

**FIFTH FIVE-YEAR REVIEW REPORT FOR
KERR-MCGEE CHEMICAL CORP. (SODA SPRINGS PLANT) SUPERFUND SITE
CARIBOU COUNTY, IDAHO**



SEPTEMBER 2022

**Prepared by
U.S. Environmental Protection Agency
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LIST OF ABBREVIATIONS & ACRONYMS

AOC	Area of Concern
BHHRA	Baseline Human Health Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMT	Continuous Multichannel Tubing
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
DRO	Diesel Range Organics
EPA	United States Environmental Protection Agency
FFS	Focused Feasibility Study
FIAB	Former Industrial Area Boundary
FYR	Five-Year Review
IC	Institutional Control
ICP	Institutional Control Plan
IDEQ	Idaho Department of Environmental Quality
IDWR	Idaho Department of Water Resources
KMCC	Kerr-McGee Chemical Corporation
LTM	Long-Term Monitoring
MAP	Magnesium Ammonia Phosphate
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram
µg/L	micrograms per liter
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PRP	Potentially Responsible Party
PSL	Project Screening Level
RAO	Remedial Action Objective
RBPS	Risk-Based Performance Standard
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision

RPM	Remedial Project Manager
RSL	Regional Screening Level
SLERA	Screening-Level Ecological Risk Assessment
SRI	Supplemental Remedial Investigation
TBP	Tributyl Phosphate
TCRA	Time-Critical Removal Action
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

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

The U.S. Environmental Protection Agency is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii)) and considering EPA policy.

This is the fifth FYR for the Kerr-McGee Chemical Corp. (Soda Springs Plant) Superfund site (the Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE). The Site consists of one operable unit (OU), which is addressed in this FYR.

The EPA remedial project manager (RPM) Zoë Lipowski led the FYR. Participants included Stan Christensen from Idaho Department of Environmental Quality (IDEQ) and Johnny Zimmerman-Ward and Alison Cattani from EPA support contractor Skeo. The environmental trust responsible for the cleanup, Greenfield Environmental Multistate Trust, LLC (Multistate Trust), was notified of the initiation of the FYR. The review began on 11/15/2021. Refer to Appendix A for additional resources and to Appendix B for the Site's chronology of events.

Site Background

The Site is located about 1.5 miles north of the city of Soda Springs in Caribou County, Idaho, and consists of approximately 547 acres of land on the east side of State Route 34 (Figure 1). Chemical manufacturing began at the Site in 1963 and continued until 2009. From 1963 to 1999, Kerr-McGee Chemical Corporation (KMCC) operated a vanadium production plant, generated liquid industrial wastes, and stored them in unlined on-site ponds. The unlined holding ponds leaked chemicals into groundwater beneath the Site. Site operations and waste disposal practices contaminated groundwater beneath and downgradient of the Site. Secondary by-products such as fertilizer and cathode materials for rechargeable batteries were also produced between 1997 and 2009. In 2005, KMCC created Tronox Inc. (Tronox), a corporate "shell" company, and transferred the Site (and hundreds of other contaminated sites) without the funds required for cleanup. KMCC then sold the most valuable oil and gas assets to Anadarko Petroleum Corporation (Anadarko). Unable to pay for cleanup of the KMCC sites, Tronox filed for bankruptcy in 2009. The U.S. Bankruptcy Court approved a Settlement Agreement in 2011 that established several trusts, including the Multistate Trust, with limited funds to address only the most pressing environmental actions. A federal lawsuit against Anadarko for fraudulent conveyance led to a 2015 court-approved settlement. Under the Anadarko Litigation Settlement, the Site received additional funds which allowed the Multistate Trust to implement several environmental actions at the site. The Multistate Trust has been responsible for implementing environmental investigations and actions since 2011.

The former industrial area of the Site covers about 180 acres in the northern part of the Site and is currently unused. This area of the Site is fenced and consists of capped waste areas (West Waste Repository, East Waste Repository, and the East Calcine Repository), monitoring wells, erosion control measures and wastewater tanks. Historic waste features and buildings have been removed during remedial actions (Figure 2). The remaining areas of the former industrial area are used for agriculture or

remain undeveloped as scrub-shrub habitat. The former industrial area of the Site is bordered on the south and southeast by agricultural cropland owned by the Multistate Trust and on the west by the Monsanto Corporation phosphate processing plant across State Route 34.¹ Monsanto Corporation also owns the property to the north and northeast of the former industrial area. A fertilizer packaging facility called the Evergreen facility is located southwest of the Site.

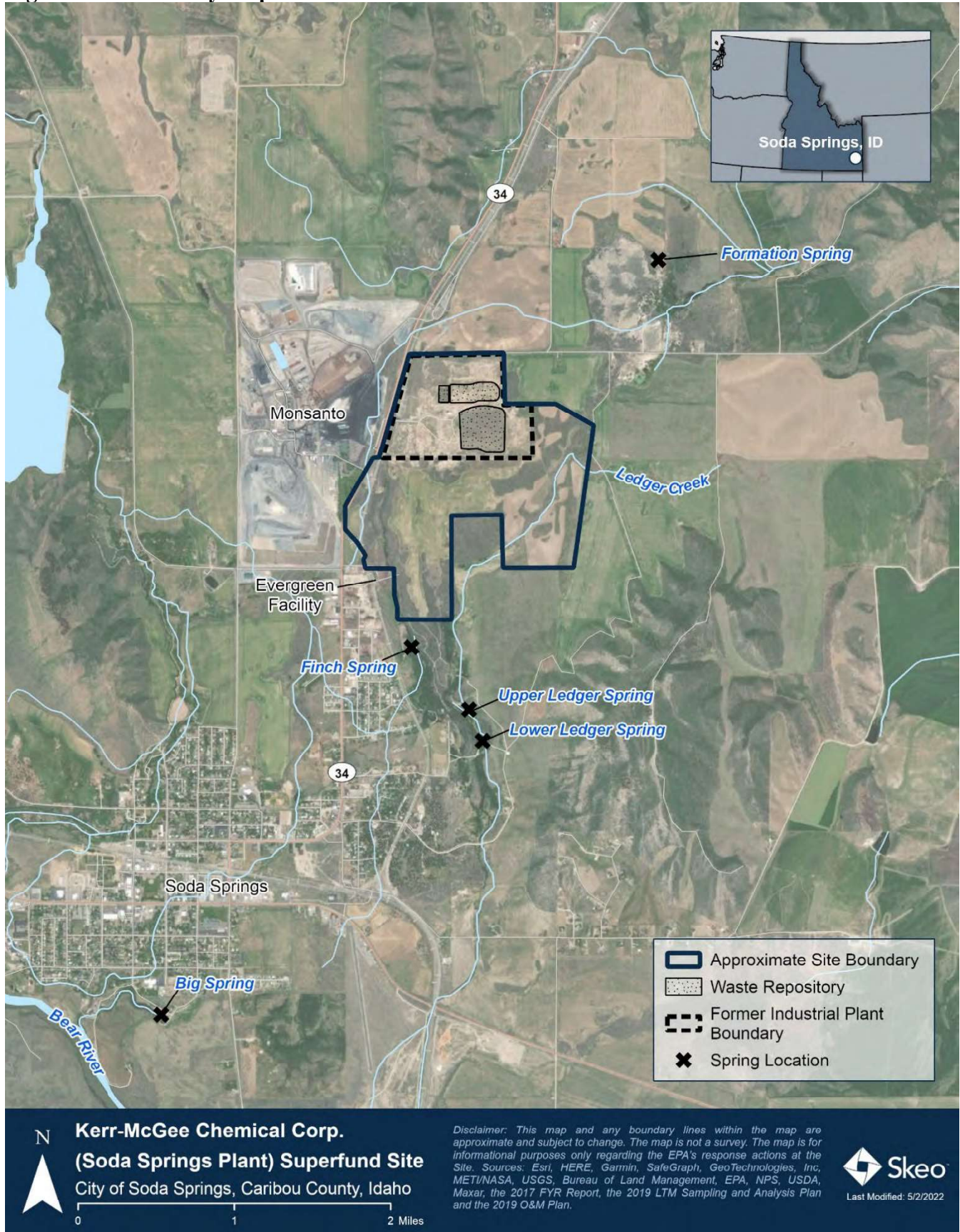
The Site is located within Idaho's Bear River Basin. The Site lies in a valley at approximately 6,000 feet above sea level. The valley is bordered by northwest trending mountain ranges reaching about 8,000 feet above sea level. Natural springs are important hydrologic features of the basin and emerge to the ground surface at several locations as a result of discharge from the underlying groundwater aquifer. Formation Spring Creek is north of the Site and emanates from Formation Spring. Ledger Creek is a partially ephemeral creek originating from several springs located east of the Site that traverses the southeastern portion of the Site and eventually discharges into the Bear River to the south. The Ledger Creek drainage south of the Site is a marshy wetland with various seeps and springs, indicating that shallow groundwater discharges to the drainage in that area. Finch Spring is a particularly important surface water feature and is one of several seeps and springs located south of the Site. There is a hydraulic connection between the Site and Finch Spring, as evidenced by historical surface water sample results with elevated site contaminant concentrations, indicating groundwater beneath the Site is a source of water that discharges in and near Finch Spring. Further south, Big Spring flows into Big Spring Creek and the Bear River; this spring has also shown detections of some site contaminants, indicating migration from the Site and/or other industrial or waste disposal locations to the spring.

The principal regional groundwater formation is the Blackfoot Basalt aquifer, which consists of an upper unconfined surficial aquifer in the upper basalt flows and scoria layers, and a semi-confined multi-layered carbonate-rich aquifer in the lower basalt flows and scoria cones. Groundwater at the Site occurs predominantly as an interconnected fracture system throughout the Blackfoot Basalt, with depths to groundwater beneath the Site generally ranging from 25 to 65 feet below ground surface. A limited area of saturated alluvium occurs on the eastern portion of the Site. Groundwater flow and associated contaminant transport from the Site is to the south-southwest and is controlled by north-south oriented faults (Figure D-1 in Appendix D). Past volcanic activity and its lingering geothermal activity has caused numerous springs and seeps where groundwater daylights in the Soda Springs region. As a result, groundwater flowing underneath the Site discharges to seeps, springs, and surface water bodies located within the Finch Creek, Little Springs Creek, and Big Springs Creek drainages.

The municipal water supply for the city of Soda Springs comes from springs located near the Site. Formation Spring is located northeast of the Site and is upgradient, and Upper and Lower Ledger Springs are located to the south and downgradient of the Site (Figure I-1). The municipal water supply springs are sampled as part of the Site's Long-Term Monitoring (LTM) program. The city water supply is not impacted by the Site's contamination and multiple lines of evidence indicate that the water supply will not be impacted if nearby groundwater pumping conditions change. There are also private domestic wells in use near the Site. In 2014, Monsanto and the Multistate Trust conducted a domestic well survey and water quality sampling event, which found no contamination in excess of screening levels is being consumed. The Multistate Trust is in the process of conducting another well survey for inclusion in a Petition for Area of Drilling Concern to the Idaho Department of Water Resources (IDWR), expected Summer 2022.

¹ The Monsanto Chemical Co. (Soda Springs Plant) is a Superfund Site. Site profile page located here: <https://www.epa.gov/superfund/monsanto-soda-springs>.

Figure 1: Site Vicinity Map



FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Kerr-McGee Chemical Corp. (Soda Springs Plant)		
EPA ID: IDD041310707		
Region: 10	State: Idaho	City/County: Soda Springs/Caribou
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	Has the Site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Zoë Lipowski, with additional support provided by Skeo		
Author affiliation: EPA Region 10		
Review period: 11/15/2021 – 9/25/2022		
Date of site inspection: 4/26/2022		
Type of review: Statutory		
Review number: 5		
Triggering action date: 9/25/2017		
Due date (five years after triggering action date): 9/25/2022		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

Due to significant uncontrolled releases of contaminated process water to groundwater in 1981 and 1989, EPA added the Site to the National Priorities List (NPL) on October 4, 1989. Under EPA’s oversight, KMCC conducted site characterization activities from 1991 through 1994. In 1995, KMCC completed a Remedial Investigation and Feasibility Study (RI/FS).

Based on the 1995 RI/FS and associated risk assessment, the primary sources of the groundwater contamination were the leaching of industrial wastewaters from unlined ponds, predominantly the Scrubber Pond, S-X Pond, and the East Calcine Repository into groundwater (Figure 2 shows these former unlined ponds). The primary pathway of concern at the Site was potential human ingestion of groundwater. Human health risk was also associated with incidental ingestion of or direct contact with roaster reject material, known to have high vanadium concentrations. The 1995 Record of Decision (ROD) designated arsenic, manganese, molybdenum, vanadium, tributyl phosphate (TBP) and total petroleum hydrocarbons (TPH) as the contaminants of concern (COCs) in groundwater. Human health risks were not identified based on direct contact with surface water.

The 1995 ecological risk assessment did not find substantial ecological receptor risks from the Site. Subsequent to the baseline ecological risk assessment, KMCC evaluated potential impacts to Finch Pond, located one mile from the Site. Finch Pond sediments were sampled in 1995 to evaluate whether molybdenum or vanadium have accumulated in sediments, resulting in potential increased risk to waterfowl and other water birds via the food chain pathway. Based on the results, EPA determined that the likelihood of significant ecological effects was low and no impacts were identified.

Response Actions

EPA signed the ROD for the Site on September 28, 1995, and amended it on July 13, 2000.

The 1995 ROD designated the remedial action objectives (RAOs) for the Site. The 2000 ROD Amendment did not change the RAOs. The RAOs include the following:

- Prevent the transport of COCs from facility sources to groundwater; transport may result in COC concentrations in groundwater exceeding risk-based concentrations (RBCs) or Maximum Contaminant Levels (MCLs) for drinking water.
- Prevent ingestion by humans of groundwater containing COCs that have concentrations exceeding RBCs or MCLs.
- Prevent transport of COCs from groundwater to surface water in concentrations that may result in exceedances of RBCs or MCLs in the receiving surface water body.
- Prevent the ingestion/direct contact with the roaster reject area material having vanadium concentrations in excess of 14,000 milligrams per kilogram (mg/kg).
- Prevent the transport of COCs from the active calcine tailings area to the surrounding soils in amounts that exceed the 95 percent upper threshold limit (UTL) concentration of the background soils.

The ultimate goal of the remedial action is to restore groundwater impacted by site sources to meet all RBCs for COCs (other than arsenic) and the MCL for arsenic. The MCL (for arsenic) and the RBCs (for all other COCs) are the established site-specific project screening levels (PSLs) for COCs at the Site (Table 1).

