Method:				· .	-				
Peristaltic Pump		Inertial	□ Other						
🗵 Bladder Pump :	Optimum Flow Ra	ate Set at <u>//</u> S	Seconds Refill	Seconds Dischar	ge ~ <i>30psi</i>				
Sample Collectio				MS/MSD? :	Yes 🗆	No 🗶			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metais	1	No No	Nitric	6020B LL, 7470A	250 ml Plastic 8oz Amber Glass	<u>A</u> A H H			
Total LL Mercury Dissolved LL Mercury		Yes	None None	1631 LL Hg 1631 LL Hg	802 Amber Glass				
	1	163	None	1001 22 1.9		1010-			
					······································				
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Well ID: $\mathcal{M} \mathcal{M}$				Sample ID:	09211	NW 49 G	$-\omega$			Sample Time: 1430
Date: <b>9/</b>	1/202	-)		Dup. Sample						Dup. Sample Time:
Notes:	7									······
	Volume	Temp	Spec. Cond.		1		Purging Turbidity	1	abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	ĎTW (ft)	Flow Rate L/min	Color/Odor/Notes
1345		1			RT PURGI			1		
1355		5.35	<u>98</u>	7,30	503	51.8	M.27			
1400		5.02	84	6.22	4,83	58,4		30,45		
1404		4.96	81	5-94		59.8		30,45		
1409 1412		4,98	60	5,86		49.7	4,87	30.45	0.15	
1412	4:05		80	5.80	5.17	35,3	3.71	30,45	0,15	
1415	4,50	5.02	80	5.79	5,29	27.5	3.67	30,45	015	
1419	5,10	5,05	79	5.84	5,40	Hrle	2.97	30,45	0.15	
1419 1722	5.55	5,10	78		5,48		3,09	30.45	0.15	
	6.00	5.11	78	5.79	5,50	12.0	2.62	30.45	0.15	
1430										Collect suple @ 14.30
										· · · · · · · · · · · · · · · · · · ·
									E .	
	-									
									-	
							Sample	d?: Ye	s z N	lo 🗆
Initial of Sou	. V								~_*	



Client/Site: BLM Red Devil Mine Well ID.: MWSO	
Contract No.: 140L6321C0001 Project No.: BU06-007	
Date: 8-31-ZI Samplers: J PARSON	
Time Start: 1132 R W17716R	
Time Finish: 1305 Checked By: RIWIHUM	
Well & Purge Information	
TD (ft. bTOC): 82.00 ft Screened Interval (ft.):	
DTW (ft. bTOC): <u>49,20</u> ft	
Water Column: ft TD-DTW=Water Column	
Liter/Foot: L/ft See ***Well Volume Calculation*** table ***Well Volume Calculation	alculation***
Liters in Well: L Water Column x L/ft Well Diameter	L/ft
Three Well Volumes: L Liters in Well x 3 .5/8"	0.06
Sample Depth: ft Depth of Pump Intake 2"	0.605
4"	2.47
Field Equipment	
Multiparameter Water       YSI       SSG       MPS       Serial No.:       OPE 1000724         Quality Meter:       YSI       SSG       MPS       Serial No.:       OPE 1000724	
Water Level Meter: SoliNST 102 Serial No.: 294991	
Turbidity Meter: <u>HF MICRO TPW</u> Serial No.: 202007903	
Pump Type: BLAPDER Serial No.: NA	
Purge Method:	
Peristaltic Pump     Inertial     Other:	
☑ Bladder Pump : Optimum Flow Rate Set at 17 Seconds Refill 3 Seconds Discharge	
Sampling Method:	
Peristaltic Pump     Inertial     Other:	
☑ Bladder Pump : Optimum Flow Rate Set at <u>1</u> Seconds Refill <u>3</u> Seconds Discharge <sup>3</sup> ⊂ PM @ ~	45 psi
Sample Collection Information MS/MSD? : Yes	No 💐
Parameter # Containers Filtered? Preservative Method Container Type	Initials
TAL Metals No Nitric 6020B LL, 7470A 250 ml Plastic	DT
Total LL Mercury         I         No         None         1631 LL Hg         8oz Amber Glass           Dissolved LL Mercury         I         Yes         None         1631 LL Hg         8oz Amber Glass	<u> </u>
Dissolved LL Mercury / Yes None 1631 LL Hg 8oz Amber Glass	Joseph -
	·····

Well ID: 🛝	w50			Sample ID:	08211	NW506	5W			Sample Time: 1255
Date: 8 - 7				Dup. Sample						Dup. Sample Time: NA
Notes:		-			,					
-	Volume	Temp	Spec. Cond.	1	1		Purging Turbidity	1	abilizatio	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	pH *± 0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/mîn	Color/Odor/Notes
1145										
1151	0.6	503	429	2.27	6.24	-40.8			0,10	
1156	1.1	4.99	424	2.16	6.28	-40.8		49.3	0.10	·
# 1201	1.6	4.63	420	2.26	6:29	-40.2		49.3	0.10	
1206	2.1	4.52	418	2.31	6.31	-41.A		49.3	0.10	
1209	2,4	4.49	416	2,24	6.33	-43.3		49.3	0.10	
1212	2.7	4.46	415	2.22	6.36	- 44.2	46.49	49.3	0.10	
1215	3.0	4.45	414	2.21	6.39	-45.9	41.72	49.3	0,10	
1218	3.3	4.51	415	2.24	6.41	-47.0	34.68	49.4	0.10	
1221	3.6	4.44	414	2.13	C.42	-48.5	l	49.3	0,10	
1224	3.9	4,39	412	2.11	6.41	-48.2	88.18	49.3	0,10	
1227	4.2	4.34	410		6.41	- 48.2	59.13	41.3	0.10	
1230	4.5	4.33	410		6.41	-47.5	39.72	47.3	0,10	•
1233	4.8	4.32	408		6AZ	-48.0	28.31		0,10	
1236	5.1	4.35	408		6.41	-48.7	24.02	49.3		
1239	5.4	4.37	408	2.23	6.44	-49.7	20.19	1	· · ·	
1242	1	4.38	408	2.30	6.45	-51.9	1	49.3		
1245	6.0	4.40	408		6.46	-52.3	15.46	41.3	1	
1248	6.3	4.37	407		6.45	-51.4	13.8		0,10	
1251		4,37	407		6.46	-51.2		49.3	1	
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	1	1	1				i Sample	i id?:Ye	s⊠ I	No 🗆
Initial of Co	malar	20-	>				Cample		~ -; '	
initial of Sa		LRC	2	• •						Page 2 of 2



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Ollant/Site:					A.A				
Client/Site:	BLM Red Devil		-	Well ID.:	MW 51				
Contract No.:	140L6321C000	1	Project No.:	BU06-007					
Date:	8-31-21		Samplers:	J PARSON					
Time Start:	0845		<b>-</b>	R WITTLE					
Time Finish:	1020		Checked By:	R.WIHU	<u>W</u>				
Well & Purge Info	rmation				- -				
എന്ന്. btoc): നാ Pu	<u>~663</u>	ft	Scree	ened Interval (ft.):					
DTW (ft. bTOC):	18-92	JI 65 CIZA	-						
Water Column:		ft	TD-DTW=Water Column						
Liter/Foot:		L/ft	 See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:		L	- Water Column x L/ft	•	Well Diameter	L/ft			
Three Well Volumes:		Ľ	- Liters in Well x 3		5/8"	0.06			
Sample Depth:		ft -	- Depth of Pump Intak	9	2"	0.605			
			-		4"	2.47			
Field Equipment	•		· · · · · · · · · · · · · · · · · · ·	-					
Multiparameter Water Quality Meter:	YSI 556	MPS	Serial No.:	09E 100	724				
Water Level Meter:	SOLINST	102	Serial No.:						
Turbidity Meter:		RO TIPW	- Serial No.:	202007	403				
Pump Type:	BLADDER		Serial No.:	NA					
Purge Method:		• 4 •				•			
Peristaltic Pump		Inertial	Other	<u> </u>		· •• ••			
S Bladder Pump : (	Optimum Flow Ra	ate Set at <u>12</u> S	econds Refill <u>3</u>	Seconds Discharg	ge	· ·			
Sampling Method:									
Peristaltic Pump		Inertial	Other:						
Bladder Pump (	Optimum Flow Ra	ate Set at <u>12</u> S	econds Refill <u>3</u>	_Seconds Dischar	ge 4 CPM @	N35 psi			
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗆	No 🕱			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metals	1	No	Nitric	6020B LL, 7470A		QæO			
Total LL Mercury	1	No	None	1631 LL Hg	8oz Amber Glass	DR P			
Dissolved LL Mercury	1	Yes	None	1631 LL Hg	8oz Amber Glass				
* <b>*</b> \$									
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May 2021		I				Page 1 of 2			

Page 1 of 2

Well ID: 📈	ID: MW51 Sample ID: 0821MW51GW									Sample Time: (005
	-31-2	021		Dup. Sample	ID: N	A				Dup. Sample Time: NA
Notes:										
		• •								
	Volume	Temp	Spec. Cond.				Purging	1	abilizatio	n Data
Time (24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) * ± 3%	<b>DO</b> (mg/L) *± 10%	рН *±0.1	ORP (mV) *± 10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate	Color/Odor/Notes
0407				STAF		ING		<u> </u>	<u> </u>	
0910	0.15	6.07	184	7,68	z.45	212.0	32.60	65.93	0.05	
0915	0.40	592	164	5.83	1.86	223.1			0.65	
0920		5.49	150	4.91	1.95	201.5			0.05	
092:5	0.40		144	5.27	2.27	179.0	30.08	64.0	0.05	
0930	1.15	4.88	142	5.45	2.53	161.6	24.79	65.5	0.05	
0933	1.30	4.79	141	5.42	2.81	144.0	20.59	649	0.05	
0936	1.45	4.75	141	5,29	3,03		16.09	65.2	0.05	
0939		4.64	140	5.30	3,20			658	0.05	
0942		4.67	141	5.28	333		16.02	(5.7	0.05	
0945	1.90		141					65.8	0.05	
0948	2.05		141		3.66	8	14.31		0.05	
0951	2.20		141	5.16	3.79		12.30	-		
0954		4,55	141	5,13	3.91			<u>45, 9</u>		
0957			142		4.07				0.05	•
1000	2.75	4,57	141	5.12	4.13	69.1	9.51	65,8	0,05	
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Initial of Sampler:



Client/Site:	BLM Red Devil I	<i>l</i> ine	_	Well ID.:	MW52				
Contract No.:	140L6321C0001		Project No.:	BU06-007					
Date: É	3/31/2021		Samplers:	66					
Time Start:	1130		-						
Time Finish:	1325		- Checked By:	RIVITIE	V				
Well & Purge Info	rmation		· · · · · · ·		· · · · ·				
TD (ft. bTOC):		ft	Scre	ened interval (ft.):					
DTW (ft. bTOC):		<i>1.30</i> ft							
Water Column:		ft	TD-DTW=Water Co	lumn					
Liter/Foot:		L/ft	- See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06			
Sample Depth:	45.7	්ර ft	Depth of Pump Intak	(e	2"	0.605			
					4"	2.47			
Field Equipment									
Multiparameter Water	YSI S	-<1.	<u> </u>	No in a mal	•	· · · · ·			
Quality Meter:	Solinst		Serial No.:	166-101486		· · · · · · · · · · · · · · · · · · ·			
Water Level Meter:		<u>101</u>	Serial No.:	7726.					
Turbidity Meter:	Micro		Serial No.:	2018 18:	527				
Ритр Туре:	B/adder		_ Serial No.:	NA					
Purge Method:				-					
Peristaltic Pump		Inertial	□ Othe	r:					
🕅 Bladder Pump :	Optimum Flow Ra	ite Set at <u>/0, 5</u> s	Seconds Refill <u> </u>	Seconds Discharg	ge 0 30 psi	4cpm			
Sampling Method:			. <b>.</b>						
Peristaltic Pump		Inertial	□ Othe	r:					
Bladder Pump:	Optimum Flow Ra	te Set at <u>10.5</u> g	Seconds Refill <u>4.5</u>	_Seconds Discharg	ge @ 30 psi	4cpm			
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🛛	No 🕱			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metals	1	No	Nitric	,	250 ml Plastic	12 18			
Total LL Mercury		No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass 8oz Amber Glass	<u></u>			
Dissolved LL Mercury	<u>                                     </u>	Yes	None		002 Amber Glass	H/F			
						<u></u>			
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Well ID:	sample ID: DE21 MW52GW									Sample Time: 1305			
Date: 3/	31/200	1		Dup. Sampl	) ID:		NA			Dup. Sample Time: NA			
Notes:	Issues	with a	ir In	water 11	nc. h	ecky co	nection,	$(\mathcal{U}_i)_i$	necd	Dup. Sample Time: NA l complete averhaul,			
				· · ·					abilizatio				
Time	Volu	ne Temp	Spec. Co	ond. DO (mg/L)	рН	ORP (mV)	Turbidity (NTU)	DTW	Flow Rate				
(24 hrs)	) <b>Remo</b> (L)	/ed *± 3% °C, ± 0.2°C	min (µS/cn \$ *±3%	% *± 10%	*± 0,1	*± 10 mV	(NTU) *± 10%	(ft)	L/min	Color/Odor/Notes			
11.50					RT PURG					Issues with fiftings allowing air into line			
1230		0 6,20	132				32,37						
1245	4.	<u>5 7.00</u>	31		6.80	169.3	27,10	34,30	0.1				
1248		3 6.71	127	9,87			28,48						
1251 1253	5.1	6.51	124	9,91	6.75	170.6	33,03	34, 30	0./				
1253	5,	5 5,90	1/8	9,88	6.70	171,9	35,39	34.30	0.1				
1258	5.8	5.69	118	9.98	6,70	172,4	38.09	34,30	0.1				
1258 1301	6.1	5.6	117	9,97	6.71	172.7	38,83	34.30	0.1				
1304	6.5	1 5,71	1/7	9,95	6.71	172,6	40.02	34.30	0./				
1305				_						Collect sample 0821 MW52GW			
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				1	1	ı	Sample	d?: Ye	 s ĩ⊠∕ N				
Initial of	nitial of Sampler:												



Client/Site:	BLM Red Devil	Mine		Well ID.:	MW53			
Contract No.:	140L6321C0001	···	Project No.:	BU06-007		<u>.</u>		
Date:	8-31-21		Samplers:	J PARSON				
Time Start:	1325		• •	R WITTL				
Time Finish:	1410		- Checked By:	Riwittler				
Well & Purge Info				······································				
-TD (ft. bTOC): TO	Pump 51.4	ft	Scree	ened Interval (ft.):				
DTW (ft. bTOC):	34,21	ft						
Water Column:		ft	- TD-DTW=Water Colu	ımn				
Liter/Foot:		L/ft	- See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***		
Liters in Well:	·	L	- Water Column x L/ft		Well Diameter	L/ft		
Three Well Volumes:		L	- Liters in Well x 3		5/8"	0.06		
Sample Depth:	-	ft	- Depth of Pump Intake	÷	2"	0.605		
			-	1	4"	2.47		
Field Equipment			· · ·					
Multiparameter Water	Ale est			<b>.</b>	-1			
Quality Meter:	<u> 151 556</u>		Serial No.:	0951007	27			
Water Level Meter:	_SOLINS	102	Serial No.:	294991				
Turbidity Meter:	HF MIC	RO TPW	Serial No.:	2020071	53			
Pump Type:	BLADDE	R.	Serial No.:	NA				
Purge Method:					<u></u> .			
Peristaltic Pump		Inertial	☐ Other:					
🔀 Bladder Pump : 🕠	Optimum Flow Ra	ate Set at <u>12</u> s	Seconds Refill <u>3</u>	Seconds Discharg	je			
Sampling Method:	•							
Peristaltic Pump		Inertial	☐ Other:		• •			
🖾 Bladder Pump:	Optimum Flow Ra	ate Set at <u>12</u> s	Seconds Refill 3	Seconds Discharg	ge 4 CPM Q	)~~ 30psi		
Sample Collection	n Informatio	n		MS/MSD? :	Yes 🗆	No 🗶		
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials		
TAL Metals	1	No	Nitric	6020B LL, 7470A		<u>J</u>		
Total LL Mercury Dissolved LL Mercury	<u> </u>	No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass 8oz Amber Glass	ORO-		
		Yes	None .			Sol		
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Page 1 of 2

Well ID: MW53 Sample ID: 0921MW53GW										
Well ID: N	<u>w57</u>	כ		Sample ID:	<u>0821</u>	<u> MW53</u>	6-W			Sample Time: 14-00
Date: S Notes:	21-21			Dup. Sample	id: N	A				Dup. Sample Time: NK
Notes:										
				1				and *St	abilizatio	n Data
Time	Volume Removed	<b>Temp</b> *± 3% °C, min	Spec. Cond. (uS/cm)	DO (mg/L)	pН	ORP (mV)	Turbidity (NTU)	DTW	Flow Rate	Color/Odor/Notes
(24 hrs)	(L)	± 0.2°C	(µS/cm) *±3%	*± 10%	*± 0,1	*± 10 mV	(NTU) *± 10%	(ft)	L/min	
1335		A					· · · · · · · · · · · · · · · · · · ·			
1340	0.75	4.83	B€	8,40	5.66		10.26	34.21		
1345	1.50	4.46	102	7.27	5.77	6.3	8.57	3A,21	0,15	
1340 1345 1348	1.95	4.41	99	6.97	5,83	3.1	8.41	34:21	0.15	
1351	2:40	4.39	101	6.87	5.86	0.3	5.54	34.21	0.15	
		4.35	103		5.93		818			
1357		4.33	106		6.00		6.42	24.71	0.15	
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Client/Site:	BLM Red Devil N	line		Well ID.:	MW 54				
Contract No.:	140L6321C0001		Project No.:	BU06-007					
Date:	8-31-	21	Samplers:	R WITTLE					
Time Start:	1025			J PARSONI					
Time Finish:	1120		Checked By:	Checked By: R.WIHLEY					
Well & Purge Info	rmation								
"JD'(ft. bTOC): TO P	IN130.35	™ 39,55 ft	Scree	ened Interval (ft.):					
DTW (ft. bTOC):	39.35								
Water Column:	· · ·	ft	TD-DTW=Water Column						
Liter/Foot:		L/ft	See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:		L	Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:		L	Liters in Well x 3		5/8"	0,06			
Sample Depth:		ft	Depth of Pump Intak	9	2"	0.605			
			· · · · ·		4"	2,47			
Field Equipment					( ) () ()				
Multiparameter Water									
Quality Meter:	<u>YSI 556</u>	MPS	Serial No.:	09E1007	24				
Water Level Meter:	SOLINST	102	Serial No.:	294991					
Turbidity Meter:	HE MICH	o TPW	Serial No.:	20200790	J3				
Pump Type:	BLADDER		Serial No.:	NA					
Purge Method:			· · · · · · · · · · · · · · · · · · ·			, · · · · · · · · · · · · · · · · · · ·			
Purge Method:	٦٦	Inertial	Other						
			Seconds Refill 2.5	·	ne				
Sampling Method:					y				
Peristaltic Pump	· 🗖	Inertial	Other	4					
					3 (PM DA	128 00			
		· · ·	econds Refill 2.5		je				
Sample Collectio				MS/MSD? :	Yes 🗆	No 📧			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metals	1	No	Nitric	6020B LL, 7470A		0220			
Total LL Mercury	<u> </u>	No	None	1631 LL Hg	8oz Amber Glass	DOCO-			
Dissolved LL Mercury	+ ′	Yes	None	1631 LL Hg	8oz Amber Glass	000			
		· · ·				<u> </u>			
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Page 1 of 2

Well ID: 🔨	VeII ID: MW54 Sample ID: 0821 MW54GW									Sample Time: 1110
Date: 3				Dup. Sample						Dup. Sample Time: NA
Notes:										
	Volume	Temp	Spec. Cond.		1	1	Purging Turbidity		abilizatio	
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	e Color/Odor/Notes
1035					RT PURGI		1	•		
1040	1.0	4.02	274	1.84		- 49.3			0.20	
1045		4.07			6.27			30.35	0.20	
1050	3.0	4.01		2.08	6.2.9	-46.0	19.26	30.35	0.20	
1053	3,6	3.96	277	1.93	6.35			30.35	920	
1056	4.2	3.48	277	1.91	635			30.35	0.20	
1059	4.8	3.96	278	1.87	6.40	-52.0	11.86	30,35	0.20	
1102	5,4	3.99	279	1.87	6,43	-55.1	10.61	30,35	0.20	
1105	6.0	4.01	279	1.81	6.45	-53.4	963	30:35	0.20	
							_			
		•								
								<u> </u>		
				•		•				
							Sample	ed?:Ye	s 🗵 1	No 🗆

Initial of Sampler.



