

**FIVE-YEAR REVIEW REPORT FOR
SOUTH MAYBE CANYON MINE
CROSS VALLEY FILL
CARIBOU COUNTY, IDAHO**



Prepared by

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LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
ASAOC/CO	Administrative Settlement Agreement and Order on Consent/Consent Order
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
COPC	Constituent of Potential Concern
CVF	Cross Valley Fill
DER	Data Evaluation Report
EE/CA	Engineering Evaluation/Cost Analysis
EPA	United States Environmental Protection Agency
ESL	Ecological Screening Level
FYR	Five-Year Review
HHSL	Human Health Screening Level
IDEQ	Idaho State Department of Environmental Quality
ICs	Institutional Controls
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NTCRA	Non-Time Critical Removal Action
MCL	Maximum Contaminant Level
mg/L	Milligrams per Litre
MCOU	Maybe Creek Operable Unit
OPOU	Open Pits Operable Unit
OSC	On-Scene Coordinator
OU	Operable Unit
PRSC	Post-Removal Site Control
RAO	Removal Action Objectives
RI/FS	Remedial Investigation/Feasibility Study
RSL	Regional Screening Level
SI	Site Investigation
SMCM	South Maybe Canyon Mine
ug/L	Micrograms per Litre
USFS	United States Forest Service

I. INTRODUCTION

The purpose of this Five-Year Review (FYR) is to evaluate the implementation and performance of the Non-Time Critical Removal Action (NTCRA) to determine if the NTCRA is, and will continue to be, protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Forest Service (Forest Service) is preparing this Five-Year Review in accordance with the approved Post-Removal Site Control Plan, South Maybe Canyon Mine (SMCM), Cross Valley Fill (CVF). This FYR is not required by statute, EPA policy, or Forest Service policy.

The triggering action for this review is the construction completion date of SMCM CVF. The FYR was prepared at the request of NuWest and because hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The CVF addresses exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants in the surface water, soils, and prevents infiltration of water into waste rock.

The SMCM CVF Site FYR was led by the On-Scene Coordinator (OSC), Brian Deeken (Forest Service). Participants included Stan Christensen (Idaho State Department of Environmental Quality), Jon Bronson (NuWest Industries, Inc.), Susan Hanson (Shoshone-Bannock Tribes), and Ryan Braham (US Fish & Wildlife Service). The review began on February 24, 2022.

Site Background

The SMCM CVF (consisting of a waste rock dump), is located on National Forest System lands administered by the Caribou-Targhee National Forest. The SMCM CVF is located approximately 26 miles to the northeast of the City of Soda Springs, Idaho (Appendix B – Figure 1). The Site consists of an Open Pit, the CVF (a waste dump), former mining roads, and Maybe Creek (Appendix B – Figure 2).

Maybe Creek flows through a French drain system under the CVF onto private property. The private property belongs to NuWest Industries Inc. and is located to the west adjacent to the National Forest boundary in Dry Valley. No residents (current or future) live on the National Forest or in Dry Valley, though workers frequent the nearby Dry Valley Mine shop area.

Mining began at the Site from 1976 to 1978 then again from 1979 through 1984. The leaseholders constructed the CVF over Maybe Creek to store waste rock generated from mining operations at the Site. The CVF waste rock dump is about 1.0 mile long, 0.3 miles wide, and 425 feet deep. The miners segregated waste rock into two general categories, chert and shale. The miners constructed an approximately 50 foot deep/mile long French drain over Maybe Creek as the base of the CVF with coarse and durable chert. The drain was designed to accommodate water flows of 200 cubic feet per second (CFS) under the CVF. Miners also dumped chert along the western aspect of South Maybe Canyon, creating a blanket of durable chert to serve as a drain for the runoff. While the chert blanket feature was designed to be shale-free, in one incident the miners deposited approximately 30,000 cubic yards of waste shale in the blanket. Once substantial completion of the drain occurred, miners began

placing waste shale on the pit and the drain. Approximately 29 million cubic yards of chert and shale are contained in the CVF.

In 1996, six horses pastured about 1.5 miles downstream of the CVF developed selenosis. Subsequently, the owner euthanized five of the horses because it was unlikely that the horses would fully recover.

NuWest conducted a Site Investigation (SI) under Forest Service oversight from 1999 to 2009 (the SI includes nine annual supplements). An Engineering Evaluation/Cost Analysis (EE/CA) for an Interim Removal Action for the CVF was prepared in 2011. An Action Memorandum selecting grading, terracing, and cap/cover for the top deck and slope of CVF with grazing restrictions was signed in 2012. An Administrative Settlement Agreement and Order on Consent/Consent Order (ASAOC/CO) for implementation of the Non-Time-Critical Removal Action (NTCRA) was signed in 2013. NuWest constructed cap /cover for SMCM CVF under Forest Service oversight from 2014 to 2017. NuWest performed Post-Removal Site Control (PRSC) activities under Forest Service oversight for the CVF cap / cover from 2017 to present.

No other removal actions have been conducted at SMCM CVF.

Table 1: FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: South Maybe Canyon Mine, Cross Valley Fill		
EPA ID: IDN001002957		
Region: 4	State: ID	City/County: Soda Springs, Caribou County
SITE STATUS		
NPL Status: Non-NPL		
Multiple OUs? Yes	Has the site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: Other Federal Agency <i>[If "Other Federal Agency", enter Agency name]:</i> US Forest Service		
Author name (Federal or State Project Manager): Brian Deeken		
Author affiliation: US Forest Service		
Review period: 1/25/2022 - 12/31/2022		
Date of site inspection: 6/28/2022		
Type of review: Discretionary		
Review number: 1		
Triggering action date: 9/29/2017		

II. REMOVAL ACTION SUMMARY

Basis for Taking Action

The constituents of potential concern (COPCs) for the SMCM CVF listed in the Action Memorandum include selenium, cadmium, chromium, nickel, and zinc – all of which are hazardous substances as defined by CERCLA 42 U.S.C. section 9601(14). These COPCs are found above health-based standards in surface water, groundwater, and vegetation. The COPCs are associated primarily with the waste shale; the chert has relatively low levels of COPCs. Selenium is the most widespread and concentrated COPC at the Site.

The principal source of metal contamination is from the CVF waste rock dump. The primary exposure pathways include ingestion and dermal contact with contaminated surface water, groundwater, or vegetation. Concentrations of COPCs exceeded the screening level benchmarks, indicating a potential for unacceptable risks to human health and ecological receptors.

Removal Actions

The Forest Service selected a removal action for the SMCM in an Action Memorandum dated January 4, 2012 for the CVF. There were no previous CERCLA removal or remedial actions prior to the Action Memorandum. The lessee conducted storm water management maintenance activities on the CVF in 2008 and 2011. These activities were conducted in accordance with the Bureau of Land Management's (BLM) SMCM Mine and Reclamation Plan and Storm Water Pollution Prevention Plan.

The Removal Action Objectives (RAOs) included the following:

- Minimize infiltration on the surface of the CVF to reduce the load (concentration times volume) of selenium and other hazardous substances into Maybe Creek;
- Prevent exposure of human and ecological receptors to hazardous substances in vegetation on the surface of the CVF; and
- Capture and isolate precipitation runoff from the CVF surface to reduce flow from within the fill. Smaller emergent flows will be easier to manage if further treatment is determined to be necessary.

No cleanup values were selected in the Action Memorandum.

The elements of the removal action included:

- Grading the CVF top deck and terracing the north slope.
- Capping and covering the top deck and north slope to minimize infiltration.

- Diverting runoff from the top deck and north slope to the toe of the CVF to minimize infiltration and protect the constructed removal action.
- Applying institutional controls (ICs) to grazing permits restricting sheep and cattle access to protect the constructed removal action at CVF.
- Accessing controls included fencing and gates to protect the removal action from recreationalists.

Status of Implementation

In May of 2015, NuWest's contractor mobilized and began Site preparation activities that included the following: installing access gates and signage, conducting a preconstruction site survey, completing an annual bird survey, implementing road closures, and mobilizing project trailers. A project kickoff meeting was conducted on June 1, 2015. Mobilization completed in June 2015.

NuWest's contractor (Envirocon) conducted the following construction activities between 2015 and 2017 (Arcadis 2018a):

- Five local borrow areas were developed and two offsite supplier borrow pits were used for fill material procurement during construction activities between 2015 and 2016. The borrow sources included:
 - South Borrow Area – general fill
 - West Hillside Borrow Area – aggregates and general fill
 - South Ridge/Chert Borrow Area – chert
 - Aggregate Borrow Area – aggregate
 - Anderson Ranch Borrow Area – topsoil and clay
 - Staker Parson Companies – imported drainage stone
 - Vaughn Smith Construction – imported aggregate drainage material
- The cover system was generally constructed in the following steps on the top deck and north slope of SMCM CVF between 2015 and 2017:
 - Regrading of the existing CVF surface
 - Placement of the subcushion
 - Installation of the FML and overlying GDC
 - Installation of the underdrain system
 - Placement of the general fill
 - Placement of the topsoil.
- Following completion of the cover system the top deck was drill seeded in November 2016 and September 2017. The north slope was hydroseeded in November 2016. Remaining areas on the north slope and select areas were reseeded in September 2017. Borrow areas were reseeded between 2016 and 2017.
- 500 cubic yards of sediment was removed from the upper sediment pond of Maybe Creek and placed in a bermed area adjacent to the ponds in October 2017.

Following the construction season in November of 2015 and 2016, construction equipment and work trailers were removed from the Site for the winter. Final construction demobilization was completed in November 2017 with all equipment, storage units, personnel, and work trailers being removed from the site. Remaining aggregate materials and topsoil were stockpiled off the west side of the north slope and the West Hillside Borrow area for use in future repairs (stockpiled topsoil was reseeded to prevent erosion).

IC Summary Table

Table 2: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soils and Vegetation	Yes	Yes	Maybe Canyon Allotment	Grazing Restriction on SMCM CVF to protect cap & cover	Annual Operating Instructions for Allottee

Post-Removal Site Control

The Post-Removal Site Control (PRSC) Plan was approved in November 2018 (Arcadis 2018b). Monitoring and maintenance of the CVF was completed each year from 2018 to 2022 in accordance with the PRSC Plan. The PRSC Plan included:

- Inspection and maintenance activities each year – Inspections include: cover vegetation, temporary erosion and sediment controls, undesirable vegetation removal (weeds, shrubs, & trees), site infrastructure (e.g. access roads, signage, fencing), recreational damage, drainage features (e.g. check dams, outfalls, settling ponds, flume, & piping), settlement monuments, and other general cover issues (e.g. erosion, ponding, settlement, instability, exposed geosynthetics, & damage).
- Corrective actions – Corrective actions are defined as non-routine repairs that may be needed for larger repairs or emergencies. Inspections noted above are intended to manage issues before they result in significant damage or a release.
- Water quality monitoring activities – Water quality monitoring requirements include surface water and groundwater monitoring. Surface water monitoring will assess the effectiveness of the cover system in mitigating the transport of selenium and other COPCs in surface water and reducing selenium loading to Maybe Creek. Groundwater monitoring will assess the groundwater response to reduced infiltration through CVF and reduced loading in Maybe Creek.
- Health and safety – NuWest will provide a Health and Safety Plan that addresses all SMCM Operable Units including CVF.

- Notifications and reporting – NuWest will make the following notifications to the Agencies and OSC seven days before activities: Field work and maintenance activities. An annual PRSC Report will be prepared annually to describe completed inspection and maintenance activities for the corresponding year. An annual Data Evaluation Report (DER) will be prepared annually for Maybe Creek to summarize the annual surface water and groundwater monitoring events, present sampling results, and include concentration trends with time. A PRSC Plan Addendum will also be submitted to propose changes to the inspection procedures including: decreases in inspection frequencies based on achieving criteria, increases in inspections frequencies based on change of conditions observed in the previous year, and changes in inspection personnel.

A new open channel spring formed east of the headwall structure following construction of the CVF cover system in late 2016. When the spring initially developed, the flow resulted in erosion of native material adjacent to the capped CVF. Eroded material was contained within the settling ponds downgradient of the CVF. The channel was armored with rock in the summer to prevent further erosion. Based on sample results, the water is believed to originate from the chert blanket beneath the CVF (Arcadis 2018).

In 2018, concentrated flows resulting from snow and ice backup resulted in runoff overtopping several benches. These areas of concentrated flow created several large gullies through the cap and cover down to the liner and required repair (the liner was not damaged). Due to the recent completion of the CVF construction, vegetation had not fully established by 2018, likely worsening the erosion that had occurred. Eroded material was contained on the slope and the settling ponds downgradient of the CVF. The gullies were repaired to as-built conditions and reseeded. Benches and slopes were armored with straw wattles, bonded fiber matrix mulch, and temporary erosion control matting to prevent significant erosion in case of overtopping in future years. Snow plowing of the benches was conducted in subsequent years to prevent snow and ice backup in the future (Arcadis 2019).

In September 2018, inadvertent sheep grazing occurred in the South Borrow Area. Although the flock was immediately relocated, damage had occurred, including trampling of vegetation and removal of the grass/vegetative cover (Arcadis 2019). The South Borrow Area reached the target vegetation standard of 70% set in the approved PRSC Plan in 2020 (Arcadis 2021).

In 2018, volunteer sagebrush was observed on the top deck and north slope of CVF. A Sagebrush Colonization Technical Evaluation was submitted in August 2019 stating woody shrubs such as sagebrush are not anticipated to compromise cap integrity (Arcadis 2020). An evaluation of sage brush rooting depth on and off the cover system conducted in spring 2020 found that sagebrush roots were not affecting liner integrity at CVF (Arcadis 2021). Agencies decided not to remove sagebrush from the CVF based on the data provided.

III. PROGRESS SINCE THE LAST REVIEW

Not applicable. No prior FYR have been conducted at SMCM CVF.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

A public notice was made available by a newspaper posting in the Idaho State Journal (Pocatello) and the Caribou County Sun (Soda Springs) on 6/1/2022 and 6/2/2022 respectively, stating that there was a five-year review and inviting the public to submit any comments to the Forest Service. To date, the Forest Service has not received any comments.

During the FYR process, written interviews were conducted to document any perceived problems or successes with the Removal Action implemented to date. Written interview questions were sent to NuWest, Soda Springs District Ranger, Idaho State Department of Environmental Quality, and Shoshone-Bannock Tribes representatives. Three written interview responses were received by the Forest Service. The results of these interviews are summarized below:

- Overall, interviewees felt well informed regarding CVF activities and the removal action reductions in surface water and groundwater contamination exceeded expectations.
- Interviewees noted some minor recreational use damages that were repaired during annual maintenance activities.
- One interviewee recommended removal of the project signage as it has limited current use and suggested improvements to the drainage system to better accommodate spring snow-melt flows.

The results of the review and the report will be made available at the Site information repository located at the Soda Springs Ranger District office, located at 410 E. Hooper Ave., Soda Springs, ID 83276. The results of this report will be available on the Caribou-Targhee National Forest’s website.

In July 2019, EPA approved the acute and chronic Aquatic Life Criterion for selenium change for surface water found in IDAPA 58.01.02.287.01. This change consists of the following tissue and water column elements for ascertaining Clean Water Act compliance for selenium:

Table 3: IDEQ Site-Specific Selenium Criteria for Aquatic Life (Subsection of Blackfoot Subbasin)

Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)		Water Column (ug/L)
Egg-Ovary ¹	Whole Body ²	Muscle ²	Water Lotic ^{3, 4, 5}
24.5	12.5	12.8	11.9

1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.

2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size)

of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole-body or muscle data to determine compliance with this criterion element.

3. Water column values are derived using the empirical BAF method. For comparative purposes only, the example value displayed in this table represents the lotic water column value for Sheep Creek based on the average BAF for Cutthroat Trout among all sampling locations and years.

4. Lotic Water Column Equation= $\text{Tissue}_{\text{criterion}}/\text{BAF}$

where Tissue criterion is the fish tissue element (whole-body), and BAF is the bioaccumulation factor derived by dividing site-specific field-collected samples of fish tissue (whole-body) by site-specific field-collected samples of water.

5. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In fishless waters, surface water from the fishless waters and fish tissue from the nearest downstream waters are used for bioaccumulation modeling. Fish tissue supersedes any site-specific water column values when fish are sampled downstream of fishless waters.

In May 2022, Idaho Department of Environmental Quality (IDEQ) released for public comment the *Implementation Guidance for the Idaho Selenium Criteria for Aquatic Life* (IDEQ 2022). The guidance document details sampling and monitoring requirements to implement the new selenium criterion. The new selenium criterion will be implemented at SMCM CVF when the guidance document is finalized.

Data Review

The Forest Service reviewed recent surface water and groundwater monitoring reports for the SMCM CVF. The review primarily focused on the annual Data Evaluation Reports and Post Removal Site Control Reports from 2016 through 2022. The surface water and groundwater sampling procedures appear to be consistent with approved work plans.

Historically, total selenium has been the primary COPC associated with mining-related impacts at the Site. Therefore, selenium will be used in contaminant discussions to represent other metals present at the CVF.

Surface Water

Surface water sampling locations relative to SMCM CVF are shown in Appendix B Figure 3-2. Total selenium concentrations are compared to the US EPA Tapwater Regional Screening Level (RSL) of 0.01 milligram per liter. Maybe Creek selenium loads and COPC concentrations are summarized in Appendix E Tables 5-4 and 5-3 respectively. For each monitoring location, the total decrease in total selenium concentration from 2016 to 2021 is calculated by subtracting the most recent concentration from the 2016 concentration. The following observations were made relative to total selenium concentrations (Arcadis 2022):

- Consistent with the results of previous years, total selenium concentrations exceed the surface water screening level at all surface water monitoring locations, except monitoring locations SW-1 and North Fork, which are located upstream of the CVF and upstream of the confluence with Maybe Creek respectively.
- Total selenium concentrations in Maybe Creek near the toe of the CVF (SW-2R) continued to decrease following construction of the CVF cover system during high-flow conditions. The selenium load in 2021 (0.34 pound per day [lb/day]) was 59 percent less than the 2020 selenium

load (0.81 lb/day) (Arcadis 2022) and 99 percent less than the 2016 preconstruction selenium load (22.5 lb/day) (Arcadis 2017).