Table 1: Groundwater COC PSLs

Groundwater COC	1995 ROD PSL (µg/L) ^a
Vanadium	260
Molybdenum	180
Tributyl Phosphate	180
Total Petroleum Hydrocarbons	730
Manganese	180
Arsenic	50 ^b
<i>Notes:</i>	
a. Except for arsenic, the PSLs are risk-based concentrations established at the time of the 1995 ROD to correspond to a hazard quotient of 1 for non-carcinogens and a 1×10^{-6} level for carcinogenic risks.	
b. National Primary Drinking Water Regulations MCL at the time of the ROD, however the current Arsenic MCL is 10 µg/L.	
µg/L – micrograms per liter	

The 1995 ROD included the following remedy components:

- Elimination of uncontrolled liquid discharges from the Site by replacing unlined ponds with lined ponds.
- Excavation and reuse/recycling of buried calcine tailings (by using calcine to manufacture fertilizer on site for an eight-year period).
- Excavation and disposal of S-X Pond and Scrubber Pond solids into lined ponds on site.
- In-place capping of windblown calcine and roaster reject material.
- Semiannual groundwater monitoring to determine the effectiveness of source control.
- Establishment of institutional controls (deed restrictions, limited site access, well restrictions and/or wellhead protection) in affected areas downgradient of the former industrial area to prevent ingestion of groundwater for as long as the groundwater exceeds the risk-based concentrations.

The 1995 ROD contained a provision whereby the remedy and/or performance standards are to be re-evaluated should contaminant levels in groundwater cease to decline and/or remain constant at levels higher than the remediation goal over some portion of the plume. This provision was not changed in the 2000 ROD Amendment.

As part of the overall site strategy, although not part of the selected remedy, KMCC developed a waste minimization/treatment plan to eliminate liquid discharges to groundwater from the facility within two years. The plan included the following:

- Construction of new lined ponds to contain the main source of groundwater contamination (S-X raffinate that discharged to leaking unlined ponds).
- Construction and operation of a phosphoric acid plant to consume scrubber water and calcine tailings to produce phosphoric acid, ammoniated phosphate, and gypsum fertilizers as marketable products.

EPA signed a ROD Amendment on July 13, 2000. Instead of reusing calcine tailings and roaster reject materials for use as fertilizer, the ROD Amendment called for containment of these materials. The fertilizer process did not prove successful and the capping alternative for this waste material (which was

included in the FS) was subsequently selected as part of the remedy for the Site. The final selected remedy included capping of the calcine, roaster reject and rejected (off-specification) fertilizer. The amended remedy also called for establishing institutional controls to restrict land use to ensure the capped area will not be disturbed.

On September 22, 2016, EPA approved a change in the sampling frequency for the Site from semi-annual to annual in accordance with an EPA memorandum documenting a non-significant change to the ROD. Historical data demonstrated that long-term data trends were still evident with an annual monitoring frequency.

EPA signed an Action Memorandum on January 22, 2018, for the Time-Critical Removal Action of the 10-Acre Pond. The potential release of water and sediment from the 10-Acre Pond represented a significant potential exposure risk to human health and the environment.

Status of Implementation

EPA and KMCC entered into a Consent Decree on August 21, 1997, in which KMCC agreed to implement the remedies specified in the 1995 ROD.

Remedial actions taken as part of the implementation of the 1995 ROD and the 2000 ROD Amendment are summarized below (Figure 2). Appendix C provides additional information about the historic source areas and remedial components created as part of the remedial actions.

- Reclamation of the S-X Pond after the solids were moved to an on-site, double-lined and capped landfill (West Waste Repository)² and the liquids were moved to two lined ponds (East and West 5-Acre Ponds) (1996).
- Construction of the additional double-lined, 10-Acre Pond (1997).
- Installation of a baghouse system to eliminate the wet-scrubber and process water discharge, reclamation of the Scrubber Pond after moving the solids to the West Waste Repository and moving liquids to two lined ponds (East and West 5-Acre Ponds) (1997).
- Installation of a cap at the East Calcine Repository over the windblown calcine, roaster reject, reject fertilizer and active calcine tailings (2001).
- Reclamation of the East and West 5-Acre Ponds with contents placed in the 10-Acre Pond (2004).
- Consolidation and off-site disposal of residual waste from the manufacturing plants (2015-2016).

Although not required by the 1995 ROD or 2000 ROD Amendment, the vanadium plant and fertilizer plants were demolished in 2002 and 2003, respectively.

The initial remedial activities resulted in consistent and substantial decrease in groundwater contamination. By about 2007, the rate of improvement began to slow. Groundwater COC concentration trend graphs are provided in Appendix J. In 2009, Tronox filed for bankruptcy. In 2011, ownership and environmental liabilities were transferred to the Multistate Trust. The majority of the funding to perform additional activities at the Site was not available until 2015 and 2016 when money from the Anadarko Litigation Settlement resulted in additional funding for remediation. Since receiving funding, the Multistate Trust, under oversight of EPA and in consultation with IDEQ, conducted additional site investigations as summarized below.

² This landfill has also been referred to as the “RCRA Landfill” in various site documents. There is no RCRA permit for the Site; however, the term “RCRA Landfill” has historically been used because this waste repository was reportedly designed and constructed to meet RCRA Subtitle D design standards. This area is currently referred to as the West Waste Repository.

Supplemental Remedial Investigation (SRI)

The Multistate Trust conducted the SRI in several phases from 2015 through 2018, including a Phase I SRI, a Phase II SRI and the 2018 SRI. The Site was divided into separate and distinct exposure areas: on-Site (Industrial area and Lower Field) and off-Site (b) (6) Property, Soda Springs (groundwater only), Big Spring Creek, Ledger Creek, and Unnamed Stream). The Multistate Trust summarized the results in the 2019 SRI Report. The SRI was performed to fill identified data gaps and to achieve the following objectives:

- Phase I SRI – investigate and characterize possible additional sources of site-related COCs within the former facility and augment and expand the existing groundwater monitoring well network.
- Phase II SRI – further investigate sources of site-related COCs, expand the existing monitoring well network to better define groundwater gradients, physical and anthropogenic effects on area groundwater, and the extent of contamination, and investigate city of Soda Springs water supply sources for potential site-related COC impacts.
- 2018 SRI – further characterize the nature and extent of primary site-related contamination (residual waste) and secondary site-related contamination (COCs transported by leaching or infiltration of waste liquids from former unlined ponds and ditches).

The current monitoring well network is shown on Figure I-1. The original monitoring well network (wells KM-1 through KM-13 and KM-15 through KM-19) was installed in 1991-1992; additional KM-series wells were installed as part of the Phase I SRI (KM-21 through KM-33, installed in 2015) and Phase II SRI (KM-34 through KM-48, installed in 2016-2017). The 2018 SRI included installation of 48 continuous multichannel tubing (CMT) wells, with each well containing multiple ports targeting groundwater at specific depths. The CMT well network was installed along multiple transects within and downgradient of the Site, including a background well; the Former Industrial Area Boundary (FIAB) Western Edge transect; the AOC-1 transect; the FIAB transect; the Evergreen transect; the East 6th Street North transect; the East Hooper Avenue transect; and the Bear River / Big Spring area (Figure I-1 in Appendix I).

In 2018 and 2019, the Multistate Trust implemented the 10-Acre Pond Time-Critical Removal Action (TCRA), which included removal of all liquid, sludge, liner, security fencing and snow fencing from the 10-Acre Pond area.³ The construction of a new waste repository was an integral component of the 10-Acre Pond TCRA. Excavation of calcine from the West Calcine Repository was integrated into the 10-Acre Pond TCRA for source removal, for mixing with and drying of liquids and sludges from the 10-Acre Pond, and for the calcine material to serve as a cushion base layer for construction/demolition waste to be placed in the repository. A new lined repository (East Waste Repository) was constructed to contain the waste materials from the 10-Acre Pond TCRA, the demolition debris from site buildings, and materials from the removal of the West Calcine Repository/S-X Pond, North and South Industrial Landfills and South Scrap Areas. The TCRA removal areas are shown in Figure D-2 in Appendix D. These activities were conducted to remove known primary sources of contaminants, with the objective of minimizing the site-related COCs leaching to groundwater. The Multistate Trust conducted confirmation sampling and the results were compared to EPA's Regional Screening Levels (RSLs) for residential soils (390 mg/kg). The results were less than EPA's residential RSLs. Concentrations in

³ KMCC constructed the 10-Acre Pond in 1997 to contain liquids and solids from vanadium processing and vanadium production wastes from closure of former unlined process ponds at the Site. Although the 10-Acre Pond was lined, there was a concern that the existing liner was reaching its functional life expectancy.

surface soil confirmation samples were greater than the protection of groundwater screening levels. Regrading of the surface topography of the former industrial area of the Site was also completed in 2019 to direct drainage and surface water runoff away from the source areas.

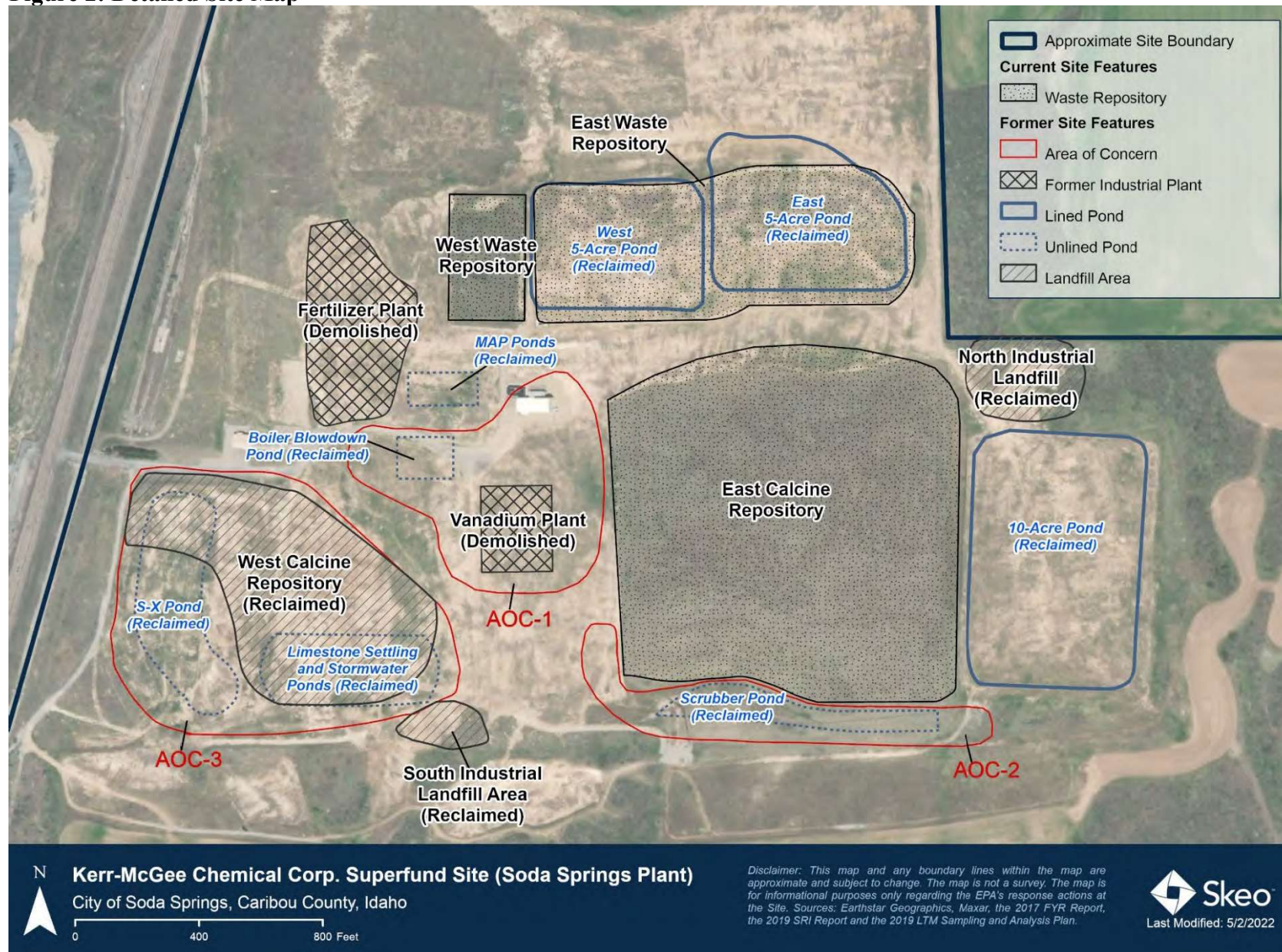
The SRI Report was issued in 2019, and included the following primary conclusions:

- Molybdenum and vanadium are the only two site-derived, persistent COCs in groundwater that have migrated vertically and laterally in groundwater downgradient of the Site.
- Arsenic and manganese were historically mobilized via reductive dissolution due to site operations involving organic compounds. As the organic compounds have degraded and conditions have become more oxidizing over time, both arsenic and manganese have become less mobile, and concentrations have decreased in groundwater.
- Lithium was added as a contaminant of potential concern (COPC). Although site activities increased concentrations of lithium in groundwater beneath the Site, the lack of correlation between off-site elevated lithium and off-site elevated molybdenum and vanadium suggests off-site exceedances are not site-related and instead may be naturally occurring.
- Two distinct molybdenum and vanadium groundwater plume cores emanate from the Site (Figure 3), largely due to historical releases from three areas of concern (AOCs; Figure 2): AOC-1, AOC-2, and AOC-3.
- Near-surface primary waste (pond residuals and calcine) and secondary waste (shallow subsurface overburden) are the most significant sources responsible for COC leaching to groundwater. These waste materials were removed to a significant extent as part of site demolition activities and the 10-Acre Pond TCRA. Along with site regrading activities to minimize infiltration, these actions are expected to substantially reduce COC concentrations in groundwater over time. The estimated time to reach cleanup levels for molybdenum is up to 50 years less in the zone between the FIAB Transect and the Evergreen Transect, and approximately 12 years less at the East 6th North Street Transect compared to pre-TCRA Site conditions.
- The city of Soda Springs water supply is not currently affected by site-related COCs and is not expected to be impacted in the future due to preferential plume flow paths and physical barriers to plume migration from the Site to the water supply springs (Figure I-1).
- Other non-site-related sources potentially contribute to groundwater impacts downgradient from the Site.

LTM Program

As part of the remedy, long-term groundwater monitoring at the Site has been conducted to assess the effectiveness of source control in achieving groundwater performance standards. Monitoring of water levels and water quality in monitoring wells and selected springs was conducted by Tronox in 1995 and then on a semi-annual basis through 2010, as required by the 1995 ROD. Following the establishment of the Multistate Trust, groundwater monitoring occurred on a semi-annual basis from 2011 to 2015. In 2016, EPA approved a change in the sampling frequency for the Site from semi-annual to annual in accordance with an EPA memorandum documenting a non-significant change to the ROD. Long-term groundwater and surface water monitoring has continued at the Site on an annual or semi-annual basis.

Figure 2: Detailed Site Map



Institutional Control (IC) Review

The ROD requires institutional controls such as deed restrictions, access restrictions, well restrictions and/or wellhead protection to prevent human ingestion of contaminated groundwater and wells from being developed as sources of drinking water within the area of contamination. Additionally, institutional controls are required in the ROD Amendment to prohibit activities on the capped area that could result in an unacceptable exposure to the COCs.