Client/Site:	BLM Red Devil I	Vine		Well ID.:	MW55				
Contract No.:	140L6321C0001	l	Project No.:	BU06-007					
Date:	8/31/900	27	Samplers:	GG					
Time Start:	0845	······································	-						
Time Finish:	1120		- Checked By:	2. Witther					
Well & Purge Info	rmation								
TD (ft. bTOC):	13.93	ft	Screened Interval (ft.):						
DTW (ft. bTOC):	14.19	ft	· · · · · · · · · · · · · · · · · · ·						
Water Column:	9.74	ft ft	- TD-DTW=Water Co	TD-DTW=Water Column					
Liter/Foot:	0.60	۲ L/ft	- See ***Well Volume	Calculation*** table	***Well Volume	Calculation***			
Liters in Well:	5,9	L	Water Column x L/ft		Well Diameter	L/ft			
Three Well Volumes:	/7.	7 г	Liters in Well x 3		5/8"	0.06			
Sample Depth:	197	<i>ft</i> ft	Depth of Pump Intal	æ	2"	0.605			
					4"	2.47			
Field Equipment									
Multiparameter Water Quality Meter:	YSI 55	6	Serial No.:	106-101 48	1				
Water Level Meter:	< list	101	- Serial No.:	77262					
Turbidity Meter:	Micro TPL		Serial No.:	2018 1032	24				
Pump Type:	0 1 1 1	Ilexis	-	90048					
Pump Type:	4 CF 13 400CTIC 74		Serial No.:						
Purge Méthod:									
K Peristaltic Pump	Ū.	Inertial	☐ Othe	r:					
Bladder Pump : (	Optimum Flow Ra	ate Set at S	Seconds Refill	_ Seconds Discharg	ge				
Sampling Method:									
🖾 Peristaltic Pump		Inertial	☐ Othe	r:	• •• • • •• ••• •				
Bladder Pump : 🤇	Optimum Flow Ra	ate Set atS	Seconds Refill	_Seconds Discharg	ge				
Sample Collection	n Informatio	n		MS/MSD? :	Yes 😿	. No 🗆			
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials			
TAL Metals	3	No	Nitric	6020B LL, 7470A		JA.			
Total LL Mercury	3	No	None	1631 LL Hg	8oz Amber Glass	<u>Ji A</u>			
Dissolved LL Mercury	3	Yes	None	1631 LL Hg	8oz Amber Glass	"HA			
				· ·					
					1				
					,				
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Page 1 of 2

Well ID: MU	IWSS Sample ID: 082/MW55GW									Sample Time: 10 20
Date: <i>8/3/</i> Notes:	1/2021			Dup. Sample	ID:		alane			Dup. Sample Time:
Notes: '	1									•
										·
	Volume	Тетр	Spec. Cond.			1	Purging	1	abilizatio I	n Data
Time (24 hrs)		*± 3% °C, min ± 0.2°C		DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes .
0925					RT PURG					Chunks of orange brown material coming up
0935		5.26	29/		5-84		43,40	14.57	0.08	
0940		5.24	281	1.18	5.93	-0,7	34.01	14.57	0:09	
0945 09 <b>58</b>		5.22	272	].0]	5.97	-144.5	32.21	14.57	0,08	
07\$8		5,15	267	017/	6.00	-144.2	25,13	14.57	0.08	
0951		5.05	259	0156	6.05	-58.8	23.22	14.57	0.02	
0955		5.09	256	0.55	6.07	-59,7	54.51	14.57	0.05	
0956		5.14	252	0.52	6.09	-65.0	21.14	14.57	0.08	
1001		5.21	244		6.16	-54.7	16,82	14.57	0.08	
1001 1005		5,37	243	0,46	617	-55,3	15.40	14.57	0.08	
1008		5.38		0,43	6.18	-47,8	17.15	14.57	0.08	
1011		5.35	236	0.43	6.19	-4412	15.58	14.57	0,08	
1015		5,25	232	0.43	6.19	-40,3	15.05	14.57	0.08	
jo je		5124	228	0.44	6.21	-36.4	14,98	14,57		
1020										Sounde + MS/MSO
	•									
	•									
							•			· · · · ·
	· · · · · · · · · · · · · · · · · · ·						Sample	d?:Ye	es j⊉ N	lo 🗆
Initial of Sa	mpler:	ロカ								Page 2 of 2



Client/Site:	BLM Red Devil	Mine		Well ID.:	MWSG	•				
Contract No.:	140L6321C000	)1	– Project No.:	BU06-007						
Date:	9/1/20	21	Samplers:	GG						
Time Start:	1005	•		, <u>maganing gang ay an an an an an an an</u>		<u>.</u>				
Time Finish:			Checked By:	Checked By: R.WIHLEF						
Well & Purge Info	ormation			· · · · · · · · · · · · · · · · · · ·						
TD (ft. bTOC):		ft	Scr	reened Interval (ft.):						
DTW (ft. bTOC):	39,4	16 ft								
Water Column:		ft	TD-DTW≃Water C	olumn						
Liter/Foot:		L/ft		e Calculation*** table	***Well Volume Calculation***					
Liters in Well:	<u> </u>	L	— Water Column x L/	fL	Well Diameter	L/ft				
Three Well Volumes:	· · · · · · · · · · · · · · · · · · ·	L	— Liters in Well x 3		5/8"	0.06				
Sample Depth:		ft	<ul> <li>Depth of Pump Inta</li> </ul>	ake	2"	0.605				
• •	<u> </u>				4"	2.47				
Field Equipment	· · ·	. <u> </u>		· · · · · · · · · · · · · · · · · · ·						
Multiparameter Water Quality Meter:	YSI 556	5	Serial No.:	09E 100 7.	21/					
Water Level Meter:	Solinst				~7	· · · · · · · · · · · · · · · · · · ·				
			Serial No.:	77262						
Turbidity Meter:	Microl	PW (Gestech 19")	Serial No.:	2018 103	~7					
Pump Type:	<u>Bladder (</u>	Geotech 19")	Serial No.:	unknow	· · · · · · · · · · · · · · · · · · ·	<u> </u>				
Purge Method:										
Peristaltic Pump	Ľ	Inertial	□ Oth	er:						
🖾 Bladder Pump:	Optimum Flow F	Rate Set at <u>/ </u>	Seconds Refill 3	Seconds Dischar	90 4 cpm @ 40	ps/				
Sampling Method:	· · · · ·									
Peristaltic Pump	Ľ	Inertial	🗆 Oth	er:						
Bladder Pump:	Optimum Flow F	Rate Set at <u>/2</u>	Seconds Refill	Seconds Dischar	gegepne 40,	nsi = 0,1 4/1				
Sample Collectio	n Informatio	on		MS/MSD? :	Yes 🗆	No 📈				
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials				
TAL Metals		No	Nitric	6020B LL, 7470A		A.G.				
Total LL Mercury		No	None	1631 LL Hg	8oz Amber Glass	<u> </u>				
Dissolved LL Mercury	+ /	Yes	None	1631 LL Hg	8oz Amber Glass	11-1				
· · · · · · · · · · · · · · · · · · ·					<u> </u>					
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······································						······································				

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Well ID:	NW56			Sample ID:	0921	NWS	6 G W			Sample Time: 1040	
Date: 9	1 1/202	21		Dup. Sample	ID:					Dup. Sample Time:	
Notes:											
							·				
	Valuma	7	See Orad	1				and *Sta	abilizatio	n Data	
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	<b>ORP</b> (mV) *±10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	· Color/Odor/Notes	
1010					RT PURG						
1020	1.0	4,50	248	5-12	6.32	-15.5	14.30	38,49	Oil		
1025	1.5	4.44	239	158	6-27	~14.8	12.12	33.48	0.1		
1028	1.9	4.37	234	4.25	6.29	-17.3	12.12 7.18	33.48	0.1		
1025 1028 1031 1035 1040	2.1	4.40	232	4.02	4.31	-19,3	5.65	33,48	0.1		
1035	a.5	4.35	230	3,88	6.37	-23.1	4.89	33.48	Orl		
10 Y Û										Collect sample at 1040.	
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							Sample	d?: Ye	s 🟹 N	lo 🗆	
Initial of Sa	nitial of Sampler: 1997 Page 2 of 2										

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Client/Site:	BLM Red Devil I	Vline	wa .	Well ID.:	MW57	
Contract No.:	140L6321C0001	l	Project No.:	BU06-007	•	
Date:	\$ JP 9-	1-21	Samplers:	J PARSO	N	
Time Start:	0830		_	R WITTLE	R	
Time Finish:	0915		Checked By:	R.witty		
Well & Purge Info	rmation					
TO P.	JMP 47.87	ft	Scree	ened interval (ft.):		
DTW (ft. bTOC):	47-87-	IP 42.55 tt	_			
Water Column:	•	ft	TD-DTW=Water Col	umn		
Liter/Foot:		L/ft	See ***Well Volume	Calculation*** table	***Well Volume	e Calculation***
Liters in Well:		L	- Water Column x L/ft	-	Well Diameter	L/ft
Three Well Volumes:		Ĺ	Liters in Well x 3		5/8"	0.06
Sample Depth:		ft	<ul> <li>Depth of Pump Intak</li> </ul>	e	2"	0.605
					4"	2.47
Field Equipment					· · ·	
Multiparameter Water	3/11		<u> </u>	106-1211	21	
Quality Meter:		MPS	Serial No.:	1061014	66	
Water Level Meter:	SOLINST	162	_ Seriał No.:	294991	, <b>.</b>	
Turbidity Meter:	HF MICRO	S TPW	Serial No.:	202007	903	
Pump Type:	BLADDER		_ Serial No.:	NA		
Purge Method:						
Peristaltic Pump		Inertial	🗍 Other	•		
🛛 Bladder Pump : 🛛	Optimum Flow Ra	ate Set at <u>12</u> S	Seconds Refill <u>3</u>	Seconds Discharg	ge	
Sampling Method:						
Peristaltic Pump		Inertial	🗋 Other			
'교 Bladder Pump : 이	Optimum Flow Ra	ate Set at <u>12</u> s	Seconds Refill <u>3</u>	_Seconds Discharg	<sub>je</sub> 4 cpm @ .	28 psi
Sample Collection	n Informatio	n	<u></u>	MS/MSD? :	Yes 🗆	No 🕅
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials
TAL Metals	l	No	Nitric	6020B LL, 7470A		900
Total LL Mercury Dissolved LL Mercury	 	No	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass 8oz Amber Glass	<u>Q</u> BP
	<u> </u>	Yes	None		602 Amber Glass	2200
	1					
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·			·	<u> </u>		
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,						

Well ID: MI	N 57			Sample ID:	092	MW.5	76-W	- · · ·		Sample Time: 0965
Date: 5-1 Notes:	-21			Dup. Sample	10: N	'A				Dup. Sample Time: NA
Notes:	•			•						· · · · · · · · · · · · · · · · · · ·
	Volume	Temp	Spec. Cond.		<u> </u>		Purging Turbidity	1	abilizatio	n Data
Time (24 hrs)	Removed (L)	*± 3% °C, min ± 0.2°C	(µS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	ORP (mV) *±10 mV	(NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
0340		2 0.2 0	10/0	, STAF	, RT PURG	ING	1 2 10/0	<b>I</b>	1	
0845	1.0	4.48	56	14.14	5.35	269,0	5.00	42.60	0.2	
0850	2.0	3.79	41			256.0		42.6		
0853	2.6	3,58	39	9,84	5,83	232.4	1.95	42.6	0,2	
0856	3.2	3.49	38	9.86	5.83	-B.5	2.67		0.2	
0859	3.8	3.46	37	9,87			1.46			
0402	4.4	3,43	37	9.90			2.31	42.6		
							-			
							-			
										· · · · · · · · · · · · · · · · · · ·
							· · · ·			· · · · · · · · · · · · · · · · · · ·
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										· · · · · · · · · · · · · · · · · · ·
			<u> </u>						-	· · · · · · · · · · · · · · · · · · ·
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Initial of Sa	mpier:	<del>R</del> Z					Sample	ed?: Ye	es 🗹 N	lo 🗆 Page :

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Client/Site:	BLM Red Devil	Mine		Well ID.:	MW 58	· · · · · · · · · · · · · · · · · · ·	
Contract No.:	140L6321C000	1	Project No.:	BU06-007			
Date:	8-31-2	.1	Samplers:	J PARSON	)		
Time Start:	1425			R WITTLE			
Time Finish:	1650		Checked By:	R.WIHLEN			
Well & Purge Info	rmation		· · · ·				
TD (ft. bTOC):	41.12	ft	Scree	ened Interval (ft.):			
DTW (ft. bTOC):	31.77	ft	_				
Water Column:		ft	- TD-DTW≕Water Colu	nmu			
Liter/Foot:		L/ft	- See ***Well Volume (	Calculation*** table	***Well Volume	Calculation***	
Liters in Well:		L	- Water Column x L/ft		Well Diameter	L/ft	
Three Well Volumes:		L	Liters in Well x 3		5/8"	0.06	
Sample Depth:		ft	Depth of Pump Intake	9	2"	0.605	
					4"	2.47	
Field Equipment							
Multiparameter Water Quality Meter:	YSI 556	MP5	Serial No.:	09151007	o 4-		
Water Level Meter:			•		2-1		
	SOLINST	102	Serial No.:	294941			
Turbidity Meter:	HE MICRO	A TPW	Serial No.:	2020079	<u>U 5</u>		
Pump Type:	BLADDER	· · · · · · ·	Serial No.:	NA			
Purge Method:		· ·					
Peristaltic Pump		Inertial	□ Other:				
🗵. Bladder Pump :	Optimum Flow R	ate Set at <u>26</u> s	econds Refill	Seconds Discharg	ge		
Sampling Method:							
Peristaltic Pump		Inertial	□ Other:				
图 Bladder Pump :	Optimum Flow R	ate Set at <u>26</u> S	econds Refill 4-	Seconds Discharg	ge Z CPM @	~32 ps;	
Sample Collection	n Informatio		-	MS/MSD? :	Yes 🛛	No 減	
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials	
TAL Metals		No No	Nitric None	6020B LL, 7470A	250 ml Plastic 8oz Amber Glass	2000	
Total LL Mercury Dissolved LL Mercury		Yes	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass	CAREF CONTRACT	
Bibbontou EE Indrouty	¥	163		1001 EE Tig		<u></u>	
······							
	- <u>-</u>						
			·				
	<u> </u>						
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Well ID: A	n 58			Sample ID: 🤇	2821	MN 58	GN			Sample Time: 1640
Date: 9-7	51-21			Dup. Sample						Dup. Sample Time:
Notes: REP	LXED	TUBIN	S AFTE	R FIA	UDING	MULTI	PLE L	EAKS	in <del>i</del>	existing tubing and fittings
	1	1	,		,			and *St	abilizatio	n Data
Time (24 hrs)	Volume Removed (L)	Temp *± 3% °C, min ± 0.2°C	Spec. Cond. (µS/cm) *±3%	DO (mg/L) *± 10%	рН *± 0.1	<b>ORP</b> (mV) *± 10 mV	Turbidity (NTU) *± 10%	DTW (ft)	Flow Rate L/min	Color/Odor/Notes
1545		1	1	r	RT PURG	4	1			
155 5	0.5	8.67	248		6.25		73.94			
1600	0.75	8.21	220	0.79			57.59			
1605	1.0	8.03	206	0,63	6.36	-14.9	50.48	31.77	0.05	
1608	1.15	7.47	20)	0.56	6.39	-17.1	46.67	31.78	0.05	
1611	1.30	8.15	200	0.53	6.53		39.34			
	1.45	8.B	198	0.53	6.65	-32.8	38.41	31.77	0.05	
1617	1.60	2.04	197	0,52	6.68	-33.9	29.59	31,77	0,05	
1620	1.75	3.04	197	0.49	6.72	-37.6	28.35			
1623	1.90	7.91	196	0.47	672	-39.4	27.31	3.77	0.05	
1626	2.05	7.89	195	0.45	6.73	-40,7	26.34	31.77	0.05	
1	2.20	7.82	195	0.43	6.72	-40.1	22.28	31.77	0.05	
1632	2.35	7.76	194	0.44	6.72		20,18			
1635	2.50	7.79	195	0.46					0.05	
						-				
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				<b></b>						
				·····						
·	·	L <u></u>	]		3		Sample	d?:Ye	s⊠ N	No 🗆

Initial of Sampler:



Client/Site:	BLM Red Devil N	line		Well ID.:	MW59			
Contract No.:	140L6321C0001		Project No.:	BU06-007				
Date:	9-1-21		Samplers:	J PARSON	-			
Time Start:	0925			R WITTLER				
Time Finish:	1350	······································	Checked By:	Riwittle				
Well & Purge Info	· · · · · · · · · · · · · · · · · · ·							
	MP 151.30	) ft	Scree	ened Interval (ft.):		· · · · · · ·		
DTW (ft. bTOC):	131.70							
Water Column:	1.000 / C	ft	TD-DTW=Water Colu	Imn	·			
Liter/Foot:		L/ft	See ***Well Volume (	•	***Well Volume	Calculation***		
Liters in Well:		L	Water Column x L/ft		Well Diameter	L/ft		
Three Well Volumes:	P1	L		· _	5/8"	0.06		
Sample Depth:			Depth of Pump Intake	3	2"	0.605		
	·				4"	2.47		
Field Equipment								
Multiparameter Water	N		······································		Ame			
Quality Meter:	<u>YSI 556</u>	MPS	Serial No.:	106-101 486				
Water Level Meter:	SOLINST	102	Serial No.:	294991				
Turbidity Meter:	HF MICRO	S TPW	Serial No.:	2020070	103			
Pump Type:	BLADDER	٤	Serial No.:	NA	· · · · · · · · · · · · · · · · · · ·			
Burgo Mothod-								
Purge Method:		Inertial	D Other:					
			· _		ne I CPM @	N 70 psi		
Sampling Method:			Seconds Refill 20	_ Seconds Dischar(		- 10 psi		
Peristaltic Pump		Inertial	🗍 Other					
-			6	······································		· · · ·		
			Seconds Refill 20	Seconds Discharg	je.			
Sample Collectio				MS/MSD? :	Yes 🗆	No X		
Parameter	# Containers	Filtered?	Preservative	Method	Container Type	Initials		
TAL Metals	<u> </u>	No No	Nitric None	6020B LL, 7470A	80z Amber Glass	Sar		
Total L <sup>1</sup> L Mercury Dissolved LL Mercury	ļ <u>(</u>	Yes	None	1631 LL Hg 1631 LL Hg	8oz Amber Glass	DEP DEP		
		102				245		
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Page 1 of 2

Well ID: 📈	WBG			Sample ID:	0921	MW5	96-W			Sample Time: 1330
	1-21	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Dup. Sample			· -			Dup. Sample Time: NA
Notes:	EFDS	NEW	AIR F	ITTINGS	5. B/	AD FE	RRULES	). (SP	<u>ک</u>	
· ·							Purging	and *St	abilizatio	n Data
Time	Volume	Temp	Spec. Cond.	DO (mg/L)	рн	ORP (mV)	Turbidity		Flow Rate	
(24 hrs)	Removed (L)	*± 3% °C, min ± 0,2°C	(µS/cm) * ± 3%	*± 10%	*± 0.1	*± 10 mV	(NTU) *± 10%	(ft)	L/min	Color/Odor/Notes
1105 START PURGING										
1138	0.66	<u></u>		4.05		28.0	71.7	B1.7	0.02	
1140	0.70	10.01	292	4.04	7.20	27.5	62.0	131.7	0,02	
1145	0.80	10.34	294	3.55	7.19	21.5	80.99	131.7	0.02	· · · · · · · · · · · · · · · · · · ·
114-8	0.86	10.38	295	3,33	7.20	8,5	75.81	131.7	0.02	
1151	0.42	10.47	296	3.29	7.20	11.2	79.26	B1.7	0.02	
1154	0.98	10.69	298	3.28	7.20	14.9	81.01	1317	0.02	
1157	1.04	10.70	298	3.09	7.20	15.7	91,24	1317	0.02	
1200	1.10	10.92	299	3,08	7.20	16.3	94,57		0.02	*
1203	1.16	11.14	301	3.12	7.21	-0.5	84.14	131.7	0.02	
1206	1.22	11.36	303	3.01	7.22	-4.9	72.16		0,02	
1209	1.28	11.45	304	2.95	7.23	-7.4	76.19	131.7	0.02	
1212	1.34	11.61	305	2.84	7.26	-2.3		131.7	0.02	FUING FAULTY AIR FITTINGS
1240	1.40	12.11	314	3,22	7.32	-26.8	113,00			
1243.	1.55	8.64	292	3.94	7.33	-55.6	112.6		0,05	
1246	1:70	7.60	274	2.99	737		146.Z	131.7		
1249	1.85	7.34	270	2.64	1	-69.1	154.9		0.05	
1252	2.0	6.98	267	2.44	7.41	-66,4	148.9	131.7		
12.55	2.15	6.94	24	2.31	7.44	-81.2	1452		0.05	
1258	2.30	6.81	266	2.29	7,45	-72.7	136.1	131.7		
1301	2.45		266	230	7.44	-74.1	122.9	131.7		
1304	2.60		266	1.77		-165.2			0,05	· · · · · · · · · · · · · · · · · · ·
1307			265				110.6			
	2.40			-	1		103.5	1		
	3.05						94.10			
	3.20						47.48			
1319	3,35						86.61			· · · · · · · · · · · · · · · · · · ·
1322	3.50						69.18			
									s 🕵 N	No 🗆
							-		. •	

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#### ATTACHMENT 1.5 SURFACE WATER SAMPLING FORMS

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Consulting Inc.	Surface Water Sample Collection Log							
Project Name: Red Devil Mine	Sample Location: RD <del>155~</del> (らむシ)058W							
Project No.: BU06-007	Sample ID: 0621RD 15 SW							
Sample Type: SW	Date: 6/10/202							
Pump Type: Peri	Time: /000							
Sample Team; CR/GG/JP )	COC #:							
	Trip Blank ID: LL Mercury (only)							
Methods (listed in Bottle	Filtered/							

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🔨 (	plastic	unfiltered	Nitric 😥	ambient	180 days/28 days *	COZ
Total LL Mercury	8 oz Xi	glass	unfiltered	None	4°C	48 hours/14 days⁺	CR
TSS and TDS **	1L 🔨 I	plastic	unfiltered	None	4°C	7 days ·	CR
Nitrate-Nitrite	250 mL 🗙 /	plastic	unfiltered	Sulfuric Yellow	4°C	28 days	CR
Inorganic Ions (CI, F, SO <sub>4) and</sub>							COL
Alkalinity***	250 mL 🗡 🕴	plastic	unfiltered	None	4°C	28 days/14 days	WL

Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time.

allen Rust

5 BOTTUES

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic lons and Alkalinity are sampled togher in a 250 mL container.