- Between 2016 and 2021, total selenium concentrations at SW-2R decreased 98 percent during high-flow conditions and 86 percent during low-flow conditions, as shown in Table 4 below.

Monitoring Location	Monitoring Event	Total Selenium Concentration (mg/L)						Total Decrease	
		2016	2017	2018	2019	2020	2021	mg/L	% Decrease
SW-2R	High Flow	2.130	0.127	0.213	0.101	0.062	0.034	2.100	98%
	Low Flow	1.200	0.290	0.263	0.168	0.138	0.165	1.040	86%
SW-13	High Flow	1.580	0.081	0.102	0.141	0.055	0.069	1.510	96%
	Low Flow	0.760	0.189	0.172	0.108	0.089	0.102	0.658	87%
SW-14	High Flow	1.370	0.089	0.100	0.148	0.071	0.075	1.290	95%
	Low Flow	0.727	0.184	0.162	0.101	0.084	0.949	0.632	87%
SW-5	High Flow	1.400	0.087	0.094	0.133	0.070	0.060	1.340	96%
	Low Flow	0.717	0.189	0.158	0.097	0.081	0.073	0.644	90%

Table 4: Total Selenium Concentrations in Maybe Creek Downstream of CVF (2016 to 2021)

- At the CVF spring locations (BS-1R and CD-1R; North Spring R was dry), selenium concentrations at BS-1R were similar during 2021 as in previous years, and concentrations were less than concentrations in 2016, as shown in Table 5 below.

Monitoring Location	Monitoring Event	Total Selenium Concentration (mg/L)						Total Decrease	
		2016	2017	2018	2019	2020	2021	mg/L	% Decrease
BS-1R	High Flow	1.480	0.081	0.078	0.065	0.053	0.046	1.430	97%
	Low Flow	0.165	0.073	0.045	0.038	0.036	0.041	0.124	75%
N Spring R	High Flow	1.770	0.218	0.184	0.296	0.295	--	1.480	83%
	Low Flow	0.581	0.429	0.343	0.356	--	--	0.225	39%
CD-1R	High Flow	2.530	0.100	0.116	0.182	0.063	0.105	2.430	96%
	Low Flow	1.800	0.494	0.538	0.322	0.263	0.342	1.460	81%

Table 5: Total Selenium Concentrations at Spring Locations at the Toe of CVF (2016 to 2021)

- Total selenium concentrations at Maybe Creek spring locations SP-3, located near SW-2R, continued to decrease during high-flow and low-flow conditions compared to previous years.

Monitoring Location	Monitoring Event	Total Selenium Concentration (mg/L)						Total Decrease	
		2016	2017	2018	2019	2020	2021	mg/L	% Decrease
SP-3	High Flow	1.380	0.158	0.127	0.106	0.086	0.065	1.320	95%
	Low Flow	0.390	0.063	0.050	0.031	0.027	0.026	0.364	93%
SP-9	High Flow	0.024	0.006	0.012	0.012	0.005	0.029	0.005	19%
	Low Flow	0.088	0.010	0.026	0.016	0.010	0.038	0.050	56%

Table 6: Total Selenium Concentrations at Spring Locations Near Mabye Creek (2016 to 2021)

The following observations were made relative to other COPCs (non-selenium) concentrations (Appendix E Table 5-3):

- In 2021, concentrations of select COPCs (arsenic, cadmium, chromium, and vanadium) behaved similar to selenium concentrations. During high-flow conditions, concentrations generally decreased compared to previous years;
- In 2021, concentrations of the following COPCs exceeded the Human Health Screening Level (HHSL) and/or Ecological Screening Level (ESL) at one or more surface water monitoring locations: total aluminum, total arsenic, total barium, total boron, total and dissolved cadmium, total iron, total manganese, total thallium, total uranium, total vanadium, alkalinity, and nitrate/nitrite.
 - In 2021, concentrations of total arsenic, total barium, and total boron exceeded the HHSL and/or ESL at all surface water monitoring locations. Concentrations of these three COPCs have exceeded the HHSL and/or ESL at all or most surface water monitoring locations since 2013.

Groundwater

Groundwater sampling locations relative to SMCM CVF are shown in Appendix B Figure 3-2. Groundwater COPC concentrations are summarized in Appendix E Table 5-9. Total selenium concentrations in groundwater were compared to the HHSL of 0.05 milligrams per litre (mg/L) based on the US EPA Maximum Contaminant Level (MCL). For each monitoring well, the total decrease in total selenium concentration from 2016 to 2021 is calculated by subtracting the most recent concentration from the 2016 concentration. The following observations were made relative to total selenium concentrations (Arcadis 2022):

- Total selenium concentrations exceeded the groundwater screening level at all alluvial monitoring wells, except monitoring wells PZ-1 and MC-8, which are located upgradient of the CVF and upgradient of the confluence of Maybe Creek and North Fork, respectively.
- At monitoring well MC-1, which is located near and downgradient of the toe of the CVF North Slope, total selenium concentrations in 2021 were higher than concentrations observed in 2019 and 2020, but were lower than concentrations observed from 2016 through 2018, as shown in Table 7 below.

- Total selenium concentrations at this location behave similar to those at surface water monitoring location SW-2R because of the strong surface water-groundwater connection near the CVF toe.
- Between 2016 and 2021, total selenium concentrations at monitoring well MC-1 decreased 95 percent during high-flow conditions and 80 percent during low-flow conditions, as shown in Table 7 below.

Monitoring Well	Monitoring Event	Total Selenium Concentration (mg/L)						Total Decrease	
		2016	2017	2018	2019	2020	2021	mg/L	% Decrease
MC-1	High Flow	2.110	0.202	0.141	0.106	0.086	0.112	2.000	95%
	Low Flow	1.060	0.335	0.308	0.178	0.142	0.211	0.850	80%

Table 7: Total Selenium Concentrations Downgradient of the CVF Toe (2016 to 2021)

- Farther downgradient from the CVF toe, total selenium concentrations in alluvial groundwater monitored at wells MC-13 and MC-11 generally continued to decrease in 2021 compared to previous years, as shown in Table 8 below.

Monitoring Location	Monitoring Event	Total Selenium Concentration (mg/L)						Total Decrease	
		2016	2017	2018	2019	2020	2021	mg/L	% Decrease
MC-13	High Flow	1.600	0.343	0.229	0.219	0.125	0.137	1.460	91%
	Low Flow	0.954	0.205	0.162	0.105	0.088	0.088	0.867	91%
MC-11	High Flow	1.130	0.637	0.348	0.246	0.173	0.125	1.010	89%
	Low Flow	1.030	0.492	0.286	0.203	0.157	0.139	0.891	87%

Table 8: Total Selenium Concentrations at Wells MC-13 and MC-11 (2016 to 2021)

- Approximately 9,500 feet and 12,800 feet downgradient fo the CVF toe, total selenium concentrations in alluvial groundwater monitored at wells DV-2 and DV-3, respectively, continued to decrease in 2021 compared to previous years, as shown in Table 9 below.

Monitoring Location	Monitoring Event	Total Selenium Concentration (mg/L)						Total Decrease	
		2016	2017	2018	2019	2020	2021	mg/L	% Decrease
DV-2	High Flow	1.020	0.771	0.602	0.434	0.411	0.162	0.858	84%
	Low Flow	0.950	0.381	0.492	0.375	0.284	--	0.666	70%
DV-3	High Flow	0.414	0.272	0.253	0.202	0.195	0.193	0.221	53%
	Low Flow	1.900	0.245	0.319	0.371	0.285	0.250	1.650	87%

Table 9: Total Selenium Concentrations at Wells DV-2 and DV-3 (2016 to 2021)

The following observations were made relative to other COPC (non-selenium) concentrations (Appendix E Table 5-9):

- Concentrations of select COPCs (arsenic, cadmium, chromium, and vanadium) in 2021 were similar to concentrations observed in previous years.

- Downgradient of the CVF, concentrations of total arsenic, total manganese, total uranium, and nitrate/nitrite exceeded the respective HHSs in one or more monitoring wells.

Site Inspection

The inspection of the Site was conducted on 6/28/2022 (Appendix C). In attendance were Brian Deeken (USFS OSC), Stan Christensen (IDEQ), Nick Nielson (IDEQ), Ben Latham (Arcadis), Gastone Leone (Arcadis), James Williams (NuWest), Jon Bronson (NuWest), and Anjali MacDonald (NuWest). The purpose of the inspection was to assess the protectiveness of the Removal Action.

The surface water drainage features (underdrains, check dams, outfalls, flume, and piping) were all functioning as designed. The north spring outfall was not flowing. However, the new spring east of the headwall structure was observed to still be flowing. Bench armoring and snow removal had reduced most of the erosion on the north slope of CVF. Fencing was observed to be in good condition along the public access road over the top deck of CVF. Vegetation growing on CVF and the borrow areas were green and healthy. It was observed that the check dam improvements on the CVF top deck were functioning as intended to slow water velocity and reduce erosion to the north slope down chute.

It was noted during the inspection that the sign on the top deck of the CVF was deteriorated from weather and sun damage. The sign contained information regarding construction of the Removal Action and was no longer needed.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the Removal Action functioning as intended by the decision documents?

Question A Summary:

Yes, the Interim Removal Action is functioning as intended. The engineered cap and cover system with drainage structures installed as part of the Removal action are performing as intended. The cap and cover system has reduced selenium concentrations in Maybe Creek by as much as 98 percent. Although residual selenium concentrations exceed surface water screening levels, the RAOs continue to be met minimize infiltration to reduce selenium loading, prevent exposure to hazardous substances in CVF, and isolate runoff to reduce flow within the fill). Cleanup levels are anticipated to be met in the future.

Annual PRSC inspections ensure the Interim Removal action is maintained and functioning properly.

Grazing allotment restrictions are in place to protect the Removal Action and allottees are informed of grazing restrictions each year. One grazing infraction occurred on a borrow area adjacent to CVF; however no damage to CVF occurred. Site inspections confirm that grazing is not occurring on CVF. Access controls, such as fencing, signage, and gates are in place and continue to be monitored by NuWest.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and removal action objectives (RAOs) used at the time of the Removal Action selection still valid?

Question B Summary:

Yes, the RAOs are still valid. RAOs are being met in the following ways:

- The selenium loading to Maybe Creek has been reduced by as much as 99% since the Removal Action was constructed.
- The new cap and cover system prevents exposure of human and ecological receptors to hazardous substances in vegetation in the CVF.
- The cap and cover system with its associated drainage systems isolates and captures precipitation runoff from the CVF to reduce flow from within the fill. This is evident at the the spring, with the 95-98% reduction in concentrations in surface water and groundwater at the toe of CVF.

Although selenium concentrations are significantly reduced, selenium and other COPCs continue to exceed HHSL and ESL in surface water and groundwater.

While there have been changes in Idaho Selenium Criterion for Aquatic Life since the 2012 Action Memorandum was signed, these changes do not affect the protectiveness of the Removal Action because the effectiveness of the remedy is measured against RAOs; sampling of surface water and groundwater have shown a 95-98 percent reduction in contaminants.

QUESTION C: Has any **other** information come to light that could call into question the protectiveness of the Removal Action?

No. One significant maintenance issue was encountered from overtopping of benches due to snowmelt, rilling, and slow vegetation growth, which caused significant erosion. However, this issue was corrected during annual PRSC activities. Annual snow removal on the benches has prevented overtopping of benches due to snowmelt to present. A work plan to armor the benches will be submitted to armor benches and remove the need for annual snow removal in the future.

VI. ISSUES/RECOMMENDATIONS

Table 10: Issues/Recommendations

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
<i>none</i>

OTHER FINDINGS

In addition, the following are recommendations identified during the FYR that may improve performance of the Removal Action and reduce costs, but do not affect current and/or future protectiveness:

- It was noted during the site inspection that the sediment ponds do not receive much use as there is very little erosion coming from SMCM CVF. Therefore, removal of the sediment pond(s) will be proposed in the future.

- It was noted during the site inspection that one of the signs was degraded by sun damage. Signs at CVF were for informational purposes only. Therefore, degraded signs may be removed as they are no longer needed and not connected to an IC.
- Annual snow removal on the benches was conducted to prevent overtopping of benches due to snow melt each spring. A Bench Armoring Work Plan will be submitted as a more permanent solution to the overtopping issue, removing the need for annual snow removal along the benches.

VII. PROTECTIVENESS STATEMENT

Table 11: Protectiveness Statement

Protectiveness Statement(s)	
<i>Operable Unit:</i> CVF	<i>Protectiveness Determination:</i> Short-term Protective
<p><i>Protectiveness Statement:</i> The Removal Action at the CVF currently protects human health and the environment because it meets RAOs for surface water and groundwater by reducing contamination by as much as 95-98%. Further, the Removal Action at CVF prevents human and ecological exposure to contaminated surface soils and vegetation. Although RAOs are being met at the SMCM CVF, monitoring data shows surface water and groundwater quality standards are not being met. In order for the Removal Action to be protective in the long-term, the following follow-up actions need to be taken: Complete the RI/FS investigation at Maybe Creek and select a remedy that protects human and ecological receptors from remaining surface water and groundwater risks from the CVF.</p>	

VIII. NEXT REVIEW

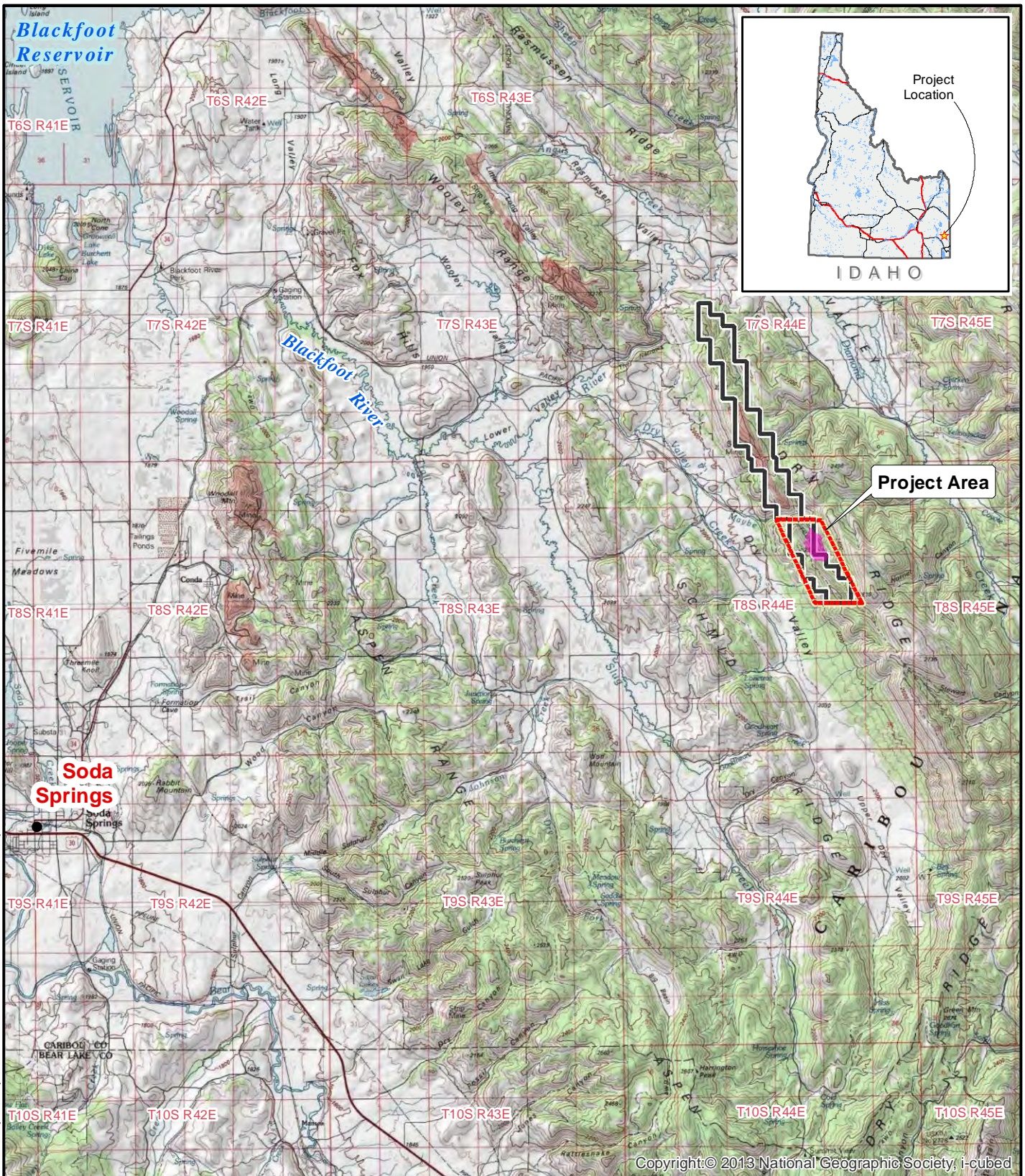
The next anticipated five-year review report for the SMCM CVF Site will be part of the five year review of the SMCM site-wide remedy.