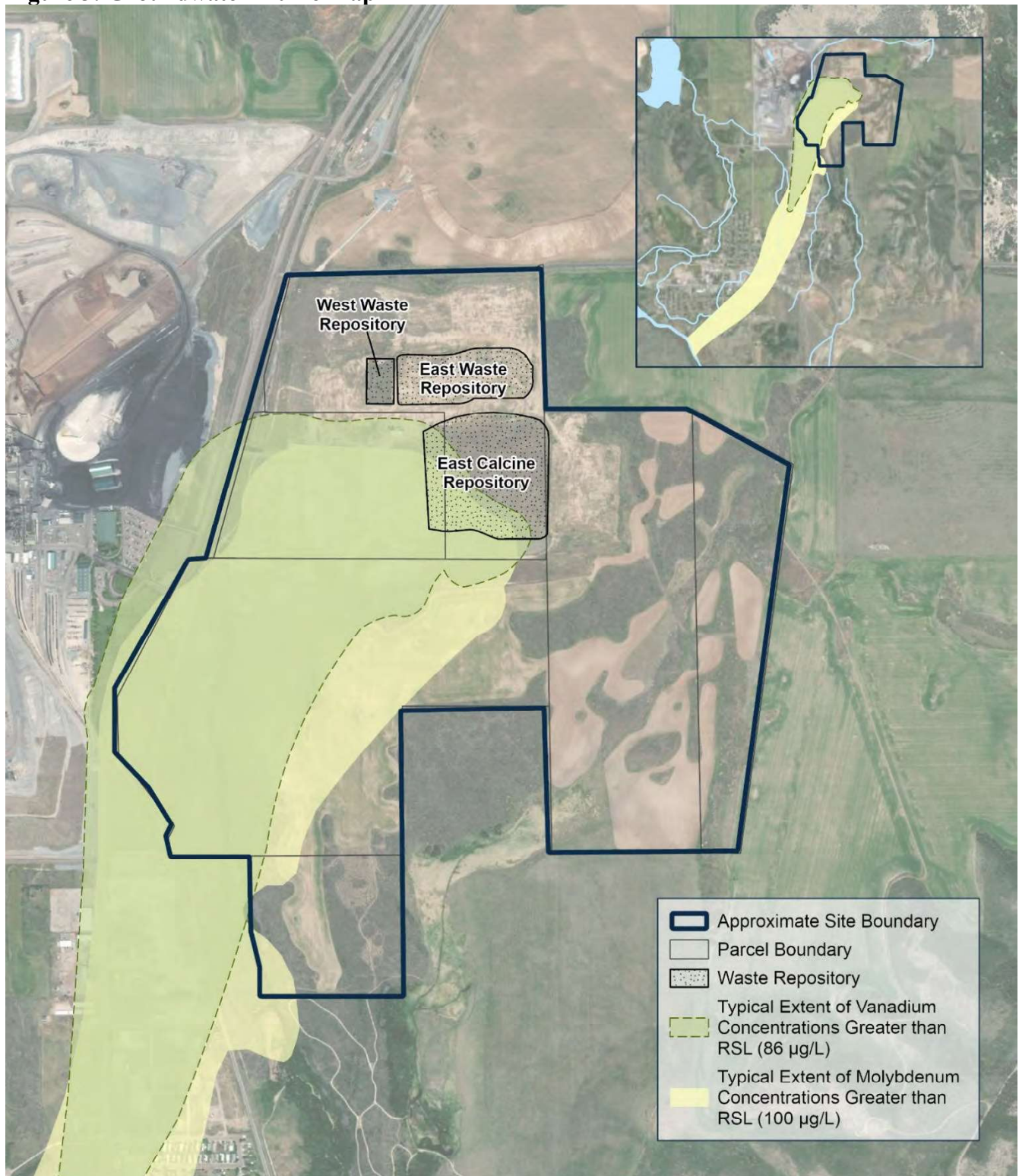
The Multistate Trust is planning to implement an on-site institutional control in the form of a deed notice after the upcoming FFS and ROD Amendment are finalized. This deed notice will restrict land and groundwater use and prohibit activities on the capped areas. In the meantime, the Multistate Trust owns the Site and no sale or lease is permitted without approval by EPA and IDEQ. Portions of the Site are fenced and access is restricted.

Groundwater is not used as drinking water at the Site. The Multistate Trust, EPA, IDEQ and the IDWR are in the process of preparing a Petition for Area of Drilling Concern to prohibit the installation of drinking water wells in the area of off-site groundwater contamination. The petition will be submitted to IDWR for its review and consideration. In the meantime, the Multistate Trust has conducted a domestic well survey and no private wells have been identified within the area of groundwater contamination. Furthermore, the Multistate Trust has confirmed through communications with the city that clean water provided by the city to its residents, and to select locations outside of city limits, is available to all properties that are located geographically within the area of site-related groundwater contamination. Lastly, the Multistate Trust added the city water supply to the ongoing LTM program to confirm that the water supply is not impacted by site contamination. See Table 2 for a summary of the planned institutional controls.

Table 2: Summary of Planned 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 Parcels	IC Objective	IC Instrument Planned
Soil	Yes	Yes	Site Parcels	Prevent disturbance of the capped areas.	Deed Notice (planned for 9/25/2025)
On-Site Groundwater	Yes	Yes	Site Parcels	Prevent dermal contact with and ingestion of, contaminated groundwater.	Deed Notice (planned for 9/25/2025)
Off-Site Groundwater	Yes	Yes	Area with contaminated groundwater (see Figure 3)	Prevent ingestion of contaminated groundwater and wells from being developed as sources of drinking water within the area of contamination	Petition for Area of Drilling Concern (planned for 9/25/2025)

Figure 3: Groundwater Plume Map



N
Kerr-McGee Chemical Corp.
(Soda Springs Plant) Superfund Site
 City of Soda Springs, Caribou County, Idaho
 0 1,000 2,000 Feet

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site. Sources: Earthstar Geographics, Maxarthe 2017 FYR Report, the 2019 O&M Plan, the 2019 Long Term Monitoring Plan and the Caribou County Parcel Viewer.


 Last Modified: 5/2/2022

Systems Operations/Operation and Maintenance (O&M)

The Multistate Trust conducts site O&M under the 2019 O&M Plan (superseding previous iterations from 2017 and 2018). The objectives of the O&M Plan specify the following actions:

- Conduct O&M for site remedy features.
- Maintain site security.
- Complete miscellaneous site maintenance.
- Manage fire risk for the Site.
- Define the means of reporting site O&M activities.

Routine O&M started in 1996. O&M of the Site includes inspections of the following:

- West Waste Repository.
- East Waste Repository.
- East Calcine Repository/Scrubber Pond Area.
- Monitoring Well Network.
- Wastewater Tanks.

Site inspections include inspecting the capped waste areas, fencing, signage, erosion control measures, groundwater monitoring wells and wastewater storage tanks. Periodic pumping of sumps to address water accumulation in the East and West Waste Repositories is also performed. The water is stored in on-site wastewater storage tanks for subsequent off-Site disposal. Outside of normal O&M activities, there have not been any issues noted in the previous five years.

West Waste Repository

The West Waste Repository includes a primary and secondary bottom liner, leachate collection system and engineered cover. The multi-layer cap is vegetated and the area is surrounded by a 6-foot chain-link fence. Maintenance includes monthly visual inspection of the cap, monthly depth to water measurement in the landfill sump, yearly water removal from the sump and monthly visual inspection of the signage, fencing and locks.

East Waste Repository

The East Waste Repository includes a primary and secondary bottom liner, leachate collection system, gas migration system and a primary and secondary liner cover system. The multi-layer cap is vegetated and the area is surrounded by a 6-foot chain-link fence. Maintenance includes monthly visual inspection of the cap, monthly depth to water measurement in the landfill sump, yearly water removal from the sump and monthly visual inspection of the signage, fencing and locks.

East Calcine Repository/Scrubber Pond Area

The East Calcine Repository is capped with a flexible membrane cover and geocomposite liner, subsoil and vegetated topsoil. This area also includes the Scrubber Pond area. The East Calcine Repository/Scrubber Pond area is surrounded by a 6-foot chain-link fence. Maintenance includes monthly visual inspection of the cap and monthly visual inspection of the signage, fencing and locks.

Monitoring Well Network

Maintenance for all site monitoring wells includes quarterly visual inspection for damage or evidence of tampering. Per the O&M Plan, any damaged monitoring wells are reported on the regular inspection checklist and the Contract Project Manager is notified immediately to arrange for the wells to be repaired.

Inspection and maintenance of the groundwater monitoring well network is an element of site O&M.

In 2016, the sampling frequency for the Site was reduced from semi-annual to annual in accordance with an EPA memorandum documenting a non-significant change to the ROD. Long-term groundwater and surface water monitoring has continued at the Site on an annual or semi-annual basis since this change. Details of the surface water and groundwater monitoring program for the Site are presented in the 2019 Groundwater and Surface Water LTM Sampling and Analysis Plan for the Site, and updated through annual surface water and groundwater monitoring reports.

Other Site Features

Monthly inspections are also conducted of the four wastewater storage tanks, fencing, gates, signs and remaining buildings on site.

III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determination and statement from the previous FYR as well as the recommendations from the previous FYR and the status of those recommendations (Table 3 and 4, respectively).

Table 3: Protectiveness Determination/Statement from the 2017 FYR

OU #	Protectiveness Determination	Protectiveness Statement
Sitewide	Not Protective	<p>The remedy for the Kerr-McGee Chemical Corporation (KMCC) Site is currently not protective because of the following issues:</p> <ul style="list-style-type: none"> • Potential ecological risks may exist from the migration of the COC plume beyond the current Site boundary and potential presence of high concentration source material located within the 10-Acre Pond could affect groundwater quality and ecological receptors. • Institutional Controls have not been established or implemented for locations downgradient of the industrial facility where COCs exceed MCLs or risk-based groundwater performance standards (including Trust owned properties). Plumes of COCs generated from the Site have migrated significantly beyond the IC-controlled property boundary onto private and city owned land into the town of Soda Springs, contributing to the non-protective status of the remedy. • Nature and extent of groundwater plumes of site-related COCs are not well defined, and the monitoring well network is not adequate to provide necessary information. In addition, groundwater and surface water monitoring trends indicate the performance standard will not be met in the foreseeable future. <p>The following actions need to be taken in order to ensure protectiveness:</p> <ul style="list-style-type: none"> • Finalize the draft screening level assessment, including the identification of additional data gaps and characterize the nature of the source material in the 10-Acre Pond. Evaluate pond contents for COC concentration and distribution. Assess its potential as a source of groundwater contamination, including data from downgradient monitoring wells, and evaluate whether COC concentrations could be high enough to pose an unacceptable risk to ecological receptors such as, ducks, geese, and local terrestrial birds. • Develop an ICP [Institutional Control Plan] and implement institutional controls governing groundwater use at locations downgradient of the industrial facility where COCs are known to exceed MCLs or risk-based groundwater performance standards. • Finalize the multi-phased supplemental remedial investigation, including the identification of additional data gaps and evaluate whether additional remedial actions are needed.

Table 4: Status of Recommendations from the 2017 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
Sitewide	Potential ecological risks may exist from the migration of the COC plume beyond the current Site boundary and potential presence of high concentration source material located within the 10-Acre Pond could affect groundwater quality and ecological receptors.	Finalize the draft screening level assessment, including the identification of additional data gaps and characterize the nature of the source material in the 10-Acre Pond. Evaluate pond contents for COC concentration and distribution. Assess its potential as an active source for groundwater contamination (including data from downgradient monitoring wells), and evaluate whether COC concentrations could be high enough to pose an unacceptable risk to ecological receptors (such as, ducks, geese, and local terrestrial birds).	Completed	In 2018, the 10-Acre Pond was removed via a TCRA. In 2020, the Multistate Trust finalized the BHHRA and the SLERA. The SRI did not identify any reason to change the original conclusion that there was no unacceptable risk to ecological receptors.	3/11/2020

Table 4: Status of Recommendations from the 2017 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
Sitewide	<p>Institutional Controls have not been established or implemented for locations downgradient of the industrial facility where COCs exceed MCLs or risk-based groundwater performance standards (including Trust owned properties). Plumes of COCs generated from the Site appear to have migrated significantly beyond the IC controlled property boundary onto private and city owned land into the town of Soda Springs.</p>	<p>Develop an ICP and implement institutional controls governing groundwater use at locations downgradient of the industrial facility where COCs are known to exceed MCLs or risk-based groundwater performance standards.</p>	Ongoing	<p>The Multistate Trust will implement on-site institutional controls after the upcoming ROD Amendment. With regard to off-site institutional controls, the Multistate Trust, EPA, IDEQ and IDWR are in the process of preparing a Petition for Area of Drilling Concern to prohibit installation of drinking water wells in the area of off-site groundwater contamination. An institutional control plan (such as an ICIAP) will be developed to ensure the effectiveness of ICs in the long term.</p>	Not applicable

Table 4: Status of Recommendations from the 2017 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
Sitewide	Nature and extent of groundwater plumes of site-related COCs are not well defined, and the monitoring well network is not adequate to provide necessary information. In addition, groundwater and surface water monitoring trends indicate that performance standards will not be met in the foreseeable future.	Finalize the multi-phased supplemental remedial investigation, including the identification of additional data gaps and evaluate whether additional remedial actions are needed.	Completed	The Multistate Trust finalized the SRI process with the publication of the 2019 SRI Report. In 2021, the Multistate Trust submitted a draft FFS to EPA and IDEQ.	11/21/2019

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available by newspaper postings in the *Caribou County Sun*, on December 16, 2021, and in the *Idaho State Journal*, on December 19, 2021, (Appendix E) that the FYR was underway and invited the public to submit any comments to EPA. The results of the review and the report will be made available at the Site’s information repository (Soda Springs Public Library located at 149 South Main Street, Soda Springs, ID 83276).

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date. The interviews are summarized below. The interview forms are provided in Appendix F.

The Multistate Trust participated in an interview and provided an overview of the extensive site characterization work as well as remedial work that has occurred during this FYR period. The Multistate Trust believes they have had a positive impact on the local community through local hiring, building demolition and building donation, maintaining a fire break on-site to mitigate wildfire risk and ongoing weed management at the Site. In addition, the Multistate Trust has facilitated beneficial reuse for some areas of the Site including farming and leasing of several buildings on-site for storage (outside any area of contamination). The Multistate Trust indicated that there is no current risk to human health since all properties located in the vicinity of the groundwater contamination are on city water and the city water

supply is sampled annually. The Multistate Trust works closely with the local government and community stakeholders. Some community members have expressed frustration with the timeframe for cleanup and would like to see the Site reused by a major industrial employer. The Multistate Trust also acknowledged the support and leadership provided by EPA and IDEQ, which allowed the Site to progress with the SRI and FFS process while concurrently implementing the TCRA, building demolition, repository construction and site regrading.

Scott Rigby, O&M contractor for the Multistate Trust, stated that a lot has been accomplished at the Site and the work has been done well and in a timely manner. Mr. Rigby reported that the Site is inspected several times per week for security reasons and there have been no obvious issues.

Joel Gerhart, remedial action contractor for the Multistate Trust, indicated that cleanup progress during the previous five years has been good. Historic and recent source removal activities should reduce the groundwater exceedances; however, more monitoring is needed to further evaluate the degree of reduction. Mr. Gerhart believes the current monitoring network and program is complete and resulting dataset robust without collecting extraneous data. He believes that several more years of monitoring data are needed to assess the effects of source removal.