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By:

Reviewed By: Jupp PARSON

SEccor. 00 TEMP TORG. TIME ORP ØН ILS/cm NOTES ma/L NTUS 2.38 79.6 3.51 241 1000 6,56 8.8B - 47

1	Sundan Consulting Inc	<u>~15</u>
:	Project Name:	Red Devil Mine
	Project No.:	BU06-007
	Sample Type:	SW
	Pump Type:	Peri
•	Sample Team	CR/GG/JP

	Surface Water Sample Collection Log										
Sample Location: Sample ID: Date:	RD 06521 0621RD 06 SW										
Time: COC #: Trip Blank ID:	LL Mercury (only)										

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🗶 🗧	plastic	unfiltered	Nitric (250)	ambient	180 days/28 days *	ÓR
Total LL Mercury	8 oz 🗡 🖅	glass	unfiltered	None	4℃	48 hours/14 days⁺	CR
TSS and TDS **	11 XI	plastic	unfiltered	None	4°C	7 days	ĈBZ
Nitrate-Nitrite	250 mL 🔭	plastic	unfiltered	Sulfuric Yeile	4°C	28 days	Ca
Inorganic Ions (Cl, F, SO <sub>4) and</sub> Alkalinity***		plastic	unfiltered	None	4°C	28 days/14 days	Cor

Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time.

5 BOTIES

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic lons and Alkalinity are sampled togher in a 250 mL container.

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Colleen RUST Logged By:

Reviewed By: JUDD PARSON

TIME	TENP	ster. caso	Da Mill	PH	ØRP	TURB. NTUS	Netes	
945	4.67	.97	11.67	7.06	9512	1,40	clear	

Sundance Consulting Inc. May 2021

SAMPLEY DUP/MS/MSD

Red Devil Mine
BU06-007
SW
Peri
CR/GG/JP

	face Wate Collection	
Sample Location:	RD 6864	
Sample ID:	0621RD 08	SW
` Date:	6/101208	<u> </u>
Time:		<b></b>
COC #:		· .
Trip Blank ID:	-1.	LL Mercury (only)

Methods (listed in prioritized order)	Sample	Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	X4	plastic	unfiltered	Nitric 🛵	ambient	180 days/28 days *	CPR
Total LL Mercury	8 oz	74	glass	unfiltered	None	4°C	48 hours/14 days⁺	CBZ
TSS and TDS **	1 L	X4	plastic	unfiltered	None	4°C	7 days	COZ-
Nitrate-Nitrite	250 mL	X4	plastic	unfiltered	Sulfuric Yeur	4°C	28 days	CQ2
Inorganic Ions (Cl, F, SO4) and								CR
Alkalinity***	250 mL	×4	plastic	unfiltered	None	4°C	28 days/14 days	2 . C.

0621R099.5W @ 0900 Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time. Dop

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic lons and Alkalinity are sampled togher in a 250 mL container.

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory 20 BOTTLES SOP indicates hold time of 14-days.

olleer lust Logged By:

Reviewed By: JUDD PARSON

TEMP HER.COND Do Zemyl TORB. ORP ₽H. TIME BOTES °C 45km NTUS 4.73 345 gq 12.32 89 160.1 2:06 CLEAR

Sundam Consulting la	
Project Name:	Red Devil Mine
Project No.:	BU06-007
Sample Type:	SW
Pump Type:	Peri
Sample Team	CR/GG/JP

#### Surface Water Sample Collection Log Sample Location: <u>RD 1050</u>

 Sample ID:
 0621RD / O SW

 Date:
 0/10/202

 Time:
 /030

 COC #:
 LL Mercury (only)

Methods (listed in Bottle Filtered/ Sample Volume Preservative Temperature Hold Time Initials prioritized order) Unfiltered Type TAL Metals 250 mL 🔨 unfiltered ambient 180 days/28 days \* plastic Nitric CR 8 oz 🔨 1 Total LL Mercury 4°C 48 hours/14 days<sup>+</sup> glass unfiltered None COZ. TSS and TDS \*\* XI 4°C 7 days None 1 L plastic unfiltered CR 4°C 250 mL 🗴 ( -Nitrate-Nitrite plastic unfiltered Sulfuric 28 days CD Inorganic Ions (CI, F, SO<sub>4) and</sub> COL 250 mL 🗙 🕽 4°C unfiltered 28 days/14 days plastic None Alkalinity\*\*\*

Comments: \* The TAL Hg analyzed by EPA Method 7470A has a 28 day hold time.

BOTHES

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic Ions and Alkalinity are sampled togher in a 250 mL container.

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

olleer 105 Logged By:

Reviewed By: JUDP BARSON

TEN? SECTIONS 00 7000 ÔL P ØH TINE NOTES 01 mg/L HS/cm NTUS 32 030 4.23 7.44 11.68 <u>III, r</u> 1 CLAR

Sundance Oonsuitting Inc.	Surface Water
Project Name: Red Devil Mine	Sample Location: RD <del>CSS 15</del> SW
Project No.: BU06-007	Sample ID: 0621RD 05 SW
Sample Type: SW	Date: 6/10/2021
Pump Type: Peri	Time: 1015
Sample Team: CR/GG/JP	COC #:
	Trip Blank ID: LL Mercury (only)

Methods (listed in prioritized order)	Sample Volume	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL 🔨	plastic	unfiltered	Nitric	ambient	180 days/28 days *	az
Total LL Mercury	8 oz 🗡 I	glass	unfiltered	None	4℃	48 hours/14 days <sup>+</sup>	CR
TSS and TDS **	1L 7/1	plastic	unfiltered	None	4°C	7 days	eR
Nitrate-Nitrite	250 mL 🗙 i	plastic	unfiltered	Sulfuric	4°C	28 days	CB
Inorganic Ions (CI, F, SO <sub>4) and</sub>							1000
Alkalinity***	250 mL 🗙 🔪	plastic	unfiltered	None	4°C	28 days/14 days	VCR_

5 BOTTLES

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic lons and Alkalinity are sampled togher in a 250 mL container.

+ According to the laboratory project manager, if filtered in field and analyzed in original container, laboratory SOP indicates hold time of 14-days.

Logged By:

Reviewed By: JUDD PARSON

Céller I

TIME	TENP	SLECCONP JUSICON	DO My/L	ſН	ORP	TURB. NTU3	NOTES
1015	4.67	36	/1.89	7.60	57.8	1.74	Clear

Sunda Consetting			
Project Name:	Red Devil Mine		
Project No.:	BU06-007		
Sample Type:	SW		
Pump Type:	Peri		
Sample Team:	CR/GG/JP		

Surface Water	
Sample Collection Log	/ EEP
Sample Location: RD 05	SEL
Sample ID: 0921RDS SW	
Date: 9-3-21	
Time: 1030	
COC #:	
Trip Blank ID:	:

Methods (listed in prioritized order)	Sample Volume	Bottle Count	Bottle Type		Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	Î	plastic	Unfiltered	Nitric	ambient	180 days/ 28 days*	12
Total LL Mercury	8 oz	1	glass	Unfiltered	None	4° C	48 hours/14 days	THI
TSS and TDS**	1L	1	plastic	Unfiltered	None	4º C	7 days	000/
Inorganic Ions (Cl, F, SO <sub>4</sub> )								
and Alkalinity***	250 mL	Į	plastic	Unfiltered	None	4º C	28 days/ 14 days	
Nitrate-Nitrite	250 mL	}	plastic	Unfiltered	Sulfuric	4º C	28 days (	

\*\*The TSS andTDS are sampled together in a 1 L container.

\*\*\*The Inorganic Ions and Alkalinity are sampled together in a 250 ml container.

Logged By: <u>TP</u>

Reviewed By: R. WHALEN

Time	Temp °C	Spec Con µS/cm	DO mg/L	рН	ORP	Turb. NTU	Notes
107.0	A.09	269	4.16	10.71	12.7	2.16	

Sunda Conseiling			
Project Name:	Red Devil Mine		
Project No.:	BU06-007		
Sample Type:	SW		
Pump Type:	Peri		
Sample Team:	CR/GG/JP		

Surface Water Sample Collection Log					
Sample Location:	RDAG				
Sample ID:	0921RDC_SW				
Date:	9-3-21				
Time:	1000				
COC #:					
Trip Blank ID:					

Methods (listed in prioritized order)	Sample Volume	Bottle Count	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL		plastic	Unfiltered	Nitric	ambient	180 days/ 28 days*	
Total LL Mercury	8 oz	(	glass	Unfiltered	None	4º C	48 hours/14 days	2
TSS and TDS**	1L	(	plastic	Unfiltered	None	4º C	7 days	9
Inorganic lons (Cl, F, SO <sub>4</sub> )								
and Alkalinity***	250 mL	l	plastic	Unfiltered	None	4º C	28 days/ 14 days	20
Nitrate-Nitrite	250 mL	1	plastic	Unfiltered	Sulfuric	4º C	28 days	2-

\*\*The TSS andTDS are sampled together in a 1 L container.

\*\*\*The Inorganic Ions and Alkalinity are sampled together in a 250 ml container.

Logged By: <u>JP</u>

Reviewed By: R.WITHEr

Time	Temp ⁰C	Spec Con µS/cm	DO mg/L	pН	ORP	Turb. NTU	Notes
0952	6.84	92	13.50	6.51	151.7	0.45	

Sunda Onsetting			
Project Name:	Red Devil Mine		
Project No.:	BU06-007		
Sample Type:	SW		
Pump Type:	Peri		
Sample Team:	CR/GG/JP		

Surface Water Sample Collection Log							
Sample Location: RD							
Sample ID: 0921RD53 SW							
Date: 4-3-21							
Time: 04/5							
COC #:							
Trip Blank ID:							

Methods (listed in prioritized order)	Sample Volume	Bottle Count	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	_ う	plastic	Unfiltered	Nitric	ambient	180 days/ 28 days*	925
Total LL Mercury	8 oz	3 N	glass	Unfiltered	None	4º C	48 hours/14 days	22
TSS and TDS**	1L	3	plastic	Unfiltered	None	4º C	7 days	
Inorganic lons (Cl, F, SO <sub>4</sub> )		Ś					-	
and Alkalinity***	250 mL		plastic	Unfiltered	None	4º C	28 days/ 14 days 🚽	23
Nitrate-Nitrite	250 mL	3	plastic	Unfiltered	Sulfuric	4º C	28 days <	22

\*\*The TSS andTDS are sampled together in a 1 L container.

\*\*\*The Inorganic lons and Alkalinity are sampled together in a 250 ml container.

Logged By: <u>JP</u>

Reviewed By: R.W.H.Her

Time	Temp ⁰C	Spec Con µS/cm	DO mg/L	рН	ORP	Turb. NTU	Notes
0910	6.90	109	13.46	4.96	247.3	00	

Sunda Consulting	
Project Name:	Red Devil Mine
Project No.:	BU06-007
Sample Type:	SW
Pump Type:	Peri
Sample Team:	CR/GG/JP

Surface Water Sample Collection Log						
Sample Location:						
Sample ID:	0921RDį⊖SW					
Date:	04-3-21					
Time:	1135					
COC #:						
Trip Blank ID:						

Methods (listed in prioritized order)	Sample Volume	Bottle Count	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	i	plastic	Unfiltered	Nitric	ambient	180 days/ 28 days* (	
Total LL Mercury	8 oz .	1	glass	Unfiltered	None	4º C	48 hours/14 days 🐔	Enge
TSS and TDS**	1L	ł.	plastic	Unfiltered	None	4º C	7 days	
Inorganic Ions (Cl, F, SO <sub>4</sub> )		1	1					
and Alkalinity***	250 mL	Ŧ	plastic	Unfiltered	None	4º C	28 days/ 14 days	200
Nitrate-Nitrite	250 mL	1	plastic	Unfiltered	Sulfuric	4º C	28 days 🛛	02

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic lons and Alkalinity are sampled together in a 250 ml container.

Logged By: <u>JP</u>

Reviewed By: R. WITHEN

Time	Temp ⁰C	Spec Con µS/cm	DO mg/L	pН	ORP	Turb. NTU	Notes
1130	1290	97	11.95	7.90	-81.5	0.46	

Sunde Consuiting	
Project Name:	Red Devil Mine
Project No.:	BU06-007
Sample Type:	SW
Pump Type:	Peri
Sample Team:	CR/GG/JP

Surface Water Sample Collection L	og 0921 RD99 5W @ 1100	Ĵ
Sample Location: RD 15		
Sample ID: 0921RD15 SW	ī	
Date: 9-3-21	-	
Time: 1055	-	
COC #:	-	
Trip Blank ID:	-	

Methods (listed in prioritized order)	Sample Volume	Bottle Count	Bottle Type	Filtered/ Unfiltered	Preservative	Temperature	Hold Time	Initials
TAL Metals	250 mL	2	plastic	Unfiltered	Nitric	ambient	180 days/ 28 days*	200
Total LL Mercury	8 oz	2	glass	Unfiltered	None	4º C	48 hours/14 days	000
TSS and TDS**	1L	2	plastic	Unfiltered	None	4º C	7 days	1997
norganic lons (Cl, F, SO <sub>4</sub> )		.2	1				·	
and Alkalinity***	250 mL	1.2	plastic	Unfiltered	None	4° C	28 days/ 14 days	660
Nitrate-Nitrite	250 mL	2	plastic	Unfiltered	Sulfuric	4º C	28 days	235

\*\*The TSS and TDS are sampled together in a 1 L container.

\*\*\*The Inorganic Ions and Alkalinity are sampled together in a 250 ml container.

Logged By:

Reviewed By: K. WIHLEN

.

	Time	Temp ⁰C	Spec Con µS/cm	DO mg/L	рН	ORP	Turb. NTU	Notes
L	1070	7:01	94	1280	7.48	-29.7	0.37	

#### **ATTACHMENT 1.6 CALIBRATION LOGS**

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51 556 Model: MPB Serial Number: 14B103510

Sundance Bonzolijag Jaz.

Sec. an

୍ରାଟ୍ର

Date & Time & Temp	Calibration Information	n Initial Calibration Readings	Final Calibration Readings
Date:	рН (4.0)	3,96	4.01 (
6-2-21	рН (7.0)	7.00	7.00
Time: 12.45	рН (10.0)	10.15	10.02
1412	Spec Cond (µS/cm)	1162	1165
<sup>Temp:</sup> らちゃに	DO (mg/L)	9.18	9.67
	ORP (mV)	249.5	240.0
Date: 6-5-21	pH (4.0)	4.05	4.01
0 / 21	pH (7.0)	6.98	7.00
<sup>Time:</sup> 192)	pH (10.0)	10.06	10.02
1,	Spec Cond (µS/cm)	1341	1241
Temp: 18,25°C	DO (mg/L)	9.31	9,16
	ORP (mV)	239.8	240.0
<sup>Date:</sup> 6-6-21	рН (4.0)	3.88	4.0)
	pH (7.0)	6,80	7.00
<sup>Time:</sup> 1725	<u>рН (10.0)</u>	10.18	10.04
• • • • •	Spec Cond (µS/cm)	1308	1275
<sup>Temp:</sup> 23.2	DO (mg/L)	8.71	8.97
	ORP (mV)	236.8	240.0
<sup>Date:</sup> 6-8-21	рН (4.0)	4.68	4.01
6-0-4	<u>рН (7.0)</u>	6.99	7.00
Time:	рН (10.0)	10.06	10.07
0710	Spec Cond (µS/cm)	1182	1236
Termp:	DO (mg/L)	9.60	9.29
19 -	ORP (mV)	241.5	240.0
Date: 6/9/21	рН (4.0)	3.99	4.01
	рН (7.0)	2.03	7.00
<sup>Fime:</sup> 1457	pH (10.0)	9.68	10,00
	Spec Cond (µS/cm)	1150	1234
remp: P°C	DO (mg/L)	9.46 240.2	9.15
* / -	ORP (mV)	240.2	240.0
Date:	pH (4.0)		
	pH (7.0)		
îime:	pH (10.0)		
	Spec Cond (µS/cm)		
ſemp:	DO (mg/L)		
	ORP (mV)		

Sundance Consulting Inc. May 2021



المعادية والمعادمة والمحافظ

Model: <u>157</u> 556 Serial Number: <u>11 F 10 2 2 7 8</u>

Date & Time & Temp	Calibration Information	Initial Callbration Readings	Final Calibration Readings	
Date: 06/02/ 3/	рН (4.0)	3.97	4.01	
•	pH (7.0)	7.05	7.00	
Time: 1246	рН (10.0)	10.01	10.01	
A	Spec Cond (µS/cm)	1243 9.53	1174	
Temp: 16 Bing C	DO (mg/L)	9,53	9.66	
RE IN C	ORP (mV)	244.4	240.0	
Date: 6/5/2/	pH (4.0)	4.01	4.01	
	рН (7.0)	6.89	7.00	- 2
Time: 1725	рН (10.0)	10.25	10.05	
1000	Spec Cond (µS/cm)	1342		
<sup>remp:</sup> 19,40°C	DO_(mg/L)- %	112.0 %	1266 99.8 %	
16.100	ORP (mV)	237.2	240,0	
Date:	pH (4.0)	4.06	4.01	
6-8-21	pH (7.0)	6,95	7.00	
Time:	pH (10.0)	10.08	10,02	-
1725	Spec Cond (µS/cm)	1185	1256	
<sup>Temp:</sup> 23.2°C	DO (mg/L)	<u> </u>	1.05	
23.20	ORP (mV)	241.5	240.0	
Date: 6/8/21	pH (4.0)	241.5		
	pH (7.0)	7.10	4.01	
lime: 073/	pH (10.0)	9.91	10.00	
	Spec Cond (µS/cm)		1237	
<sup>remp:</sup> 19°C	DO (mg/L)	1125 7.08	9.28	
110	ORP (mV)	241.5	9.28 240.0	
Date: 6/4/21	pH (4.0)	<u>241,5</u> <u>3.98</u> 7.04	4.01	-
-777	pH (7.0)	7.04	7,00	
-ime: 0830	pH (10.0)	9.89	9.99	
	Spec Cond (µS/cm)	1248	1233	
Гетр: /9°С	DO (mg/L)	239.6 9.18	9.24	
	ORP (mV)	235.6	240.1	
Date:	рН (4.0)			
	pH (7.0)			
ime:	pH (10.0)		······································	
	Spec Cond (µS/cm)		······································	
Temp:	DO (mg/L)			
	ORP (mV)			