APPENDIX A – REFERENCE LIST

- Arcadis, 2017. *Final 2016 Data Evaluation Report*, South Maybe Canyon Mine, Maybe Creek. Prepared for NuWest Industries, Inc. October 2017.
- Arcadis, 2018. *Final 2017 Data Evaluation Report*, South Maybe Canyon Mine, Maybe Creek. Prepared for NuWest Industries, Inc. May 2018.
- Arcadis, 2018a. *Final Removal Action Report*, South Maybe Canyon Mine, Cross Valley Fill. Prepared for NuWest Industries, Inc. November 2018.
- Arcadis, 2018b. *Final Post-Removal Site Control Plan*, South Maybe Canyon Mine, Cross Valley Fill. Prepared for NuWest Industries, Inc. November 2018.
- Arcadis, 2019. *Final 2018 Annual Post-Removal Site Control Report*, South Maybe Canyon Mine, Cross Valley Fill. Prepared for NuWest Industries, Inc. July 2019.
- Arcadis, 2019a. *Final 2018 Data Evaluation Report*, South Maybe Canyon Mine, Maybe Creek. Prepared for NuWest Industries, Inc. May 2019.
- Arcadis, 2020. *Final 2019 Annual Post-Removal Site Control Report*, South Maybe Canyon Mine, Cross Valley Fill. Prepared for NuWest Industries, Inc. May 2020.
- Arcadis, 2020a. *Final 2019 Data Evaluation Report*, South Maybe Canyon Mine, Maybe Creek. Prepared for NuWest Industries, Inc. June 2020.
- Arcadis, 2021. *Final 2020 Annual Post-Removal Site Control Report*, South Maybe Canyon Mine, Cross Valley Fill. Prepared for NuWest Industries, Inc. March 2021.
- Arcadis, 2021a. *Final 2020 Data Evaluation Report*, South Maybe Canyon Mine, Maybe Creek. Prepared for NuWest Industries, Inc. April 2021.
- Arcadis, 2022. *Final 2021 Data Evaluation Report*, South Maybe Canyon Mine, Maybe Creek. Prepared for NuWest Industries, Inc. June 2022.
- IDEQ, 2022. *Implementation Guidance for the Idaho Selenium Criteria for Aquatic Life*. State of Idaho Department of Environmental Quality. May 2022.
- Millenium Science & Engineering, Inc. (MSE), 2011. *Engineering Evaluation/Cost Analysis*, South Maybe Canyon Mine, Cross Valley Fill. Prepared for the USFS. February 2011.
- United States Forest Service (USFS), 2012. *Action Memorandum*, South Maybe Canyon Mine, Cross Valley Fill. January 2012.




APPENDIX B – FIGURES

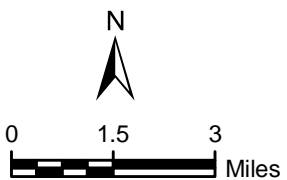
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LEGEND

-  PROJECT AREA
-  CROSS VALLEY FILL
-  MAYBE CANYON EXPLORATION ON-LEASE (I-04)



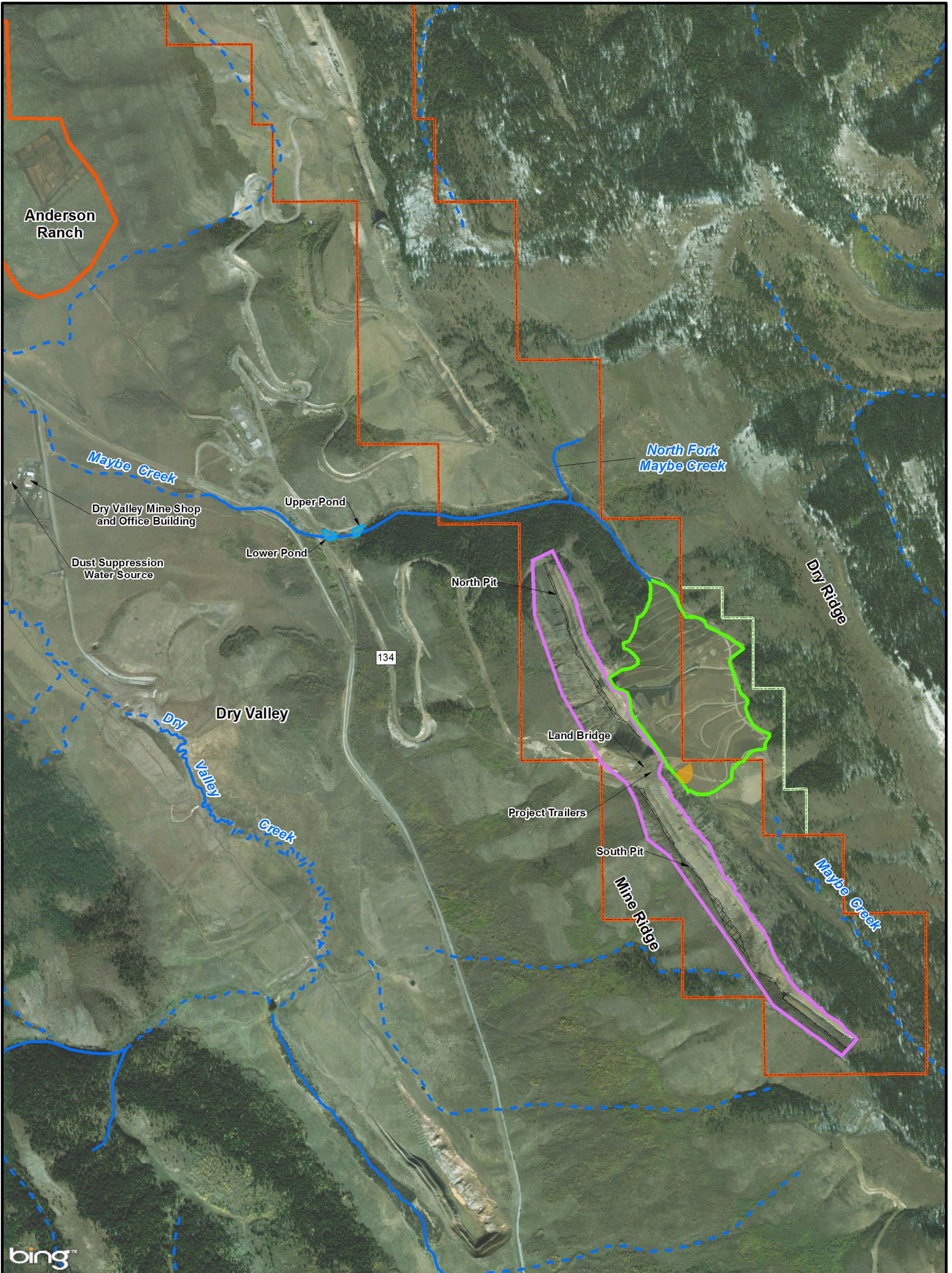
Projection: North America Datum 1983,
 State Plane, Idaho East Zone
 Source: USGS 1:250,000 Scale DRG -
 Preston (1978), Idaho

NU-WEST INDUSTRIES, INC./NU-WEST MINING, INC.
 SOUTH MAYBE CANYON MINE SITE, CROSS VALLEY FILL
 CARIBOU COUNTY, IDAHO
REMOVAL ACTION REPORT

PROJECT LOCATION

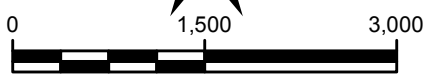


FIGURE
1



LEGEND

- PERENNIAL STREAM/RIVER
- - - INTERMITTENT STREAM/RIVER
- LEASES
- SPECIAL USE PERMIT AREA
- ANDERSON RANCH BORROW AREA
- CROSS VALLEY FILL CONSTRUCTION AREA
- LARGE DEPRESSION
- SOUTH MAYBE PIT LOCATION
- PIT FLOOR
- SETTLING POND
- U.S. FOREST SERVICE ROAD 134



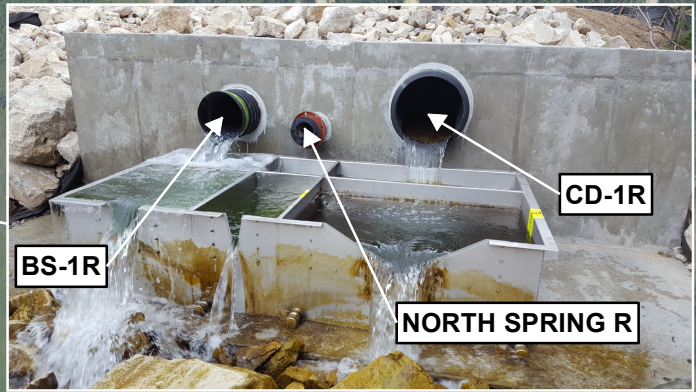
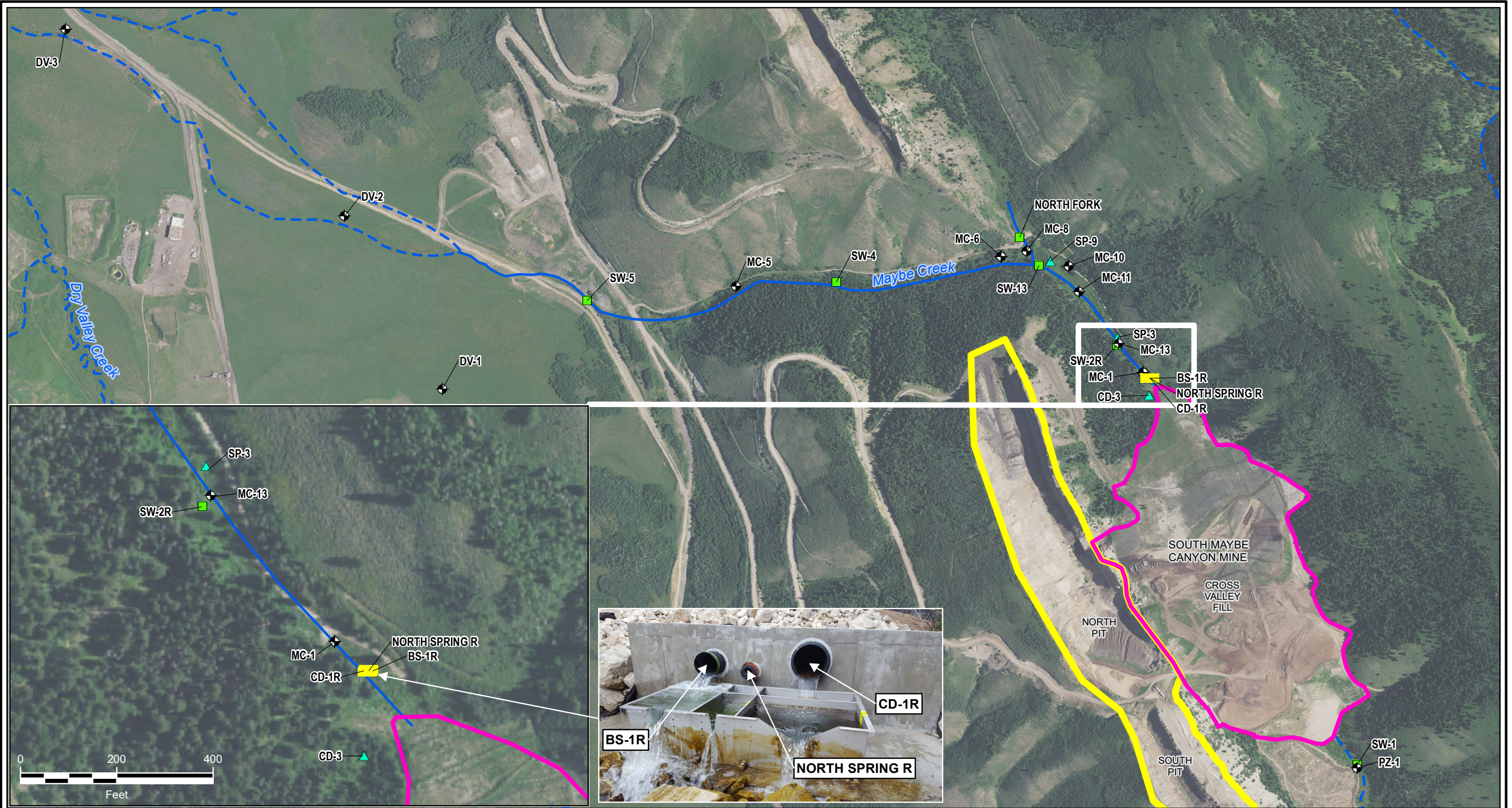
Projection: North America Datum 1983,
 State Plane, Idaho East Zone
 Service Layer Credits: © 2017 DigitalGlobe © CNES
 (2017) Distribution Airbus DS © 2017 Microsoft

NU-WEST INDUSTRIES, INC./NU-WEST MINING, INC.
 SOUTH MAYBE CANYON MINE SITE, CROSS VALLEY FILL
 CARIBOU COUNTY, IDAHO
REMOVAL ACTION REPORT

SITE LAYOUT MAP



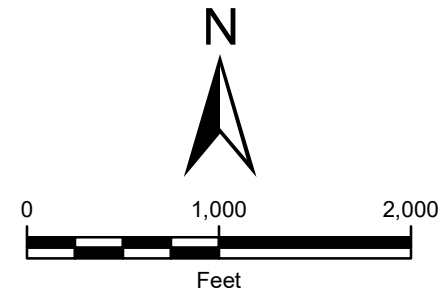
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LEGEND

- ▲ SPRING/SEEP
- STREAM
- ⊕ MONITORING WELL
- CROSS VALLEY FILL
- SOUTH MAYBE CANYON MINE PIT LOCATION
- HEADWALL OUTFALL PIPES
- PERENNIAL STREAM
- INTERMITTENT STREAM

Projection: North America Datum 1983,
 State Plane, Idaho East Zone
 Source: 2015 NAIP Imagery



NU-WEST INDUSTRIES, INC./NU-WEST MINING, INC.
 SOUTH MAYBE CANYON MINE, MAYBE CREEK
 CARIBOU COUNTY, IDAHO
 2021 DATA EVALUATION REPORT

**SURFACE WATER AND GROUNDWATER
 MONITORING LOCATIONS**

**FIGURE
3-2**

APPENDIX C – SITE INSPECTION & PHOTOS

South Maybe Canyon Mine (SMCM) Cross Valley Fill (CVF)
Five Year Inspection, June 28, 2022
Field Notes to File

Brian Deeken
USFS Remedial Project Manager

I arrived at the mouth of Maybe Creek at approximately 8:50 am and began the inspection with introductions, safety brief, and an overview of the 5-Year Inspection for SMCM CVF. The weather was warm, clear, and partly cloudy.

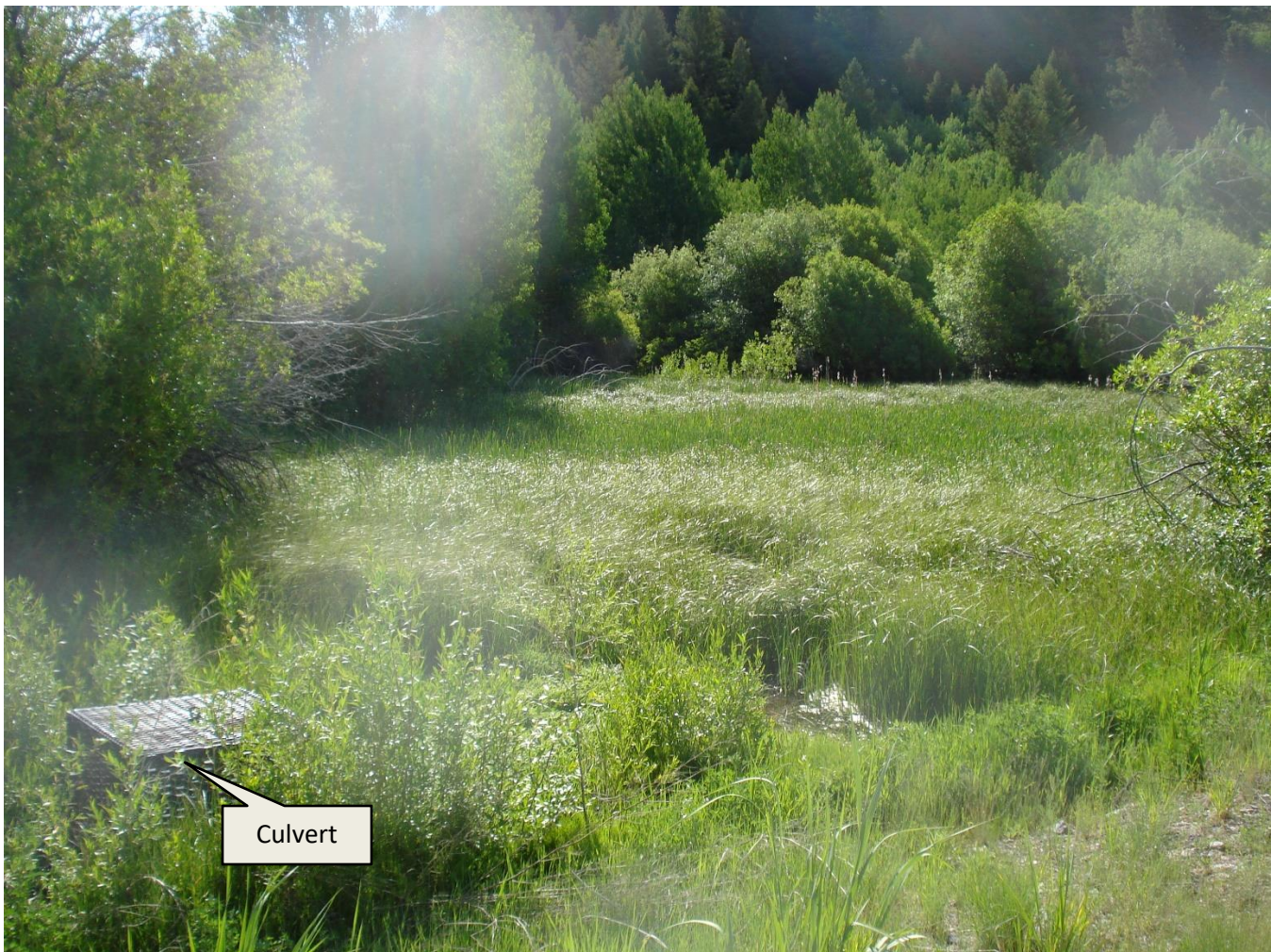
The inspection was completed over a series of six stops to observe conditions at various features associated with the 5-Year Review of the SMCM CVF Removal Action.