Stan Christensen, IDEQ, reports a positive impression of the project. Mr. Christensen indicated that the current remedy has not been adequate to remove and contain contamination. Groundwater impacts still remain and areas off site are impacted by groundwater contamination. Mr. Christensen reported two residents who inquired about contamination on their property. A resident with a groundwater well was concerned it might be contaminated from the groundwater plume. Another property northeast of the Site was concerned about soil contamination. In both instances, testing was conducted and no soil or groundwater exceedances above the cleanup goals were found.

Bryce Somsen, Caribou County Commissioner, stated that he is well informed on the Site's activities and remedial progress. Mr. Somsen indicated that the local paper, the Caribou County Sun, would be the best way to provide information to the community and he would like to see some more information on what types of reuse options would be appropriate for the Site. Mr. Somsen is specifically interested in a solar farm as a reuse option at the Site.

Eric Hobson, Caribou County Director of Public Safety, stated that he is aware of the Site and is updated and well informed on the Site's activities and remedial progress. The county is not aware of any local regulations or changes in projected land use that would impact the Site. Mr. Hobson expressed concern for reuse of the Site since a landfill was left on site.

Mitch Hart, Soda Springs City Council President, stated that he is aware of the Site and is well informed. He expressed appreciation for the fact sheets, which are helpful for the local community. Mr. Hart recommends using the Caribou County Sun, the local newspaper, to distribute information. Mr. Hart indicated there have been no problems with unusual or unexpected activities at the Site. Mr. Hart would like public outreach to continue on a regular basis and would like to see the Site put into productive use as soon as possible.

A local resident, (b) (6), indicated he is aware of the Site and the history of remedial activities at the Site. He would also like the Site to be reused and redeveloped as soon as possible. He stated that some residents are concerned about the water supply wells and contamination. This resident suggested a summer public meeting to provide information. This resident also supported putting information in the local newspaper.

Another local resident stated that he has a private well and has dealt with issues relating to a metallic taste. He has done some sampling in the past but there is a lag time with getting results. EPA will work

with this resident to determine if this well should be sampled. This resident feels that the Multistate Trust has done a good job and has been aggressive with the cleanup activities in the previous five years. This resident also indicated that the local newspaper is the best way to communicate with the community. This resident would like to see more technical information pertaining to the Site. In terms of reuse, Kelly Park near the Site is an attraction for hiking and skiing. Portions of the Site could be used for open space.

Data Review

During this FYR period, the Multistate Trust collected additional data for the SRI and the FFS. Appendix A lists the reports that were reviewed as part of this FYR. In addition to the SRI and FFS, the Multistate Trust also conducted LTM, collecting groundwater and surface water data. The SRI findings and the LTM data are summarized below.

SRI Findings

Data collected as part of the SRI included the following:

- Groundwater data from 48 multi-level wells to assess nature and extent of groundwater contamination.
- Soil data from 27 soil borings.
- Surface water, sediment and fish tissue data from off-site water bodies to fill data gaps for human health and ecological risk assessments.

The key results from the SRI were presented in the 2019 SRI Report and the 2019 FFS Data Collection Technical Memorandum. Overall, the SRI found that groundwater is the major exposure pathway for site COCs. Molybdenum and vanadium are the primary COCs mobilizing off-site above site PSLs. The migration of other COCs (arsenic, manganese, lithium, TBP and TPH) is limited and concentrations of metals outside the site boundary are likely naturally occurring. The SRI results also indicated there are other potential sources of COCs beyond the site boundary (former Evergreen facility and the Monsanto site). The SRI also concluded that the molybdenum and vanadium groundwater plumes were fully delineated and the city of Soda Springs water supply sources are not impacted currently or anticipated to be in the future (Figure I-1).

Historical migration of groundwater COCs was reduced through remedial actions required in the decision documents and the recent 10-Acre Pond TCRA. Remaining groundwater COCs are primarily the result of leaching from residual materials; however, the SRI Report indicated that most of this mass has been removed and groundwater quality is expected to improve though it may take over 120 years.

The Multistate Trust identified several primary pathways for groundwater plume migration along north-south trending faults and associated fracture systems. This information was utilized in evaluating potential remedial measures during the FFS process and will aid in the selection of a modified remedy in a ROD Amendment.

Annual LTM

In response to recommendations made in the 2019 SRI Report, the LTM program was updated in 2019. The groundwater and surface water monitoring networks are shown on Figure I-1 in Appendix I.

Groundwater quality monitoring locations are sampled for arsenic, manganese, molybdenum, vanadium, lithium, selenium, major cations and anions, total dissolved solids (TDS) and field parameters. A subset of wells is sampled for the TBP and TPH-Diesel Range Organics (DRO). The monitoring well network includes wells installed prior to the 1995 ROD and wells installed as part of the Phase I, Phase II and

2018 SRIs. The 2018 SRI included installation of CMT wells, with each well containing multiple ports targeting groundwater at specific depths.

Surface water locations selected for LTM water quality sampling include all six city water supply locations (Spring A, Spring 1 [Lower Ledger], Spring 2, Spring 4, Spring 5 [Upper Ledger] and Formation Spring) and four additional locations (Spring 3, Big Spring, Finch Spring and Kelly Pond). Surface water locations are sampled for inorganic compounds, major cations, major anions, TDS and field parameters. Metals and major cations are analyzed on the total (unfiltered) fraction for surface water.

For this FYR, EPA reviewed the 2017, 2018, 2019, 2020 and 2021 Annual LTM Reports; this Data Review focuses on the most recent report from 2021. LTM activities in 2021 consisted of an annual spring/summer primary monitoring event conducted in June and a supplemental fall monitoring event conducted in September and October. Figure I-1 in Appendix I shows the groundwater and surface water monitoring locations.

Prior to groundwater quality sampling activities, the Multistate Trust collected groundwater level measurements at all locations during both the June and October 2021 events. The June 2021 groundwater level data was used to develop the most recent potentiometric map (Figure I-2 in Appendix I). This map includes concurrently collected Monsanto groundwater elevation data. The surface water and spring elevations are also shown on the map due to the hydraulic connection between shallow groundwater and surface water in the site area.

The south-southwest groundwater flow direction is depicted with flow arrows on Figure I-2 and is supported by the overall geometry of the site-related molybdenum and vanadium groundwater plumes, indicated by the LTM data and by the evaluations presented in the 2019 SRI Report.

In 2021, based on input from EPA and IDEQ, the Multistate Trust added supplemental monitoring well locations to allow for additional data evaluation. Table I-1 in Appendix I provides the groundwater COC concentrations in June and September-October 2021. The 2021 Annual Report provided figures showing the lateral distribution of arsenic, lithium, manganese, molybdenum and vanadium in groundwater for the 2021 LTM events, with groundwater plume maps presented for the primary site-related constituents mobilizing off-site (molybdenum and vanadium). These figures are included as Figures I-3 through I-7 in Appendix I. In general, groundwater monitoring results are consistent with what was observed during the SRI.

Arsenic

As shown in Table I-1 and Figure I-3, arsenic concentrations in October 2021 ranged from below detection to 73.7 micrograms per liter ($\mu\text{g/L}$) (in on-site well KM-08). During both 2021 LTM events, exceedances of the arsenic PSL (50 $\mu\text{g/L}$) and MCL (10 $\mu\text{g/L}$) were confined to on-site wells except for off-site well KM-48 (MCL exceedance). As presented in the 2019 SRI Report, the off-site arsenic exceedance observed at KM-48 is not believed to be site-related. Historical site operations mobilized naturally occurring arsenic based on a change in redox state to more reducing conditions. Redox conditions are becoming less reducing (more oxidizing) over time, thereby decreasing the mobility of arsenic in groundwater. As a result, arsenic concentrations have declined significantly in groundwater underlying the Site.

As reported in the 2021 Annual Report (Appendix J), arsenic concentration trends in groundwater are largely stable or slightly decreasing, with no significant long-term trends indicated. Exceptions include relatively significant decreases in wells T2-240-02 and -03, where arsenic concentrations have decreased below the 10 $\mu\text{g/L}$ MCL since the initial sampling event in 2018. The highest concentration on-site well

(T2-202-01) currently shows a decreasing arsenic trend, though T2-202-01 is still well above the Arsenic MCL (120 µg/L in June 2021).

Lithium

Lithium was identified as a COPC during the 2019 SRI. Concentrations in 2021 have remained consistent with previous observations. Lithium concentrations in October 2021 ranged from 6.2 to 1,900 µg/L (background screening level is 131 µg/L), with the highest concentration observed in on-site well KM-8 (Table I-1). Figure I-4 shows the spatial distribution of lithium in groundwater. As reported in the 2019 SRI Report, due to the lack of correlation between off-site lithium and the primary site-related COCs molybdenum and vanadium, the off-site lithium is primarily attributed to naturally-occurring sources. Sampling for lithium began recently so there are no long-term trends for lithium.

Manganese

As shown in Table I-1 and Figure I-5, manganese concentrations in October 2021 ranged from below detection to 3,010 µg/L (in on-site well FFS-1). Exceedances of the manganese PSL (180 µg/L) and RSL (430 µg/L) occur in both on-site and off-site wells. Manganese is commonly found in aquifer solids, with the solubility and mobility of manganese directly related to groundwater redox conditions. Historical Site operations mobilized naturally occurring manganese based on a change in redox conditions in the vadose and saturated zones. Redox conditions have become more oxidic over time, thereby reducing the mobility of manganese in groundwater. As a result, manganese concentrations in groundwater have declined significantly and should continue to decrease over time as organic compounds released from the Site naturally degrade.

The manganese trend plots provided in the 2021 Annual Report (Appendix J) show mostly decreasing or stable trends. Decreasing manganese concentrations can be indicative of increasingly oxidizing groundwater conditions. Additional LTM data will allow for further evaluation of the decreasing manganese concentration trends.

Molybdenum

Molybdenum is one of the two primary COCs migrating from on-site source areas to downgradient areas off-site. Maximum molybdenum concentrations continue to be observed in on-site well KM-8 (26,500 µg/L in October 2021). The molybdenum plume originates at the Site and extends south and southwest into Soda Springs. Exceedances of the molybdenum PSL (180 µg/L) and RSL (100 µg/L) were reported in groundwater as far south as well T2-238 (214 µg/L in June 2021 and 230 µg/L in October 2021). Surface water sampling location Big Spring, near well T2-238, also slightly exceeded the molybdenum RSL in June 2021 (101 µg/L).

The general areal extent of the molybdenum plume is consistent with historical plume maps from the previous LTM reports and the 2019 SRI Report. Figure I-6 in Appendix I shows three distinct source areas where molybdenum concentrations exceed 1,000 µg/L. These areas are within or downgradient of the three AOCs evaluated in the 2019 SRI Report.

The long-term molybdenum trends for wells with a longer period of record are generally characterized with steep decreases during the initial monitoring events followed by a gradual shift to slightly decreasing or stable. Overall, these wells are currently either at or near minimum concentrations for the period of record. For the new wells installed during the SRI, trends are less clear. Additional LTM data will allow for further evaluation of molybdenum trends.

Vanadium

Vanadium is the other primary COC mobilized from the Site to downgradient off-site areas. The maximum vanadium concentrations continue to be observed in on-site well T2-204-01 (213,000 µg/L in October 2021) located near AOC-1. The vanadium plume exceeding the RSL originates beneath the Site and extends off-site to the south and southwest similar to the molybdenum plume. The highest vanadium concentrations on site are observed near the former vanadium plant. Exceedances of the PSL (260 µg/L) and the RSL (86 µg/L) extend to East Hooper Avenue. The vanadium plume does not extend as far downgradient as the molybdenum plume likely due to significant natural attenuation via adsorption to iron oxides within the aquifer, as opposed to molybdenum which behaves more conservatively (i.e., concentration decreases attributable largely to dilution and dispersion effects). The attenuation of molybdenum and vanadium is discussed in more detail in both the 2019 SRI Report and in the draft FFS Report.

The vanadium concentration trends are generally more variable with a mixture of increasing, decreasing and stable trends. Vanadium concentration trend graphs are provided in Appendix J.

TBP and TPH

In accordance with the LTM Sampling and Analysis Plan, TBP and TPH-DRO were analyzed at a limited number of groundwater sampling locations in 2021, focusing on wells at the downgradient property boundary and wells that have previously shown detectable TBP concentrations. TBP was detected above the PSL (180 µg/L) in two wells in June 2021 and one well in October 2021, both of which are located on site.

TPH-DRO was not detected above the PSL (730 µg/L) in 2021. In 2020, the maximum TPH-DRO concentrations occurred in on-site wells KM-8 in June (1,170 µg/L) and T2-204-01 in October 2020 (1,020 µg/L and 1,030 µg/L in the sample-duplicate pair). In 2021, the maximum TPH-DRO concentrations occurred in on-site well T2-217-02 (631 µg/L in June and 622 µg/L in October).

Surface Water

Surface water quality sampling was conducted at 11 locations in June and October 2021. (Spring A, Spring 1 [Lower Ledger], Spring 2, Spring 4, Spring 5 [Upper Ledger] and Formation Spring, Spring 3, Big Spring, Finch Spring, and Kelly Pond). Surface water monitoring locations are shown on Figure I-1 in Appendix I. In addition to the 10 sites designated in the LTM SAP, one surface water location added to the monitoring schedule during the October 2019 LTM event (Evergreen) was also sampled in June 2021. The Evergreen site was dry in October 2021 and no sample was collected.

Concentrations of total arsenic, manganese, molybdenum, vanadium and lithium in 2021 LTM surface water samples are presented in Table I-2 in Appendix I. Results for total molybdenum and vanadium in surface water are also shown on the groundwater plume maps (Figures I-6 and I-7 in Appendix I). As described in Table I-2 in Appendix I, six of the surface water sampling locations are drinking water sources for the city of Soda Springs (Spring A, Lower Ledger, Upper Ledger, Spring 2, Spring 4 and Formation Spring). As observed during previous LTM events, concentrations of all COCs in June and October 2021 were well below applicable drinking water screening levels (PSLs/RSLs/MCLs) at the six drinking water source locations, with the primary site-related constituents showing concentrations ranging from 1.3 to 1.6 µg/L for molybdenum and 0.52 to 1.1 µg/L for vanadium (Table I-2 in Appendix I).

The non-drinking water sites sampled as part of LTM activities (Spring 3, Big Spring, Finch Spring, Kelly Pond and Evergreen) also had COC concentrations below PSLs and MCL/RSLs in 2021, with the exception of molybdenum at Big Spring in June 2021. The Evergreen site also shows molybdenum

concentrations above background (83.5 µg/L in 2021), but slightly below the RSL (100 µg/L). The 2021 molybdenum and vanadium concentrations at the Big Spring, Finch Spring and Evergreen sites are all consistent with the spatial distribution of these contaminants observed in groundwater (Figures I-6 and I-7 in Appendix I), suggesting that these springs are surface discharge points for groundwater.

These surface water sampling locations were also evaluated as part of the 2020 SLERA. The results indicated that no ecological risks were associated with the Site that require further evaluation or action.

As observed during past monitoring events, Kelly Pond molybdenum concentrations in 2021 (12.6 to 41.7 µg/L) were lower than Finch Spring, Big Spring and Evergreen, but higher than the other spring/surface water sites. Vanadium concentrations in Kelly Pond (2 to 13 µg/L) were also lower than Evergreen and Finch Spring, but slightly higher than other spring/surface water sites. Kelly Pond is in the same drainage area and downstream of Finch Spring.