Sundance Consulting Inc. May 2021 TURBIDITY CAL RED DEVIL JUNE 21

# HF SCIENTIFIC MICRO TP1 20000

SN' 20	02008376		
PATE	5 STANDARD	READING	1 ok?
6-2-21	1000	1000	- V,
-	10,0	10	
1240	0.02	0.02	V
6-5-21	1000	1000	V
1211	10,0	10	1
· · · · ·	0.02	0.02	
( (-7)	1000	1000	
6-6-21	10.0	10.0	$\overline{}$
1715	0.02	0.0Z	
1071	1000	1000	
6-8-21	10	10	
	0,62	0.02	
1	1000	1000	
6-9-21	10	10	
6830	0.02	0.02	

TURBIDITY CAL

RED DEVIL

JUNE 21

HE SCIENTIFIC MICRO TPI 20000

5N: 202007902

	1	1	
DATE	STANDARD	READING-	OKZ
- 1	10000	1000	
6-2-21	10	10	
1240	0,02	0.02	
6-5/21	10.00	1000	ler-
1917	10	10	
1711	0.02	0.02	~
6-6-21	1000	1000	V
<b>v</b> -	10	10	
1715	0,02	0.02	
	1000	1000	
6-8-21	10	10	V
0700	6.02	0.02	
	1000	1000	
6-9-21	10	10	
0830	0.02	0.02	
ŕ	-		
		*	• •
}			

Serial Numb	el: YSI 556 er: 106-1014	186	-
Date & Time & Temp	Calibration Information	Initial Calibration Readings	Final Calibration Readings
Date: 8-27-21	- pH (4.0)	3,82	4.000
	pH (7.0)	6.91	1,00
<sup>Fime:</sup> 1310	pH (10.0)	10.16	10.0
1210	Spec Cond (µS/cm)	1-536m 1150	-1-413, Ph 1160
<sup>cemp:</sup> 60°F	DO (mg/L)	9.60	9.59
607	ORP (mV)	263.8	240
Date: 8-29-21	рН (4.0)	4:19	4.01
•	рН (7.0)	6.95	7.00
fime: 1822	pH (10.0)	10.15	10.01
10	Spec Cond (µS/cm)	1237	1161
<sup>remp:</sup> 66° F	DO (mg/L)	8.48	8.12
••• I	ORP (mV)	254.8	240.0
Date: 8-30-21	рН (4.0)	3.91	4.01
	рН (7.0)	6.97	7.00
Fime: 1750	рН (10.0)	10.10	[0.0]
	Spec Cond (µS/cm)	2233	1250
emp: 116° F	DO (mg/L)	237.4 9.99	240.0 9.98
	ORP (mV)	9-99 237.4	9-24.0.0
Pate: \$-31-21	pH (4.0)	3.97	4.01
0 01 PT	рН (7.0)	(0.99	1.00
ime: 1750	рН (10.0)	10.09	10.01
110-	Spec Cond (µS/cm)	12.79	1244
emp: 68° F	DO (mg/L)	9.69	9.23
· ψο ·	ORP (mV)	292.4	240.0
Date: 9-02-21	pH (4.0)	4.38	4.01
TULH	pH (7.0)	4.78	7.00
<sup>ime:</sup> 1154	рН (10.0)	0.34	10.00
1154	Spec Cond (µS/cm)	999	1237
<sup>emp:</sup> V8	DO (mg/L)	8.44	9.16
. WR	ORP (mV)	236.1	240.0
ate:	рН (4.0)		P. 19
	рН (7.0)		
ime:	рН (10.0)		
	Spec Cond (µS/cm)	<u> </u>	
ſemp:	DO (mg/L)		
<b>b.</b>	ORP (mV)		······

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MPS 556 Model: Serial Number:

Date & Time & Temp	Calibration Informatio	n Initial Calibration Readings	Final Calibration Readings	
Date: 3-27-21	рН (4.0)	3.92	4.01	
U	pH (7.0)	6.42	7.00	
Time: HBDEE	pH (10.0)	10.08	10.02	
Time: 据1255	Spec Cond (µS/cm)	1250	1161	
<sup>Temp:</sup> 60°F	DO (mg/L)	9.80	1.59	
60 r	ORP (mV)	272.7	240.0	
Date: 8-29-2	рН (4.0)	4.26	4.01	
	pH (7.0)	6.84	7.00	
Time: 1853	pH (10.0)	10.13	10.03	
炮 1855	Spec Cond (µS/cm)	1216	1238	
Temp: 66°F	DO (mg/L)	3.61	9.23	
661	ORP (mV)	252,2	240.0	
Date: 8-30-21	pH (4.0)	3.89	4.01	
0 (X) DI	pH (7.0)	6.96	<u>4.01</u>	
Time: 18(0	pH (10,0)	10.00	10.00	
1.,, 40	Spec Cond (µS/cm)	1185	1274	
Temp: (098	DO (mg/L)	11.14	9.13	
V I	ORP (mV)	239.9	240.0	
Date: 8-31-21	pH (4.0)	3.94	4.01	
00101	pH (7.0)	(n.90	7.00	
<sup>Time:</sup> 1808	pH (10.0)	10.31	10.01	
لا 1 ه ا	Spec Cond (µS/cm)	1346	12.58	
Temp: (08°7-	DO (mg/L)	7.97	9.21	
WO	ORP (mV)	234,4	240,0	
Date: 4-02-1021	pH (4.0)	4.38	- 401 Ru	
	pH (7.0)			
Time: 1154	рН (10.0)		'n	
PW	Spec Cond (µS/cm)			
Temp: (0X	DO (mg/L)			
70	ORP (mV)			
Date:	pH (4.0)			
	pH (7.0)			
Time:	pH (10.0)			
	Spec Cond (µS/cm)			
Temp:	DO (mg/L)			
	ORP (mV)			

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Turbidimeter

Water Quality Meter Calibration Log

Mode	el: Micro JPU	)		
Serial Numbe	er:	24		
Date & Time & Temp	Calibration Information	Initial Calibration Readings	Final Calibration Readings	
Date: 08/37/2021	pH-(4:0) 0,00	0.00 +600	. 1000 0.02	hн
•	pH-(7:0) (0,0	10.05 982.6	<u>+000</u> 0.02 <u>+0-0</u> 10,0	111
Time: 1,2/0	pH-(10.0) 1000		1000	
8-29-21	Spec.Cond (µS/em)0,08	0.02	0,02	
Temp:	DO (mg/L) /0 .0	10	10	
1835	.@RP-(mV)- 1000	0001	1000	
Date: 9-30-2	pH-(4,0) 0.03	0.02	0.02	
1400	pH-(7:0) / 0.0	10.0	0.01	
Time: (900 8-31-21	pH-(10-0) /() 00		1000	
8-31-21	Spee-Gond-(µS/cm) 0,0	1000	0:02	
Temp:	DO (mg/L) 10,0	9.06	10.0	
1752	ORP (MV) 1000	881.5	1000	
Date: 09-02-21	pH (4.0) 0.02	0.42	0.02	-
1251	pH-(7-0) 10.0	10.65	10.00	
Time:	pH-(10.0) 1000	926.6	1000	
	·Spec-Gend (µS/cm)-			
Temp:	DO.(mg/L)	· · · · · · · · · · · · · · · · · · ·		
	ORP (mV)		· · · · · · · · · · · · · · · · · · ·	
Date:	pH (4.0)			
	pH (7.0)			
Time:	pH (10.0)	· · · ·		
	Spec Cond (µS/cm)			
Temp:	DO (mg/L)			
romp.	ORP (mV)	<u> </u>		
Date:	pH (4.0)	<u></u>		
Date.	(a.a., ) , , , , , , , , , , , , , , , , , ,			
Time;	pH (7.0)	·		
	pH (10.0)	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
<b>T</b>	Spec Cond (µS/cm)			
Temp:				
			<u></u>	
Date:	pH (4.0)			
L	pH (7.0)			2
Tlme:	pH (10.0)	· · · · · · · · · · · · · · · · · · ·		
	Spec Cond (µS/cm)			
Temp;	DO (mg/L)			
	ORP (mV)			

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## Tuchiclimeter Water-Quality-Meter Calibration Log

Model: <u>Micra</u>, TPW Serial Number: <u>2020 07903</u>

Date & Time & Temp	Calibration Information	Initial Calibration Readings	Final Calibration Readings
Date: 08-27-2021	pH-(4:0) 0-02	0.04	0.02
	р <del>н (7.0)</del> - 10, d	9.10	10.0 -
Fime: 1306	рН.(10.0)_ /000	1960-ew 8110-0	000
8-29-21	Spec-Gond (µS/cm)0,00	0,02	0.02
l'emn.	D.O. (mg/L) 10.0	10	10
1835	ORP-(mV) /000	000	1000
Date: 8-30-21	р <del>Н-(4:</del> 0) <i>О</i> .02	002	0,02
	р <del>н (7.0)</del> /0, 0	10.0	10,0
Time:	pH-(10:0)- /000	000	CC201
Time: 1800 1800	Spec-Gond (p3/cm)0.02	0.09	0.02
Temp:	QQ.(mg/L-) 10.0	9.83	10.0
1747	ORP (mV) /000	967.1	1000
Date:	pHT(470) 0.02		
· .	рн-(7-0) 10, U	-	
l'ime:	pH-(10:0)- 1000		
	Spec-Cond-(µS/cm) 0.02		
Temp:	DQ-(mg/l=)- /O.O		
	@₽₽•(m\/)- / <i>000</i>		
Date:	.pHL(4.0) - 0.02	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	pt+t-(7:0)- 10.0		
Time:	PHT(10.0) 1000		
	Spec Cond (µS/cm) Or 0'		
Temp:	100-(mg/Ľ) 10.0		
	ORP-(mV) 1000		
Date:	pH (4.0)		
	р́Н⁻(7 <del>.</del> 0)		
Гіme:	pH⁻(10:0)	-	
	-Spec-Cond_(µS/cm)	· · · · · · · · · · · · · · · · · · ·	
ſemp:	DO- <del>(</del> mg/L.)		
	ORP <b>*(</b> mV)		
Date:	pH-(4-0)		
	р <b>Н-(7:0</b> )		
Time:	р <b>Н-(10:0</b> )		
	Spec Cond (US/em)	· · · · · · · · · · · · · · · · · · ·	
Temp:	DΘ-(mg/L)	· · · · · · · · · · · · · · · · · · ·	
	ORP-(mV)	· · · · · · · · · · · · · · · · · · ·	

Sundance Consulting Inc. May 2021

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### **ATTACHMENT 2. PHOTOGRAPH DOCUMENTATION**

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### **Attachment 2. Table of Contents**

Photograph 2-1. MW09, closed, locked, and labeled. June 4, 2021
Photograph 2-2. MW12, frost jacked with collapsed PVC. June 4, 2021
Photograph 2-3. MW11, measuring depth to groundwater. June 4, 2021
Photograph 2-4. MW43, measuring depth to groundwater. June 4, 2021
Photograph 2-5. MW35, measuring stickup of monument. June 4, 2021
Photograph 2-6. MW16 and MW17, groundwater sampling with peristaltic pump. June 5, 2021
Photograph 2-7. MW06 groundwater sampling with a peristaltic pump. June 5, 2021
Photograph 2-8. MW52 groundwater sampling with a bladder pump and controller. June 7, 2021
Photograph 2-9. RD06SW stream gauging. June 9, 2021
Photograph 2-10. RD05SW (seep) surface water sampling. June 9, 2021 10
Photograph 2-11. MW56 downloading a transducer. June 4, 2021 11
Photograph 2-12. MW29, missing air tubing. June 6, 2021 12
Photograph 2-13. MW42, splice that failed. June 6, 2021
Photograph 2-14. MW58, compressed bladder diaphragm. June 7, 2021 14
Photograph 2-15. MW29, Precipitate staining and silt on pump after retrieval, but prior to tubing replacement. August 30, 2021
Photograph 2-16. MW29, tubing condition after retrieval. August 30, 2021
Photograph 2-17. Pump Retrieval tool used to pull MW-29. August 29, 2021
Photograph 2-18. MW26, groundwater sampling setup. August 30, 2021
Photograph 2-19. RD05 Seep and surface water sample location. September 2, 2021 19
Photograph 2-20. RD05 seep with precipitates extending downstream into Red Devil Creek. September 2, 2021
Photograph 2-21. RD08 collecting stream discharge measurements. September 3, 2021
Photograph 2-22. RD15 surface water discharge measurement transect. September 3, 2021 22
Photograph 2-23. RD10 stream gauging location. September 3, 2021
Photograph 2-24. MW59 damaged tubing after removal. September 1, 2021
Photograph 2-25. MW59 setting up new tubing after replacement. September 1, 2021
Photograph 2-26. Red Devil Creek looking upstream from bridge. September 2, 2021
Photograph 2-27. Red Devil Creek reworked section with gabions. September 2, 2021

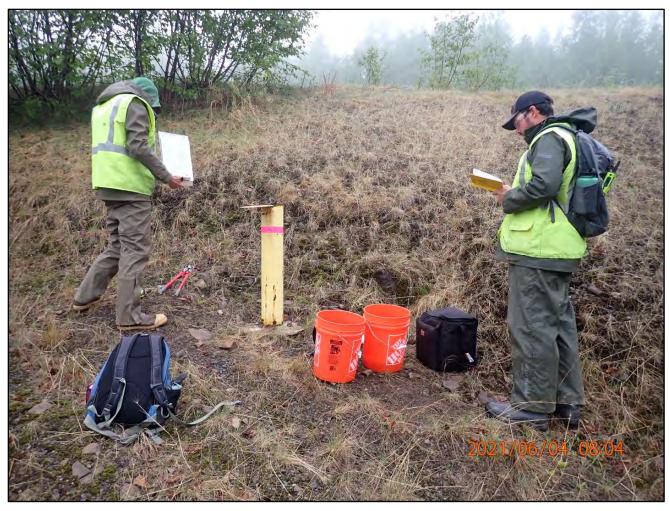
Photograph 2-28. Red Devil Creek reworked gabion section, looking upstream.	
September 2, 2021	. 28



Photograph 2-1. MW09, closed, locked, and labeled. June 4, 2021.



Photograph 2-2. MW12, frost jacked with collapsed PVC. June 4, 2021.



Photograph 2-3. MW11, measuring depth to groundwater. June 4, 2021.



Photograph 2-4. MW43, measuring depth to groundwater. June 4, 2021.



Photograph 2-5. MW35, measuring stickup of monument. June 4, 2021.



Photograph 2-6. MW16 and MW17, groundwater sampling with peristaltic pump. June 5, 2021.



Photograph 2-7. MW06 groundwater sampling with a peristaltic pump. June 5, 2021.



Photograph 2-8. MW52 groundwater sampling with a bladder pump and controller. June 7, 2021.



Photograph 2-9. RD06SW stream gauging. June 9, 2021.



Photograph 2-10. RD05SW (seep) surface water sampling. June 9, 2021.



Photograph 2-11. MW56 downloading a transducer. June 4, 2021.



Photograph 2-12. MW29, missing air tubing. June 6, 2021.



Photograph 2-13. MW42, splice that failed. June 6, 2021.



Photograph 2-14. MW58, compressed bladder diaphragm. June 7, 2021.



Photograph 2-15. MW29, Precipitate staining and silt on pump after retrieval, but prior to tubing replacement. August 30, 2021.



Photograph 2-16. MW29, tubing condition after retrieval. August 30, 2021.



Photograph 2-17. Pump Retrieval tool used to pull MW-29. August 29, 2021.



Photograph 2-18. MW26, groundwater sampling setup. August 30, 2021.



Photograph 2-19. RD05 Seep and surface water sample location. September 2, 2021.



Photograph 2-20. RD05 seep with precipitates extending downstream into Red Devil Creek. September 2, 2021.



Photograph 2-21. RD08 collecting stream discharge measurements. September 3, 2021.



Photograph 2-22. RD15 surface water discharge measurement transect. September 3, 2021.



Photograph 2-23. RD10 stream gauging location. September 3, 2021.



Photograph 2-24. MW59 damaged tubing after removal. September 1, 2021.



Photograph 2-25. MW59 setting up new tubing after replacement. September 1, 2021.



Photograph 2-26. Red Devil Creek looking upstream from bridge. September 2, 2021.



Photograph 2-27. Red Devil Creek reworked section with gabions. September 2, 2021.



Photograph 2-28. Red Devil Creek reworked gabion section, looking upstream. September 2, 2021.

## ATTACHMENT 3. SUPPLEMENTAL DATA

(Provided on a CD)

# ATTACHMENT 4. ANALYTICAL LABORATORY REPORTS

(Provided on a CD)

# **ATTACHMENT 5. DATA VALIDATION REPORTS**

## ATTACHMENT 5.1 2021 SPRING DATA VALIDATION REPORT

# I. Project Information

File Name:	580-103791-1 DV Report.0_Metals_GenChem						
Analysis:	MT, WC						
SDG#:	580-103791-1	Reviewer:	KKOL	Rev Date:	8/23/2021		
Matrix:	Surface Water	2nd Rev:	HC	2nd Rev Date:	9/22/2021		
	Groundwater		CTD				
Validation Level:	Stage2B/Stage4	# Samples:	40	# RE/DL:	0		

## II. Secondary Review List

Narrative:	Form Is:
☑ Qualifications in text match Form Is	✓ "U" / "J" lab codes carried over
☑ Spell check	☑ Appropriate qual codes used
Pagination, appropriate headers/footers	☑ Form I IDs match sample ID table
Correct project site name/manager on cover and introduction pages	
Required Edits/Changes:	
Add comprehensive table of qualifiers	
Revision (include revision #, date and reason):	
Revision 0	
	gned by Kathryn K. Okonzak-Lowry .10.28 12:26:27 -06'00'
Review Signature:	

**Data Validation Report** 

Red Devil Mine, Alaska

Sample Delivery Group 580-103791-1

Prepared for Sundance Consulting, Inc. 8210 Louisiana Blvd NE Suite C Albuquerque, NM 87113 Attention: Colleen Rust, PG