The 5-Year Inspection for the SMCM CVF was attended by the following individuals other than myself:

James Williams – NuWest
Jon Bronson – NuWest
Anjali MacDonald – NuWest
Ben Latham – Arcadis

Gastone Leone – Arcadis
Nick Nielson – IDEQ
Stan Christensen - IDEQ

We then began the inspection at the sediment ponds used for the SMCM CVF at the mouth of Maybe Canyon.



Picture 1 (facing southeast): Sediment pond 2 with grasses, cattails, and clear shallow water. Culvert that routs water under the road is in the bottom left portion of the picture.

Jon Bronson stated that the sediment ponds do not receive much use as there is very little erosion coming from SMCM CVF. Removal of the sediment pond(s) will be proposed in the future.



Picture 2 (facing North): Reclaimed sediment stockpile from Sediment Pond 1. Sediment was removed from Sediment Pond 1 to create more capacity. Removal of the sediment stockpile will occur when the sediment pond(s) are removed.



Picture 3 (facing South): Sediment Pond 1 with clear water, insects and some algae. Very little erosion is observed as evidenced by the clear water. Removal of the sediment pond(s) will be proposed in the future.

We then moved to stop 1.

Stop 1 (9:34 am)

The first stop was located at the toe of SMCM CVF. Ben Latham discussed selenium surface water trends at SW-2R and groundwater trends at MC-13. Selenium in general has obtained an approximately 95-98% reduction in both surface water and groundwater. Selenium was noted that it is still trending downward each year. More reductions in surface water and groundwater may occur in future years.



Picture 4 (facing southeast): Toe of SMCM CVF pointed up the face of the revegetated cap and cover.



Picture 5 (facing southeast): Down-chute of the SMCM CVF that routes water from the top deck and toe of the dump down and into Maybe Creek just below the outfall. It was noted that the down-chute was damaged last year from water leaving the top deck too quickly moving some of the rip rap out down the chute. Repairs to the down-chute were successful and future potential damage will be mitigated by check dam improvements made in 2021.



Picture 6: Picture of the outfall for SMCM CVF. The outfall routes water from Maybe Creek that flows under the CVF, the boxed spring, and the north spring (not flowing).



Picture 7 (facing South): Picture of new spring that is still flowing.



Picture 8 (facing northwest): Picture of replacement flume to gauge water flow and sample location SW-2R. Rip-Rap armoring and rechannelization of Maybe Creek reduces the chances of clogging and erosion around the flume.

We then moved to stop 2.

Stop 2 (10:27am)

The second stop was located midway up the north slope of the CVF where the benches could be observed. Vegetation was observed growing up through protective mats. Minimal erosion was observed with no significant erosion.



Picture 9 (facing southeast): Picture of the upper north slope of SMCM CVF with vegetation growing.



Picture 10 (facing East): Benches 4 & 5 with vegetation growing up through protective mats. White poles were for snow plowing in the spring to prevent significant erosion.



Picture 11 (facing Northwest): Picture of bench 6 outfall into down-chute.



Picture 12 (facing southwest): Picture of bench 6 with minimal erosion and vegetation growing up through protective mats.

Jon Bronson noted that there may be a proposal to place rock armoring and French drains in each of the benches to encourage drainage during the spring snowmelt and reduce future needs for snow plowing.

We then moved to stop three.

Stop 3 (11:10am)

Stop three was located at an overlook of the SMCM CVF where project trailers were located during construction of the SMCM CVF. It was noted that the sign on the top deck was deteriorated by the weather and

sun damage. The sign contained information regarding construction of the Removal Action and was no longer needed. It was decided that the sign could be removed as it was no longer needed and it was not connected to an Institutional Control.



Picture 13 (facing East): Picture of the top deck of SMCM CVF with armored drainage features and check dams in the background. Vegetation was observed to be growing across the top deck of CVF. Fencing was observed to be in good condition along the roads.



Picture 14 (facing northwest): Picture of the reclaimed West Hillside borrow area. Soil and rock storage piles are in the foreground for maintenance needs.

We then moved to stop 4.

Stop 4 (11:21am)

Stop 4 included the south slope of SMCM CVF and the southern borrow area for cover material at SMCM CVF. Vegetation was growing well. Some minor slumping was observed, but these areas are stable as of the inspection.



Picture 15 (facing south): Picture of vegetation on the south borrow area. Slash from former trees was spread out to prevent erosion after reclamation of the borrow area.



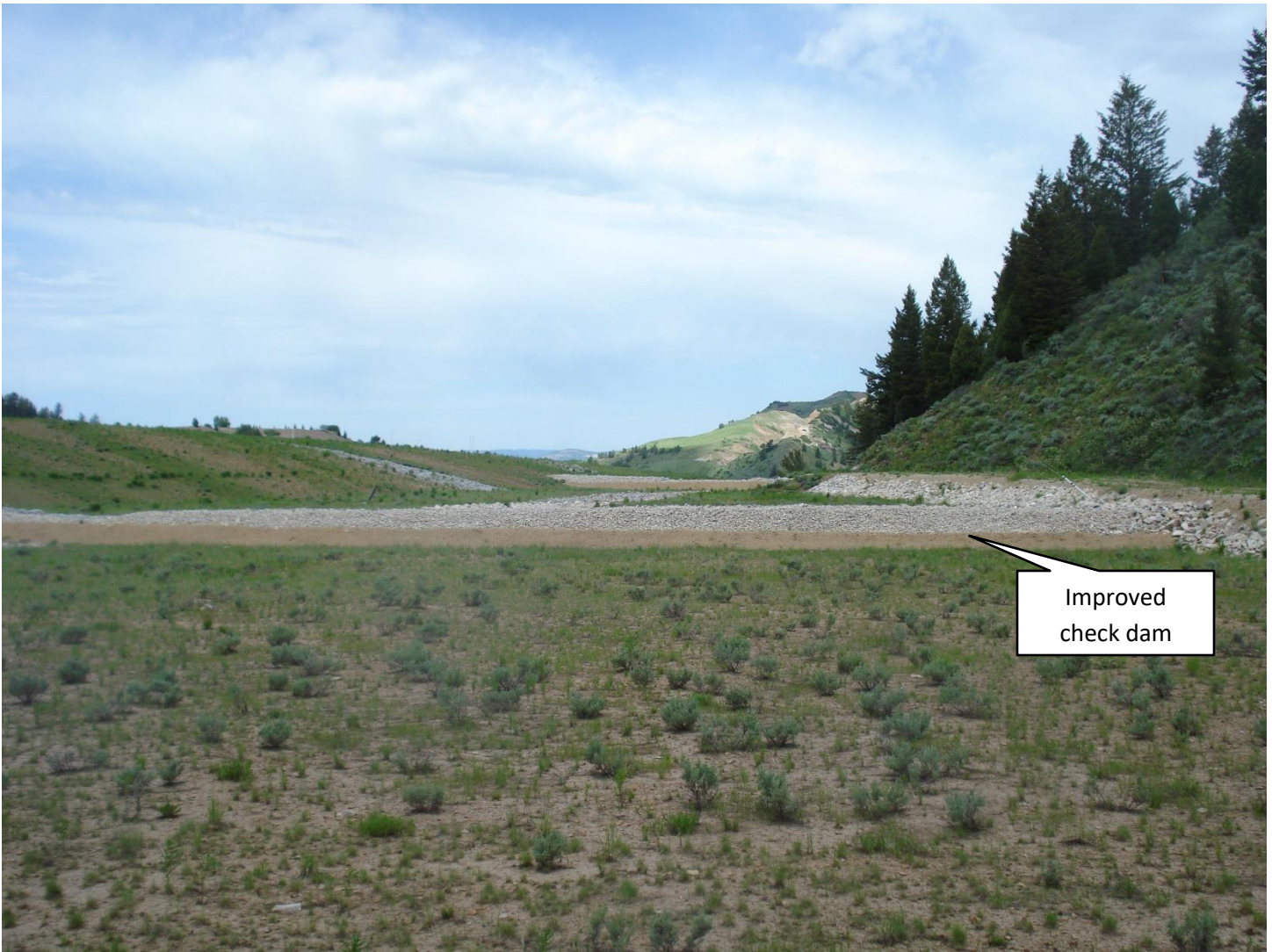
Picture 16 (facing northwest): Picture of the base of the southern borrow area with the south slope of SMCM CVF in the background. Some water ponding was observed at the base of the borrow area with cattails growing.

We then move to stop 5 with some light rain.

Stop 5 (11:36am)



Picture 17 (facing southeast): Picture of the top deck of SMCM CVF with vegetation growing and drainage features. Various grasses were observed with some sagebrush growing.



Picture 18 (facing northwest): Picture of improved check dam. The check dams were improved with a geotextile fabric covered with soil/rock to slow water movement through the check dams. This reduced water moving through the down chute at one time reducing maintenance.

We then moved to stop 6.

Stop 6 (12:08pm):

Stop 6 included the Anderson Ranch borrow area with its reclamation.



Picture 19 (facing north): Picture of the Anderson Ranch borrow area with vegetation growing. Some sagebrush was observed to grow in the reclaimed area.

We then returned to our starting locations where I concluded the inspection of the SMCM CVF for the 5-Year Review at approximately 12:24pm.

A photolog was created (Figures 1 & 2) to show the locations of the pictures taken during the inspection. Approximate picture locations are denoted by the picture number with the direction of the photo shown with an arrow.

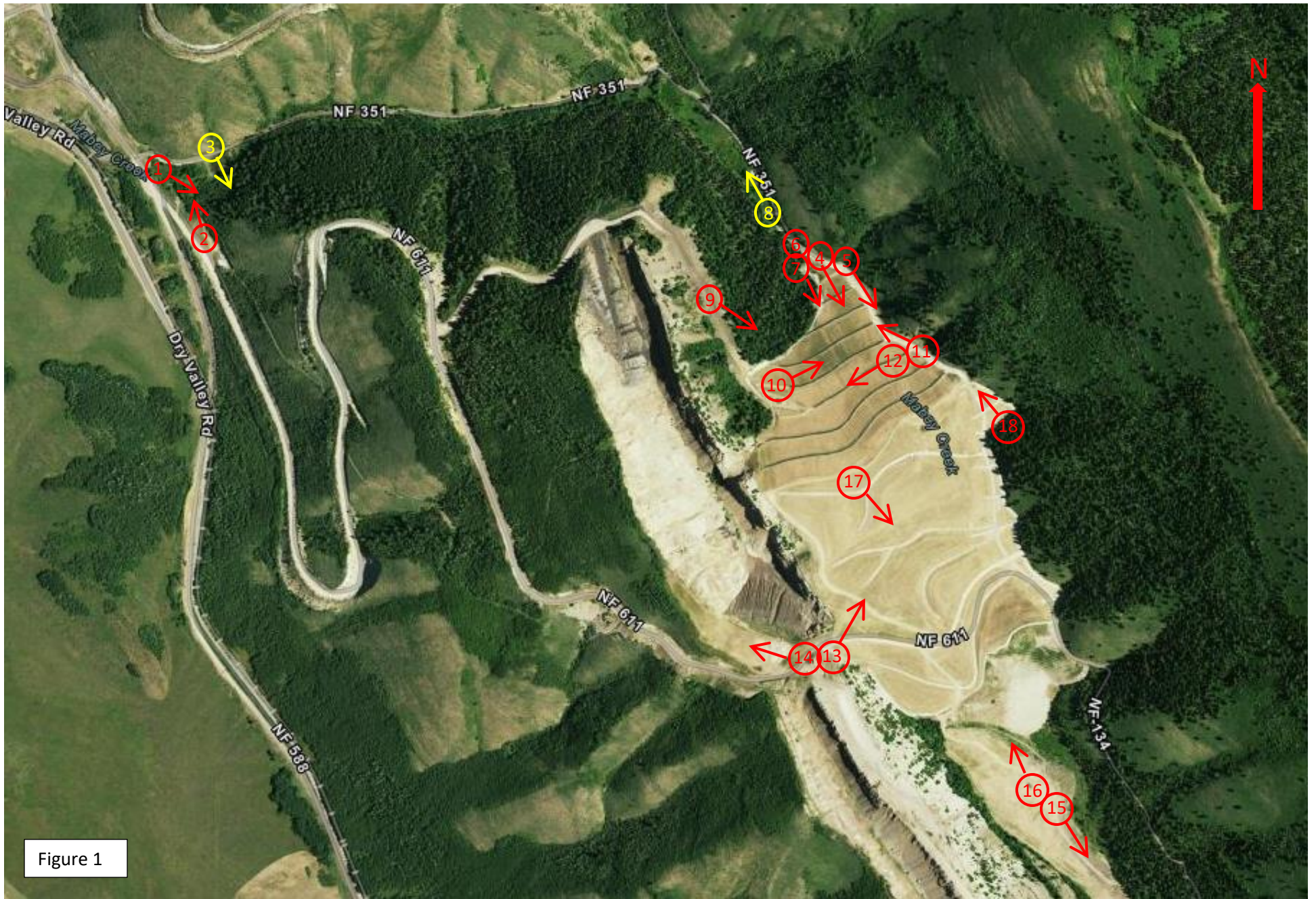




Figure 2

APPENDIX D – SITE INSPECTION CHECKLIST

Five-Year Review Site Inspection Checklist

I. SITE INFORMATION													
Site name: South Maybe Canyon Mine, Cross Valley Fill	Date of inspection: June 28, 2022												
Location and Region: Soda Springs, Idaho Region 4	EPA ID: IDN001002957												
Agency, office, or company leading the five-year review: United States Forest Service	Weather/temperature: Warm & sunny												
Remedy Includes: (Check all that apply) <table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Landfill cover/containment</td> <td><input type="checkbox"/> Monitored natural attenuation</td> </tr> <tr> <td><input checked="" type="checkbox"/> Access controls</td> <td><input type="checkbox"/> Groundwater containment</td> </tr> <tr> <td><input checked="" type="checkbox"/> Institutional controls</td> <td><input type="checkbox"/> Vertical barrier walls</td> </tr> <tr> <td><input type="checkbox"/> Groundwater pump and treatment</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Surface water collection and treatment</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other _____</td> <td></td> </tr> </table>		<input checked="" type="checkbox"/> Landfill cover/containment	<input type="checkbox"/> Monitored natural attenuation	<input checked="" type="checkbox"/> Access controls	<input type="checkbox"/> Groundwater containment	<input checked="" type="checkbox"/> Institutional controls	<input type="checkbox"/> Vertical barrier walls	<input type="checkbox"/> Groundwater pump and treatment		<input type="checkbox"/> Surface water collection and treatment		<input type="checkbox"/> Other _____	
<input checked="" type="checkbox"/> Landfill cover/containment	<input type="checkbox"/> Monitored natural attenuation												
<input checked="" type="checkbox"/> Access controls	<input type="checkbox"/> Groundwater containment												
<input checked="" type="checkbox"/> Institutional controls	<input type="checkbox"/> Vertical barrier walls												
<input type="checkbox"/> Groundwater pump and treatment													
<input type="checkbox"/> Surface water collection and treatment													
<input type="checkbox"/> Other _____													
Attachments: <input type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached													
II. INTERVIEWS (Check all that apply)													
1. O&M site manager <u>Jon Bronson, NuWest</u> <u>Manager, Remediation</u> <u>06/21/2022</u> <div style="display: flex; justify-content: space-between; width: 100%;"> Name Title Date </div> Interviewed <input type="checkbox"/> at site <input checked="" type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____ _____													
2. O&M staff _____ _____ _____ <div style="display: flex; justify-content: space-between; width: 100%;"> Name Title Date </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____ _____													

1.	O&M Documents	<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
		<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
		<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks	_____			
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
	<input type="checkbox"/> Contingency plan/emergency response plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
	Remarks	_____			
3.	O&M and OSHA Training Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
	Remarks	<u>Operators and O&M personnel have 40 hour HAZWOPER training.</u>			
4.	Permits and Service Agreements	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
		<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
		<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
		<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks	<u>Facility operations are in substantive compliance with local requirements.</u>			
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
	Remarks	_____			
6.	Settlement Monument Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
	Remarks	<u>Settlement monitoring was completed on CVF according to the PRSC Plan.</u>			
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
	Remarks	<u>Groundwater monitoring reports are completed annually. 2021 Data Evaluation Report showed up to a 95% decrease in selenium concentrations at the toe of Cross Valley Fill.</u>			
8.	Leachate Extraction Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
	Remarks	_____			
9.	Discharge Compliance Records	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
		<input checked="" type="checkbox"/> Water (effluent)	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks	<u>Surface water monitoring reports are completed annually. 2021 Data Evaluation Report showed up to a 98% reduction in selenium concentrations at the toe of Cross Valley Fill.</u>			
10.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
	Remarks	_____			

C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
	Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Type of monitoring (e.g., self-reporting, drive by)	Self-reporting	
	Frequency	Annually in Data Evaluation Report	
	Responsible party/agency	NuWest Inc.	
	Contact	Jon Bronson	Manager, Remediation
	Name	Title	Date Phone no.
	Reporting is up-to-date	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Reports are verified by the lead agency	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Violations have been reported	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Other problems or suggestions:	<input type="checkbox"/> Report attached	
	<u>Inadvertent sheep grazing on reclaimed borrow area was encountered in past years. The Allottee was contacted and this problem was not encountered in subsequent years.</u>		
2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
	Remarks	_____	