Molybdenum and vanadium trend plots show concentrations have been consistently below the PSLs and RSLs at all sites except Big Spring, Finch Spring and Evergreen. The 2021 molybdenum and vanadium concentrations at Evergreen were the minimum values observed to date at this location. Big Spring molybdenum concentrations have stabilized near the RSL in the previous three years and vanadium concentrations have been typically low at this location. Finch Spring concentrations have been consistently decreasing and vanadium and molybdenum concentrations are well below PSLs and RSLs.

Site Inspection

The site inspection took place on 4/26/2022. Participants included: Zoë Lipowski, EPA RPM, Stan Christensen and Nick Nielsen, IDEQ, Lars Peterson, Multistate Trust, and Alison Cattani and Johnny Zimmerman-Ward from EPA's support contractor Skeo. The purpose of the inspection was to assess the protectiveness of the remedy. The site inspection checklist and photos are included in Appendix G and H, respectively.

Site inspection participants met at the office building located in the former industrial area of the Site. The Site is secure with a locked gate. Mr. Peterson indicated there have not been any issues with trespassing or unauthorized access on the Site. Participants observed earth-moving activities north of the Site along Trail Creek Road. Mr. Peterson indicated Monsanto is building a railroad spur line in this area. Participants inspected the fenced waste repositories including the West Waste Repository, East Waste Repository and the East Calcine Repository. Participants observed several areas that had been recently reseeded with native grasses. These areas correspond to the areas that were reclaimed as part of the TCRA. Participants then inspected the former 10-Acre Pond which was well vegetated. The recently completed drainage improvements were also observed. The inspection participants also observed the agricultural areas directly south of the former industrial area. All monitoring wells were in good condition and locked.

Site inspection participants then visited several surface water locations including the Formation Spring, Evergreen Spring and the Upper and Lower Ledger Springs. Except for the Evergreen Spring, all surface water was flowing. While water was present at the Evergreen Spring, it was not flowing and appeared stagnant. This spring is located directly next to the operating Evergreen facility. During the inspection, there were no issues observed that would impact future or current protectiveness.

V. TECHNICAL ASSESSMENT

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

Question A Summary:

No, the remedy is not functioning as intended by the 1995 ROD and the 2000 ROD Amendment. The goal of the remedy was to restore impacted groundwater to meet PSLs by removal of site sources. Remedial actions from 1997 through 2004 included reclamation of several wastewater ponds, creation of on-site repositories, storage of contaminated material in lined ponds, and capping contaminated soils. While initial results indicated groundwater concentrations were decreasing, the rate of decrease slowed and additional investigations were needed to determine why concentrations were not reducing to the PSLs. Starting in 2015 and 2016, the Multistate Trust, under oversight of EPA and in consultation with IDEQ, completed site investigation activities and studies to fully characterize the extent of contamination in support of the development of an FFS and ROD Amendment. Concurrently with these investigation activities, the Multistate Trust also performed removal actions to reduce risk to human health and the environment and remove a large amount of source material that was resulting in impacts to groundwater on and off-site. There are currently two plumes (vanadium and molybdenum) extending off-site and groundwater concentrations are well above PSLs. Molybdenum concentrations in the 2021 LTM groundwater samples ranged from 0.18 µg/L to 26,500 µg/L in 2021. Altogether, 36% of the molybdenum results obtained in 2021 exceeded the 180 µg/L PSL. The 2021 LTM data for vanadium indicate a wide range of concentrations, from <0.27 µg/L to 250,000 µg/L. The 260 µg/L vanadium PSL was exceeded in 29% of the samples. The Multistate Trust submitted a draft FFS to EPA and IDEQ in 2021 and anticipates it will be finalized in 2022. EPA will then select an amended remedy for the Site in a ROD Amendment.

As part of the site investigation activities, the Multistate Trust determined that the city of Soda Springs water supply is not currently impacted by site-related COCs and is not expected to be impacted in the future due to preferential plume flow paths and physical barriers to plume migration from the Site to the water supply springs. A 2014 domestic well survey confirmed that private wells are not currently impacted by the Site. The Multistate Trust is in the process of conducting another well survey. This will be completed in 2022.

The Multistate Trust is conducting O&M for the Site under the 2019 O&M Plan. Site inspections include inspecting the capped waste areas and cover crops, fencing, signage, erosion control measures, groundwater monitoring wells and wastewater storage tanks. Periodic pumping of sumps to address water accumulation in the East and West Waste Repositories is also performed. During this FYR period, all required O&M has been conducted and documented in monthly reports.

Institutional controls are not yet in place. On-site institutional controls are planned and will be implemented after the ROD Amendment is issued. The Multistate Trust owns the property and any land use change must be approved by EPA and IDEQ. Off-site groundwater institutional controls are also planned in the form of a Petition for Area of Drilling Concern through IDWR. Based on information obtained from the 2019 SRI Report, BHHRA and SLERA, there is no current human health or environmental exposure to contamination on or off-site. The Multistate Trust has conducted a domestic well survey and no private wells have been identified within the area of groundwater contamination and has confirmed through communications with the city that clean water provided by the city to its residents, and to select locations outside of city limits, is available to all properties that are located geographically within the area of site-related groundwater contamination.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection still valid?

Question B Summary:

No.

Since the ROD was issued, EPA has revised the MCL for arsenic from 50 µg/L to a more stringent 10 µg/L, therefore the ROD cleanup goal is no longer valid and needs to be updated. In addition, the toxicity information has changed for manganese, TPH (evaluated as JP-5), tributyl phosphate, and vanadium. The noncancer toxicity values for manganese and tributyl phosphate are higher than the values used at the time of remedy selection. This means that acceptable exposure concentrations to manganese and tributyl phosphate would be higher than those established on the ROD, and by definition the ROD cleanup goals for these COCs remain protective. Noncancer toxicity values for vanadium are lower, acceptable exposure concentrations associated would be lower than established in the ROD. EPA substantially revised the toxicity assessments for total petroleum hydrocarbon fractions in 2009. TPH characterized as JP-5 is evaluated using toxicity data for the TPH midrange aromatic fraction, Additionally, EPA has established a cancer slope factor for tributyl phosphate based on its toxicity, rather than radiological risk.

In addition to changes in toxicity values, EPA has substantially revised the way it evaluates dermal and inhalation exposures, and has revised its recommended exposure parameters for these pathways. To assess the effect of these changes and whether the ROD cleanup values remain protective, they were compared to the most recent (May 2022) tapwater RSLs, which represent acceptable concentrations for household use. The RSLs also incorporate updated toxicity values, and updated guidance for assessing dermal and inhalation exposures. Where the ROD cleanup goal is based on a noncancer health effect, the noncancer hazard quotient (HQ) is calculated as the ratio of the cleanup goal and the current RSL based on a noncancer endpoint. Where the cleanup goal is based on a cancer risk, that can be calculated at the ratio of the cleanup goal and the RSL based on a 1×10^{-6} cancer risk, as shown in the following equations:

$$HQ = \frac{ROD \text{ cleanup goal - noncancer}}{RSL \text{ noncancer}}$$

$$Risk = \frac{ROD \text{ cleanup goal - cancer}}{RSL \text{ cancer}} \times 10^{-6}$$

The results of this analysis are shown in Table 5. The cleanup goals for tributyl phosphate and vanadium are within EPA's acceptable risk range, and the cleanup goal remains protective. The estimated HQ for TPH using the toxicity value for JP-5 is evidence that the ROD cleanup goal may no longer be protective. However more information is needed regarding the composition of TPH in groundwater at the site to make a more definitive determination. This will be done through the upcoming remedy decision process.

Table 5: Effect of Changes in Toxicity Values on ROD Cleanup Goal

COC	ROD Cleanup Goal (µg/L)	RSL	Basis	Hazard Quotient/ Cancer Risk ^a
TPH (as JP-5)	730	5.5	nc	133
Tributyl Phosphate	180	5.2	ca	3.E-05
Vanadium	260	86	nc	3

a – values in scientific notation represent estimated cancer risk

nc – non-cancer

ca – cancer

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

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the FYR:
<i>None</i>

Issues and Recommendations Identified in the FYR:				
OU(s): Sitewide	Issue Category: Remedy Performance			
	Issue: The current groundwater remedy is not functioning as intended by the 1995 ROD and the 2000 ROD Amendment and cleanup levels are no longer valid. Additional monitoring activities and evaluations have been conducted during this FYR period to support the selection of an amended remedy.			
	Recommendation: Finalize the FFS, select a proposed remedy, identify protective cleanup levels and issue the ROD Amendment to document the updated remedy and implement.			
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	EPA	EPA	9/25/2024

OU(s): Sitewide	Issue Category: Institutional Controls			
	Issue: Institutional controls are not yet in place for land use and groundwater.			
	Recommendation: Implement institutional controls.			
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	Multistate Trust	EPA	9/25/2025

OTHER FINDING

One additional recommendation was identified during the FYR. This recommendation does not affect current and/or future protectiveness.

- Consider providing Site updates in the local newspaper, the *Caribou County Sun*.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement	
<i>Protectiveness Determination:</i> Short-term Protective	
<i>Protectiveness Statement:</i> The remedy currently protects human health and the environment because there is no exposure to contaminated groundwater or soil. However, in order for the remedy to be protective in the long-term, the following actions need to be taken: finalize the FFS and issue the ROD Amendment to document and implement the updated remedy and institutional controls.	

VIII. NEXT REVIEW

The next FYR Report for the Kerr-McGee Chemical Corp. (Soda Springs Plant) Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

- 2018 Groundwater and Surface Water Long-Term Monitoring Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Caribou County, Idaho. Prepared by Hydrometrics, Inc. May 2019.
- 2019 Groundwater and Surface Water Long-Term Monitoring Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Caribou County, Idaho. Prepared by Hydrometrics, Inc. July 2020.
- 2020 Groundwater and Surface Water Long-Term Monitoring Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Caribou County, Idaho. Prepared by Hydrometrics, Inc. April 2021.
- 10-Acre Pond TCRA, Final After Action Report, Kerr-McGee Chemical Corp. Soda Springs Plant Superfund Site, Soda Springs, Caribou County, Idaho. Prepared by Pioneer Technical Services, Inc. April 2019.
- 10-Acre Pond TCRA, Final After Action Report Addendum, Kerr-McGee Chemical Corp. Soda Springs Plant Superfund Site, Soda Springs, Caribou County, Idaho. Prepared by Pioneer Technical Services, Inc. October 2019.
- Action Memorandum for a Time-Critical Removal Action for the 10-Acre Pond at the Kerr-McGee Chemical Corp. Soda Springs Plant Superfund Site, Soda Springs, Caribou County, Idaho. EPA Region 10. January 2018.
- Annual Comprehensive Report of Groundwater and Surface Water Quality, 2017 Monitoring, Kerr-McGee Chemical Corporation – Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Tetra Tech, Inc. May 2018.
- Baseline Human Health Risk Assessment, Volume I, Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Hydrometrics, Inc. and TRC. June 2020.
- December 2020 Monthly Progress Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Multistate Trust. January 2021.
- Evaluation of Anticipated Impacts of 10-Acre Pond Time Critical Removal Action Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Idaho. Prepared by Haley & Aldrich. July 2021.
- Final Groundwater and Surface Water Sampling and Analysis Plan, Kerr-McGee Chemical Corporation Soda Springs Superfund Site, Soda Springs, Idaho. Prepared by Tetra Tech, Inc. October 2017.
- First FYR Report for Kerr-McGee Chemical Corp. (Soda Springs) Superfund Site, Caribou County, Idaho. EPA Region 10. August 2002.
- Fourth FYR Report for Kerr-McGee Chemical Corp. (Soda Springs) Superfund Site, Caribou County, Idaho. Prepared by CH2M. September 2017.
- Groundwater and Surface Water Long-Term Monitoring Sampling and Analysis Plan, Kerr-McGee Chemical Corporation Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Hydrometrics, Inc. September 2019.

Investigations of Molybdenum in Groundwater and Surface Water at Former Tronox/Kerr-McGee Facility, Soda Springs, Idaho. EPA Region 10. June 2017.

Investigations of Selenium in Groundwater and Surface Water at the Monsanto/P4 Soda Springs Plant Soda Springs, Idaho. EPA Region 10. June 2017.

July 2021 Monthly Progress Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Multistate Trust. August 2021.

June 2020 Monthly Progress Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Multistate Trust. July 2020.

Monitored Natural Attenuation Evaluation Kerr McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Idaho. Prepared by Hydrometrics, Inc. July 23, 2021.

October 2021 Monthly Progress Report Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Multistate Trust. November 2021.

Operations and Maintenance Plan, Version 1.0, Kerr-McGee Chemical Corporation, Soda Springs Plant Superfund Site. Prepared by Hydrometrics, Inc. February 2018.

Operations and Maintenance Plan, Version 2.0, Tronox/Kerr-McGee Chemical Corporation, Soda Springs Plant Superfund Site. Prepared by Hydrometrics, Inc. June 2019.

Record of Decision Amendment, Kerr-McGee Chemical Corp. (Soda Springs Plant), EPA ID: IDD041310707, OU1. EPA Region 10. July 13, 2000.

Record of Decision, Kerr-McGee Chemical Corp. (Soda Springs Plant), EPA ID: IDD041310707, OU1. EPA Region 10. September 28, 1995.

Results of Supplemental Data Collection in Support of Focused Feasibility Study Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Idaho. Prepared by Haley & Aldrich, Inc. October 2019.

Screening-Level Ecological Risk Assessment, Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site. Prepared by Hydrometrics Inc. and TRC. March 2020.

Second FYR Report for Kerr-McGee Chemical Corp. (Soda Springs) Superfund Site, Caribou County, Idaho. Prepared by US Army Corps of Engineers. September 2007.

Supplemental Remedial Investigation Phase I Summary and Phase II Work Plan, Former Tronox/Kerr-McGee Chemical Corporation Superfund Site, Soda Springs, Idaho. Prepared by Tetra Tech, Inc. August 2016.

Supplemental Remedial Investigation Report, Kerr-McGee Chemical Corp. Soda Springs Plant Superfund Site, Soda Springs, Idaho. Prepared by Haley & Aldrich. November 2019.

Third FYR Report for Kerr-McGee Chemical Corp. (Soda Springs) Superfund Site, Caribou County, Idaho. Prepared by CH2MHILL. September 2012.

APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
KMCC operated a vanadium production facility	1963 - 1999
Significant uncontrolled releases of contaminated process water to groundwater from the unlined ponds	1981 and 1989
EPA placed the Site on the NPL	October 4, 1989
KMCC conducted the RI	1991 - 1994
KMCC completed the FS and EPA issued the ROD	1995
KMCC reclaimed the S-X Pond, moved solids to the West Waste Repository, moved liquids to East and West 5-Acre Ponds	1996
EPA and KMCC entered into a Consent Decree in which KMCC agreed to implement the remedies specified in the 1995 ROD.	August 21, 1997
KMCC constructed the 10-Acre Pond	1997
KMCC closed the Scrubber Pond after moving solids to the West Waste Repository and moving liquids to the East and West 5-Acre Ponds	1997
EPA issued the ROD Amendment	2000
KMCC installed a cap on the East Calcine Repository	2001
KMCC demolished the Vanadium Plant	2002
EPA issued the first FYR	2002
KMCC demolished the Fertilizer Plant	2003
KMCC reclaimed the East and West 5-Acre Ponds and placed contents in the 10-Acre Pond	2004
KMCC purchased an adjacent property to the southwest	2004
KMCC created Tronox	2005
EPA issued the second FYR	2007
Tronox filed for bankruptcy	2009
Bankruptcy court approved a settlement agreement with the U.S. government, 24 state governments, Tronox, and others that established several trusts, including the Multistate Trust	2011
EPA issued the third FYR	2012
The Multistate Trust installed 13 additional monitoring wells on-site as part of the Phase I SRI	2015
The Multistate Trust consolidated and disposed off-site (or recycled) more than 2 million pounds of residual waste	2015 – 2016

Event	Date
The Multistate Trust installed additional on-site and off-site monitoring wells during the Phase II SRI	2016 – 2017
EPA issued the fourth FYR	2017
The Multistate Trust implemented the 10-Acre Pond TCRA	2018
The Multistate Trust finalized the SRI	2019
The Multistate Trust finalized the BHHRA and SLERA	2020
The Multistate Trust submitted a draft FFS to EPA and IDEQ	2021

APPENDIX C – SITE BACKGROUND – WASTE AND WATER MANAGEMENT FEATURES

The 2019 SRI Report provided the following description of the waste and water management features that were contributing contaminants to soil and groundwater.

Solid waste management at the Site historically utilized unlined waste dumps located in the south and eastern parts of the Site. An engineered, lined landfill was constructed in 1997 in the northern part of the Site. Water management at the Site evolved over time to accommodate multiple metallurgical upgrades and multiphase chemical refinement processes and consisted of conveying and storing large volumes of water. Sixteen surface water ponds, both lined and unlined, were used for settlement, solvent extraction raffinate, tailings storage, product storage and stormwater retention (Figure D-3 in Appendix D).

West Calcine Repository (Feature 1)

The West Calcine Repository was the first tailings impoundment pond used in the leaching refinement circuit. Calcine tailings from the operation were impounded west of the plant for the first 10 years of facility history (1963 to 1973). This area was covered with topsoil and seeded with native grasses in 1973 as a fugitive dust control measure. The calcine tailings were then shifted to bermed ponds on the eastern side of the Site. This area was not addressed by the ROD because it was believed impacts to the environment from this area were minimal.

East Calcine Repository (Feature 2)

The East Calcine Repository was a part of the leaching refinement circuit, which functioned as an unlined active tailings repository from 1973 to 1999. This area was one of three waste areas recognized by the ROD as a primary source of COCs to groundwater and was a target for remedial design/remedial action activity. Remedial activities involved partial removal of calcine tailings for resource recovery operations (1999 to 2000) and placement of an engineered cap (geotextile) over the repository (2001) for containment. Subsoil and topsoil from the agricultural cropland area on the north side of the Site (Feature 17) was used in construction of the East Calcine Repository cap. An infiltration gallery was constructed in 2002 on the north side of the area to capture precipitation runoff from the cap. Another infiltration gallery was completed in 2004 on the south side of the cap after periodic standing water was observed at the southwestern corner of the East Calcine Repository near the former Scrubber Pond (Feature 3). A snow fence was erected along the south side of the facility after snowdrifts on the cap and increased percolation through the cap were observed.

West Waste Repository (Feature 11)

The selected remedy for groundwater in the 1995 ROD included elimination of solid COC-generating waste sources, including excavation of solids from the S-X Pond (Feature 7) and Scrubber Pond (Feature 3) into an on-Site repository – the West Waste Repository. During November 1996, S-X Pond sediments and some underlying soils were scraped to the south end of the pond, covered with plastic and allowed to dry, and consolidated in place. Scrubber Pond solids were worked into windrows and piles to accelerate drying. Roughly 13,000 cubic yards of material was removed from the S-X and Scrubber Pond. A landfill was constructed in 1997 in accordance with Resource Conservation and Recovery Act Subtitle D requirements for earth construction, primary and secondary liner requirements, leachate collection and cover design. Repository construction and dig/haul activities took place between July 28 and October 10, 1997. Installation of a geosynthetic clay liner, flexible membrane liner, geocomposite and native soil protective layer, sump, and ramp occurred between August 16 and August 29, 1997. Placement of the cover cap occurred between September and October 1997.

South Industrial Landfill Area (Feature 12)

The South Industrial Landfill was used from 1967 through 1973. Solid wastes were placed in the landfill, including wood, paper, office trash and cleaned process equipment. The South Industrial Landfill was closed in 1973, and trash and other refuse were thereafter disposed in the local landfill. The south industrial landfill area was also used as a staging area and decontamination pad during construction of the West Waste Repository in 1997.

North Industrial Landfill (Feature 13)

The North Industrial Landfill, located north of the 10-Acre Pond, was used for disposal of construction debris associated with the dismantling of the Vanadium Plant, which ceased operations in 1997. Information documenting the landfill contents has not been found; however, the North Industrial Landfill represented a source of exposed materials likely containing COCs in solid form. Much of the material was buried and residual chemicals in soil are likely present in and beneath the landfill contents.

Scrubber Pond (Feature 3)

The Scrubber Pond was a part of the conversion circuit, receiving excess water residuals and particulates from emission control scrubbers designed to remove dust and particulate matter from the roaster stack. The unlined pond operated from 1975 to 1997. At maximum throughput, the pond received roughly 210 gallons per minute and transported an estimated 300 tons per year of scrubber residuals. The Scrubber Pond was taken out of service in 1997 and reclaimed in 1998 by excavation and encapsulation of primary waste material in the engineered West Waste Repository (Feature 11) and backfilled with native sediments. The Scrubber Pond was one of three primary sources of COCs to groundwater at the Site, as recognized in the 1995 ROD.

Boiler Blowdown Pond (Feature 4)

Roaster scrubber solids were impounded in the Boiler Blowdown Pond for the first 10 years of operation. The Boiler Blowdown Pond served as an unlined retention basin for the mineralized water derived from water softening activities when the new Scrubber Pond was constructed in 1973. The Boiler Blowdown Pond was abandoned in 1992, covered with native soils and seeded with native grasses. The Boiler Blowdown Pond was listed as a possible source area for primary sources (water/soil) because sediments were left in place during pond closure activities and these sediments were potential sources to groundwater.

Magnesium Ammonia Phosphate Ponds (Feature 5)

The Magnesium Ammonia Phosphate (MAP) Ponds were a series of three unlined product-holding ponds that operated as a part of the packaging circuit from 1963 to 1993. MAP is a fertilizer and was the first by-product refined during the purification step. MAP was flushed to the ponds at an average rate of 5 gallons per minute. Manufacturing practices changed in 1993 in ways that rendered the MAP Ponds redundant. The ponds were subsequently abandoned by excavating the remaining MAP, selling the MAP as fertilizer and reclaiming the pond to grade with a native soil cap.

Limestone Settling and Stormwater Ponds (Feature 6)

The Limestone Settling and Stormwater Ponds were a series of five ponds constructed as part of the S-X circuit that underwent the most changes over time. These ponds were managed in sequence on the upstream end of the S-X Pond for limestone settlement. The three original ponds were unlined, ranged in size from 500,000 gallons to 1,000,000 gallons and operated from 1973 to 1989.

Two uncontrolled waste releases were recorded due to integrity failures from these ponds:

- September 1989: 650,000 gallons of S-X raffinate was lost to the vadose zone.
- November 1989: 100,000 gallons of S-X raffinate was lost to the vadose zone.

In response to these containment failures, a fourth settling pond lined with a high-density polyethylene liner was constructed with a capacity of 750,000 gallons. A fifth lined pond was constructed in 1993 with a capacity of 750,000 gallons and was used for settlement and stormwater retention. The fourth and fifth ponds were installed on top of the original pond locations and remained in use until plant closure in 1998. These two ponds were reclaimed in 2003 by excavating and removing the liners and placing waste in the 10-Acre Pond. Underlying native soil within the vadose zone was not removed and represented a potential secondary source of groundwater contamination.

S-X Pond (Feature 7)

The S-X Pond was an unlined 4.5-million-gallon impoundment that operated from 1963 to 1997 as part of the S-X circuit of the refinement step. The S-X Pond recorded the largest uncontrolled waste release because of containment failure in April 1983, where 2.5 million gallons of S-X raffinate was lost to the vadose zone. The pond was reconstructed and enlarged in response to this release from its 4.2-million gallon capacity to accommodate 5.5 million gallons of raffinate solution. Operation of the S-X Pond ended in 1995 and was reclaimed in 1997 by excavating sediments, which were relocated to the West Waste Repository (Feature 11). The S-X Pond was one of three primary sources of COCs to groundwater recognized in the 1995 ROD.

10-Acre Pond (Feature 8)

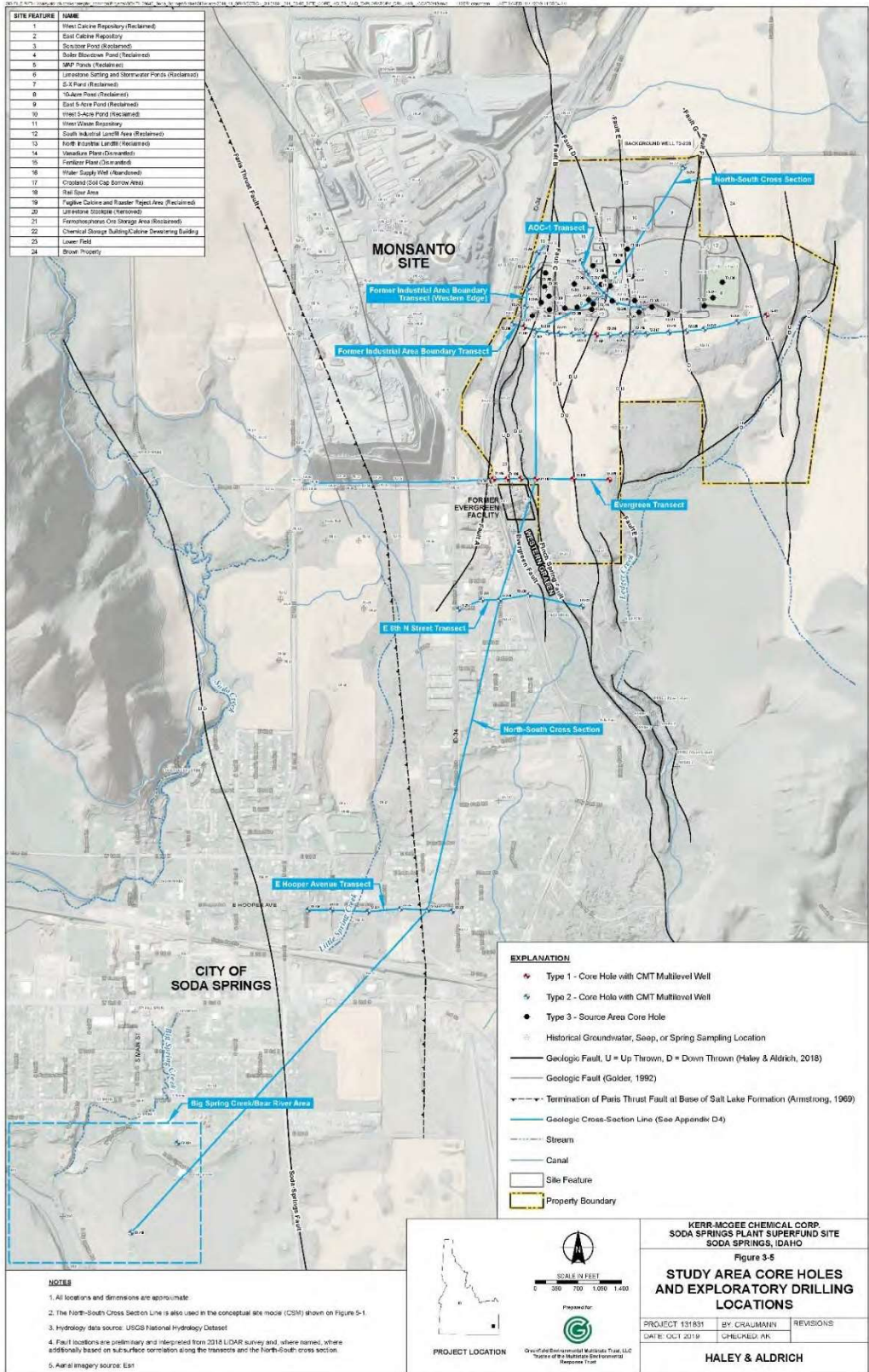
The 10-Acre Pond was constructed with a double liner in 1997 with a sump on the south end for leak detection between the primary and secondary liners. The pond was used as a replacement for the S-X Pond and to contain liquids and solids from vanadium processing. The pond served as a repository for the waste from the Limestone Settling and Stormwater Ponds in 2003, and for the waste removed from the East and West 5-Acre Ponds in 2004. Uncertainty regarding the integrity of the liner beneath the 10-Acre Pond resulted in the pond being considered as a potential source of groundwater and contaminant recharge to the aquifer, and was identified as a potential source of COCs to groundwater during the third FYR.

East and West 5-Acre Ponds (Features 9 and 10, respectively)

The double-lined East and West 5-Acre Ponds were constructed in 1996 in conjunction with the 10-Acre Pond as a replacement for the S-X Pond, and as part of eliminating uncontrolled liquid discharges required in the 1995 ROD. These ponds were constructed by recompacting native silty clay soils overlain with two high-density polyethylene liners separated by a geonet layer. The East and West 5-Acre Ponds were used to store wastewaters from the vanadium process. The two ponds were closed in 2004 by relocating the water and sediments to the 10-Acre Pond. The liners were rolled, moved to the northeast corner of the West 5-Acre Pond basin, compacted, covered with reinforced plastic and weighted down with sandbags.