9/22/2021

#### TABLE OF CONTENTS

Ι.	Project Information	1
II.	Secondary Review List	1
III.	Acronyms and Abbreviations	. iii
IV.	Introduction	1
V.	Sample Management	
VI.	SW-846 Method 6020B AND 7470A—Metals and Mercury	9
VI.1.	Holding Times	9
VI.2.	Tuning and Calibration	9
VI.3.	Laboratory Quality Control Samples	11
VI.3.1.	Calibration blanks and Method Blanks	11
VI.3.2.	Interference Check Samples	12
VI.3.3.	Laboratory Control Sample/Laboratory Control Sample Duplicate	13
VI.3.4.	Laboratory Duplicates	13
VI.3.5.	Matrix Spike/Matrix Spike Duplicate	13
VI.3.6.	Post Digestion Spike	13
VI.3.7.	Serial Dilution	13
VI.3.8.	Internal Standards Performance	13
VI.3.9.	Sample Result Verification	13
VI.4.	Field QC Samples	13
VI.4.1.	Field Blanks and Equipment Blanks	14
VI.4.2.	Field Duplicates	15
VII.	EPA Method 1631, Revision E – Total and Dissolved Mercury	15
VII.1.	Holding Times	15
VII.2.	Calibration	15
VII.3.	Quality Control Samples	15
VII.3.1.	Calibration Blanks and Method Blanks	
	Calibration Biariks and Method Biariks	12
VII.3.2.	Laboratory Control Sample/Laboratory Control Sample Duplicate	16
VII.3.2.	Laboratory Control Sample/Laboratory Control Sample Duplicate	16 16
VII.3.2. VII.3.3. VII.4.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate	16 16 16
VII.3.2. VII.3.3. VII.4. VII.4.1.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples	16 16 16 17
VII.3.2. VII.3.3. VII.4. VII.4.1.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks	16 16 16 17 17
VII.3.2. VII.3.3. VII.4. VII.4.1. VII.4.2.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates	16 16 17 17 17
VII.3.2. VII.3.3. VII.4. VII.4.1. VII.4.2. VII.5. VIII.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits	16 16 17 17 17 18
VII.3.2. VII.3.3. VII.4. VII.4.1. VII.4.2. VII.5. VIII.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals	16 16 17 17 17 18 18
VII.3.2. VII.3.3. VII.4. VII.4.1. VII.4.2. VII.5. VIII. VIII.1.	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times	16 16 17 17 17 18 18 18
<ul> <li>VII.3.2.</li> <li>VII.3.3.</li> <li>VII.4.</li> <li>VII.4.1.</li> <li>VII.4.2.</li> <li>VII.5.</li> <li>VII.</li> <li>VIII.</li> <li>VIII.1.</li> <li>VIII.2.</li> <li>VIII.3.</li> </ul>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times Calibration.	16 16 17 17 17 18 18 18 18
<pre>VII.3.2. VII.3.3. VII.4. VII.4.1. VII.4.2. VII.5. VIII.5. VIII. VIII.1. VIII.2. VIII.3. VIII.3.1</pre>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times Calibration	16 16 17 17 17 18 18 18 18 18
<pre>VII.3.2. VII.3.3. VII.4. VII.4.1. VII.4.2. VII.5. VIII.5. VIII. VIII.1. VIII.1. VIII.2. VIII.3.1 VIII.3.2</pre>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times Calibration Quality Control Samples Calibration Blanks and Method Blanks	16 16 17 17 17 18 18 18 18 18 18 18
<ul> <li>VII.3.2.</li> <li>VII.3.3.</li> <li>VII.4.</li> <li>VII.4.1.</li> <li>VII.4.2.</li> <li>VII.5.</li> <li>VII.</li> <li>VII.1.</li> <li>VIII.2.</li> <li>VIII.3.</li> <li>VIII.3.1.</li> <li>VIII.3.2.</li> <li>VIII.3.3.</li> </ul>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times Calibration Quality Control Samples Laboratory Control Samples	16 16 17 17 17 18 18 18 18 18 18 19 19
<ul> <li>VII.3.2.</li> <li>VII.3.3.</li> <li>VII.4.</li> <li>VII.4.1.</li> <li>VII.4.2.</li> <li>VII.5.</li> <li>VII.</li> <li>VII.1.</li> <li>VIII.2.</li> <li>VIII.3.</li> <li>VIII.3.1.</li> <li>VIII.3.2.</li> <li>VIII.3.3.</li> </ul>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times Calibration Quality Control Samples Laboratory Control Samples Laboratory Duplicates	<ol> <li>16</li> <li>16</li> <li>17</li> <li>17</li> <li>18</li> <li>18</li> <li>18</li> <li>18</li> <li>19</li> <li>19</li> <li>19</li> <li>19</li> <li>19</li> </ol>
<ul> <li>VII.3.2.</li> <li>VII.3.3.</li> <li>VII.4.</li> <li>VII.4.1.</li> <li>VII.4.2.</li> <li>VII.5.</li> <li>VIII.</li> <li>VIII.1.</li> <li>VIII.2.</li> <li>VIII.3.</li> <li>VIII.3.1.</li> <li>VIII.3.2.</li> <li>VIII.3.3.</li> <li>VIII.3.4.</li> </ul>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate Field QC Samples Field Blanks, Equipment Blanks, and Trip Blanks Field Duplicates Sample Result Verification and Reported Detection Limits Various EPA Methods – General Minerals Holding Times Calibration Quality Control Samples Calibration Blanks and Method Blanks Laboratory Control Samples Laboratory Duplicates Matrix Spike/Matrix Spike Duplicate	16 16 17 17 17 18 18 18 18 18 18 19 19 19
<ul> <li>VII.3.2.</li> <li>VII.3.3.</li> <li>VII.4.</li> <li>VII.4.1.</li> <li>VII.4.2.</li> <li>VII.5.</li> <li>VIII.</li> <li>VII.1.</li> <li>VIII.2.</li> <li>VIII.3.1.</li> <li>VIII.3.2.</li> <li>VIII.3.4.</li> <li>VIII.5.</li> </ul>	Laboratory Control Sample/Laboratory Control Sample Duplicate	16 16 17 17 17 18 18 18 18 18 18 19 19 19 19
<ul> <li>VII.3.2.</li> <li>VII.3.3.</li> <li>VII.4.</li> <li>VII.4.1.</li> <li>VII.4.2.</li> <li>VII.5.</li> <li>VIII.</li> <li>VIII.1.</li> <li>VIII.2.</li> <li>VIII.3.1.</li> <li>VIII.3.2.</li> <li>VIII.3.3.1.</li> <li>VIII.3.3.1.</li> <li>VIII.3.4.</li> <li>VIII.5.1.</li> <li>VIII.5.1.</li> </ul>	Laboratory Control Sample/Laboratory Control Sample Duplicate Matrix Spike/Matrix Spike Duplicate	16 16 17 17 18 18 18 18 18 19 19 19 19 19 19

#### TABLES

Table 1 – Sample Summary	1
Table 2 – Data Qualifier Definitions	9
Table 3 - Metals and Mercury Tuning and Calibration	9
Table 4 - Metals and Mercury Calibration Check Standards	11
Table 5 - Metals and Mercury Calibration Blanks and Method Blanks	12
Table 6 - Metals and Mercury Interference Check Samples	13
Table 7 - Metals and Mercury Equipment Blank Association	
Table 8 - Metals and Mercury Equipment Blank Qualifiers	14
Table 9 - Metals and Mercury Field Duplicates	15
Table 10 - Method 1631 Calibration Blanks and Method Blanks	16
Table 11 - Method 1631 Equipment Blank Association	17
Table 12 - General Minerals Analytical Method Holding Times	18
Table 13 - General Minerals Calibration Blanks and Method Blanks	18
Table 14 - General Minerals Field Duplicates	19

III. Acronyms and	Abbreviations
°C	Celsius
%	Percent
%D	percent difference
CCAL	continuing calibration
CCB	continuing calibration blank
CCV	continuing calibration verification
COC	chain of custody
CLP	Contract Laboratory Program
DL	detection limit
EFGS	Eurofins Frontier Global Sciences
EPA	US Environmental Protection Agency
ER	equipment rinsate
FB	field blank
FD	field duplicate
GW	ground water
ICAL	initial calibration
ICB	initial calibration blank
ICV	initial calibration verification
IS	internal standard
J	estimated value
LCS	laboratory control sample
LL Hg	low level mercury
LOD	limit of detection
LOQ	limit of quantification
MB	method blank
MS	matrix spike
MSD	matrix spike duplicate
ND	nondetect
QAPP	Quality Assurance Program Plan
QC	quality control
QSM	Quality Systems Manual
R	Rejected
RL	reporting limit
RPD	relative percent difference
RRF	relative response factor
RSD	relative standard deviation
SDG	sample delivery group
ТВ	trip blank
TDS	total dissolved solids
TSS	total suspended solids
SW	surface water
U	not detected
UJ	not detected; associated value is an estimate

IV. Introduction

Project Name: Red Devil Mine

Sample Delivery Group: 580-103791-1

Client Project Manager: Colleen Rust

Matrix: Surface Water

**QC Level:** Stage 2B/Stage 4

No. of Samples: 40

Laboratory: Eurofins TestAmerica Seattle

#### Table 1 – Sample Summary

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
1	0621RD05SW	580-103791-1	SW	6/10/2021	6020B, 7470A, 353.2, 300.0, 310.1, 160.1, 160.2	Stage 2B
		1F00124-01			1631	
2	0621RD06SW	580-103791-2	SW	6/10/2021	6020B, 7470A, 353.2, 300.0, 310.1, 160.1, 160.2	Stage 2B
		1F00124-02			1631	
3	0621RD08SW	580-103791-3	SW	6/10/2021	6020B, 7470A, 353.2, 300.0, 310.1, 160.1, 160.2	Stage 4
		1F00124-03			1631	
4	0621RD10SW	580-103791-4	SW	6/10/2021	6020B, 7470A, 353.2, 300.0, 310.1, 160.1,	Stage 2B

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
					160.2	
		1F00124-04			1631	
5	0621RD15SW	580-103791-5 1F00124-05	SW	6/10/2021	6020B, 7470A, 353.2, 300.0, 310.1, 160.1, 160.2 1631	Stage 2B
6	0621RD99SW	580-103791-6 1F00124-06	SW	6/10/2021	6020B, 7470A, 353.2, 300.0, 310.1, 160.1, 160.2 1631	Stage 2B
7	0621EB1 0621EB1 TOTAL 0621EB1 DISS	580-103791-7 1F00124-07 1F00124-08	EB	6/06/2021	6020B, 7470A 1631	Stage 2B
8	0621EB2 0621EB2 TOTAL 0621EB2 DISS	580-103791-8 1F00124-09 1F00124-10	EB	6/06/2021	6020B, 7470A 1631	Stage 2B
9	0621MW99GW 0621MW99GW TOTAL 0621MW99GW DISS	580-103791-9 1F00124-11 1F00124-12	GW	6/05/2021	6020B, 7470A 1631	Stage 2B
10	0621MW98GW 0621MW98GW TOTAL	580-103791-10 1F00124-13	GW	6/06/2021	6020B, 7470A 1631	Stage 2B

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
	0621MW98GW DISS	1F00124-14				
11	0621MW97GW	580-103791-11	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW97GW TOTAL	1F00124-15			1631	
	0621MW97GW DISS	1F00124-16				
12	0621MW06GW	580-103791-12	GW	6/05/2021	6020B, 7470A	Stage 2B
	0621MW06GW TOTAL	1F00124-17			1631	
	0621MW06GW DISS	1F00124-18				
13	0621MW09GW	580-103791-13	GW	6/05/2021	6020B, 7470A	Stage 2B
	0621MW09GW TOTAL	1F00124-19			1631	
	0621MW09GW DISS	1F00124-20				
14	0621MW10GW	580-103791-14	GW	6/05/2021	6020B, 7470A	Stage 2B
	0621MW10GW TOTAL	1F00124-21			1631	
	0621MW10GW DISS	1F00124-22				
15	0621MW16GW	580-103791-15	GW	6/05/2021	6020B, 7470A	Stage 2B
	0621MW16GW TOTAL	1F00124-23 1F00124-24			1631	
	0621MW16GW DISS					
16	0621MW17GW	580-103791-16	GW	6/05/2021	6020B, 7470A	Stage 2B
	0621MW17GW	1F00124-25				

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
	TOTAL				1631	
	0621MW17GW DISS	1F00124-26				
17	0621MW26GW	580-103791-17	GW	6/05/2021	6020B, 7470A	Stage 2B
	0621MW26GW TOTAL	1F00124-27			1631	
	0621MW26GW DISS	1F00124-28				
18	0621MW27GW	580-103791-18	GW	6/06/2021	6020B, 7470A	Stage 2B
	0621MW27GW TOTAL	1F00124-29			1631	
	0621MW27GW DISS	1F00124-30				
19	0621MW28GW	580-103791-19	GW	6/06/2021	6020B, 7470A	Stage 2B
	0621MW28GW TOTAL	1F00124-31			1631	
	0621MW28GW DISS	1F00124-32				
20	0621MW33GW	580-103791-20	GW	6/08/2021	6020B, 7470A	Stage 2B
	0621MW33GW TOTAL	1F00124-33			1631	
	0621MW33GW DISS	1F00124-34				
21	0621MW40GW	580-103791-21	GW	6/08/2021	6020B, 7470A	Stage 2B
	0621MW40GW TOTAL	1F00124-35			1631	
	0621MW40GW DISS	1F00124-36				
22	0621MW43GW	580-103791-22	GW	6/06/2021	6020B, 7470A	Stage 2B

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
	0621MW43GW TOTAL	1F00124-37				
	0621MW43GW DISS	1F00124-38			1631	
23	0621MW44GW	580-103791-23	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW44GW TOTAL	1F00124-39			1631	
	0621MW44GW DISS	1F00124-40				
24	0621MW45GW	580-103791-24	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW45GW TOTAL	1F00124-59			1631	
	0621MW45GW DISS	1F00124-60				
25	0621MW46GW	580-103791-25	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW46GW TOTAL	1F00124-61			1631	
	0621MW46GW DISS	1F00124-62				
26	0621MW47GW	580-103791-26	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW47GW TOTAL	1F00124-63			1631	
	0621MW47GW DISS	1F00124-64				
27	0621MW49GW	580-103791-27	GW	6/06/2021	6020B, 7470A	Stage 2B
	0621MW49GW TOTAL	1F00124-65			1631	
	0621MW49GW DISS	1F00124-66				
28	0621MW50GW	580-103791-28	GW	6/07/2021	6020B,	Stage 2B

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
					7470A	
	0621MW50GW TOTAL	1F00124-67			1631	
	0621MW50GW DISS	1F00124-68				
29	0621MW51GW	580-103791-29	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW51GW TOTAL	1F00124-69			1631	
	0621MW51GW DISS	1F00124-70				
30	0621MW52GW	580-103791-30	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW52GW TOTAL	1F00124-71			1631	
	0621MW52GW DISS	1F00124-72				
31	0621MW53GW	580-103791-31	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW53GW TOTAL	1F00124-73			1631	
	0621MW53GW DISS	1F00124-74				
32	0621MW54GW	580-103791-32	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW54GW TOTAL	1F00124-75			1631	
	0621MW54GW DISS	1F00124-76				
33	0621MW55GW	580-103791-33	GW	6/08/2021	6020B, 7470A	Stage 4
	0621MW55GW TOTAL	1F00124-77			1631	
	0621MW55GW DISS	1F00124-78				

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
34	0621MW56GW	580-103791-34	GW	6/06/2021	6020B, 7470A	Stage 2B
	0621MW56GW TOTAL	1F00124-79			1631	
	0621MW56GW DISS	1F00124-80				
35	0621MW57GW	580-103791-35	GW	6/08/2021	6020B, 7470A	Stage 2B
	0621MW57GW TOTAL	1F00124-81			1631	
	0621MW57GW DISS	1F00124-82				
36	0621MW58GW	580-103791-36	GW	6/07/2021	6020B, 7470A	Stage 2B
	0621MW58GW TOTAL	1F00124-83			1631	
	0621MW58GW DISS	1F00124-84				
37	0621MW59GW	580-103791-37	GW	6/08/2021	6020B, 7470A	Stage 2B
	0621MW59GW TOTAL	1F00124-85			1631	
	0621MW59GW DISS	1F00124-86				
38	0621TB01	580-103791-38 1F00124-87	ТВ	6/05/2021	1631	Stage 2B
39	0621TB02	580-103791-39	ТВ	6/05/2021	1631	Stage 2B
40	0621TB02	1F00124-88 580-103791-40	ТВ	6/05/2021	1021	Stage 2B
		1F00124-89			1631	, , , , , , , , , , , , , , , , , , ,

#### V. Sample Management

According to the case narrative, the sample receiving checklist and the chains-of-custody (COCs) provided by the laboratory for sample delivery group (SDG) 580-103791-1:

- The laboratory's Login Sample Receipt Checklist and the COCs noted all coolers were received within the temperature limits of ≤6°C and ≥0°C, with the following exception: The samples from cooler #2 were received at the laboratory outside the recommended temperature criteria for the following analyses: 353.2 nitrate+nitrite, 300.0 anions, 310.1 alkalinity, 160.1 TSS and 160.2 TDS. The cooler temperature at receipt was 10.1°. Per the laboratory narrative, the following samples were impacted: 0621RD05SW (580-103791-1), 0621RD06SW (580-103791-2), 0621RD08SW (580-103791-3), 0621RD08SW (580-103791-3[DU]), 0621RD08SW (580-103791-3[MS]), 0621RD08SW (580-103791-5) and 0621RD9SW (580-103791-6).
- The samples were received intact, and properly preserved, as applicable, with the cooler temperature exception listed above.
- The laboratory's Sample Receiving Checklist did not address the presence or absence of custody seals.
- The samples for low level mercury (LL Hg) by Method 1631 were subcontracted to Eurofins Frontier Global Sciences (EFGS). The samples were received intact at EFGS on 6/18/2021 under EFGS SDG 1F00124. Total and dissolved volumes were received at the lab for the ground water (GW) LL Hg samples. The dissolved sample volumes were field filtered. As noted in Table 1-Sample Summary of this DVR, the total and dissolved volumes for each GW Sample ID were given a distinct EFGS laboratory ID.
- Field and laboratory personnel signed and dated the COCs, with the following exception: The COCs shipped with the LL Hg samples were not all signed by EFGS. Only the first COC for the shipment was signed.

#### Table 2 – Data Qualifier Definitions

Qualifier	Definition
U	The analyte was analyzed for but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

### VI. SW-846 Method 6020B AND 7470A-Metals and Mercury

K. Okonzak-Lowry of Oak Services reviewed the SDG August 6, 2021.

#### VI.1. Holding Times

Analytical holding times, 28 days for mercury and six months for the remaining metals, was met.

#### VI.2. Tuning and Calibration

All tuning criteria were met. Mass calibrations were ≤0.1 atomic mass unit (amu) from the true value. Resolution was <0.9 amu full width at 10% peak height and all %RSDs were ≤5%.

A blank and five standards were used in the initial calibration. Correlation coefficients were ≥0.995. The range of the ICP/MS calibration curves is low. The high standard for a number of trace analytes is 100 ppb. The high standard for Ca, Mg, Al, Na, K, Fe and Al is 2000 ppb. The lab reported results above the linear curve range and did not analyze a high linear range check standard. Sample detects reported above the high standard in the calibration curve are qualified as estimated, J.

Issue	Analyte	Qualifier	Affected Samples
Sample detects	Calcium	L	All sample detects
reported above the calibration curve	Magnesium	J	All sample detects
linear range	Sodium	J	All sample detects
	Potassium	J	All sample detects

Issue	Analyte	Qualifier	Affected Samples
			580-103791-2
		J	580-103791-3
	Antimony		580-103791-6
			580-103791-15
			580-103791-20
			580-103791-5
			580-103791-15
			580-103791-17
	Arsenic	J	580-103791-21
			580-103791-22
			580-103791-28
			580-103791-37
			580-103791-33
			580-103791-13
			580-103791-17
	Barium	J	580-103791-21
			580-103791-22
			580-103791-28
			580-103791-31
			580-103791-32
			580-103791-36
			580-103791-37
	Iron	J	580-103791-33
			580-103791-5
			580-103791-12
			580-103791-15
			580-103791-17
			580-103791-22
			580-103791-28
			580-103791-32
			580-103791-36
			580-103791-37

Issue	Analyte	Qualifier	Affected Samples
			580-103791-33
			580-103791-10
			580-103791-12
			580-103791-13
			580-103791-14
			580-103791-15
			580-103791-17
			580-103791-18
			580-103791-19
	Manganoso		580-103791-21
	Manganese	J	580-103791-22
			580-103791-23
			580-103791-28
			580-103791-29
			580-103791-30
			580-103791-31
			580-103791-32
			580-103791-34
			580-103791-36
			580-103791-37

The MDL and RLs for major cations do not concur with the low range of the calibration curve. The MDL is above the calibration curve. The calibration check standards (ICVs and CCVs) were therefore reported as nondetect, ND, on the QC summary forms. Recoveries within control limits were verified in the raw data for a number of the ICV/CCV analyses. The Ca, Na, Mg and K ICV and CCV standards do not meet method requirements, and all sample results are qualified as estimated, J/UJ, respectively, for detects and nondetects. All reported ICV and CCV recoveries were within 90-110% and the low-level CCV recoveries were within 80-120%.

#### Table 4 - Metals and Mercury Calibration Check Standards

Calibration Check Standards	Analyte	Qualifier	Affected Samples
ICV/CCV Standards have a true value < the laboratory reported MDL	Calcium Magnesium Sodium Potassium	1\N1	All samples

A blank and 5 non-zero standards were used for the CVAA calibration. The initial (ICV) and continuing calibration recoveries (CCV) were within 90-110%.

#### VI.3. Laboratory Quality Control Samples

VI.3.1. Calibration blanks and Method Blanks

No target analytes were reported in the method blanks (MB) or bracketing calibration blanks (ICB/CCB) of sufficient concentration to warrant qualification of site sample results except as noted in the table

below. For the positive blank concentrations, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL. Associated detected sample results that were greater than RL and  $<5\times$  the blank concentration were qualified as estimated with high bias (J+) using professional judgement. For negative blank concentrations, associated detected sample results that were  $\leq 5\times$  the blank level were qualified as estimated with low bias (J-) using professional judgement. Associated nondetect results were qualified as estimated (UJ).