D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
	Remarks	_____	

2.	Land use changes on site	<input checked="" type="checkbox"/> N/A	
	Remarks	_____	

3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	
	Remarks	_____	

VI. GENERAL SITE CONDITIONS			
A. Roads			
		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
	Remarks	_____	

B. Other Site Conditions		
Remarks <u>Groundwater wells, gates, sediment ponds, and fencing are properly maintained.</u>		
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
A. Landfill Surface		
1.	Settlement (Low spots) Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Settlement not evident
2.	Cracks Lengths _____ Widths _____ Depths _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Cracking not evident
3.	Erosion <input checked="" type="checkbox"/> Minor Areal extent _____ Remarks <u>Minor erosion rills evident during inspection, however rills were not active as vegetation was growing in rills. Significant erosional events in past years were addressed during O&M activities.</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident
4.	Holes Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Holes not evident
5.	Vegetative Cover <input checked="" type="checkbox"/> Grass <input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks _____	
6.	Alternative Cover (armored rock, concrete, etc.) <input type="checkbox"/> N/A Remarks <u>Armored drainage channels and check dams were maintained.</u>	
7.	Bulges Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Bulges not evident
8.	Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks _____	<input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Location shown on site map Areal extent _____

9.	Slope Instability	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
Areal extent _____				
Remarks _____				
<hr/>				
B. Benches				
<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A				
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)				
1.	Flows Bypass Bench	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay	
Remarks _____				
<hr/>				
2.	Bench Breached	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay	
Remarks <u>Benches were breached in the past. However, it was repaired to as-built conditions with bench armoring and snow removal to prevent breaching in the future. No significant erosion present during inspection</u>				
<hr/>				
3.	Bench Overtopped	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay	
Remarks <u>Benches were overtopped during bench breach in the past. Benches were repaired to as-built conditions with bench armoring and snow removal to prevent overtopping in the future. No overtopping events have occurred since repairs were made.</u>				
<hr/>				
C. Letdown Channels				
<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A				
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)				
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement	
Areal extent _____ Depth _____				
Remarks _____				
<hr/>				
2.	Material Degradation	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation	
Material type _____ Areal extent _____				
Remarks _____				
<hr/>				
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion	
Areal extent _____ Depth _____				
Remarks <u>Some rip-rap erosion occurred in past years. However, it was repaired to as-built conditions and does not show any further erosional damage.</u>				
<hr/>				
<hr/>				
4.	Undercutting	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting	
Areal extent _____ Depth _____				
Remarks _____				
<hr/>				

5.	Obstructions	Type_____	<input checked="" type="checkbox"/> No obstructions
	<input type="checkbox"/> Location shown on site map	Areal extent_____	
	Size_____		
	Remarks_____		
6.	Excessive Vegetative Growth	Type_____	
	<input checked="" type="checkbox"/> No evidence of excessive growth		
	<input type="checkbox"/> Vegetation in channels does not obstruct flow		
	<input type="checkbox"/> Location shown on site map	Areal extent_____	
	Remarks_____		
D. Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Vents	<input type="checkbox"/> Active <input type="checkbox"/> Passive	
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance
	<input type="checkbox"/> N/A		
	Remarks_____		
2.	Gas Monitoring Probes		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
	Remarks_____		
3.	Monitoring Wells (within surface area of landfill)		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
	Remarks_____		
4.	Leachate Extraction Wells		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
	Remarks_____		
5.	Settlement Monuments	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A
	Remarks_____		

E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____	
2.	Gas Collection Wells, Manifolds and Piping <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____	
3.	Gas Monitoring Facilities (<i>e.g.</i> , gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____	
F. Cover Drainage Layer <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	Outlet Pipes Inspected <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
2.	Outlet Rock Inspected <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
G. Detention/Sedimentation Ponds <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	Siltation Areal extent _____ Depth _____ <input type="checkbox"/> N/A <input type="checkbox"/> Siltation not evident Remarks <u>Sediment ponds are inspected annually. Sediment ponds were cleaned out in 2017 and stockpiled nearby.</u> _____	
2.	Erosion Areal extent _____ Depth _____ <input checked="" type="checkbox"/> Erosion not evident Remarks _____ _____	
3.	Outlet Works <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
4.	Dam <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	

H. Retaining Walls		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident
	Horizontal displacement_____	Vertical displacement_____	
	Rotational displacement_____		
	Remarks_____		
2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
	Remarks_____		
I. Perimeter Ditches/Off-Site Discharge		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Siltation not evident
	Areal extent_____	Depth_____	
	Remarks_____	<u>Surface water drainage is conveyed away from the landfill in ditches along the top deck toward a down chute along the east side of the north slope.</u>	
2.	Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Vegetation does not impede flow		
	Areal extent_____	Type_____	
	Remarks_____		
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
	Areal extent_____	Depth_____	
	Remarks_____		
4.	Discharge Structure	<input checked="" type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks_____		
VIII. VERTICAL BARRIER WALLS		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident
	Areal extent_____	Depth_____	
	Remarks_____		
2.	Performance Monitoring	Type of monitoring_____	
	<input type="checkbox"/> Performance not monitored		
	Frequency_____	<input type="checkbox"/> Evidence of breaching	
	Head differential_____		
	Remarks_____		

IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
A. Groundwater Extraction Wells, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Pumps, Wellhead Plumbing, and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks _____ _____
B. Surface Water Collection Structures, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Collection Structures, Pumps, and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks _____ _____

C. Treatment System		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Treatment Train (Check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters _____ <input type="checkbox"/> Additive (<i>e.g.</i> , chelation agent, flocculent) _____ <input type="checkbox"/> Others _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually _____ <input type="checkbox"/> Quantity of surface water treated annually _____ Remarks _____ _____		
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
3.	Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
4.	Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
5.	Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks _____ _____		
6.	Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____		
D. Monitoring Data			
1.	Monitoring Data <input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality		
2.	Monitoring data suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input checked="" type="checkbox"/> Contaminant concentrations are declining		

D. Monitored Natural Attenuation			
1.	Monitoring Wells (natural attenuation remedy)	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning
		<input type="checkbox"/> All required wells located	<input type="checkbox"/> Needs Maintenance
		<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
			<input checked="" type="checkbox"/> N/A
Remarks _____ _____			
X. OTHER REMEDIES			
If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.			
XI. OVERALL OBSERVATIONS			
A. Implementation of the Remedy			
Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). <u>The 95% reduction in surface water and groundwater concentrations indicate the cap and cover system is functioning as intended. The cap and cover system is intact and any signs of damage have been repaired.</u> _____ _____			
B. Adequacy of O&M			
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>The O&M is adequate and the cap and cover continues to function as designed.</u> _____ _____			

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

Unexpected costs were encountered in 2018 when overtopping of the benches due to snowmelt created a significant erosional event. This was repaired to as-built conditions and benches were armored with annual snow removal to prevent overtopping in the future. No significant erosion has occurred since this time. _____

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

During inspection on 06/28/2022 Jon Bronson noted that the benches could be further armored to remove the need for future snow plowing of the benches. It was also noted that the informational signs could be removed as they were no longer needed. _____

APPENDIX E - SUPPORTING TABLES

Table 5-3
 Surface Water Analytical Sample Results
 2021 Data Evaluation Report
 South Maybe Canyon Mine, Maybe Creek
 Caribou County, Idaho



				Analyte	Chloride		Nitrate/Nitrite		Sulfate		A/C Balance (+/- 5)		Alkalinity		Alkalinity, Bicarbonate		Alkalinity, Carbonate	
				Fraction	250	3.2/0.2 ^a		250		--		--		--		--		
				HHSL	Secondary MCL	Tapwater RSL		Secondary MCL		--		--		--		--		
				HHSL Source	230	--		370		--		20		--		--		
				ESL	NRWQC	--		MDEQ		--		NRWQC		--		--		
				ESL Source	mg/L	mg/L		mg/L		%		mg/L		mg/L		mg/L		
				Unit	mg/L	mg/L		mg/L		%		mg/L		mg/L		mg/L		
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	
Cross Valley Fill Springs																		
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	1.42		0.509		25.6		0.8		198		198		3	U	
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	1.40		0.497		22.2		4.1		210		210		0.6	U	
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	1.58		0.760		48.0		1.3		170		170		3	U	
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	3.85		0.658		177		2.1		237		237		0.6	U	
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	1.65		0.789		49.0		3.5		167		167		3	U	
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	3.86		0.648		163		3.4		239		239		0.6	U	
Maybe Creek Springs																		
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	1.48		1.31		42.9		0.8		205		205		3	U	
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	1.38		0.237		21.3		2.4		201		201		0.6	U	
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	2.37		0.141		25.5		0.8		196		196		3	U	
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	1.90		0.132		44.4		2.7		222		222		0.6	U	
Maybe Creek																		
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	1.03		0.221		8.31		1.5		158		158		3	U	
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.97		2.25		39.3		3.7		105		105		3	U	
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.82		2.23		39.0		3.2		106		106		3	U	
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	2.39		0.529		87		2.3		224		224		0.6	UJ	
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	2.39		0.527		85.2		2.4		222		216		6.8	J	
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	1.39		1.71		51.6		2.8		157		157		3	U	
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	1.86		0.372		58.8		3.8		211		211		0.6	U	
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	1.43		0.006	U	5.75		1.9		200		190		10.0		
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	1.41		1.77		52.5		2.1		161		158		3	J	
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	1.92		0.347		57.5		2.3		204		193		11.0		
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	1.17		1.96		47.9		3		140		139		3	U	
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	2.17		0.006	U	56.3		3.1		190		190		0.6	U	

Table 5-3
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				Analyte		Alkalinity, Hydroxide		Anions		Cations		Solids, Total Dissolved Calculated		Total Dissolved Solids		Total Dissolved Solids Balance		Hardness	
				Fraction														Total	
				HHS															
				HHS Source															
				ESL															
				ESL Source															
				Unit		mg/L		meq/L		meq/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Cross Valley Fill Springs																			
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	3	U	4.47		4.54		228.79		252		1.10		219			
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.6	U	4.63		5.02		241.80		238		0.98		239			
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	3	U	4.39		4.5		233.08		251		1.08		219			
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.6	U	8.46		8.82		481.48		470		0.98		425			
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	3	U	4.35		4.67		235.769		251		1.06432852		223			
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.6	U	8.2		8.77		468.06		493		1.05		425			
Maybe Creek Springs																			
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	3	U	4.97		4.88		257.34		275		1.06835952		237			
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.6	U	4.44		4.65		229.01		229		1.00		228			
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	3	U	4.45		4.53		229.071		244		1.06488866		216			
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.6	U	5.34		5.64		283.59		301		1.06		271			
Maybe Creek																			
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	3	U	3.31		3.41		165.001		175		1.06023457		166			
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	3	U	2.91		3.13		162.95		190		1.16		146			
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	3	U	2.92		3.11		162.66		190		1.17		151			
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.6	U	6.28		6.59		343.44		352		1.02		318			
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.6	U	6.23		6.53		338.89		350		1.03		315			
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	3	U	4.20		4.44		229.46		257		1.11950013		213			
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.6	U	5.43		5.85		294.28		322		1.09		279			
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.6	U	4.1		4.25		205.55		214		1.04		204			
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	3	U	4.3		4.49		233.74		253		1.08		212			
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.6	U	5.27		5.51		282.66		304		1.08		268			
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	3	U	3.78		4.01		208.16		233		1.12		192			
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.6	U	4.97		5.29		268.52		291		1.08		252			

Table 5-3
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				Analyte		Hardness		Total Suspended Solids		Aluminum		Aluminum		Antimony		Antimony		Arsenic	
				Fraction HSSL		Dissolved				Total		Dissolved		Total		Dissolved		Total	
				HSSL Source						Secondary MCL				Tapwater RSL				Tapwater RSL	
				ESL						0.49 ^b				0.03				0.15	
				ESL Source						CDPHE				ORNL Tier II				IDWQS	
				Unit		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Cross Valley Fill Springs																			
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	218		5.0	U	0.0080	UB	0.0027	UB	0.000029	J	0.000035	J	0.00023	J		
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	241		5.0	U	0.0018	UB	0.0016	UB	0.000020	U	0.000025	UB	0.00011	J		
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	216		5.0	U	0.0119		0.0019	UB	0.000121		0.000132		0.00048	J		
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	426		5.0	U	0.0024	UB	0.0015	UB	0.000153	UB	0.000125	UB	0.00043	J		
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	225		5.0	U	0.0451		0.0018	UB	0.000130		0.000122		0.00046	J		
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	424		5.0	U	0.0061	UB	0.0016	UB	0.000126	UB	0.000134	UB	0.00042	J		
Maybe Creek Springs																			
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	235		5.0	U	0.0141		0.0017	UB	0.000034	UB	0.000033	UB	0.00015	J		
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	224		5.0	U	0.0420		0.0020	UB	0.000026	UB	0.000028	UB	0.00017	J		
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	216		14.5		0.0564		0.0029	UB	0.000020	U	0.000020	U	0.00014	J		
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	271		5.0	U	0.0519		0.0021	UB	0.000032	UB	0.000020	U	0.00021	J		
Maybe Creek																			
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	164		6.0		0.229		0.0027	UB	0.000046	J	0.000037	J	0.00032	J		
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	151		24.5		0.799		0.0025	UB	0.000077		0.000057		0.00071			
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	149		24.0		0.863		0.0027	UB	0.000099		0.000084		0.00073			
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	318		5.0	U	0.0658	J	0.0019	UB	0.000073	UB	0.000072	UB	0.00028	J		
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	314		5.0	U	0.0468	J	0.0020	UB	0.000077	UB	0.000120	UB	0.00025	J		
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	214		8.0		0.188		0.0040	UB	0.000079	UB	0.000074	UB	0.00049	J		
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	282		5.0	U	0.157		0.0031	UB	0.000064	UB	0.000055	UB	0.00036	J		
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	202		21.0		0.422		0.0026	UB	0.000026	UB	0.000020	UB	0.00028	J		
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	216		11.0		0.302		0.0024	UB	0.000081		0.000073		0.00051			
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	266		5.0	U	0.231		0.0038	UB	0.000058	UB	0.000059	UB	0.00042	J		
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	193		6.5		0.417		0.0031	UB	0.000068		0.000093		0.00054			
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	252		17.5		0.443		0.0032	UB	0.000095	UB	0.000071	UB	0.00086			

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				Analyte		Arsenic		Barium		Barium		Beryllium		Beryllium		Boron		Boron	
				Fraction		Dissolved		Total		Dissolved		Total		Dissolved		Total		Dissolved	
				HHSL		--		0.38		--		0.0025		--		0.4		--	
				HHSL Source		--		Tapwater RSL		--		Tapwater RSL		--		Tapwater RSL		--	
				ESL		0.15		0.0040		--		0.00066		--		0.0016		--	
				ESL Source		NRWQC		ORNL Tier II		--		ORNL Tier II		--		ORNL Tier II		--	
				Unit		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Cross Valley Fill Springs																			
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.00019	J	0.0148		0.0148		0.000005	U	0.000005	U	0.0142		0.0135			
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.00016	J	0.0156		0.0153		0.000005	U	0.000005	U	0.0142		0.0128			
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	0.00047	J	0.0135		0.0133		0.000005	U	0.000005	U	0.0169		0.0170			
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.00044	J	0.0253		0.0255		0.000005	U	0.000005	U	0.0225		0.0222			
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	0.00048	J	0.0132		0.0134		0.000005	U	0.000005	U	0.0164		0.0163			
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.00047	J	0.0246		0.0251		0.000005	U	0.000005	U	0.0222		0.0205			
Maybe Creek Springs																			
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.00014	J	0.0177		0.0177		0.000005	U	0.000005	U	0.0138		0.0136			
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.00018	J	0.0165		0.0164		0.000005	U	0.000005	U	0.0125		0.0127			
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.00013	J	0.0205		0.0195		0.000005	U	0.000005	U	0.0151		0.0168			
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.00024	J	0.0278		0.0273		0.000007	J	0.000005	U	0.0162		0.0167			
Maybe Creek																			
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.00027	J	0.0164		0.0142		0.000014	J	0.000005	U	0.0138		0.0142			
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.00058		0.0188		0.0137		0.000046		0.000005	U	0.0122		0.0118			
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.00056		0.0194		0.0135		0.000056		0.000005	U	0.0133		0.0129			
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.00028	J	0.0217		0.0214		0.000005	U	0.000005	U	0.0165		0.0171			
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.00027	J	0.0218		0.0211		0.000006	J	0.000005	U	0.0169		0.0178			
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	0.00042	J	0.0205		0.0192		0.000009	J	0.000005	U	0.0149		0.0144			
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.00029	J	0.0268		0.0249		0.000011	J	0.000005	U	0.0170		0.0170			
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.00022	J	0.0198		0.0170		0.000026		0.000005	U	0.0156		0.0151			
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	0.00045	J	0.0216		0.0192		0.000019	J	0.000005	U	0.0144		0.0144			
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.00034	J	0.0232		0.0215		0.000016	J	0.000005	U	0.0175		0.0180			
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	0.00051		0.0200		0.0172		0.000025		0.000005	U	0.0136		0.0131			
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.00059		0.0304		0.0269		0.000029		0.000005	U	0.0213		0.0215			