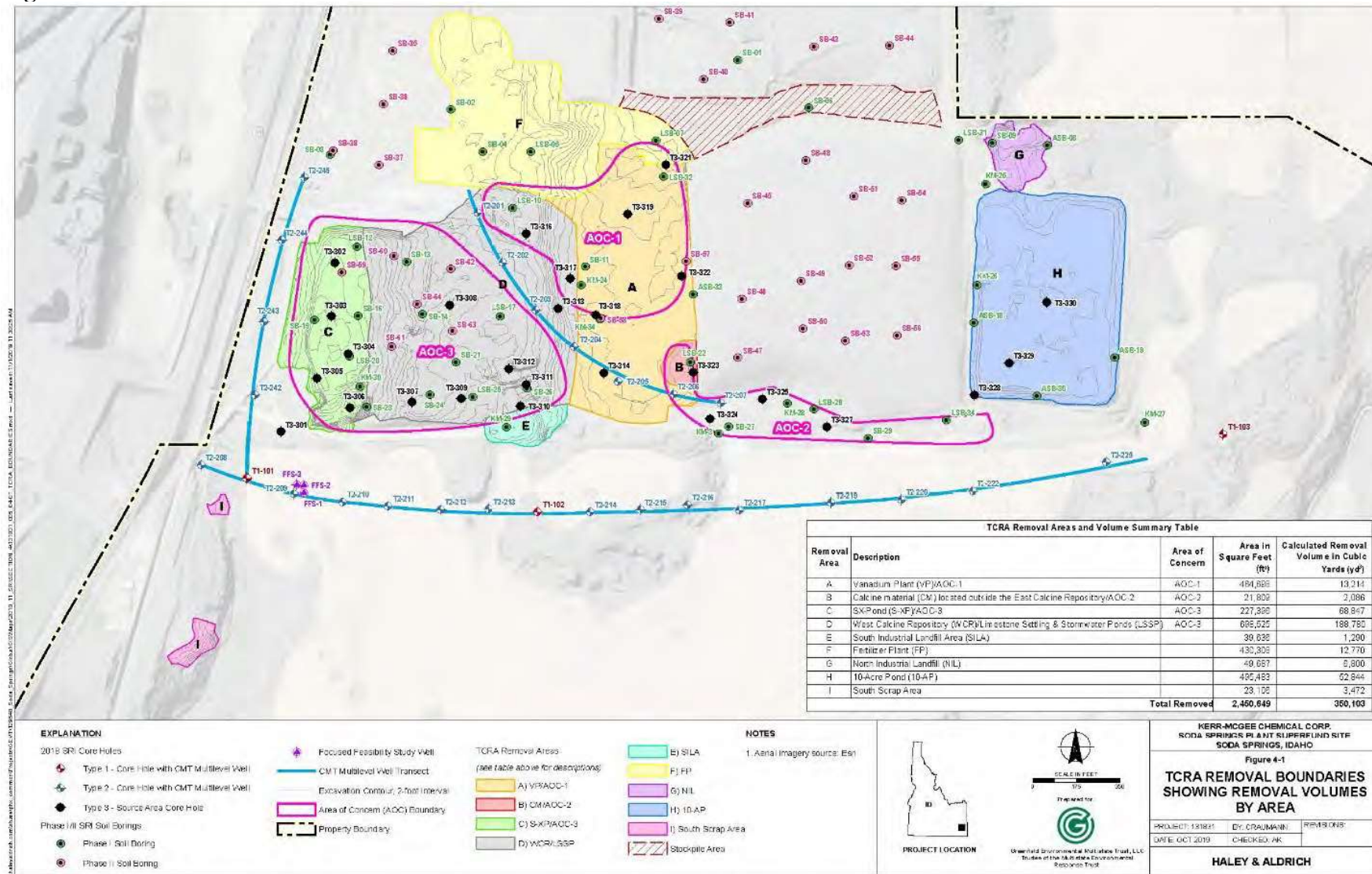
APPENDIX D – SITE MAPS

Figure D-1: Geologic Faults⁴



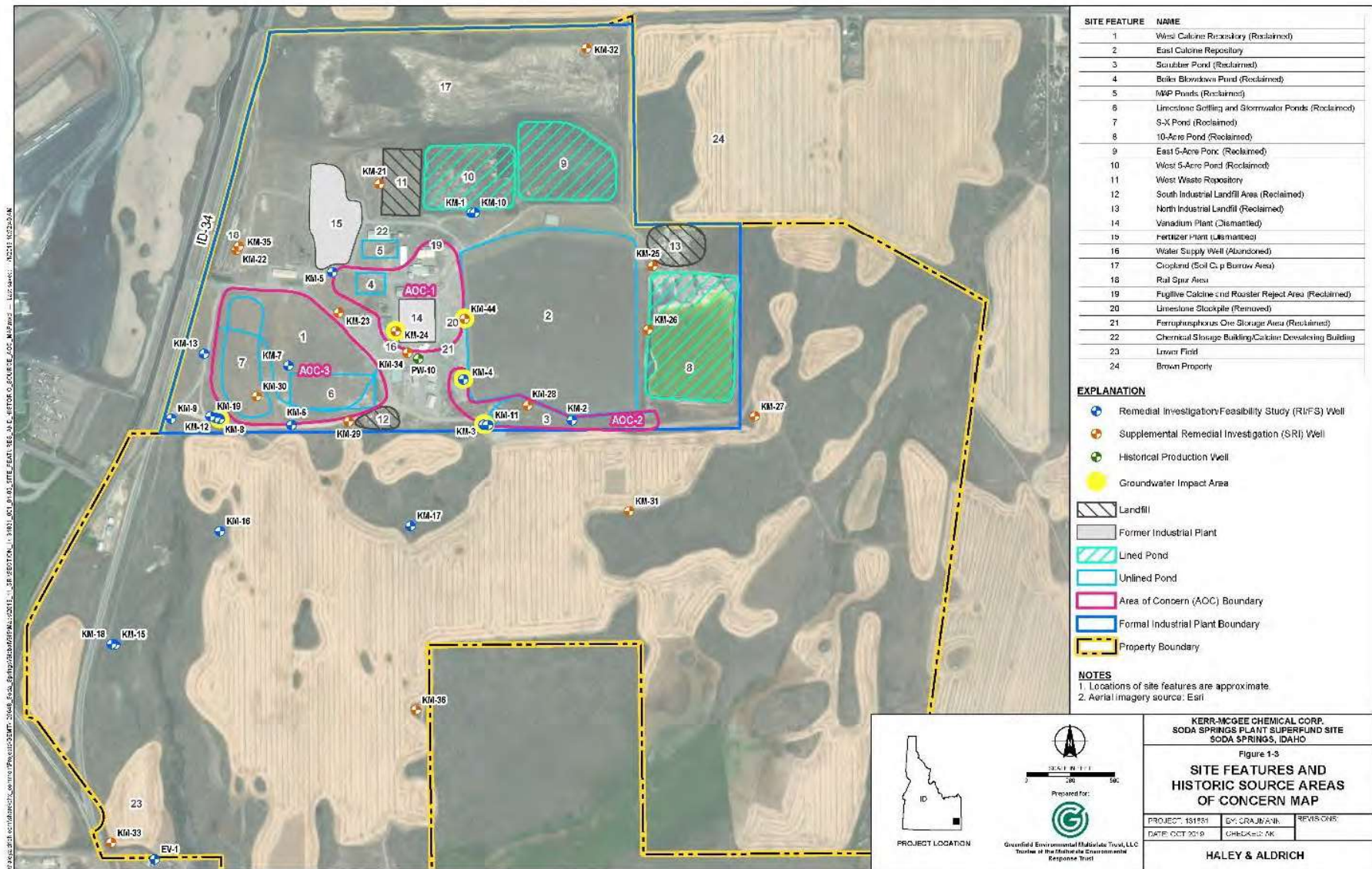
⁴Source: 2019 SRI Report

Figure D-2: TCRA Removal Boundaries and Volumes⁵



⁵Source: 2021 TCRA Effectiveness Evaluation

Figure D-3: Site Features and Historic Source Areas of Concern⁶



⁶Source: 2019 SRI Report

APPENDIX E – PRESS NOTICE



Cleanup Review Starting for Kerr-McGee Chemical Corporation (Soda Springs, ID) Public Input Welcome

Fifth Five-Year Review: The U.S. Environmental Protection Agency (EPA) is conducting its fifth regular Five-Year Review of the remedy for the Kerr-McGee Chemical Corporation (Soda Springs Plant) Superfund Site in Soda Springs, Idaho. Five-Year Reviews help to ensure the selected cleanup actions protect human health and the environment effectively.

The approximately 547-acre Site is in a rural area about 1.5 miles north of Soda Springs, Idaho. It is surrounded by agricultural land to the south, east, and north, and by the P4 Production Plant to the west. From 1963 to 1999, operators of a vanadium production plant generated liquid industrial wastes and stored them on site in ponds. The unlined ponds leaked chemicals into the groundwater beneath the Site. Work and waste disposal practices at the Site caused contamination in the groundwater and surface water. EPA selected a long-term cleanup remedy in the Site's 1995 Record of Decision (updated in 2000). Cleanup efforts included placement of contaminated sediment from the three unlined waste ponds in a landfill on site, capping of calcine tailings, natural attenuation of groundwater contaminants, groundwater monitoring, and institutional controls (such as deed restrictions or signage).

Remedy construction took place from 1997 to 2001 and groundwater monitoring is ongoing. Additional remedial actions are being evaluated as part of a Focused Feasibility Study. The Greenfield Environmental Multistate Trust, LLC leads site investigation and cleanup activities. EPA provides oversight, in consultation with the Idaho Department of Environmental Quality.

Do you have information on how the remedy is working? If so, EPA wants to hear from you by February 28, 2022. EPA invites community participation in the Five-Year Review process to evaluate cleanup efforts and to ensure it remains protective of human health and the environment. Community members who have questions about the Site or who would like to participate in a community interview, are asked to please contact the following EPA remedial project managers (RPMs):

- Conor Neal at (206) 553-0603 or neal.conor@epa.gov
- Zoë Lipowski at (206) 553-0526 or lipowski.zoe@epa.gov

For More Information: Visit the Site's local document repository, Soda Springs Public Library, located at 149 South Main Street in Soda Springs, Idaho 83276, or visit EPA's website at www.epa.gov/superfund/kerr-mcgee-soda-springs.

December 16, 2021 in *Caribou County Sun*



**Cleanup Review Starting for
Kerr-McGee Chemical Corporation
(Soda Springs, ID)
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December 19, 2021 in *Idaho State Journal*

APPENDIX F – INTERVIEW FORMS

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name:	Interviewer affiliation:
Subject name: Lars Peterson	Subject affiliation: Multistate Trust
Subject contact information: LP@g-etg.com, 480-319-3638	
Interview date: 2/28/2022	Interview time:
Interview location:	
Interview format (circle one): In Person Phone Mail Email Other:	
Interview category: Multistate Trust	

1. What is your overall impression of the remedial activities at the Site?

Initial remedial activities selected in the 1995 Record of Decision (ROD) and implemented by 1997 were followed by a sustained period of approximately ten years of consistent and substantial declines in Site-related contamination. By about 2007, the rate of improvement of Site conditions began to slow in some areas, and it was determined that additional evaluation of the cause for the slowed improvement was warranted. In 2009, however, the owner of the Site at that time, Tronox Incorporated (Tronox), filed for bankruptcy; therefore additional investigation and cleanup actions around the time of the Tronox bankruptcy were limited.

Under a bankruptcy settlement approved by the U.S. Bankruptcy Court for the Southern District of New York and effective as of February 11, 2011, Tronox resolved its environmental liabilities with the EPA, and ownership of the Site, as well as limited funding to maintain it, was transferred to the Multistate Environmental Response Trust (Multistate Trust). The majority of funding to perform additional remedial activities at the Site after the bankruptcy was not available until 2015 and 2016 when litigation against another party, Anadarko, resulted in additional funding for remediation.

With the support, leadership, and under the oversight of the U.S. Environmental Protection Agency (EPA) and the Idaho Department of Environmental Quality (IDEQ), since the receipt of Anadarko funds in 2015 and 2016, the Multistate Trust has completed a significant amount of site investigation and remedial action activities on parallel paths. The following site investigations and studies have been designed and implemented to fully characterize the nature and extent of contamination and to support EPA issuance of a ROD Amendment:

- Supplemental Remedial Investigations (SRIs, 2015 – 2020) have covered extensive on- and off-Site sampling and fieldwork, including installation of 76 groundwater monitoring wells (using innovative, continuous multichannel tubing wells installed in “transects”), drilling over 10,000 feet of soil borings, and collecting 1,167 groundwater, surface water, soil, and other samples, and updating the conceptual site model;

- An EPA-approved Baseline Human Health Risk Assessment was completed (2017 – 2020), encompassing preparation of a Conceptual Site Model and Exposure Scenarios and Assumptions Report, and Pathway Analysis Report;
- An EPA-approved Screening Level Ecological Risk Assessment was completed (2017 – 2020), encompassing a habitat survey and Problem Formulation Report;
- Ongoing Focused Feasibility Study (FFS) activities have been completed to evaluate options for modifying/improving the existing remedy, which have included preparation and implementation of a Data Collection Work Plan (2018) for laboratory testing, bench-scale testing, and field-scale pilot testing for various redox manipulation methods to identify options for addressing impacts of subsurface geochemistry on the mobility and migration of metals; a Monitored Natural Attenuation (MNA) Evaluation to assess the suitability of MNA in conjunction with the remedial actions implemented to date by the Multistate Trust. The Draft FFS Report was submitted for EPA review in 2021;
- An evaluation of the anticipated effects of the 10-Acre Pond Time-Critical Removal Action (TCRA) was completed (2020 – 2021) using multiple Site-specific variables to model/forecast future groundwater concentrations to evaluate whether additional remedial actions, if any, may be warranted and/or the circumstances under which additional active remediation may be warranted in the future; and
- The addition of the City of Soda Springs (City) water supply to the ongoing long-term monitoring (LTM) program to confirm that the City water supply is not impacted by Site contamination.

Concurrent with the above-described activities, the Multistate Trust has also performed extensive remedial actions to reduce risk to human health and the environment, and proactively take actions to improve environmental conditions, including:

- Building Demolition and Donation—17 dilapidated buildings were demolished and 1 building was dismantled and donated to the City—to improve delineation of contamination and support ongoing groundwater monitoring operations, support more comprehensive source removal, and improve the value of the Site because of the extremely deteriorated condition of most of the buildings;
- The 10-Acre Pond TCRA, which entailed removal and disposal of 1.25 million gallons of highly contaminated liquid that had been stored in an impoundment with a deteriorating liner, 34,542 cubic yards of pond solids, and 18,302 cubic yards of underlying soils (completed on an expedited schedule in conjunction with the additional actions described here);
- Source area removal actions, which included excavation and placement of nearly 400,000 cubic yards of waste (including the 10-Acre Pond TCRA waste materials described above) in a newly constructed on-Site repository; construction of a new on-Site lined repository (with a leachate collection system) to house the excavated materials from the 10-Acre Pond TCRA and the source area removal (which not only removed calcine source material but also realized cost savings of more than \$2.0 million by both utilizing sandy calcine waste as a repository cushion material and applying 10-acre pond liquids as dust control within the waste repository during construction); and

- Regrading the Site to direct surface water runoff away from residual source areas (located at depths that exceed excavation limits) that, if not redirected, could continue leaching of residual contamination to groundwater.

2. What have been the effects of this Site on the surrounding community, if any?

Whenever possible, Site-related activities are managed in a way to facilitate positive effects on the surrounding community. Several examples include:

- Through focus on local hiring and investing in the community, work conducted at and/or for the Site has produced an estimated 20 temporary local and regional jobs;
- During the building demolition project in 2018, the Multistate Trust dismantled and donated a ±4,800 square-foot building to the City for its future use;
- The Multistate Trust has worked with the City and Caribou County fire departments to design, construct, and maintain a fire break on-Site to protect the surrounding community from the risk of spreading wildfire.
- Weed management is conducted on an on-going basis to prevent the spread of nuisance weeds from negatively impacting surrounding land, including nearby agricultural fields.

In addition, one of the goals of the Multistate Trust is to facilitate the beneficial reuse of the Site. Several examples of work to accomplish this which benefits the community include:

- Approximately 278 acres of the Site (in an area not impacted by Site-related contamination) are leased for farming to a local resident farmer.
- Three on-Site buildings are leased to a local family for storage use (also in an area not impacted by Site-related contamination).
- The Multistate Trust communicates regularly with the City Council and the Four County Alliance of Southeastern Idaho to identify and evaluate prospective companies looking to site a business, and/or to respond to inquiries of businesses considering the property for reuse.