Analyte	Blank concentration	Qualified Samples
Thallium	0.111 J and 0.128 J μg/L (CCBs)	580-103791-37
Aluminum	0.0136 J mg/L (MB 580-360817/22- A)	580-103791-1, 580-103791-2, 580-103791-3, 580- 103791-4, 580-103791-5, 580-103791-6, 580- 103791-7, 580-103791-8, 580-103791-9, 580- 103791-10, 580-103791-11, 580-103791-12, 580- 103791-16, 580-103791-17, 580-103791-18
Nickel	0.000291 J mg/L (MB 580-360817/22- A)	580-103791-1, 580-103791-2, 580-103791-3, 580- 103791-4, 580-103791-6, 580-103791-11, 580- 103791-16
Zinc	0.00456 J mg/L (MB 580-360817/22- A)	580-103791-1, 580-103791-2, 580-103791-3, 580- 103791-5, 580-103791-6, 580-103791-9, 580- 103791-10, 580-103791-11, 580-103791-12, 580- 103791-13, 5880-103791-15, 580-103791-16, 580- 103791-17, 580-103791-18, 580-103791-19
Mercury	-0.182, -0.252 and -0.159 μg/L (6/23/21 CCBs)	580-103791-10, 580-103791-14, 580-103791-15, 580-103791-16

## VI.3.2. Interference Check Samples

Interference Check Samples (ICSA/B): ICSAB recoveries were within the control limits of 80-120% or  $\pm 2\times$  the reporting limit, whichever is greater. One or more interferents were present in several samples at concentrations comparable to those of the ICSAs. As noted in the table below, non-spiked analyte cadmium was present in the ICSAs at greater than MDL. For analytes with positive ICSA results, associated detected results which were <10× the ICSA concentration were qualified as estimated with high bias (J+). The ICS interferent levels were lower than the method standard at 10,000 µg/L; therefore, the samples were assessed based on interferents being present at ≥10,000 µg/L in the samples.

## Table 6 - Metals and Mercury Interference Check Samples

Analyte	ICSA Concentration ICSA 580-361035/11	Qualified Samples
Cadmium	0.0480 μg/L	580-103791-10, 580-103791-13, 580-103791-15,
		580-103791-18, 580-103791-29

#### VI.3.3. Laboratory Control Sample/Laboratory Control Sample Duplicate

Target analytes were recovered within the control limits of 70-130% recovery (%R), and the relative percent difference (RPDs) were  $\leq 20\%$ .

#### VI.3.4. Laboratory Duplicates

Laboratory duplicate analyses were performed on samples 580-103791-3, 580-103791-14 and 580-103791-33 for metals and Hg. A laboratory duplicate analysis was also performed on sample 580-103791-35 for Hg. Original and duplicate sample values  $\geq$ 5× the RL were within the control limit of 20% Relative Percent Difference (RPD). The control limit of ±RL was met when the sample or duplicate result was <5× the RL.

#### VI.3.5. Matrix Spike/Matrix Spike Duplicate

MS/MSD analyses were performed on samples 580-103791-3, 580-103791-14 and 580-103791-33 for metals and Hg. An MS/MSD analysis was also performed on sample 580-103791-35 for Hg. MS recoveries were not assessed when the parent sample concentrations were more than 4× the spike amount. Recoveries for all target analytes met control limits of 75-125%R, and the RPDs were ≤20%. For the ICP/MS analysis, the parent samples were analyzed undiluted, and the MS/MSD samples were analyzed at a 20× dilution. Sample qualifications were not assigned.

## VI.3.6. Post Digestion Spike

Post digestion spike analyses were performed, but not assessed, due to MS/MSD analyses meeting control limit criteria.

#### VI.3.7. Serial Dilution

Serial dilution analysis was performed on samples 580-103791-3, 580-103791-14 and 580-103791-33. Results were not assessed unless the parent sample concentration was  $>50\times$  the MDL. The control limit of  $\leq$ 10% difference (%D) of the original sample results was met for all target analytes.

VI.3.8. Internal Standards Performance

According to the raw data sample results, all ICPMS sample internal standard intensities were within the control limits of 60-125% of the calibration blank.

## VI.3.9. Sample Result Verification

Sample results were verified for the Level 4 validation for samples 580-103791-3 and 580-103791-33. Sample result verification is not applicable for Level 2B validation samples. Detects below the RL were qualified as estimated (J). Nondetects are valid to the RL.

## VI.4. Field QC Samples

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. The remaining detects were used to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

## VI.4.1. Field Blanks and Equipment Blanks

Field blank samples were not identified in this SDG for these analyses.

Equipment blank samples 0621EB1 and 0621EB2 were collected and associated with the GW samples as listed in the table below:

Equipment Blanks		
Blank ID	0621EB01	0621EB02
Serial #	WLM0747	294991
	0621MW06GW	0621MW09GW
	0621MW10GW	0621MW16GW
	0621MW26GW	0621MW17GW
	0621MW27GW	0621MW40GW
	0621MW28GW	0621MW43GW
	0621MW33GW	0621MW45GW
Associated Samples	0621MW44GW	0621MW47GW
Associated Samples	0621MW46GW	0621MW54GW
	0621MW49GW	0621MW55GW
	0621MW50GW	0621MW56GW
	0621MW51GW	0621MW58GW
	0621MW52GW	0621MW59GW
	0621MW53GW	
	0621MW57GW	

Table 7 - Metals and Mercury Equipment Blank Association

Antimony was detected in 0621EB1 at 0.00020 J mg/L. Chromium was detected in 0621EB2 at 0.00024 J mg/L.

For EB detects, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL. Associated detected sample results that were greater than RL and  $<5\times$  the blank concentration were qualified as estimated with high bias (J+).

Table 8 - Metals and Mercury Equipment Blank Qualifiers

Analyte	EB Blank concentration (mg/L)	Qualified Samples
		580-103791-23
		580-103791-30
Antimony	0.00020 J	580-103791-25
Antimony	0.00020 J	580-103791-27
		580-103791-31
		580-103791-35
		580-103791-26
Chromium	0.00024 J	580-103791-13
		580-103791-15
		580-103791-33

Analyte	EB Blank concentration (mg/L)	Qualified Samples
		580-103791-34
		580-103791-32

## VI.4.2. Field Duplicates

Samples 580-103791-3 and 580-103791-6, 580-103791-16 and 580-103791-9, 580-103791-18 and 580-103791-10 and 580-103791-26 and 580-103791-11 were identified as field duplicate pairs. The control limits of  $\leq$ 30% for all target analytes greater than 5x RL and ±RL for all results <5x RL were met except as noted in the table below. Associated results in the field duplicate pair were qualified as estimated (J).

Table 9 - Metals and Mercury Field Duplicates

Field duplicate samples	Analyte	RPD/±RL
580-103791-9/580-103791-16	Chromium	>±RL
	Iron	>±RL
	Manganese	>±RL
580-103791-10/580-103791-	Chromium	>±RL
18	Copper	>±RL

# VII. EPA Method 1631, Revision E - Total and Dissolved Mercury

K. Okonzak-Lowry of Oak Services reviewed the SDG on August 12, 2021

# VII.1. Holding Times

Sample preservation and analytical holding times were met. The samples analyzed for dissolved mercury were filtered in the field. The water samples were preserved (oxidized with BrCl) in the sample bottles within 28 days of collection by laboratory personnel.

## VII.2. Calibration

A blank and 5 non-zero standards were used for the cold vapor atomic fluorescence spectrometry calibration. Calibration criteria were met. ICV and CCV %Rs were within the laboratory control limits of 77-123%R.

# VII.3. Quality Control Samples

## VII.3.1. Calibration Blanks and Method Blanks

No mercury reported in the method blanks (MB) or bracketing calibration blanks (ICB/CCB) of sufficient concentration to warrant qualification of site sample results except as noted in the table below. For the positive blank concentrations, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL. Associated detected sample results that were greater than RL and  $<5\times$  the blank concentration were qualified as estimated with high bias (J+). For negative blank concentrations, associated detected sample results that were  $\leq5\times$  the blank level were qualified as estimated with low bias (J-). Associated nondetect results were qualified as estimated (UJ).

Analyte	Blank concentration (ng/L)	Qualified Samples
	CCBs (0.16 and 0.17)	1F00124-01 (0621RD05SW)
	June 29, 2021	1F00124-02 (0621RD06SW)
		1F00124-08 (0621EB1 DISS)
	CCBs (0.20, -0.103, 0.24)	1F00124-34 (0621MW33GW DISS)
	July 7, 2021	1F00124-36 (0621MW40GW DISS)
		1F00124-75 (0621MW54GW TOTAL)
Mercury	CCBs (0.156)	
	July 1, 2021	1F00124-16 (0621MW97GW DISS)
	CCBs (0.56, 0.60)	1F00124-76 (0621MW54GW DISS)
	July 9, 2021	1F00124-80 (0621MW56GW DISS)
	July 3, 2021	1F00124-82 (0621MW57GW DISS)
		1F00124-84 (0621MW58GW DISS)
		1F00124-85 (0621MW59GW TOTAL)

## Table 10 - Method 1631 Calibration Blanks and Method Blanks

# VII.3.2. Laboratory Control Sample/Laboratory Control Sample Duplicate

Target analytes were recovered within the laboratory control limits of 77-123% recovery, and the RPDs were  $\leq$ 24% with the following exception. Batch F106468 LCSD F106468-BSD1 was above the control limits with 125%R. LCS F106468-BS1 (123%R) was within control limits, and the RPD was within control limits. The associated Sample 1F00124-14 (0621MW98GW DISS) detect was not reported for this batch. The sample was reanalyzed on 8/31/2021, and sample qualification was not required. Remaining recoveries and RPDs were within the laboratory established control limits.

# VII.3.3. Matrix Spike/Matrix Spike Duplicate

MS/MSD analyses were performed on Samples 1F00124-03 (0621RD08SW), 1F00124-04 (0621RD10SW), 1F00124-21 (0621MW10GW TOTAL), 1F00124-22 (0621MW10GW DISS), 1F00124-33 (0621MW33GW TOTAL), 1F00124-63 (0621MW47GW TOTAL), 1F00124-77 (0621MW55GW TOTAL) and 1F00124-78 (0621MW55GW DISS) from this SDG. For Sample 1F00124-22 (0621MW10GW DISS), both the MS and MSD were recovered above the control limits at 176% and 174%, respectively. The Sample 0621MW10GW DISS mercury detect was qualified as estimated with a potential high bias (J+). For Sample 1F00124-77 (0621MW55GW TOTAL), the MS was recovered below the control limits at 61.2%. The Sample 0621MW55GW TOTAL mercury detect was qualified as estimated with a potential low bias (J-). Remaining recoveries and RPDs were within the laboratory established control limits of 71-125%R and 24% RPD.

## VII.4. Field QC Samples

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. The remaining detects were used to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

## VII.4.1. Field Blanks, Equipment Blanks, and Trip Blanks

Field blank samples were not identified in this SDG for these analyses.

Equipment blank samples 0621EB1 and 0621EB2 (total and dissolved) were collected and associated with the GW samples as listed in the table below:

Table 11 - Method 1631 Equipment Blank Association

Equipment Blanks		
Blank ID	0621EB01 TOTAL and 0621EB1 DISS	0621EB02 TOTAL and 0621EB02 DISS
Serial #	WLM0747	294991
	0621MW06GW	0621MW09GW
	0621MW10GW	0621MW16GW
	0621MW26GW	0621MW17GW
	0621MW27GW	0621MW40GW
	0621MW28GW	0621MW43GW
	0621MW33GW	0621MW45GW
Accession of Complex	0621MW44GW	0621MW47GW
Associated Samples	0621MW46GW	0621MW54GW
	0621MW49GW	0621MW55GW
	0621MW50GW	0621MW56GW
	0621MW51GW	0621MW58GW
	0621MW52GW	0621MW59GW
	0621MW53GW	
	0621MW57GW	

Trip blank samples 0621TB01, 0621TB02 and 0621TB03 were shipped with the low level mercury samples. None of the field QC samples had mercury detects above the MDL. Sample qualifications were not required.

## VII.4.2. Field Duplicates

Samples 580-103791-3 and 580-103791-6, 580-103791-16 and 580-103791-9, 580-103791-18 and 580-103791-10 and 580-103791-26 and 580-103791-11 were identified as field duplicate pairs. The control limits of  $\leq$ 30% for all target analytes greater than 5x RL and ±RL for all results <5x RL were met. Sample qualification was not required.

## VII.5. Sample Result Verification and Reported Detection Limits

The laboratory analyzed for low level mercury by EPA Method 1631E. Total mercury was analyzed for six surface water (SW) samples. Total and dissolved mercury was analyzed for the groundwater (GW) samples.

Mercury quantification was verified for the Level 4 validation samples. Sample result verification is not applicable for Level 2B validation samples. Detects reported below the RL were qualified as estimated (J). Nondetects are valid to the RL. Multiple samples were analyzed at dilutions to bring detects within the calibration linear range due to the level of mercury found in the samples.

A revised laboratory data package was reported on 9/02/2021. Per the revised laboratory narrative, investigation of the originally reported LL Hg results identified analytical errors with samples 1F00124-13 (total) and 1F00124-14 (diss), (FD sample ID 580-103791-10). Reanalysis of these samples was performed (with confirmation at two different dilutions), and the results of the 20x dilutions analyzed on 8/31/2021 were reported in the revised data package.

## VIII. Various EPA Methods - General Minerals

K. Okonzak-Lowry of Oak Services reviewed the SDG on August 20, 2021.

## VIII.1. Holding Times

Analytical holding times, as listed below, were met.

#### Table 12 - General Minerals Analytical Method Holding Times

Analytical Method	Analysis Holding Time (days)
353.2 (NO3+NO2 as N)	28
300.0 (anions SO4, Cl-, F-)	28
310.1 (alkalinity)	14
Total Dissolved Solids (TDS)	7
Total Suspended Solids (TSS)	7

The samples from cooler #2 were received at the laboratory outside the recommended temperature criteria for the following analyses: 353.2 nitrate+nitrite, 300.0 anions, 310.1 alkalinity, 160.1 TSS and 160.2 TDS. The cooler temperature at receipt was 10.1°. The sample results for the general chemistry analyses are therefore qualified as estimated (J/UJ) for detects and nondetects, respectively.

## VIII.2. Calibration

The correlation coefficients (r) were  $\geq$ 0.995. ICV and CCV recoveries associated with reported sample results were within the laboratory control limits.

## VIII.3. Quality Control Samples

## VIII.3.1. Calibration Blanks and Method Blanks

No mercury reported in the method blanks (MB) or bracketing calibration blanks (ICB/CCB) of sufficient concentration to warrant qualification of site sample results except as noted in the table below. For the positive blank concentrations, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL.

#### Table 13 - General Minerals Calibration Blanks and Method Blanks

Analyte	Blank concentration (mg/L)	Qualified Samples
		580-103791-1, 580-103791-2,
Chloride	CCBs (0.512 J, 0.840 J, 0.834 J)	580-103791-3, 580-103791-4,
		580-103791-5 and 580-103791-6

## VIII.3.2. Laboratory Control Samples

LCS and LCSD (as appropriate) recoveries and RPDs were within laboratory control limits.

#### VIII.3.3. Laboratory Duplicates

Laboratory duplicate analyses were performed on Samples 580-103791-3 and 580-103791-5 from this SDG. RPDs were within laboratory control limits.

#### VIII.3.4. Matrix Spike/Matrix Spike Duplicate

MS/MSD analyses were performed on Sample 580-103791-3 from this SDG. The spike recoveries and RPDs were within laboratory control limits.

#### VIII.4. Sample Result Verification

Result quantification was verified for the Level 4 validation sample. Sample result verification is not applicable for Level 2B validation samples. Detects reported below the RL were qualified as estimated (J). Nondetects are valid to the RL.

#### VIII.5. Field QC Samples

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. The remaining detects were used to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

#### VIII.5.1. Field Blanks and Equipment Blanks

Field blank or equipment blank samples were not analyzed for these surface water sample analyses.

#### VIII.5.2. Field Duplicates

Samples 580-103791-3 and 580-103791-6 were identified as the field duplicate pair. The control limits of  $\leq$ 30% for all target analytes greater than 5x RL and ±RL for all results <5x RL were met except as noted in the table below. Associated results in the field duplicate pair were qualified as estimated (UJ/J).

#### Table 14 - General Minerals Field Duplicates

Field duplicate samples	Analyte	RPD/±RL
580-103791-3/580-103791-6	TDS	±RL
	TSS	±RL

#### IX. References

- Department of Defense (DOD), 2017. *DoD Quality Systems Manual for Environmental Laboratories,* Version 5.1. January 2017.
- EPA, 2017. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, EPA/540-R-2017-001.
- EPA (U.S. Environmental Protection Agency), January 2009. OSWER 9200-1-85. *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use.* EPA-540/R-08-005.
- U.S. Department of the Interior Bureau of Land Management, 2019. FINAL Work Plan 2019 Groundwater and Surface Water Baseline Monitoring, Red Devil Mine, Alaska. May 2019.
- EPA, 1998. Test Methods for Evaluating Solid Waste (SW-846), Revision 2. July 2014. Method 6020B.
- EPA, 1993, *Test Methods for Evaluating Solid Waste (SW-846)*, Revision 1. September 1994. Method 7470A.
- EPA, 1993. Determination of Inorganic Anions by Ion Chromatography, Revision 2.1. August 1993. Method 300.0.
- EPA, 1993. Determination of Nitrate-Nitrite Nitrogen by Automated Colorimetry, Revision 2.0. August 1993. Method 353.2.
- EPA, 1971. Alkalinity, Editorial Revision. 1978. Method 310.1.
- EPA, 1971. Residue, Filterable. 1971. Method 160.1.
- EPA, 1971. Residue, Non-Filterable. 1971. Method 160.2.
- EPA, 2002. Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry, Revision E. August 2002. Method 1631.