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				Analyte		Cadmium		Cadmium		Calcium		Calcium		Chromium		Chromium	
				Fraction		Total		Dissolved		Total		Dissolved		Total		Dissolved	
				HHS		0.00018		--		--		--		0.1		--	
				HHS Source		Tapwater RSL		--		--		--		Primary MCL		--	
				ESL		--		0.0006 ^c		--		--		--		0.011 ^d	
				ESL Source		--		IDWQS		--		--		--		NRWQC, IDWQS	
				Unit		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Hardness Corrected ESL	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	
Cross Valley Fill Springs																	
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.000165		0.000173		0.0009	63.8		63.6		0.00051		0.00042		
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.000008	U	0.000008	U	0.0009	71.3		71.6		0.00041	UB	0.00045	UB	
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	0.00161		0.00160		0.0009	60.8		60.3		0.00117		0.00114		
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.00263		0.00266		0.0013	119		119		0.00107	UB	0.00108	UB	
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	0.00130		0.00130		0.0009	62.9		63.6		0.00113		0.00105		
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.00263		0.00263		0.0013	119		119		0.00107	UB	0.00119	UB	
Maybe Creek Springs																	
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.000008	U	0.000008	U	0.0009	68.9		68.4		0.00056		0.00057		
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.000008	U	0.000008	U	0.0009	69.1		67.9		0.00050	UB	0.00049	UB	
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.000014	J	0.000008	U	0.0009	65.4		65.8		0.00032		0.00019	UB	
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.000017	J	0.000008	U	0.0010	83.2		83.1		0.00036		0.00018	J	
Maybe Creek																	
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.000087		0.000330		0.0008	45.0		44.0		0.00074		0.00047		
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.000411		0.000309		0.0007	42.6		44.6		0.00165		0.00084		
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.000410		0.000322		0.0007	43.9		44.1		0.00177		0.00079		
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.000806		0.000783		0.0011	91.7		91.9		0.00093	UB	0.00077	UB	
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.000824		0.000797		0.0011	90.9		89.5		0.00092	UB	0.00089	UB	
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	0.000373		0.000272		0.0009	60.8		61.6		0.00103		0.00084		
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.000185		0.000140		0.0010	82.2		82.9		0.00119		0.00100		
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.000051		0.000009	J	0.0009	61.0		60.7		0.00077		0.00031		
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	0.000248		0.000149		0.0009	61.4		62.5		0.00121		0.00076		
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.000091		0.000053		0.0010	78.6		78.0		0.00146		0.00120		
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	0.000210		0.000077		0.0008	55.6		56.3		0.00141		0.00078		
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.000215		0.000087		0.0010	71.1		71.1		0.00107		0.00033		

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				Cobalt		Cobalt		Copper		Copper			Iron		Iron	
				Total		Dissolved		Total		Dissolved		Hardness Corrected ESL	Total		Dissolved	
				0.0006		--		0.08		--			0.3		--	
				Tapwater RSL		--		Tapwater RSL		--			Secondary MCL		--	
				ESL		--		--		0.0076 ^c			1		--	
				ORNL Tier II		--		--		IDWQS			NRWQC		--	
				mg/L		mg/L		mg/L		mg/L			mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Hardness Corrected ESL	Result	Qualifier	Result	Qualifier
Cross Valley Fill Springs																
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.000009	J	0.000009	U	0.00013		0.00026		0.022	0.0048		0.0005	J
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.000013	J	0.000009	U	0.00006	J	0.00019		0.024	0.0009	UB	0.0012	UB
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	0.000023		0.000017	J	0.00053		0.00048		0.022	0.0080		0.0004	J
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.000032		0.000025		0.00047		0.00042		0.039	0.0013	UB	0.0011	UB
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	0.000043		0.000015	J	0.00058		0.00050		0.023	0.0362		0.0011	UB
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.000025		0.000025		0.00045		0.00050		0.039	0.0051	UB	0.0010	UB
Maybe Creek Springs																
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.000014	J	0.000009	U	0.00009	J	0.00099		0.024	0.0135		0.0004	J
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.000038		0.000010	J	0.00012		0.00014		0.023	0.0491		0.0003	U
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.000048		0.000021		0.00014		0.00015		0.022	0.134		0.0044	
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.000151		0.000124		0.00022		0.00011		0.027	0.381		0.190	
Maybe Creek																
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.000104		0.000012	J	0.00047		0.00063		0.018	0.218		0.0015	UB
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.000236		0.000019	J	0.00102		0.00056		0.016	0.562		0.0006	J
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.000240		0.000018	J	0.00111		0.00058		0.016	0.595		0.0006	J
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.000033		0.000021		0.00029		0.00028		0.031	0.0495		0.0005	UB
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.000041		0.000024		0.00028		0.00032		0.030	0.0394		0.0005	UB
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	0.000100		0.000030		0.00057		0.00037		0.022	0.166		0.0013	J
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.000096		0.000044		0.00048		0.00079		0.027	0.147		0.0046	UB
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.000289		0.000020		0.00102		0.00025		0.021	0.478		0.0021	UB
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	0.000157		0.000019	J	0.00066		0.00052		0.022	0.277		0.0007	J
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.000105		0.000029		0.00066		0.00031		0.026	0.199		0.0014	UB
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	0.000153		0.000026		0.00084		0.00122		0.020	0.360		0.0014	J
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.000220		0.000073		0.00109		0.00052		0.025	0.470		0.0049	UB

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				Analyte		Lead		Lead		Magnesium		Magnesium		Manganese		Manganese	
				Fraction		Total		Dissolved		Total		Dissolved		Total		Dissolved	
				HHSI		0.015		--		--		--		0.043		--	
				HHSI Source		Primary MCL, Tapwater RSL		--		--		--		Tapwater RSL		--	
				ESL		--		0.0025 ^c		--		--		0.12		1.650 ^c	
				ESL Source		--		NRWQC, IDWQS		--		--		ORNL Tier II		CDPHE	
				Unit		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Hardness Corrected ESL	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Hardness Corrected ESL
Cross Valley Fill Springs																	
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.000006	U	0.000009	J	0.0058	14.4		14.3		0.00060		0.00022	J	2.1
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.000012	UB	0.000012	UB	0.0064	14.8		15.2		0.00029	UB	0.00029	UB	2.2
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	0.000010	J	0.000006	U	0.0058	16.2		16.0		0.00111		0.00024	J	2.1
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.000008	UB	0.000008	UB	0.0116	31.0		31.4		0.00070	UB	0.00056	UB	2.7
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	0.000044		0.000007	J	0.0060	16.0		16.0		0.00376		0.00022	J	2.2
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.000008	UB	0.000008	UB	0.0116	31.0		30.9		0.00092	UB	0.00042	UB	2.7
Maybe Creek Springs																	
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.000015	J	0.000047		0.0063	15.8		15.5		0.00134		0.00009	J	2.2
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.000048	UB	0.000008	UB	0.0061	13.4		13.2		0.00513	UB	0.00036	UB	2.2
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.000046		0.000010	J	0.0058	12.7		12.6		0.0946		0.0593		2.1
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.000062		0.000010	J	0.0073	15.4		15.4		0.510		0.494		2.3
Maybe Creek																	
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.000173		0.000019	J	0.0043	13.1		13.1		0.0248		0.00078		2.0
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.000437		0.000006	U	0.0038	9.73		9.51		0.0221		0.00038	J	1.9
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.000473		0.000010	J	0.0039	10.0		9.53		0.0243		0.00037	J	1.9
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.000054	UB	0.000006	U	0.0086	21.7		21.5		0.00623	UB	0.00310	UB	2.4
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.000050	UB	0.000010	UB	0.0086	21.4		22.1		0.00625	UB	0.00310	UB	2.4
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	0.000144		0.000009	J	0.0057	14.9		14.5		0.0159		0.00659		2.1
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.000138		0.000012	J	0.0075	18.0		18.2		0.0452		0.0381		2.3
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.000490		0.000032		0.0054	12.5		12.3		0.0314		0.00130		2.1
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	0.000224		0.000018	J	0.0056	14.3		14.5		0.0247		0.00280		2.1
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.000181		0.000008	J	0.0072	17.5		17.2		0.0154		0.00460		2.3
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	0.000272		0.000014	J	0.0051	12.8		12.7		0.0258		0.00559		2.0
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.000324		0.000008	J	0.0068	18.2		18.1		0.141		0.0674		2.2

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				Analyte		Mercury		Mercury		Molybdenum		Molybdenum		Nickel		Nickel		
				Fraction		Total		Dissolved		Total		Dissolved		Total		Dissolved		
				HHSL		0.000063		--		0.01		--		0.039		--		
				HHSL Source		Tapwater RSL		--		Tapwater RSL		--		Tapwater RSL		--		
				ESL		0.0013		0.00077		0.37		--		--		0.052 ^c		
				ESL Source		ORNL Tier II		NRWQC		ORNL Tier II		--		--		NRWQC, IDWQS		
				Unit		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Hardness Corrected SL
Cross Valley Fill Springs																		
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.00002	U	0.00002	U	0.00036		0.00036		0.00195		0.00194				0.10
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.00007	UB	0.00003	UB	0.00006	J	0.00005	J	0.00015	UB	0.00010	UB			0.11
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	0.00002	U	0.00002	U	0.00327		0.00327		0.0171		0.0170				0.10
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.00007	UB	0.00002	U	0.00391		0.00394		0.0319		0.0317				0.18
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	0.00002	U	0.00002	U	0.00279		0.00293		0.0152		0.0150				0.10
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.00005	UB	0.00004	UB	0.00387		0.00396		0.0312		0.0327				0.18
Maybe Creek Springs																		
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.00002	U	0.00002	U	0.00164		0.00158		0.00005	J	0.00011	J			0.11
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.00002	U	0.00004	UB	0.00130		0.00121		0.00019	UB	0.00009	UB			0.10
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.00002	U	0.00002	U	0.00008	J	0.00010	J	0.00017	J	0.00013	J			0.10
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.00002	U	0.00002	U	0.00009	UB	0.00008	UB	0.00039		0.00028				0.12
Maybe Creek																		
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.00002	U	0.00002	U	0.00024		0.00023		0.00055		0.00018	J			0.08
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.00002	U	0.00002	U	0.00135		0.00142		0.00491		0.00379				0.07
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.00002	U	0.00002	U	0.00140		0.00153		0.00493		0.00380				0.07
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.00002	UB	0.00004	UB	0.00238		0.00244		0.0105		0.0110				0.14
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.00005	UB	0.00005	UB	0.00246		0.00235		0.0113		0.0112				0.14
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	0.00002	U	0.00002	U	0.00192		0.00202		0.00447		0.00398				0.10
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.00002	U	0.00002	U	0.00182		0.00191		0.00299		0.00259				0.12
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.00002	U	0.00002	U	0.00005	UB	0.00004	UB	0.00093		0.00012	J			0.10
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	0.00002	U	0.00002	U	0.00192		0.00204		0.00357		0.00256				0.10
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.00002	U	0.00002	U	0.00222		0.00228		0.00140		0.00102				0.12
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	0.00002	U	0.00002	U	0.00172		0.00186		0.00278		0.00169				0.09
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.00002	U	0.00002	U	0.00285		0.00306		0.00265		0.00183				0.11

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				Potassium		Potassium		Selenium		Selenium		Silver		Silver		Sodium	
Analyte				Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Fraction				--		--		0.05		--		0.0094		--		--	
HHSI				--		--		EPA MCL		--		Tapwater RSL		--		--	
HHSI Source				--		--		0.0046 ^e		--		0.00006		--		--	
ESL				--		--		CDPHE		--		MDEQ		--		--	
ESL Source				--		--				--				--		--	
Unit				mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Cross Valley Fill Springs																	
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.69		0.66		0.0460		0.0450		0.000009	U	0.000009	U	3.93	
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.64	UB	0.73		0.0409		0.0387		0.000009	U	0.000009	U	4.06	
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	1.03		1.01		0.105		0.106		0.000009	U	0.000009	U	3.47	
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	1.52		1.64		0.342		0.345		0.000009	U	0.000009	U	5.67	
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	1.11		1.14		0.0983		0.0987		0.000009	U	0.000009	U	3.37	
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	1.55		1.58		0.338		0.324		0.000009	U	0.000010	J	5.68	
Maybe Creek Springs																	
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.67		0.64		0.0646		0.0629		0.000009	U	0.000009	U	4.14	
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.73	UB	0.68	UB	0.0262		0.0255		0.000009	U	0.000009	U	3.72	
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.70		0.70		0.0286		0.0281		0.000009	U	0.000009	U	4.38	
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.83		0.79		0.0382		0.0385		0.000009	U	0.000009	U	4.64	
Maybe Creek																	
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.91		0.86		0.0008	J	0.0008	J	0.000009	U	0.000009	U	2.67	
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	1.26		1.10		0.0338		0.0340		0.000009	U	0.000009	U	2.23	
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	1.34		1.15		0.0342		0.0340		0.000009	U	0.000009	U	2.31	
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	1.16		1.09		0.165		0.157		0.000009	U	0.000009	U	4.64	
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	1.08		1.16		0.158		0.159		0.000009	U	0.000009	U	4.56	
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	1.10		1.04		0.0686		0.0681		0.000009	U	0.000009	U	3.51	
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	1.20		1.22		0.102		0.103		0.000009	U	0.000009	U	4.22	
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	1.33		1.15		0.0002	U	0.0002	U	0.000009	U	0.000009	U	4.23	
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	1.17		1.07		0.0751		0.0765		0.000009	U	0.000009	U	3.32	
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	1.38		1.32		0.0949		0.0955		0.000009	U	0.000009	U	4.08	
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	1.18		1.07		0.0603		0.0607		0.000009	U	0.000009	U	2.99	
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	3.01		2.68		0.0733		0.0718		0.000009	U	0.000009	U	4.17	

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				Analyte		Sodium		Thallium		Thallium		Uranium		Uranium		Vanadium	
				Fraction		Dissolved		Total		Dissolved		Total		Dissolved		Total	
				HHSL		--		0.00002		--		0.0004		--		0.0086	
				HHSL Source		--		Tapwater RSL		--		Tapwater RSL		--		Tapwater RSL	
				ESL		--		0.0072		--		0.0026		1.5005 ^c		0.02	
				ESL Source		--		MDEQ		--		ORNL Tier II		CDPHE		ORNL Tier II	
				Unit		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Hardness Corrected ESL	Result	Qualifier	
Cross Valley Fill Springs																	
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	3.90		0.000009	U	0.000009	U	0.000661		0.000645		3.6	0.00098		
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	4.17		0.000023		0.000009	U	0.000432		0.000423		3.9	0.00025		
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	3.43		0.000017	J	0.000018	J	0.00190		0.00188		3.6	0.00575		
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	5.73		0.000028		0.000019	J	0.00449		0.00448		7.4	0.00627		
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	3.39		0.000028		0.000023		0.00175		0.00177		3.6	0.00654		
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	5.67		0.000027		0.000022		0.00442		0.00436		7.4	0.00647		
Maybe Creek Springs																	
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	4.11		0.000009	U	0.000009	U	0.00114		0.00116		3.9	0.00031		
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	3.71		0.000015	J	0.000009	U	0.000868		0.000868		3.7	0.00037	J	
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	4.36		0.000009	U	0.000009	U	0.000401		0.000379		3.5	0.00039		
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	4.67		0.000009	U	0.000009	U	0.000444		0.000446		4.5	0.00034		
Maybe Creek																	
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	2.68		0.000021		0.000015	J	0.000298		0.000254		2.6	0.00107		
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	2.22		0.000018	J	0.000009	U	0.00169		0.00155		2.3	0.0165		
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	2.23		0.000038		0.000019	J	0.00172		0.00158		2.4	0.0166		
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	4.63		0.000009	U	0.000009	U	0.00229		0.00228		5.4	0.00587		
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	4.81		0.000020	J	0.000015	J	0.00225		0.00227		5.3	0.00609		
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	3.42		0.000021		0.000009	U	0.00187		0.00179		3.5	0.0114		
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	4.33		0.000009	U	0.000009	U	0.00168		0.00165		4.6	0.00661		
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	4.22		0.000009	U	0.000009	U	0.000392		0.000367		3.3	0.00106		
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	3.39		0.000009	U	0.000009	U	0.00185		0.00173		3.4	0.0108		
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	3.97		0.000009	U	0.000009	U	0.00165		0.00158		4.4	0.00610		
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	3.06		0.000010	J	0.000009	U	0.00180		0.00172		3.1	0.0119		
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	4.17		0.000019	J	0.000012	J	0.00182		0.00173		4.2	0.00704		

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				Analyte	Vanadium	Zinc	Zinc	Zinc		Total Organic Carbon		
				Fraction	Dissolved	Total	Dissolved					
				HHSL	--	0.6	--			--		
				HHSL Source	--	Tapwater RSL	--			--		
				ESL	--	--	0.12 ^c			--		
				ESL Source	--	--	NRWQC, IDWQS			--		
				Unit	mg/L	mg/L	mg/L			mg/L		
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Hardness Corrected ESL	Result	Qualifier
Cross Valley Fill Springs												
BS-1R	SMCMCVFOU-SW-BS-1R-050521-0	05/05/2021	N	0.00097		0.0095		0.0093		0.23	0.60	
BS-1R	SMCMCVFOU-SW-BS-1R-091421-0	09/14/2021	N	0.00030	J	0.0007	UB	0.0010	UB	0.25	0.07	U
CD-1R	SMCMCVFOU-SW-CD-1R-050521-0	05/05/2021	N	0.00575		0.0824		0.0838		0.23	1.50	
CD-1R	SMCMCVFOU-SW-CD-1R-091421-0	09/14/2021	N	0.00642		0.155		0.152		0.40	1.00	
CD-3	SMCMCVFOU-SW-CD-3-050521-0	05/05/2021	N	0.00652		0.0729	J	0.0718		0.23	1.50	
CD-3	SMCMCVFOU-SW-CD-3-091421-0	09/14/2021	N	0.00629		0.151		0.153		0.40	1.10	
Maybe Creek Springs												
SP-3	SMCMMCOU-SW-SP-3-050421-0	05/04/2021	N	0.00031		0.0005	U	0.0015	J	0.25	0.45	J
SP-3	SMCMMCOU-SW-SP-3-091421-0	09/14/2021	N	0.00031	J	0.0007	UB	0.0010	UB	0.24	0.07	J
SP-9	SMCMMCOU-SW-SP-9-050421-0	05/04/2021	N	0.00030		0.0007	J	0.0021		0.23	1.10	
SP-9	SMCMMCOU-SW-SP-9-091321-0	09/13/2021	N	0.00020	J	0.0017	UB	0.0010	UB	0.27	1.00	
Maybe Creek												
SW-1	SMCMMCOU-SW-SW-1-050521-0	05/05/2021	N	0.00069		0.0032		0.0013	J	0.18	1.60	
SW-2R	SMCMMCOU-SW-SW-2R-050421-0	05/04/2021	N	0.0157		0.0219		0.0153		0.16	1.70	
SW-2R	SMCMMCOU-SW-SW-2R-050421-2	05/04/2021	FD	0.0152		0.0222		0.0149		0.17	1.70	
SW-2R	SMCMMCOU-SW-SW-2R-091421-0	09/14/2021	N	0.00590		0.0466		0.0452		0.31	0.60	
SW-2R	SMCMMCOU-SW-SW-2R-091421-2	09/14/2021	FD	0.00607		0.0473		0.0449		0.31	0.80	
SW-13	SMCMMCOU-SW-SW-13-050421-0	05/04/2021	N	0.0111		0.0167		0.0136		0.22	1.40	
SW-13	SMCMMCOU-SW-SW-13-091321-0	09/13/2021	N	0.00628		0.0073		0.0051	UB	0.28	0.80	
North Fork	SMCMMCOU-SW-NORTHFORK-091321-0	09/13/2021	N	0.00052		0.0058	UB	0.0009	UB	0.22	0.80	
SW-4	SMCMMCOU-SW-SW-4-050421-0	05/04/2021	N	0.00964		0.0106		0.0051		0.22	1.40	
SW-4	SMCMMCOU-SW-SW-4-091321-0	09/13/2021	N	0.00572		0.0045	UB	0.0012	UB	0.27	1.10	
SW-5	SMCMMCOU-SW-SW-5-050421-0	05/04/2021	N	0.0107		0.0084		0.0030		0.21	1.50	
SW-5	SMCMMCOU-SW-SW-5-091321-0	09/13/2021	N	0.00554		0.0087		0.0026	UB	0.26	3.00	

Notes:

1. **Bold** indicates detected values.
 2. Values shaded with gray are detected results that exceed the lower of the HHSL and ESL.
- ^a Values are the individual tapwater RSL values for nitrate and nitrite. The nitrate+nitrite RSL is based on the lesser of nitrate RSL and nitrite RSL.
- ^b Screening level is pH-dependent.
- ^c Value provided is the screening level for a hardness of 100 mg/L. The freshwater criterion for this metal is determined as a function of hardness (mg/L) in the water column calculated as $S = \exp(m \cdot \ln(H) + b) \cdot F$ where S is the screening level (micrograms per liter), H is the hardness (mg/L), F is the freshwater conversion factor, and m and b are metal-specific constants provided in Appendix B to the NRWQC (USEPA 2018; for lead, nickel, and zinc), Table 3 of CDPHE (CDPHE 2021; for manganese and uranium), Section 210 of IDAPA 58.01.02 (Idaho Department of Administration 2021; for cadmium and copper), and the Rule 57 Water Quality Values (MDEQ 2020; for barium). For samples with hardness greater than 400 mg/L, the correction was calculated using a hardness of 400 mg/L. For samples with hardness less than 25 mg/L, the correction factor was calculated using a hardness of 25 mg/L.
- ^d For dissolved chromium, the criterion for hexavalent chromium is presented.
- ^e For total selenium, the tapwater RSL is used for screening.

Acronyms and Abbreviations:

- = not applicable
- % = percent
- CDPHE = Colorado Department of Public Health and Environment
- ESL = ecological screening level
- FD = field duplicate
- HHSL = human health screening level
- ID = identification
- IDAPA = Idaho Department of Administrative Procedures Act
- IDEQ = Idaho Department of Environmental Quality
- IDWQS = Idaho water quality standard
- MCL = maximum contaminant level
- MDEQ = Michigan Department of Environmental Quality
- meq/L = milliequivalent per liter
- mg/L = milligram per liter
- N = primary sample
- NRWQC = national recommended water quality criteria
- ORNL = Oak Ridge National Laboratory
- RSL = regional screening level
- USEPA = United States Environmental Protection Agency

Qualifiers:

- J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
- U = The analyte was analyzed for but not detected. The associated value is the analyte method detection limit adjusted for sample variables such as volume, mass, moisture, and dilution.
- UB = The analyte is considered nondetect at the listed value due to associated blank contamination.
- UJ = The analyte was analyzed for but was not detected. The reported method detection limit (MDL) is approximate and may be inaccurate or imprecise.

Screening Level Hierarchy:

- The lower of either the HHSL or ESL was selected for each analyte.
- ESLs were selected according to the following hierarchy:
 - Lower of the NRWQC for chronic exposure (USEPA 2018) or the Rules of the IDEQ IDAPA 58.01.02 water quality standards (Idaho Department of Administration 2021) as applied.
 - If no NRWQC or IDAPA water quality standards were established, additional sources of state water quality criteria were used, including MDEQ Rule 57 value database for freshwater chronic values (MDEQ 2020), CDPHE water quality standards (CDPHE 2021), and ORNL Tier II secondary chronic values (ORNL 1996).
- HHSLs were selected based on the lower of the following:
 - Primary MCLs (USEPA 2009)
 - Secondary MCLs (USEPA 2009)
 - USEPA tapwater RSL for an estimated lifetime cancer risk of 1×10^{-6} or a noncancer hazard quotient of 0.1 (USEPA 2021).

Screening Level Sources:

Secondary MCL = USEPA secondary MCL (USEPA 2009).

Primary MCL = USEPA primary MCL (USEPA 2009).

Tapwater RSL = USEPA tapwater RSL for estimated lifetime cancer risk of 1×10^6 or a noncancer hazard quotient of 0.1 (USEPA 2021).

NRWQC = Criterion continuous concentration (i.e., chronic exposures). For dissolved total chromium, the criterion for hexavalent chromium is presented (USEPA 2018).

MDEQ = MDEQ Rule 57 value database Water Quality Values (MDEQ 2020).

IDWQS = IDAPA 58.01.02 water quality standards; chronic criteria for aquatic life (Idaho Department of Administration 2021).

ORNL Tier II = ORNL Tier II values, Secondary Chronic Value (ORNL 1996).

CDPHE = CDPHE water quality standard (CDPHE 2021).

References:

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ORNL. 1996. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision. ES/ER/TM-96/R2. Available online at: <http://rais.ornl.gov/documents/tm96r2.pc>

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USEPA. 2021. Regional Screening Levels for Residential Tapwater. May. Available online at: <http://www2.epa.gov/risk/risk-based-screening-table-generic-table>

Table 5-4
 Surface Water Selenium Loads
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 South Maybe Canyon, Mine Maybe Creek
 Caribou County, Idaho



Location ID	Measurement Date	Discharge	Dissolved Selenium	Dissolved Selenium Loading	Total Selenium	Total Selenium Loading
		cfs	mg/L	lb/day	mg/L	lb/day
Cross Valley Fill Springs and Seep						
BS-1R	05/05/2021	0.102	0.0450	0.025	0.0460	0.025
BS-1R	09/14/2021	0.0573	0.0387	0.012	0.0409	0.013
North Spring R	05/05/2021	DRY	--	NC	--	NC
North Spring R	09/14/2021	DRY	--	NC	--	NC
CD-1R	05/05/2021	0.205	0.106	0.12	0.105	0.12
CD-1R	09/14/2021	0.0104	0.345	0.019	0.342	0.019
CD-3	05/05/2021	0.0790	0.0987	0.042	0.0983	0.042
CD-3	09/14/2021	0.00147	0.324	0.003	0.338	0.003
Maybe Creek Springs						
SP-3	05/04/2021	0.103	0.0629	0.035	0.0646	0.036
SP-3	09/14/2021	0.0197	0.0255	0.003	0.0262	0.003
SP-9	05/04/2021	0.00480	0.0281	0.00073	0.0286	0.00074
SP-9	09/13/2021	0.000668	0.0385	0.00014	0.0382	0.00014
Maybe Creek						
SW-1	05/05/2021	0.0472	0.0008 J	0.0002	0.0008 J	0.0002
SW-1	09/14/2021	DRY	--	NC	--	NC
SW-2R	05/04/2021	1.84	0.0340	0.34	0.0338	0.34
SW-2R	09/14/2021	0.214	0.157	0.1812	0.165	0.1905
SW-13	05/04/2021	2.00	0.0681	0.73	0.0686	0.74
SW-13	09/13/2021	0.367	0.1030	0.20	0.102	0.20
North Fork	05/04/2021	DRY	--	NC	--	NC
North Fork	09/13/2021	0.000886	0.0002 U	NC	0.0002 U	NC
SW-4	05/04/2021	1.13	0.0765	0.47	0.0751	0.46
SW-4	09/13/2021	0.0599	0.0955	0.031	0.0949	0.031
SW-5	05/04/2021	0.884	0.0607	0.29	0.0603	0.29
SW-5	09/13/2021	0.0235	0.0718	0.009	0.0733	0.009

Notes:

1. If a field duplicate sample was collected, the highest selenium concentration of the parent sample and field duplicate sample was used in loading calculation.
2. If a selenium concentration was nondetect, then a selenium loading rate was not calculated.

Acronyms and Abbreviations:

-- = not applicable
 cfs = cubic foot per second
 DRY = location was dry
 ID = identification
 lb/day = pound per day
 mg/L = milligram per liter
 NC = not calculated

Qualifiers:

J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
 U = The analyte was analyzed for but not detected. The associated value is the analyte method detection limit adjusted for sample variables such as volume, mass, moisture, and dilution.

Table 5-9
 Groundwater Analytical Sample Results
 2021 Data Evaluation Report
 South Maybe Canyon Mine, Maybe Creek
 Caribou County, Idaho



				Aluminum		Antimony		Arsenic		Barium									
Analyte				SW6020A		SW6020A		SW6020A		SW6020A									
Method				Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved								
Fraction				0.05	--	0.00078	--	0.000052	--	0.38	--								
HHSI Source				Secondary MCL	--	Tapwater RSL	--	Tapwater RSL	--	Tapwater RSL	--								
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L								
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier		
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.0271		0.0025	UB	0.000041	J	0.000028	J	0.00020	J	0.00020	J	0.0117		0.0117	
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	4.86		0.0071	UB	0.000161	UB	0.000023	UB	0.00252		0.00028	J	0.0859		0.0143	
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.0027	UB	0.0019	UB	0.000150		0.000133		0.00033	J	0.00029	J	0.0154		0.0156	
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.0040	UB	0.0018	UB	0.000132		0.000144		0.00031	J	0.00035	J	0.0156		0.0153	
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.0037	UB	0.0031	UB	0.000120	UB	0.000123	UB	0.00030	J	0.00032	J	0.0281		0.0280	
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.0209		0.0021	UB	0.000042	J	0.000033	J	0.00016	J	0.00016	J	0.0192		0.0189	
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.0114	UB	0.0018	UB	0.000037	UB	0.000035	UB	0.00019	J	0.00017	J	0.0195		0.0195	
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.0129	UB	0.0014	UB	0.000044	UB	0.000074	UB	0.00016	J	0.00021	J	0.0197		0.0193	
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.0059	UB	0.0016	UB	0.000024	J	0.000035	J	0.00013	J	0.00014	J	0.0263		0.0263	
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.0024	UB	0.0017	UB	0.000035	UB	0.000022	UB	0.00018	J	0.00016	J	0.0259		0.0252	
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.0020	UB	0.0030	UB	0.000026	J	0.000023	J	0.00012	J	0.00011	J	0.0136		0.0137	
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.0060	UB	0.0017	UB	0.000022	UB	0.000020	U	0.00015	J	0.00010	J	0.0151		0.0151	
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.0015	UB	0.0015	UB	0.000032	J	0.000023	J	0.00013	J	0.00013	J	0.0153		0.0156	
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.0014	UB	0.0042	UB	0.000020	U	0.000020	U	0.00013	J	0.00012	J	0.0158		0.0160	
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.0027	UB	0.0016	UB	0.000024	UB	0.000020	U	0.00011	J	0.00013	J	0.0156		0.0154	
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.0066	UB	0.0018	UB	0.000020	U	0.000023	UB	0.00015	J	0.00011	J	0.0173		0.0173	
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.0162		0.0019	UB	0.000034	J	0.000036	J	0.00031	J	0.00032	J	0.0216		0.0221	
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.0028	UB	0.0018	UB	0.000027	UB	0.000031	UB	0.00027	J	0.00026	J	0.0209		0.0206	
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.0194		0.0047	UB	0.000040	UB	0.000036	UB	0.00026	J	0.00026	J	0.0239		0.0243	

Table 5-9
 Groundwater Analytical Sample Results
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				Analyte		Beryllium		Boron		Cadmium		Calcium					
				Method	Fraction	SW6020A Total	SW6020A Dissolved	SW6020A Total	SW6020A Dissolved	SW6020A Total	SW6020A Dissolved	SW6020A Total	SW6020A Dissolved				
				HHSL		0.0025	--	0.4	--	0.00018	--	--	--				
				HHSL Source		Tapwater RSL	--	Tapwater RSL	--	Tapwater RSL	--	--	--				
				Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L				
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.000006	J	0.000005	U	0.0137		0.0145		0.000012	J	0.000029	UB	54.6	52.4
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	0.000314		0.000005	U	0.0210		0.0193		0.000440		0.000036		105	66.7
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.000005	U	0.000005	U	0.0180		0.0185		0.000024		0.000023	UB	73.2	72.2
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.000005	U	0.000005	U	0.0184		0.0195		0.000022		0.000027	UB	73.5	73.8
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.000005	U	0.000005	U	0.0235		0.0238		0.000016	J	0.000016	J	115	114
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.000005	U	0.000005	U	0.0159		0.0156		0.000038		0.000030	UB	77.9	77.6
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.000005	U	0.000005	U	0.0166		0.0171		0.000029		0.000037	UB	77.1	78.0
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.000005	U	0.000005	U	0.0181		0.0172		0.000034		0.000031	UB	75.9	79.5
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.000005	U	0.000005	U	0.0180		0.0175		0.000088		0.000010	J	89.3	90.5
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.000005	U	0.000005	U	0.0180		0.0185		0.000016	J	0.000010	UB	92.0	91.5
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.000005	U	0.000005	U	0.0153		0.0156		0.000027		0.000012	J	68.2	67.5
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.000005	U	0.000005	U	0.0172		0.0145	UB	0.000016	J	0.000008	U	72.3	73.2
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.000005	U	0.000005	U	0.0203		0.0203		0.000008	J	0.000008	U	69.8	70.8
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.000005	U	0.000005	U	0.0195		0.0196		0.000008	U	0.000008	U	72.5	72.3
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.000005	U	0.000005	U	0.0150		0.0146		0.000008	U	0.000008	U	71.7	71.8
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.000005	U	0.000005	U	0.0181		0.0180		0.000014	J	0.000008	U	79.8	80.6
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.000005	U	0.000005	U	0.0143		0.0145		0.000027		0.000031		77.7	75.8
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.000005	U	0.000005	U	0.0149		0.0143		0.000013	J	0.000013	J	70.7	71.6
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.000005	U	0.000005	U	0.0156		0.0175		0.000025		0.000022	UB	90.6	89.8

Table 5-9
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				Analyte		Chromium				Cobalt				Copper				Iron			
				Method	Fraction	HHSL	HHSL Source	Unit	SW6020A Total 0.1 Primary MCL mg/L	SW6020A Dissolved -- -- mg/L	SW6020A Total 0.0006 Tapwater RSL mg/L	SW6020A Dissolved -- -- mg/L	SW6020A Total 0.08 Tapwater RSL mg/L	SW6020A Dissolved -- -- mg/L	SW6020A Total 0.3 Secondary MCL mg/L	SW6020A Dissolved -- -- mg/L					
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier		
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.00067	UB	0.00059	UB	0.000017	J	0.000009	U	0.00011		0.00011		0.0297		0.0006	UB		
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	0.00835		0.00142		0.00344		0.000009	U	0.00562		0.00020		8.17		0.0028	UB		
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.00082	UB	0.00079	UB	0.000015	J	0.000012	J	0.00021		0.00024		0.0012	UB	0.0004	UB		
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.00081	UB	0.00078	UB	0.000016	J	0.000013	J	0.00020		0.00020		0.0011	UB	0.0008	UB		
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.00100		0.00112		0.000019	J	0.000021		0.00028		0.00026		0.0028	UB	0.0009	UB		
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.00076	UB	0.00066	UB	0.000024		0.000009	U	0.00012		0.00011		0.0254		0.0007	UB		
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.00070	UB	0.00069	UB	0.000018	J	0.000010	UB	0.00010	J	0.00008	UB	0.0143		0.0012	UB		
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.00077	UB	0.00068	UB	0.000020		0.000016	UB	0.00034	J	0.00012	UB	0.0161		0.0003	U		
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.00059		0.00051		0.000024		0.000009	U	0.00008	J	0.00006	J	0.0109		0.0003	U		
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.00067	UB	0.00067	UB	0.000016	J	0.000011	UB	0.00007	J	0.00011	UB	0.0024		0.0003	UB		
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.00038		0.00039		0.000009	U	0.000009	U	0.00005	J	0.00008	J	0.0009	J	0.0007	J		
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.00125	UB	0.00049	UB	0.000017	J	0.000014	UB	0.00023		0.00011	UB	0.0019	J	0.0006	UB		
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.00050		0.00044		0.000009	U	0.000009	U	0.00007	J	0.00011		0.0004	J	0.0003	U		
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.00056	UB	0.00058	UB	0.000011	J	0.000013	UB	0.00015		0.00011	UB	0.0005	J	0.0005	UB		
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.00041		0.00045		0.000012	J	0.000011	J	0.00013		0.00010		0.0017	J	0.0022			
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.00070	UB	0.00062	UB	0.000014	J	0.000010	UB	0.00022		0.00011	UB	0.0078		0.0005	UB		
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.00075		0.00078		0.000010	J	0.000013	J	0.00007	J	0.00011		0.0176		0.0006	J		
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.00072		0.00077		0.000009	U	0.000009	U	0.00008	J	0.00013		0.0022		0.0003	U		
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.00080	UB	0.00095	UB	0.000021		0.000017	UB	0.00015		0.00028	UB	0.0237		0.0020	UB		