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# ATTACHMENT 5.2 2021 FALL DATA VALIDATION REPORT

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# I. Project Information

File Name:	580-105705-1 DV Report.0_Metals_GenChem							
Analysis:	MT, WC							
SDG#:	580-105705-1	Reviewer:	KKOL	Rev Date:	11/10/2021			
Matrix:	Surface Water	2nd Rev:	CTD	2nd Rev Date:	11/17/2021			
	Groundwater							
Validation Level:	Stage2B/Stage4	# Samples:	43	# RE/DL:	0			

# II. Secondary Review List

Narrative:			Form ls:		
Qualifications in text match Form Is			"U" / "J" lab codes carried over		
Spell check			Appropriate qual codes used		
Pagination, approp	riate headers/footers		Form I IDs match sample ID table		
Correct project site name/manager on cover and introduction pages					
Required Edits/Chang	jes:				
Add comprehensive t	able of qualifiers				
Revision (include revi	sion #, date and reason):				
Revision 0					
Validator Signature: Kathryn K. Okonzak- Lowry Digitally signed by Kathryn K. Okonzak-Lowry Date: 2021.11.18 07:14:27 -07'00'					
Review Signature:	Cathering Shumbelow				

# **Data Validation Report**

Red Devil Mine, Alaska

Sample Delivery Group 580-105705-1

Prepared for Sundance Consulting, Inc. 8210 Louisiana Blvd NE Suite C Albuquerque, NM 87113 Attention: Colleen Rust, PG

11/10/2021

## TABLE OF CONTENTS

Ι.	Project Information	1
II.	Secondary Review List	1
III.	Introduction	6
IV.	Sample Management	14
V.	SW-846 Methods 6020B, 6010D, AND 7470A—Metals and Mercury	15
V.1.	Holding Times	
V.2.	Tuning and Calibration	15
V.3.	Calibration blanks and Method Blanks	16
V.4.	Interference Check Samples	17
V.4.1.	Laboratory Control Sample/Laboratory Control Sample Duplicate	17
V.4.2.	Laboratory Duplicates	17
V.4.3.	Matrix Spike/Matrix Spike Duplicate	17
V.4.4.	Post Digestion Spike	18
V.4.5.	Serial Dilution	18
V.4.6.	Internal Standards Performance	18
V.4.7.	Sample Result Verification	18
V.4.8.	Field QC Samples	18
V.4.9.	Field Blanks and Equipment Blanks	18
V.4.10.	Field Duplicates	20
VI.	EPA Method 1631, Revision E – Total and Dissolved Mercury	20
VI.1.	Holding Times	20
VI.2.	Calibration	20
VI.3.	Quality Control Samples	20
VI.3.1.	Calibration Blanks and Method Blanks	20
VI.3.2.	Laboratory Control Sample/Laboratory Control Sample Duplicate	21
VI.3.3.	Matrix Spike/Matrix Spike Duplicate	21
VI.4.	Field QC Samples	21
VI.4.1.	Field Blanks, Equipment Blanks, and Trip Blanks	21
VI.4.2.	Field Duplicates	23
VI.5.	Sample Result Verification and Reported Detection Limits	23
VII.	Various EPA Methods – General Minerals	24
VII.1.	Holding Times	24
VII.2.	Calibration	24
VII.3.	Quality Control Samples	24
	Calibration Blanks and Method Blanks	
VII.3.2.	Laboratory Control Samples	24
VII.3.3.	Laboratory Duplicates	24
VII.3.4.	Matrix Spike/Matrix Spike Duplicate	24
VII.4.	Sample Result Verification	25
VII.5.	Field QC Samples	25
VII.5.1.		
VII.5.1.		
VIII.	Data Qualification Summary	
IX.	References	

#### TABLES

Table 1 - Sample Summary	6
Table 2 - Data Qualifier Definitions	15
Table 3 - Metals and Mercury Tuning and Calibration	
Table 4 - Metals and Mercury Calibration Blanks and Method Blanks	16
Table 5 - Metals and Mercury Interference Check Samples	17
Table 6 - Metals and Mercury Interference Check Samples	18
Table 7 - Metals and Mercury Equipment Blank Association	19
Table 8 - Metals and Mercury Equipment Blank Qualifiers	19
Table 9 - Metals and Mercury Field Duplicates	
Table 10 - Method 1631 Calibration Blanks and Method Blanks	21
Table 11 - Method 1631 Equipment Blank Association	22
Table 12 - Method 1631 Equipment Blank Qualifications	
Table 13 - Method 1631 Trip Blank Association	22
Table 14 - Method 1631 Trip Blank Qualifications	
Table 15 - General Minerals Analytical Method Holding Times	24
Table 16 - General Minerals Holding Time Qualifications	24
Table 17 - Data Qualification Summary Table	25

#### ACRONYMS AND ABBREVIATIONS

<b>2</b>	
°C	Celsius
%	Percent
%D	percent difference
CCAL	continuing calibration
CCB	continuing calibration blank
CCV	continuing calibration verification
COC	chain of custody
CLP	Contract Laboratory Program
DL	detection limit
DISS	dissolved
EFGS	Eurofins Frontier Global Sciences
EPA	US Environmental Protection Agency
ER	equipment rinsate
FB	field blank
FD	field duplicate
GW	ground water
ICAL	initial calibration
ICB	initial calibration blank
ICV	initial calibration verification
IS	internal standard
J	estimated value
LCS	laboratory control sample
	low level mercury
LL Hg LOD	limit of detection
-	
LOQ	limit of quantification
MB	method blank
MS	matrix spike
MSD	matrix spike duplicate
ND	nondetect
QAPP	Quality Assurance Program Plan
QC	quality control
QSM	Quality Systems Manual
R	Rejected
RL	reporting limit
RPD	relative percent difference
RRF	relative response factor
RSD	relative standard deviation
SDG	sample delivery group
ТВ	trip blank
TDS	total dissolved solids
TSS	total suspended solids
SW	surface water
U	not detected
UJ	not detected; associated value is an estimate

## III. Introduction

Project Name: Red Devil Mine

Sample Delivery Group: 580-105705-1

Client Project Manager: Colleen Rust

Matrix: Surface Water

**QC Level:** Stage 2B/Stage 4

No. of Samples: 43

Laboratory: Eurofins TestAmerica Seattle

# Table 1 - Sample Summary

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
1	0821MW51GW	580-105705-1	GW	8/31/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW51GW TOTAL 0821MW51GW DISS	1100051-01 1100051-02			1631	
2	0821MW52GW	580-105705-2	GW	8/31/2021	6020B, 6010D, 7470A	Stage 4
	0821MW52GW TOTAL 8021MW52GW DISS	1100051-03 1100051-04			1631	
3	0821MW53GW	580-105705-3	GW	8/31/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW53GW TOTAL 0821MW53GW DISS	1100051-05 1100051-06			1631	
4	0821MW54GW	580-105705-4	GW	8/31/2021	6020B, 6010D, 7470A	Stage 2B

Sample	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
Count						
5	0821MW54GW TOTAL 0821MW54GW DISS	1100051-07 1100051-08			1631	
	0821MW55GW	580-105705-5	GW	8/31/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW55GW TOTAL 0821MW55GW DISS	1100051-09 1100051-10			1631	
6	0921MW56GW	580-105705-6	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0921MW56GW TOTAL 0921MW56GW DISS	1100051-11 1100051-12			1631	
7	0921MW57GW	580-105705-7	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0921MW57GW TOTAL	1100051-13				
	0921MW57GW DISS	1100051-14			1631	
8	0821MW58GW	580-105705-8	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW58GW TOTAL	1100051-15			1631	
	0821MW58GW DISS	1100051-16				
9	0921MW59GW	580-105705-9	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0921MW59GW TOTAL	1100051-17 1100051-18			1631	
	0921MW59GW DISS					

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
10	0921TB03	580-105705-10	ТВ	8/28/2021	6020B, 6010D, 7470A	Stage 2B
	0921TB03 TOTAL 0921TB03 DISS	1100051-19 1100051-20			1631	
11	0821EB01	580-105705-11	EB	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821EB01 TOTAL	1100051-21			1631	
12	0821EB02	580-105705-12	EB	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821EB02 TOTAL	1100051-22			1631	
13	0821EB03	580-105705-13	EB	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821EB03 TOTAL	1100051-23			1631	
14	0921RD06SW	580-105705-14	SW	9/03/2021	6020B, 6010D, 7470A,	Stage 2B
	0921RD06SW TOTAL	1100051-24			353.2, 300.0, 160.1, 160.2	
15	0921RD08SW	580-105705-15	SW	9/03/2021	1631 6020B, 6010D, 7470A,	Stage 2B
	0921RD08SW TOTAL	1100051-25			353.2, 300.0, 160.1, 160.2	
16	00210005504/		514/	0/02/2024	1631	Stage 2D
16	0921RD05SW	580-105705-16	SW	9/03/2021	6020B, 6010D,	Stage 2B

Sample Count	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
	0921RD05SW TOTAL	1100051-26			7470A, 353.2, 300.0, 160.1, 160.2	
17	0921RD10SW	580-105705-17	SW	9/03/2021	1631 6020B, 6010D, 7470A,	Stage 2B
	0921RD10SW TOTAL	1100051-27			353.2, 300.0, 160.1, 160.2	
18	0821MW33GW	580-105705-18	GW	8/29/2021	1631 6020B, 6010D, 7470A	Stage 2B
	0821MW33GW TOTAL 0821MW33GW	1100051-28 1100051-29			1631	
19	DISS 0821MW09GW	580-105705-19	GW	8/29/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW09GW TOTAL 0821MW09GW	1100051-30 1100051-31			1631	
20	DISS 0821MW09GW 0821MW10GW	580-105705-20	GW	8/29/2021	6020B,	Stage 2B
	0821MW10GW	1100051-32			6010D, 7470A	
	TOTAL	1100051-32			1631	
24	0821MW10GW DISS		<u></u>	0/20/2024	60205	<u></u>
21	0821MW16GW	580-105705-21	GW	8/29/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW16GW TOTAL	1100051-34			1631	
	0821MW16GW DISS	1100051-35				

Sample	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
Count						
22	0821MW17GW	580-105705-22	GW	8/29/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW17GW TOTAL	1100051-36			1631	
	0821MW17GW DISS	1100051-37				
23	0821MW99GW	580-105705-23	FD	8/29/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW99GW TOTAL	1100051-38			1631	
	0821MW99GW DISS	1100051-39				
24	0821MW26GW	580-105705-24	GW	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW26GW TOTAL	1100051-40			1631	
	0821MW26GW DISS	1100051-41			1001	
25	0821MW27GW	580-105705-25	GW	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW27GW TOTAL	1100051-42			1631	
	0821MW27GW DISS	1100051-43				
26	0821MW98GW	580-105705-26	FD	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW98GW TOTAL	1100051-44			1631	
	0821MW98GW DISS	1100051-45				
27	0821MW28GW	580-105705-27	GW	8/29/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW28GW TOTAL	1100051-46			1631	
	0821MW28GW DISS	1100051-47				

Sample	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
Count						
28	0821TB01	580-105705-28	ТВ	8/28/2021	6020B, 6010D, 7470A	Stage 2B
	0821TB01 TOTAL	1100051-48			1631	
	0821TB01 DISS	1100051-49				
29	0921MW29GW	580-105705-29	GW	6/05/2021	6020B, 6010D, 7470A	Stage 2B
	0921MW29GW TOTAL	1100051-50			1631	
	0921MW29GW DISS	1100051-51			1031	
30	0821MW06GW	580-105705-30	GW	8/29/2021	6020B, 6010D,	Stage 2B
	0821MW06GW TOTAL	1100051-52			7470A	
	0821MW06GW DISS	1100051-53			1631	
31	0921MW40GW	580-105705-31	GW	9/01/2021	6020B, 6010D,	Stage 2B
	0921MW40GW TOTAL	1100051-54			7470A	
	0921MW40GW DISS	1100051-55			1631	
32	0821MW42GW	580-105705-32	GW	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW42GW TOTAL	1100051-56			1631	
	0821MW42GW DISS	1100051-57				
33	0821MW43GW	580-105705-33	GW	8/30/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW43GW TOTAL	1100051-58			1631	
	0821MW43GW DISS	1100051-59				

Sample	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
Count						
34	0921MW44GW	580-105705-34	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0921MW44GW TOTAL	1100051-60			1631	
	0921MW44GW DISS	1100051-61				
35	0921MW45GW	580-105705-35	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0921MW45GW TOTAL	1100051-62			1631	
	0921MW45GW DISS	1100051-63				
36	0821MW46GW	580-105705-36	GW	8/31/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW46GW TOTAL	1100051-64			1631	
	0821MW46GW DISS	1100051-65				
37	0821MW47GW	580-105705-37	GW	8/31/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW47GW TOTAL	1100051-66			1631	
	0821MW47GW DISS	1100051-67			1001	
38	0821MW97GW	580-105705-38	FD	8/31/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW97GW TOTAL	1100051-68			1631	
	021MW97GW DISS	1100051-69			1001	

Sample	Field Sample ID	Lab Sample ID	Matrix	Collection	Method	Validation Level
Count						
39	0821MW49GW	580-105705-39	GW	9/01/2021	6020B, 6010D, 7470A	Stage 2B
	0821MW49GW TOTAL	1100051-70			1631	
	0821MW49GW DISS	1100051-71				
40	0821MW50GW	580-105705-40	GW	8/31/2021	6020B, 6010D, 7470A	Stage 4
	0821MW50GW TOTAL	1100051-72			1631	
	0821MW50GW DISS	1100051-73				
42	0921RD15SW	580-105705-42	SW	9/03/2021	6020B, 6010D,	Stage 2B
					7470A, 353.2,	
	0921RD15SW	1100051-76			300.0,	
	TOTAL				160.1 <i>,</i> 160.2	
					1631	
43	0921RD99SW	580-105705-43	FD	9/03/2021	6020B, 6010D,	
					7470A,	
					353.2,	
	0921RD99SW TOTAL	1100051-77			300.0,	
	TUTAL				160.1, 160.2	
					1631	

#### IV. Sample Management

According to the case narrative, the sample receiving checklist and the chains-of-custody (COCs) provided by the laboratory for sample delivery group (SDG) 580-105705-1:

- The laboratory's Login Sample Receipt Checklist and the COCs noted all coolers were received within the temperature limits of ≤6°C and ≥0°C, with the following exception: The cooler containing samples for metals analysis only was received at 18.9°C. The sample receipt temperature is acceptable for metals, and sample qualification was not required.
- The samples were received intact, and properly preserved, as applicable, with the cooler temperature exception listed above.
- The laboratory's Sample Receiving Checklist notes that the cooler's custody seal, if present, is intact.
- The samples for low level mercury (LL Hg) by Method 1631 were subcontracted to Eurofins Frontier Global Sciences (EFGS). The samples were received intact at EFGS on 9/10/2021 under EFGS SDG 1100051. Total and dissolved volumes were received at the lab for the ground water (GW) LL Hg samples. The dissolved sample volumes were field filtered. As noted in Table 1-Sample Summary of this DVR, the total and dissolved volumes for each GW Sample ID were given a distinct EFGS laboratory ID.

Qualifier	Definition		
U	The analyte was analyzed for but was not detected above the reported sample quantitation limit.		
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.		
J+	The result is an estimated quantity, but the result may be biased high.		
J-	The result is an estimated quantity, but the result may be biased low.		
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.		
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.		
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.		

## V. SW-846 Methods 6020B, 6010D, AND 7470A–Metals and Mercury

K. Okonzak-Lowry of Oak Services reviewed the SDG November 1, 2021.

## V.1.Holding Times

Analytical holding times, 28 days for mercury and six months for the remaining metals, were met, with the exceptions listed below.

Method 7470A: The following samples were prepared outside of preparation holding time for 7470A on 9/27/2021 for the mercury analysis due to the analytical supervisor not recognizing the samples were going out of hold on Sunday, 9/26/2021: 0821MW33GW (580-105705-18), 0821MW09GW (580-105705-20), 0821MW16GW (580-105705-21), 0821MW17GW (580-105705-22), 0821MW99GW (580-105705-23), 0821MW28GW (580-105705-27) and 0821MW06GW (580-105705-30). The mercury results for the above samples were qualified as estimated (J and UJ) for detects and nondetects, respectively.

## V.2. Tuning and Calibration

All 6020B ICP/MS tuning criteria were met. Mass calibrations were  $\leq 0.1$  atomic mass unit (amu) from the true value. Resolution was <0.9 amu full width at 10% peak height and all %RSDs were  $\leq 5\%$ .

A blank and five standards were used in the initial calibration. Correlation coefficients were  $\geq 0.995$ . The range of the ICP/MS calibration curves is low. The high standard for a number of trace analytes is 100 ppb. The lab did analyze high linear range check standards. The linear range check standards were within 10% of the true value, with the exception of antimony, which was recovered at 87% for the 9/28/2021 analytical run. Sample detects reported above the high standard in the calibration curve for antimony were qualified as estimated, J.

## Table 3 - Metals and Mercury Tuning and Calibration

Issue	Analyte	Qualifier	Affected Samples
			580-105705-14
Sample detects			580-105705-15
reported above the	Antimony	J	580-105705-18
calibration curve			580-105705-23
linear range			580-105705-32

All reported ICV and CCV recoveries were within 90-110% and the low-level CCV recoveries were within 80-120%.

A blank and 5 non-zero standards were used for the CVAA calibration. The initial (ICV) and continuing calibration recoveries (CCV) were within 90-110%.

## V.3. Calibration blanks and Method Blanks

No target analytes were reported in the method blanks (MB) or bracketing calibration blanks (ICB/CCB) of sufficient concentration to warrant qualification of site sample results except as noted in the table below. For the positive blank concentrations, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL. Associated detected sample results that were greater than RL and <5× the blank concentration were qualified as estimated with high bias (J+) using professional judgement.

Analyte	Blank concentration	Qualified Samples
Zinc	0.00143 J mg/L (MB 580- 368932/24-A)	580-105705-1, 580-105705-3, 580-105705-4, 580- 105705-5, 580-105705-6, 580-105705-7, 580-105705-8, 580-105705-14, 580-105705-36, 580-105705-37, 580- 105705-39, 580-105705-40, 580-105705-42, 580- 105705-43
Antimony	0.199 J to 0.684 J μg/L (9/28/21 CCBs)	580-105705-1, 580-105705-3, 580-105705-4, 580-105705- 6, 580-105705-7, 580-105705-8, 580-105705-17, 580- 105705-20, 580-105705-29, 580-105705-34, 580-105705- 35, 580-105705-36, 580-105705-37, 580-105705-39
Thallium	0.033 J, 0.039 J and 0.044 J μg/L (9/28/21 CCBs)	580-105705-2, 580-105705-9, 580-105705-16
Potassium	0.421 J mg/L (9/29/21 ICB)	All field samples

Table 4 - Metals and Mercury Calibration Blanks and Method Blanks

# V.4.Interference Check Samples

Interference Check Samples (ICSA/B): ICSAB recoveries were within the control limits of 80-120% or  $\pm 2 \times$ the reporting limit, whichever is greater. One or more interferents were present in several samples at concentrations comparable to those of the ICSAs. As noted in the table below, non-spiked analytes zinc, silver, chromium and nickel were present in the ICSAs at greater than MDL. For analytes with positive ICSA results, associated detected results which were <10× the ICSA concentration were qualified as estimated with high bias (J+). The ICP/MS ICS interferent levels were at 10,000 µg/L; therefore, the samples were assessed based on interferents being present at ≥10,000 µg/L in the samples. The ICP samples did not have interferents at concentrations comparable to the ICP ICSA solution, and sample qualifications were not required.

Analyte	ICSA Concentration ICSA 580-369106/11	Qualified Samples
Zinc	2.84 J μg/L	580-105705-2, 580-105705-9, 580-105705-15, 580- 105705-16, 580-105705-18, 580-105705-19, 580- 105705-21, 580-105705-23, 580-105705-24, 580- 105705-25, 580-105705-26, 580-105705-27, 580- 105705-29, 580-105705-30, 580-105705-31, 580- 105705-32, 580-105705-33, 580-105705-34, 580- 105705-35
Silver	0.051 J μg/L	580-105705-4, 580-105705-8, 580-105705-9, 580- 105705-29, 580-105705-32, 580-105705-33
Chromium	0.184 J μg/L	580-105705-42, 580-105705-43
Nickel	0.138 J μg/L	580-105705-42, 580-105705-43

# V.4.1. Laboratory Control Sample/Laboratory Control Sample Duplicate

Target analytes were recovered within the control limits of 70-130% recovery (%R), and the relative percent difference (RPDs) were  $\leq$ 20%.

# V.4.2. Laboratory Duplicates

Laboratory duplicate analyses were performed on samples 580-105705-5 and 580-105705-15 for metals and Hg. Original and duplicate sample values  $\geq 5 \times$  the RL were within the control limit of 20% Relative Percent Difference (RPD). The control limit of ±RL was met when the sample or duplicate result was  $<5 \times$  the RL. All results were within control limit criteria.

# V.4.3. Matrix Spike/Matrix Spike Duplicate

MS/MSD analyses were performed on samples 580-105705-5, 580-105705-15 and 580-105705-20 for metals and Hg. MS recoveries were not assessed when the parent sample concentrations were more than 4× the spike amount. Recoveries for all target analytes met control limits of 75-125%R, and the RPDs were  $\leq$ 20%, with the exception of the 580-105705-5 MS recovery for iron (156%). The sample MSD and post digestion spike (PDS) recoveries were within control limits for iron, and sample qualification was not applied for the high MS recovery. For the ICP/MS analysis, the parent samples were analyzed

undiluted, and the MS/MSD samples were analyzed at a 20× dilution. Sample qualifications were not assigned.

## V.4.4. Post Digestion Spike

The laboratory performed ICP/MS and ICP post digestion spike analyses for samples 580-105705-5 and 580-105705-15 for all reported analytes, and the recoveries were within control limit criteria.

## V.4.5. Serial Dilution

Serial dilution analysis was performed on samples 580-105705-5 and 580-105705-15. Results were not assessed unless the parent sample concentration was >50× the MDL. The control limit of ≤10% difference (%D) of the original sample results was met for all target analytes with the exception of arsenic (11%D) for sample 580-105705-5. The parent sample detect for arsenic was qualified as estimated, J.

## V.4.6. Internal Standards Performance

According to the raw data sample results, all ICPMS sample internal standard intensities were within the control limits of 60-125% of the calibration blank, except as noted in the table below. Associated sample nondetects are qualified as estimated, UJ, and detects are qualified as estimated, J.

## Table 6 - Metals and Mercury Interference Check Samples

Sample	Internal Standard Percent Recovery	Qualified Analytes
580-105705-42	Li 126.7% Sc 127.3% Ho 131.8% Bi 129.1%	Al, As, Be, Cr, Co, Cu, Fe, Pb, M, Ni, Se, Tl and V
580-105705-43	Ho 128.2% Bi 125.5%	Pb and Tl

# V.4.7. Sample Result Verification

Sample results were verified for the Level 4 validation for samples 580-105705-2, 580-105705-40 and 580-105705-42. Sample result verification is not applicable for Level 2B validation samples. Detects below the RL were qualified as estimated (J). Nondetects are valid to the RL.

# V.4.8. Field QC Samples

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. The remaining detects were used to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

# V.4.9. Field Blanks and Equipment Blanks

Field blank samples were not identified in this SDG for these analyses.