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Analyte				Lead				Magnesium				Manganese				Mercury			
				SW6020A Total		SW6020A Dissolved		SW6020A Total		SW6020A Dissolved		SW6020A Total		SW6020A Dissolved		SW7470A Total		SW7470A Dissolved	
Method Fraction HHSL HHSL Source Unit				0.015 Tapwater RSL mg/L		-- -- mg/L		-- -- mg/L		-- -- mg/L		0.043 Tapwater RSL mg/L		-- -- mg/L		0.000063 Tapwater RSL mg/L		-- -- mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.000070	UB	0.000091	UB	14.9		14.8		0.00645		0.00013	J	0.00002	U	0.00002	U
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	0.0237		0.00107		21.6		17.9		2.60		0.00144		0.00002	U	0.00002	U
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.000035	UB	0.000028	UB	17.8		18.4		0.00095	J	0.00021	J	0.00002	U	0.00002	U
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.000012	UB	0.000043	UB	18.1		18.3		0.00004	UJ	0.00008	J	0.00002	U	0.00002	U
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.000034		0.000113		27.8		28.0		0.00062		0.00027		0.00002	U	0.00002	U
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.000042	UB	0.000015	UB	20.2		20.7		0.00408		0.00006	J	0.00002	U	0.00002	U
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.000032	UBJ	0.000007	UB	20.0		20.3		0.00267		0.00026	UB	0.00002	U	0.00003	UB
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.000262	J	0.000013	UB	20.7		20.6		0.00280		0.00165	UB	0.00004	UB	0.00002	U
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.000014	J	0.000007	J	21.6		22.1		0.0729	J	0.00035	J	0.00002	U	0.00002	U
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.000012	UB	0.000019	UB	22.7		23.6		0.00624		0.00050	UB	0.00006	UB	0.00004	UB
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.000012	J	0.000046		11.8		11.8		0.00009	J	0.00010	J	0.00002	U	0.00002	U
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.000224		0.000016	UB	13.3		13.9		0.00143		0.00018	UB	0.00006	UB	0.00003	UB
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.000009	J	0.000019	J	19.6		19.8		0.00004	U	0.00004	U	0.00002	U	0.00002	U
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.000028	UB	0.000029	UB	20.6		21.3		0.00034		0.00006	UB	0.00005	UB	0.00002	UB
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.000011	J	0.000012	J	17.5		17.8		0.00008	J	0.00004	U	0.00002	U	0.00002	U
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.000069	UB	0.000029	UB	20.3		21.2		0.00255		0.00021	UB	0.00004	UB	0.00003	UB
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.000023		0.000017	J	17.4		17.2		0.00052		0.00005	J	0.00002	U	0.00002	U
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.000009	J	0.000009	J	15.6		15.7		0.00024	J	0.00004	U	0.00002	U	0.00002	U
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.000053	UB	0.000103	UB	15.1		16.0		0.00638		0.00250	UB	0.00002	U	0.00004	UB

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				Analyte		Molybdenum		Nickel		Potassium		Selenium							
				Method	Fraction	SW6020A	SW6020A	SW6020A	SW6020A	SW6020A	SW6020A	SW6020A	SW6020A						
				HHSL	HHSL	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved						
				Source	Source	0.01	--	0.039	--	--	--	0.05	--						
				Tapwater RSL	--	Tapwater RSL	--	Tapwater RSL	--	EPA MCL	--								
				Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.00016		0.00018		0.00016	J	0.00007	J	0.79		0.76		0.0006	J	0.0005	J
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	0.00017	UB	0.00021	UB	0.00945		0.00012	J	2.64		0.89		0.0004	J	0.0004	J
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.00845		0.00849		0.00041		0.00044		1.05		1.10		0.112		0.113	
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.00849		0.00851		0.00042		0.00043		1.09		1.07		0.113		0.114	
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.00486		0.00504		0.00029		0.00027		1.41		1.43		0.211		0.211	
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.00126		0.00126		0.00011	J	0.00009	J	0.90		0.96		0.137		0.137	
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.00186		0.00149		0.00013	J	0.00007	UB	1.06		1.03		0.0875		0.0908	
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.00203		0.00155		0.00020	J	0.00008	UB	1.01		1.11		0.0873		0.0918	
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.00011		0.00014		0.00014	J	0.00004	U	0.84		0.85		0.125		0.125	
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.00013		0.00013		0.00012	J	0.00011	UB	0.93		0.93		0.139		0.140	
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.00013		0.00013		0.00005	J	0.00005	J	0.61		0.51		0.0346		0.0344	
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.00014		0.00011		0.00018	J	0.00011	UB	0.59		0.58	UB	0.0507		0.0506	
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.00020		0.00019		0.00004	J	0.00007	J	1.07		1.08		0.0014		0.0015	
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.00018		0.00020		0.00011	J	0.00008	UB	1.16		1.20		0.0064		0.0070	
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.00012		0.00012		0.00011	J	0.00008	J	0.48		0.47		0.238		0.239	
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.00029		0.00028		0.00025		0.00012	UB	0.84		0.83		0.0833		0.0833	
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.00014		0.00014		0.00009	J	0.00007	J	0.87		0.79		0.162		0.158	
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.00014		0.00014		0.00004	U	0.00004	U	0.90		0.90		0.193		0.190	
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.00009	J	0.00006	J	0.00013	J	0.00017	UB	0.61		0.66	UB	0.250		0.258	

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				Analyte		Silver		Sodium		Thallium		Uranium						
				Method	Fraction	SW6020A Total	SW6020A Dissolved	SW6020A Total	SW6020A Dissolved	SW6020A Total	SW6020A Dissolved	SW6020A Total	SW6020A Dissolved					
				HHSL		0.0094	--	--	--	0.00002	--	0.0004	--					
				HHSL Source		Tapwater RSL	--	--	--	Tapwater RSL	--	Tapwater RSL	--					
				Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.000009	U	0.000009	U	3.07		3.04		0.000009	U	0.000009	U	0.000387		0.000384
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	0.000062		0.000009	U	4.11		3.91		0.000051		0.000009	U	0.000741		0.000468
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.000009	U	0.000009	U	3.79		3.85		0.000017	J	0.000010	J	0.00324		0.00324
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.000009	U	0.000009	U	3.86		3.84		0.000018	J	0.000019	J	0.00324		0.00323
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.000009	U	0.000009	U	5.02		5.09		0.000009	U	0.000009	U	0.00411		0.00410
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.000009	U	0.000009	U	4.06		4.15		0.000009	U	0.000009	U	0.00209		0.00206
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.000009	U	0.000009	U	4.35		4.40		0.000009	U	0.000009	U	0.00202		0.00188
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.000009	U	0.000009	U	4.55		4.50		0.000014	J	0.000011	J	0.00207		0.00202
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.000009	U	0.000009	U	4.53		4.65		0.000017	J	0.000009	U	0.000759		0.000743
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.000009	U	0.000009	U	4.77		4.98		0.000009	U	0.000009	U	0.000786		0.000796
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.000009	U	0.000009	U	4.23		4.24		0.000020	J	0.000023		0.000528		0.000528
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.000031		0.000009	U	4.48		4.65		0.000009	U	0.000009	U	0.000642		0.000646
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.000009	U	0.000009	U	4.06		4.14		0.000010	J	0.000014	J	0.000397		0.000402
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.000009	U	0.000009	U	4.36		4.57		0.000009	U	0.000009	U	0.000410		0.000416
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.000009	U	0.000009	U	4.25		4.29		0.000009	U	0.000009	U	0.000461		0.000448
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.000009	U	0.000009	U	4.59		4.83		0.000009	U	0.000009	U	0.000576		0.000581
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.000009	U	0.000009	U	3.97		3.86		0.000009	U	0.000009	U	0.000534		0.000536
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.000009	U	0.000009	U	3.40		3.41		0.000009	U	0.000009	U	0.000706		0.000694
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.000009	U	0.000009	U	4.17		4.47		0.000014	J	0.000009	U	0.000979		0.000991

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Analyte				Vanadium				Zinc				A/C Balance (+/- 5)		Anions		Cations		Chloride		Nitrate/Nitrite	
Method				SW6020A		SW6020A		SW6020A		SW6020A		SM1030E		SM1030E		SM1030E		USEPA 300.0		USEPA 353.2	
Fraction				Total		Dissolved		Total		Dissolved		--		--		--		--		--	
HHSL				0.0086		--		0.6		--		--		--		--		250		0.2	
HHSL Source				Tapwater RSL		--		Tapwater RSL		--		--		--		--		Secondary MCL		Tapwater RSL	
Unit				mg/L		mg/L		mg/L		mg/L		%		meq/L		meq/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	0.00045		0.00042		0.0009	J	0.0021		0.8		3.92		3.98		1.08		0.542	
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	0.00889		0.00046		0.0807		0.0011	UB	6.3		5.67		5.00		1.20		0.165	
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	0.00257		0.00266		0.0013	J	0.0022		1.5		5.15		5.31		2.02		0.785	
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	0.00263		0.00255		0.0012	J	0.0012	J	1.9		5.19		5.38		1.86		0.794	
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	0.00208		0.00215		0.0013	UB	0.0011	UB	2.9		7.79		8.25		2.99		0.667	
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	0.00043		0.00041		0.0009	J	0.0006	J	1.5		5.6		5.78		1.98		1.53	
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	0.00053		0.00055		0.0012	UB	0.0008	UB	3.4		5.40		5.78		1.76		0.519	
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	0.00050		0.00053		0.0016	UB	0.0009	UB	5.0		5.33		5.89		1.73		0.518	
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	0.00022		0.00019	J	0.0005	U	0.0006	J	1.9		6.32		6.56		2.07		0.402	
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	0.00024	J	0.00024	J	0.0006	UB	0.0007	UB	3.6		6.28		6.75		2.06		0.550	
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	0.00023		0.00024		0.0006	J	0.0042		2.8		4.29		4.54		1.46		0.445	
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	0.00030	J	0.00027	J	0.0010	UB	0.0007	UB	2.9		4.73		5.01		1.66		0.315	
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	0.00016	J	0.00017	J	0.0007	J	0.0010	J	2.6		5.10		5.37		1.26		4.18	
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	0.00019	J	0.00017	J	0.0008	UB	0.0008	UB	2.9		5.27		5.59		1.28		0.082	
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	0.00033		0.00036		0.0009	J	0.0007	J	2.5		4.99		5.25		1.49		0.014	J
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	0.00033	J	0.00029	J	0.0016	UB	0.0010	UB	3.0		5.65		6.00		1.63		0.285	
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	0.00100		0.00105		0.0011	J	0.0007	J	0.6		5.32		5.39		1.70		1.01	
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	0.00087		0.00092		0.0007	J	0.0006	J	2.4		4.8		5.04		2.46		0.473	
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	0.00122		0.00114		0.0009	UB	0.0027	UB	1.9		5.79		6.01		2.44		0.238	

Table 5-9
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				Sulfate		Alkalinity		Alkalinity, Bicarbonate		Alkalinity, Carbonate		Alkalinity, Hydroxide		Total Hardness				Total Dissolved Solids		Total Suspended Solids		
				USEPA 300.0		SM2320B		SM2320B		SM2320B		SM2320B		SM2340B	SM2340B		SM2340B		SM2540C		SM2540D	
				--		--		--		--		--		Total	Dissolved		--		--		--	
				250		--		--		--		--		--	--		--		--		--	
				Secondary MCL		--		--		--		--		--	--		--		--		--	
				mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	mg/L		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	9.34		188		188		3	U	3	U	198		192		211.00		5.0	U	
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	10.1		276		276		0.6	U	0.6	U	351		240		308		312		
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	60.6		195		195		3	U	3	U	256		256		299.00		5.0	U	
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	62.4		195		195		3	U	3	U	258		260		299.00		5.0	U	
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	119		266		266		0.6	U	0.6	U	402		400		455		5.0	U	
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	71.9		206		206		3	U	3	U	278		279		336.00		5.0	U	
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	53.7		215		215		0.6	U	0.6	U	275		278		295		5.0	U	
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	52.3		213		213		0.6	U	0.6	U	275		283		296		5.0	U	
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	98.5		214		214		3	U	3	U	312		317		358		5.0	U	
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	90.9		220		220		0.6	U	0.6	U	323		326		367		5.0	U	
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	26.5		188		188		3	U	3	U	219		217		245		5.0	U	
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	36.0		200		200		0.6	U	0.6	U	235		240		254		5.0	U	
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	11.0		246		246		3	U	3	U	255		258		263		5.0	U	
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	16.3		249		249		0.6	U	0.6	U	266		268		258		5.0	U	
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	44.8		204		204		3	U	3	U	251		253		278		5.0	U	
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	52.9		229		229		0.6	U	0.6	U	283		289		302		5.0	U	
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	76.8		187		187		3	U	3	U	266		260		342		5.0	U	
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	48.7		189		186		3	J	3	U	241		243		268		5.0	U	
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	77.3		209		209		0.6	U	0.6	U	288		290		330		5.0	U	

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				Analyte		Solids, Total Dissolved Calculated		Total Dissolved Solids Balance		Total Organic Carbon	
				Method		SM1030E		SM1030E		SM5310C	
				Fraction		--		--		--	
				HHSL		--		--		--	
				HHSL Source		--		--		--	
				Unit		mg/L		mg/L		mg/L	
Location ID	Sample ID	Sample Date	Sample Type	Result	Qualifier	Result	Qualifier	Result	Qualifier		
PZ-1	SMCMMCOU-GW-PZ-1-051321-0	05/13/2021	N	194.76		1.08		0.70			
PZ-1	SMCMMCOU-GW-PZ-1-091621-0	09/16/2021	N	266.47		1.16		0.14	J		
MC-1	SMCMMCOU-GW-MC-1-051321-0	05/13/2021	N	275.96		1.08		1.10			
MC-1	SMCMMCOU-GW-MC-1-051321-2	05/13/2021	FD	279.06		1.07		1.10			
MC-1	SMCMMCOU-GW-MC-1-091621-0	09/16/2021	N	430.78		1.06		0.60			
MC-13	SMCMMCOU-GW-MC-13-051321-0	05/13/2021	N	302.42		1.11		0.50			
MC-13	SMCMMCOU-GW-MC-13-091521-0	09/15/2021	N	288.71		1.02		0.08	J		
MC-13	SMCMMCOU-GW-MC-13-091521-2	09/15/2021	FD	288.06		1.03		0.29	J		
MC-11	SMCMMCOU-GW-MC-11-051421-0	05/14/2021	N	347.47		1.03		0.50			
MC-11	SMCMMCOU-GW-MC-11-091521-0	09/15/2021	N	346.52		1.06		0.07	U		
MC-10	SMCMMCOU-GW-MC-10-051421-0	05/14/2021	N	225.26		1.09		0.43	J		
MC-10	SMCMMCOU-GW-MC-10-091521-0	09/15/2021	N	250.31		1.01		0.07	U		
MC-8	SMCMMCOU-GW-MC-8-051421-0	05/14/2021	N	259.86		1.01		0.60			
MC-8	SMCMMCOU-GW-MC-8-091521-0	09/15/2021	N	266.43		0.97		0.07	U		
MC-6	SMCMMCOU-GW-MC-6-051421-0	05/14/2021	N	263.06		1.06		0.60			
MC-6	SMCMMCOU-GW-MC-6-091521-0	09/15/2021	N	299.68		1.01		0.07	U		
DV-2	SMCMMCOU-GW-DV-2-051721-0	05/17/2021	N	289.36		1.18		0.50			
DV-3	SMCMMCOU-GW-DV-3-051421-0	05/14/2021	N	256.64		1.04		0.50			
DV-3	SMCMMCOU-GW-DV-3-091521-0	09/15/2021	N	316.31		1.04		0.29	J		

Notes:

1. **Values** indicates detected values.

2. Values shaded with gray are detected results that exceed the HHSL.

^a Values are the individual tapwater RSL values for nitrate and nitrite. The nitrate+nitrite RSL is based on the lesser of nitrate RSL and nitrite RSL.

Acronyms and Abbreviations:

% = percent
-- = not applicable
A/C = anion/cation
ESL = ecological screening level
FD = field duplicate
HHSL = human health screening level
ID = identification
MCL = maximum contaminant level
meq/L = milliequivalent per liter
mg/L = milligram per liter
N = primary sample
RSL = regional screening level
USEPA = United States Environmental Protection Agency

Qualifiers:

J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

U = The analyte was analyzed for but not detected. The associated value is the analyte method detection limit adjusted for sample variables such as volume, mass, moisture, and dilution.

UB = The analyte is considered nondetect at the listed value due to associated blank contamination.

UJ = The analyte was analyzed for but was not detected. The reported method detection limit is approximate and may be inaccurate or imprecise.

Screening Level Hierarchy:

HHSLs were selected based on the lower of the following:

- Primary MCLs (USEPA 2009)
- Secondary MCLs (USEPA 2009)
- USEPA tapwater RSL for an estimated lifetime cancer risk of 1×10^{-6} or a noncancer hazard quotient of 0.1 (USEPA 2021).

No ESLs were selected for groundwater.

Screening Level Sources:

Secondary MCL = USEPA secondary MCL (USEPA 2009).

Primary MCL = USEPA primary MCL (USEPA 2009).

Tapwater RSL = USEPA tapwater regional screening level for estimated lifetime cancer risk of 1×10^{-6} or a noncancer hazard quotient of 0.1 (USEPA 2021).

References:

USEPA. 2009. List of Contaminants and their MCLs. USEPA. Web page. Updated May 2009. Available online at: <http://water.epa.gov/drink/contaminants>.

USEPA 2021. Regional Screening Levels for Residential Tapwater. May. Available online at: <http://www2.epa.gov/risk/risk-based-screening-table-generic-tables/>.