Equipment blank samples 0821EB01, 0821EB02 and 0821EB03 were collected and associated with the GW samples as listed in the table below:

Equipment Blanks			
Blank ID	0821EB01	0821EB02	0821EB03
Serial #	Rental: 092	294991	77297
	0821MW26GW	0821MW06GW	0821MW09GW
		0821MW16GW	0821MW10GW
		0821MW17GW	0821MW28GW
		0821MW27GW	0921MW44GW
		0821MW98GW	0921MW45GW
		0921MW29GW	0821MW46GW
		0821MW33GW	0821MW47GW
		0821MW99GW	0821MW97GW
Accessiated Samples		0921MW40GW	0921MW49GW
Associated Samples		0821MW42GW	0821MW52GW
		0821MW43GW	0821MW55GW
		0821MW50GW	0921MW56GW
		0821MW51GW	
		0821MW53GW	
		0821MW54GW	
		0921MW57GW	
		0821MW58GW	
		0921MW59GW	

 Table 7 - Metals and Mercury Equipment Blank Association

Chromium was detected in 0821EB1 at 0.00022 J mg/L. Cadmium, chromium, lead and manganese were detected in 0821EB2 at 0.000075 J, 0.00022 J, 0.000065 J and 0.00084 J mg/L, respectively. Chromium and manganese were detected in 0821EB03 at 0.00018 J and 0.00056 J mg/L, respectively.

For EB detects, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL. Associated detected sample results that were greater than RL and  $<5\times$  the blank concentration were qualified as estimated with high bias (J+).

Analyte	EB Blank concentration (mg/L)	Qualified Samples
Cadmium	0.000075 J (EB02)	580-105705-1, 580-105705-9,
		580-105705-21, 580-105705-25
		580-105705-26, 580-105705-29
Chromium	0.00022 J (EB02)	580-105705-1, 580-105705-3,
		580-105705-4, 580-105705-7,
		580-105705-18, 580-105705-21
		580-105705-22, 580-105705-23,
		580-105705-25, 580-105705-30
		580-105705-31, 580-105705-33
		580-105705-40
Lead	0.000065 J (EB02)	580-105705-1, 580-105705-3,
		580-105705-8, 580-105705-21,
		580-105705-22, 580-105705-23
		580-105705-26, 580-105705-30
		580-105705-31, 580-105705-33

Analyte	EB Blank concentration (mg/L)	Qualified Samples
		580-105705-40
Manganese	0.00084 J (EB02)	580-105705-22
Chromium	0.00018 J (EB03)	580-105705-5, 580-105705-6,
		580-105705-19, 580-105705-20,
		580-105705-34, 580-105705-35,
		580-105705-36, 580-105705-37,
		580-105705-38, 580-105705-39
Chromium	0.00022 J (EB01)	580-105705-24

# V.4.10. Field Duplicates

Samples 0821MW99GW and 0821MW33GW, 0821MW98GW and 0821MW27GW, 0821MW97GW and 0821MW47GW and 0921RD99SW and 0921RD15SW. The control limits of  $\leq$ 30% for all target analytes greater than 5x RL and ±RL for all results <5x RL were met except as noted in the table below. Associated results in the field duplicate pair were qualified as estimated (J) for detects and (UJ) for nondetects.

## Table 9 - Metals and Mercury Field Duplicates

Field duplicate samples	Analyte	RPD/±RL
0821MW33GW/0821MW99GW	Lead (0.00068/0.0004U mg/L)	>±RL
0821MW27GW/0821MW98GW	Chromium (0.0008 U/0.0009)	>±RL
	Lead (0.00051/0.0004 U)	>±RL

# VI. EPA Method 1631, Revision E - Total and Dissolved Mercury

K. Okonzak-Lowry of Oak Services reviewed the SDG on November 6, 2021

# VI.1. Holding Times

Sample preservation and analytical holding times were met. The samples analyzed for dissolved mercury were filtered in the field. The water samples were preserved (oxidized with BrCl) in the sample bottles within 28 days of collection by EFGS laboratory personnel on 9/10/2021.

## VI.2. Calibration

A blank and 5 non-zero standards were used for the cold vapor atomic fluorescence spectrometry calibration. Calibration criteria were met. ICV and CCV %Rs were within the laboratory control limits of 77-123%R.

# VI.3. Quality Control Samples

# VI.3.1. Calibration Blanks and Method Blanks

No mercury reported in the method blanks (MB) or bracketing calibration blanks (ICB/CCB) of sufficient concentration to warrant qualification of site sample results except as noted in the table below. For the positive blank concentrations, associated detected sample results that were below the reporting limit (RL) were qualified as nondetect (U) at the RL. Associated detected sample results that were greater than RL  $_{580-105705 \text{ DVR}}$ 

and <5× the blank concentration were qualified as estimated with high bias (J+).

Analyte	Blank concentration (ng/L)	Qualified Samples
Mercury	CCBs (0.12 J – 0.23 J)	1I00051-19 (0921TB03 TOTAL) 0.5 U
	Run 1J04018 (Oct. 1, 2021)	1I00051-20 (0921TB03 DISS) 0.54 J+
		1I00051-27 (0921RD10SW [10x]) 5.22 J+
	CCBs (0.08 J – 0.20 J)	1100051-21 (0821EB01) 0.62 J+
	Run 1J06011 (Oct. 5, 2021)	1I00051-48 (0821TB01 TOTAL) 0.5 U
		1I00051-49 (0821TB01 DISS) 0.5 U
		1I00051-62 (0921MW45GW TOTAL [10x]) 10.7 J+
		1I00051-74 (0921TB02 TOTAL) 0.68 J+
	CCBs (0.32 J – 0.26 J)	1I00051-22 (0821EB02) 0.72 J+
	Run 1l27021 (Sep. 24, 2021)	
	MB F109433 (BLK4 0.38 J)	1I00051-23 (0821EB03) 0.5U
	Run 1J01002 (Sep. 30, 2021)	

Table 10 - Method 1631 Calibration Blanks and Method Blanks

# VI.3.2. Laboratory Control Sample/Laboratory Control Sample Duplicate

Target analytes were recovered within the laboratory control limits of 77-123% recovery, and the RPDs were  $\leq$ 24%. Sample qualification was not required.

## VI.3.3. Matrix Spike/Matrix Spike Duplicate

MS/MSD analyses were performed on Samples 1100051-01 (0821MW51GW TOTAL), 1100051-09 (0821MW55GW TOTAL), 1100051-10 (0821MW55GW DISS), 1100051-25 (0921RD08SW), 1100051-32 (0821MW10GW TOTAL), 1100051-33 (0821MW10GW DISS), 1100051-47 (0821MW28GW DISS) and field QC sample 0821TB01 DISS from this SDG. For Sample 1100051-10 (0821MW55GW DISS), both the MS and MSD were recovered above the control limits at 128%, each. The Sample 1100051-10 DISS mercury detect was qualified as estimated with a potential high bias (J+). The remaining recoveries and RPDs were within the laboratory established control limits of 71-125%R and 24% RPD.

## VI.4. Field QC Samples

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. The remaining detects were used to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

# VI.4.1. Field Blanks, Equipment Blanks, and Trip Blanks

Field blank samples were not identified in this SDG for these analyses.

Equipment blank samples 0821EB01, 0821EB02 and 0821EB03 (total) were collected and associated with the GW samples as listed in the table below.

Equipment Blanks			
Blank ID	0821EB01	0821EB02	0821EB03
Serial #	Rental: 092	294991	77297
	0821MW26GW	0821MW06GW	0821MW09GW
		0821MW16GW	0821MW10GW
		0821MW17GW	0821MW28GW
		0821MW27GW	0921MW44GW
		0821MW98GW	0921MW45GW
		0921MW29GW	0821MW46GW
		0821MW33GW	0821MW47GW
		0821MW99GW	0821MW97GW
Associated Samples		0921MW40GW	0921MW49GW
(Total and Dissolved)		0821MW42GW	0821MW52GW
		0821MW43GW	0821MW55GW
		0821MW50GW	0921MW56GW
		0821MW51GW	_
		0821MW53GW	
		0821MW54GW	
		0921MW57GW	
		0821MW58GW	
		0921MW59GW	

# Table 11 - Method 1631 Equipment Blank Association

# Table 12 - Method 1631 Equipment Blank Qualifications

Analyte	Equipment Blank concentration (ng/L)	Qualified Samples
Mercury	0821EB02 0.72 J+	1100051-02 (0821MW51GW DISS) 2.72 J+ 1100051-08 (0821MW54GW DISS) 1.14 J+

Trip blank samples 0921TB01, 0921TB02 and 0921TB03 (total and dissolved) were shipped with the low level mercury samples. Each trip blank was associated with the samples shipped in the same cooler.

Table 13 - Method 1631 Trip Blank Association

Trip Blanks			
Blank ID	0921TB01 (Total and Diss)	0921TB02 (Total and Diss)	0921TB03 (Total and Diss)
Cooler ID	Cooler 1	Cooler 2	Cooler 3
	0821MW33GW	0921MW29GW	0821MW51GW
	0821MW09GW	0821MW06GW	0821MW52GW
Associated Samples	0821MW10GW	0921MW40GW	0821MW53GW
(Total and Dissolved)	0821MW16GW	0821MW42GW	0821MW54GW
	0821MW17GW	0821MW43GW	0821MW55GW
	0821MW99GW	0921MW44GW	0921MW56GW

0821MW26GW	0921MW45GW	0221MW57GW
0821MW27GW	0821MW46GW	0821MW58GW
0821MW98GW	0821MW47GW	0921MW59GW
0821MW28GW	0821MW97GW	0821EB01
	0921MW49GW	0821EB02
	0821MW50GW	0821EB03
	0921RD15SW	0921RD06SW
	0921RD99SW	0921RD08SW
		0921RD05SW
		0921RD10SW

Sample qualifications for trip blank detects are listed in the table below.

Table 14 - Method 1631 Trip Blank Qualifications

Analyte	Blank concentration (ng/L)	Qualified Samples
Mercury	0921TB02 (total)	1I00051-60 (0921MW44GW TOTAL) 2.02 J+
	0.68 J+	
	0921TB02 (dissolved)	1100051-53 (0821MW06GW DISS) 3.18 U
	3.18	1100052-55 (091MW40GW DISS) 3.18 U
		1100051-59 (0821MW43GW DISS) 3.18 U
		1100051-61 (0921MW44GW DISS) 3.18 U
		1I0051-63 (0921MW45GW DISS) 4.43 J+
		1I00051-65 (0821MW46GW DISS) 3.18 U
		1100051-67 (0821MW47GW DISS) 3.18 U
		1100051-69 (0821MW97GW DISS) 3.18 U
		1I00051-71 (0821MW49GW DISS) 7.27 J+
	0921TB03 (dissolved)	1100051-02 (0821MW51GW DISS) 2.72 J+
	0.54.1+	
	0921TB03 (dissolved) 0.54 J+	1100051-02 (0821MW51GW DISS) 2.72 J 1100051-08 (0821MW54GW DISS) 1.14 J 1100051-12 (0821MW56GW DISS) 2.33 J

# VI.4.2. Field Duplicates

Samples 0821MW99GW and 0821MW33GW, 0821MW98GW and 0821MW27GW, 0821MW97GW and 0821MW47GW (total and dissolved) and 0921RD99SW and 0921RD15SW (total) were identified as field duplicate pairs. The control limits of  $\leq$ 30% for all target analytes greater than 5x RL and ±RL for all results <5x RL were met. Sample qualification was not required.

# VI.5. Sample Result Verification and Reported Detection Limits

The laboratory analyzed for low level mercury by EPA Method 1631E. Total mercury was analyzed for six surface water (SW) samples. Total and dissolved mercury was analyzed for the groundwater (GW) samples.

Mercury quantification was verified for the Level 4 validation samples. Sample result verification is not applicable for Level 2B validation samples. Detects reported below the RL were qualified as estimated (J). Nondetects are valid to the RL. Multiple samples were analyzed at dilutions to bring detects within the calibration linear range due to the level of mercury found in the samples.

## VII. Various EPA Methods - General Minerals

K. Okonzak-Lowry of Oak Services reviewed the SDG on November 8, 2021.

#### VII.1. Holding Times

Analytical holding times, as listed below, were met.

#### Table 15 - General Minerals Analytical Method Holding Times

Analytical Method	Analysis Holding Time (days)
353.2 (NO3+NO2 as N)	28
300.0 (anions SO4, Cl-, F-)	28
310.1 (alkalinity)	14
Total Dissolved Solids (TDS)	7
Total Suspended Solids (TSS)	7

The analytical holding times were met except as noted in the table below. Reported detects are qualified as estimated (J). Reported nondetects for carbonate alkalinity are qualified as estimated (UJ).

Table 16 - General Minerals Holding Time Qualifications

Analyte	Days to Analysis	Qualified Samples
Method 310.1	18 Days	580-105705-14, 580-105705-15,
Alkalinity, Bicarbonate		580-105705-42 and 580-105705-
Alkalinity and Carbonate		43
Alkalinity		
Method 300.0	33 Days	580-105705-14, 580-105705-15,
SO4, Cl- and F-		580-105705-16, 580-105705-17,
		580-105705-42 and 580-105705-
		43

#### VII.2. Calibration

The correlation coefficients (r) were  $\geq$ 0.995. ICV and CCV recoveries associated with reported sample results were within the laboratory control limits.

## VII.3. Quality Control Samples

VII.3.1. Calibration Blanks and Method Blanks

No reported detects in the method blanks (MB) or bracketing calibration blanks (ICB/CCB) were of sufficient concentration to warrant qualification of site sample results.

## VII.3.2. Laboratory Control Samples

LCS and LCSD (as appropriate) recoveries and RPDs were within laboratory control limits.

## VII.3.3. Laboratory Duplicates

Laboratory duplicate analyses were performed on Sample 580-105705-15 from this SDG. RPDs were within laboratory control limits.

#### VII.3.4. Matrix Spike/Matrix Spike Duplicate

MS/MSD analyses were performed on Sample 580-105705-15 from this SDG. The spike recoveries and RPDs were within laboratory control limits except for Method 353.2 nitrate + nitrite. The MS/MSD recoveries were 78% and 71%, respectively. It was determined that the surface water samples are of similar matrix; therefore, the nitrate + nitrite detects were qualified as estimated with a low bias (J-) for

samples 580-105705-15, 580-105705-14, 580-105705-42, 5580-105705-43. The nitrate + nitrite nondetect for sample 580-105705-16 was qualified as estimated (UJ).

#### VII.4. Sample Result Verification

Result quantification was verified for the Level 4 validation sample 580-105705-42. Sample result verification is not applicable for Level 2B validation samples. Detects reported below the RL were qualified as estimated (J). Nondetects are valid to the RL.

#### VII.5. Field QC Samples

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. The remaining detects were used to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

#### VII.5.1.1. Field Blanks and Equipment Blanks

Field blank or equipment blank samples were not analyzed for these surface water sample analyses.

VII.5.1.2. Field Duplicates

Samples 580-105705-42 and 580-105705-43 were identified as the field duplicate pair. The control limits of  $\leq$ 30% for all target analytes greater than 5x RL and ±RL for all results <5x RL were met.

#### VIII. Data Qualification Summary

#### Table 17 - Data Qualification Summary Table

Sample	Analyte	Qualifier	Reason
580-105705-14	Antimony	J (detects)	Sample detects >
580-105705-15			calibration range
580-105705-18			
580-105705-23			
580-105705-32			
580-105705-1	Zinc	U at RL (detects < RL)	Method Blank detect
580-105705-3		J+ (detects > RL)	
580-105705-4			
580-105705-5			
580-105705-6			
580-105705-7			
580-105705-8			
580-105705-14			
580-105705-36			
580-105705-37			
580-105705-39			
580-105705-40			
580-105705-42			
580-105705-43			
580-105705-1	Antimony	U at RL (detects < RL)	CCB detects
580-105705-3		J+ (detects > RL)	
580-105705-4			
580-105705-6			
580-105705-7			
580-105705-8			

Sample	Analyte	Qualifier	Reason
580-105705-17			
580-105705-20			
580-105705-29			
580-105705-34			
580-105705-35			
580-105705-36			
580-105705-37			
580-105705-39			
580-105705-2	Thallium	U at RL (detects < RL)	CCB detects
580-105705-9			
580-105705-16			
All Field Samples	Potassium	U at RL (detects < RL)	ICB detect
580-105705-2	Zinc	J+ (detects < 10x the	ICSA detect > MDL
580-105705-9		ICSA detect)	
580-105705-15			
580-105705-16			
580-105705-18			
580-105705-19			
580-105705-21			
580-105705-23			
580-105705-24			
580-105705-25			
580-105705-26			
580-105705-27			
580-105705-29			
580-105705-30			
580-105705-31			
580-105705-32			
580-105705-33			
580-105705-34			
580-105705-35			
580-105705-4	Silver	J+ (detects < 10x the	ICSA detect > MDL
580-105705-8		ICSA detect)	
580-105705-9			
580-105705-29			
580-105705-32			
580-105705-33			
580-105705-42	Chromium	J+ (detects < 10x the	ICSA detect > MDL
580-105705-43		ICSA detect)	
580-105705-42	Nickel	J+ (detects < 10x the	ICSA detect > MDL
580-105705-43		ICSA detect)	
580-105705-42	Al, As, Be, Cr, Co, Cu,	J (detects)	Internal Standard
	Fe, Pb, Mn, Ni, Se, Tl	UJ (nondetects)	recoveries
	and V	· · ·	

Sample	Analyte	Qualifier	Reason
580-105705-43	Pb and Tl	UJ (nondetects)	Internal Standard
			recoveries
580-105705-1	Cadmium	U at RL (detects < RL)	EB02 detect
580-105705-9			
580-105705-21			
580-105705-25			
580-105705-26			
580-105705-29			
580-105705-1	Chromium	U at RL (detects < RL)	EB01, EB02 and EB03
580-105705-3		J+ (detects > RL)	detects
580-105705-4			
580-105705-7			
580-105705-18			
580-105705-21,			
580-105705-22			
580-105705-23			
580-105705-25			
580-105705-30			
580-105705-31			
580-105705-33			
580-105705-40			
580-105705-5			
580-105705-6			
580-105705-19			
580-105705-20			
580-105705-34			
580-105705-35			
580-105705-36			
580-105705-37			
580-105705-38			
580-105705-39			
580-105705-24			
580-105705-1	Lead	U at RL (detects < RL)	EB02 detect
580-105705-3			
580-105705-8			
580-105705-21			
580-105705-22			
580-105705-23			
580-105705-26			
580-105705-30			
580-105705-31			
580-105705-33			
580-105705-40			
580-105705-22	Manganese	U at RL (detect < RL)	EB02 detect
580-105705-18	Lead	J (detect)	FD results >±RL
580-105705-23		UJ (nondetect)	

Sample	Analyte	Qualifier	Reason
580-105705-25	Lead	J (detects)	FD results >±RL
580-105705-26	Chromium	UJ (nondetects)	
1100051-19	LL Mercury	U at RL (detects < RL)	Bracketing CCB
1100051-20	,	J+ (detects > RL)	detects
1100051-27		, , ,	
1100051-21			
1100051-48			
1100051-49			
1100051-62			
1100051-74			
1100051-22			
1100052-23	LL Mercury	U at RL (detect < RL)	MB detect
1100051-10	LL Mercury	J+ (detect)	MS/MSD high
			recovery
1100051-02	LL Mercury	J+ (detects)	EB02 detect
1100051-08			
1100051-60	LL Mercury	J+ (detects)	TB02 (total) and TB03
1100051-02			(dissolved) detects >
1100051-08			RL
1100051-12			
1100051-53	LL Mercury	U (detects > RL and <	TB02 (dissolved)
1100052-55		the TB detect were	detect > RL
1100051-59		qualified U at the level	
1100051-61		of the TB detect) J+	
1100051-63		(detects > the TB	
1100051-65		detect)	
1100051-67			
1100051-69			
1100051-71			
580-105705-14	Alkalinity (total,	J (detects)	HT exceedance
580-105705-15	bicarbonate and	UJ (nondetects)	
580-105705-42	carbonate)		
580-105705-43			
580-105705-14	SO4, Cl- and F-	J (detects)	HT exceedance
580-105705-15			
580-105705-16			
580-105705-17			
580-105705-42			
580-105705-43			
580-105705-14	NO3 + NO2	J- (detects)	Low MS/MSD %R
580-105705-15		UJ (nondetects)	
580-105705-16			
580-105705-17			
580-105705-42			
580-105705-43			

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