With respect to Site-related contamination that has migrated off-Site, the EPA-approved Risk Assessment concluded that risk to human health is only present in the hypothetical case of contaminated groundwater being used for domestic purposes. However, all properties located in the vicinity of the Site-related groundwater contamination are provided clean water for domestic use by the City, and based on a well survey of the area, no domestic wells are believed to exist in the area of contaminated groundwater. In addition, the Multistate Trust samples the City water supply on an annual basis to ensure Site-related contamination is not present in City water.

3. What is your assessment of the current performance of the remedy in place at the Site?

As noted in response to Question #1 above, the original remedy resulted in a sustained period of approximately ten years of consistent and substantial declines in Site-related contamination. While those declines have diminished in certain areas, other areas continue to exhibit these decreasing trends. For example, Big Spring, located south of the Site has exhibited a steady decreasing molybdenum concentration that has reduced from >500

micrograms per liter ($\mu\text{g/L}$) in 1997 to approximately 100 $\mu\text{g/L}$ in 2021, which is equal to the EPA threshold for safe tap water.

Removal of the 10-Acre Pond as a Time-Critical Removal Action in 2018, along with the waste excavation, building demolition, and Site regrading that was performed in conjunction with the 10-Acre Pond TCRA resulted in a significant amount of Site cleanup being accomplished under a compressed schedule (in parallel with the preparation of the FFS Report and the track to complete a ROD Amendment). These activities resulted in the cleanup of 1.25 million gallons of highly contaminated liquid and placement of nearly 400,000 cubic yards of contaminated soils and pond solids in a newly constructed on-Site repository. Groundwater modeling conducted since that time has demonstrated that the 10-Acre Pond TCRA and associated remedial actions have accelerated the time to cleanup by up to 50 years in some areas of the Site. As such, the completion of these activities since the last Five-Year Review represents a very notable improvement in the remedy and the Site conditions.

Finally, the Draft FFS Report was prepared in 2021 to evaluate what additional remedial actions are appropriate for the Site, and the Final FFS Report is anticipated to be approved by EPA in 2022.

4. Are you aware of any complaints or inquiries regarding reuse of the Site, environmental issues, or the remedial action from residents since implementation of the cleanup?

The Multistate Trust works closely with the local government and community stakeholders by meeting frequently with representatives from the City to provide updates on Site activities; hosting Site tours and cohosting an open house event with EPA and IDEQ; participating in various community events; and meeting with Bayer (formerly Monsanto), which operates a manufacturing plant in close proximity to the Site. During recent meetings with the City Council, the Multistate Trust has discussed opportunities for Site re-use identified by council members, and the Multistate Trust has followed up on these opportunities as appropriate. In approximately 2016 and 2017, the Mayor of the City at the time, Mayor Jim Smith, expressed his view that the Site should be host to a major industrial employer, such as a company that would supply full-time employment to dozens of local residents. Former Mayor Smith and some City Council members have also voiced their frustration regarding the length of time needed for Site cleanup, and disappointment that the Site cleanup is not yet complete.

Inquiries related to such environmental issues have included:

- In 2018, an adjacent landowner expressed a concern that windblown dust had moved Site contamination onto his agricultural field. The Multistate Trust worked directly with the landowner, and implemented a comprehensive soil sampling program to evaluate the concern. No Site-related contamination was found on the adjacent property.
- In March 2020, a local property owner reported to IDEQ that their domestic well water had a bad taste or change of taste, and inquired whether this could have been caused by Site-related contamination entering the resident's well. The Multistate

Trust worked with IDEQ to compile relevant information, including historical sample results from the subject well and other nearby wells and the groundwater flow direction in the area. IDEQ communicated to the property owner that they did not believe Site-related contamination would have migrated to their property or well and advised the property owner that they could sample their well water to confirm. The owner collected a sample and then reported to IDEQ in May 2020 that the concentrations were all low and had actually decreased since the last time the well was sampled. No further action was necessary.

5. Are you getting information from the EPA and IDEQ during the Superfund cleanup process?

Yes. The Multistate Trust works very closely with EPA and IDEQ for all matters related to the Site, holding regular meetings typically at least monthly, and often more frequently. Meetings with EPA and IDEQ also regularly include community stakeholders, such as the City Council (typically 1-2 meetings per year), and public meetings or open houses. The Multistate Trust also works with EPA and IDEQ to help ensure information related to the Superfund cleanup process is being made available to the community, for example:

- Fact sheets are regularly prepared and distributed. Most recently, a Site Overview fact sheet was jointly prepared in January 2022 by the EPA, IDEQ, and Multistate Trust. A mailing list was procured, and fact sheets were mailed out to more than 2,400 residents and businesses in the Soda Springs area.
- The Multistate Trust website for the Site is being finalized and is expected to go live in March 2022 (<https://sodasprings.greenfielddenvironmental.com>). The website will include general information, materials, and links to resources in order to give the public easy access to information about the Site and to improve community awareness of the Site and our investigations, remediation, and reuse planning.
- The Community Involvement Plan is being updated in early 2022 after public interviews are completed in the spring.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

On-Site and off-Site institutional controls for the Site are discussed separately below:

A form of on-Site institutional control is in place due to the fact that the property is owned by the Multistate Trust, and no sale or lease of the property is permitted without approval by the beneficiaries of the Multistate Trust, including the United States (with EPA acting as lead agency) and the State of Idaho (with IDEQ acting as non-lead agency). A traditional institutional control in the form of a deed notice is anticipated after the forthcoming ROD Amendment is completed. The deed notice for on-Site land use restrictions is anticipated to include: (1) restriction to commercial/industrial land uses, and (2) groundwater use restrictions in accordance with commercial/industrial use of groundwater. The EPA-approved Human Health Risk Assessment and the Draft FFS Report both propose Preliminary Groundwater Cleanup Levels. For the on-Site commercial/industrial worker, vanadium at levels above 930 µg/L is the only contaminant of concern (COC) that would present an

unacceptable risk to human health (presuming commercial/industrial exposure). Based on this information, the institutional control anticipated for on-Site groundwater use restriction is to prevent commercial/industrial use of groundwater exhibiting vanadium at levels above 930 µg/L. However, formal establishment of this institutional control is not expected to be completed until after the ROD Amendment is finalized, because the final approved industrial cleanup level established in the ROD Amendment may not exactly match the cleanup level currently proposed. In the meantime, the institutional control that already exists through ownership of the Site in a trust, with property sale and re-use matters subject to EPA and IDEQ approval, should remain protective.

With regard to off-Site institutional controls, based on ongoing discussions with EPA, IDEQ and the Idaho Department of Water Resources (IDWR), the Multistate Trust is in the process of preparing a Petition for Area of Drilling Concern (ADC) to prohibit the installation of drinking water wells in the area of off-Site groundwater contamination. The petition will be submitted to IDWR for its review and consideration. Establishment of the ADC would be dependent on several factors, including IDWR evaluation of the petition and public feedback should IDWR choose to present the ADC for public consideration. Based on meetings with EPA and IDEQ, the ADC appears to be the best form of off-Site institutional control available for use. It should also be noted that a domestic well survey has been completed, and based on review of publicly available information and after community outreach including direct mailings and door-to-door knocking, no private wells have been identified within the area of Site-related groundwater contamination (excluding monitoring wells). Furthermore, the Multistate Trust has also confirmed through communications with the City that clean water provided by the City to its resident and to select locations outside of city limits is available to all properties that are located geographically within the area of Site-related groundwater contamination. As such, if a previously unidentified private drinking water well would be discovered within the area of Site-related groundwater contamination, abandonment of the well and use of clean city water as an alternative would likely be a reasonable option to eliminate the risk of potential domestic use of contaminated groundwater.

7. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

The Multistate Trust would like to acknowledge the support and leadership provided by EPA and IDEQ in the planning, approval, and implementation of the 10-Acre Pond TCRA and associated waste excavation, building demolition, repository construction, and Site regrading. These considerable endeavors were undertaken concurrently with the ongoing SRI and FFS process. By approving work to respond to the potential risks posed by the 10-Acre Pond in a time-critical fashion, a very significant amount of Site cleanup was achieved in a short period of time. As noted above, the 10-Acre Pond TCRA reduced cleanup time by as much as 50 years in some areas of the Site. While the SRI was approved in 2020, the FFS Report is expected to be approved in 2022, and the ROD Amendment will be completed soon thereafter, it is acknowledged that the linear process of Superfund cleanup does typically take many years. In this case, the Superfund process for the Site is still advancing, while at the same time the decision to address certain Site risks in 2018 in a time-critical manner was a

remarkable success story in making very rapid progress towards cleaning up a Superfund site.

8. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

Yes.

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name:	Interviewer affiliation:
Subject name: <i>Scott Rigby</i>	Subject affiliation:
Subject contact information:	
Interview date:	Interview time:
Interview location:	
Interview format (circle one): In Person Phone Mail Email Other:	
Interview category: O&M Contractor	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
2. What is your assessment of the current performance of the remedy in place at the Site?
3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?
4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.
5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.
6. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details.
7. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.
8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?
9. Is there anything specific about the Site that you hear about often, especially from any community members you may encounter? Are there worries, concerns, fears or questions about the contents of the Site?
10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

1 – There has been a lot accomplished towards the cleanup of this site in my opinion. The work has been done right and in a timely manner. Many upgrades have been implemented.

2 – The path towards a remedy seems straight, many steps in the right direction.

3 – I am not involved in monitoring site data and have no input on this question.

4 – There is currently no continuous on-site O&M presence. The site is inspected several times a week to make sure the site remains secure and that there are no obvious issues. The site is thoroughly inspected once per month for erosion, weeds, leachate level measurements and leachate pumping when needed.

5 – Yes, most of the buildings were demolished at the site eliminating fire hazards and ongoing maintenance of the structures.

6 – No

7 – None at this time.

8 – This site is being well taken care, monthly audits, weekly checks, site maintenance when needed, fence repairs when needed and spraying.

9 – Nothing on worries or fears from the community, more good comments on how people are impressed with site cleanup actions.

10 - Yes

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE	
FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name: Johnny Zimmerman-Ward	Interviewer affiliation: Skeo
Subject name: Joel L Gerhart, P.E.	Subject affiliation: Gerhart Engineering, LLC
Interview date: February 24, 2022	Interview time: 11:00 AM MST
Interview location: Subject completed interview form as an individual	
Interview format (circle one): In Person Phone Mail <u>Email</u> Other:	
Interview category: O&M Contractor	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
 - Cleanup progress during the last five years has been particularly good. Demolition of the buildings, removal of the 10-Acre Pond, removal of the west calcine tailings, removal of several small on-Site landfills, construction of the new on-Site repository, and site regrading reduced direct contact risks and should benefit groundwater in time. Regular site inspections and general maintenance of the 2 remaining buildings and facilities have adequately stabilized the site to support on-going monitoring, maintenance, and investigation activities. Demolition of the other Site buildings and removal and replacement of the failing gas, electric, and water services to the Site reduced physical hazards and created a better starting point for potential Site redevelopment activities.
2. What is your assessment of the current performance of the remedy in place at the Site?
 - Source elimination activities completed in the 1990s resulted in significantly lower COC concentrations in on- and off-Site groundwater. However, groundwater still exceeds applicable standards or certain risk exposure scenarios both on- and off-Site. Ongoing contributions from primary on-Site source materials such as the west calcine tailings (recently removed during the 10-Acre Pond Time Critical Removal Action [TCRA]) and from secondary source materials in the vadose and saturated zones related to historical site operations (not accessible for removal) appear to be contributing to the ongoing exceedances. Removal of the west calcine primary source material and site regrading should reduce the ongoing contributions, but more monitoring is needed to assess the degree of reduction achieved.
3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?
 - Long-term trends show large reductions in concentrations throughout most of the Site and at most off-Site locations related to the liquid source elimination. More monitoring data are needed after the TCRA activities to prove and assess any changes in long-term trends.
4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.

- I am not adequately familiar with the exact schedule for on-Site O&M activities to provide an answer.
5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.
 - The O&M plan has been updated and approved by EPA (Environmental Protection Agency) and IDEQ (Idaho Department of Environmental Quality). The high-resolution monitor well network implemented through the Supplemental Remedial Investigation (SRI) activities combined with expansion of the sampling parameters and twice annual sampling is an excellent means to detect changes in the plumes that may affect potential receptors.
 6. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details.
 - The Site buildings and utilities were in a severely dilapidated condition prior to Site Demolition making the Site inspection and maintenance activities difficult and dangerous. Removal of the buildings, decommissioning of the failing utilities, and replacing utilities significantly improved the safety and operability of the Site. Site access is still challenging during winter months.
 7. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.
 - The monitoring plan has been changed several times in the past 5 years. Certain wells and sampling ports that are no longer needed have been eliminated from the monitoring program. Parameters have been added as needed to support various analyses associated with the ongoing Focused Feasibility Study (FFS). The monitoring well network and monitoring program supply a very complete and robust dataset for these analyses without collecting extraneous or unnecessary data.
 8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?
 - At least a few more years of monitoring data are needed to show trends and assess the effects of the source removal and regrading conducted as part of the 10-Acre Pond TCRA.
 9. Is there anything specific about the Site that you hear about often, especially from any community members you may encounter? Are there worries, concerns, fears or questions about the contents of the Site?
 - The community often expresses a desire to see the Site redeveloped to create jobs and increase economic opportunities. Local officials also express concerns related to fire safety, mowing, and fire breaks at the Site. Since the facility is no longer in operation and fire concerns are commensurately reduced, it may be beneficial to minimize mowing to allow native vegetation to develop to enhance habitat, reduce erosion, and further minimize infiltration at the Site. Several community members have commented that the Site looks much better after the Site demolition and west calcine removal activities, and removal of the buildings has eliminated a potentially dangerous attractive nuisance.
 10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
 - Yes

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE	
FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name:	Interviewer affiliation:
Subject name: Stan Christensen	Subject affiliation: IDEQ
Interview date: February 18, 2022	Interview time:
Interview location: 2:20 pm MST	
Interview format (circle one): In Person Phone Mail <u>Email</u> Other:	
Interview category: State Agency	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
 - I have a very positive impression of this project. I feel the Trust has installed a very robust groundwater monitoring system that provides a great synopsis of site conditions and the extent of the impacted plumes. The Trust has been very aggressive in removing remaining source materials and in cleaning up the site in general. They removed old dumping areas from the site, calcine material and the 10 acre pond. They also removed most of the buildings and donated the structure from one building to the city of Soda Springs.
2. What is your assessment of the current performance of the remedy in place at the Site?
 - Much has been done to improve conditions at the site. Unfortunately groundwater impacts still remain. The Trust is working on an FFS report which will detail further remedial actions. The contaminated plumes have dwindled in size but they still are quite large and impact areas off-site and within the city of Soda Springs. The current remedy has not been adequate to remove and contain the contamination over the years it has been in place.
3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
 - There was inquiry from one resident, who has a private groundwater well on his property that he had concerns might be impacted from the site contamination. Tests showed no impact. This was in the spring of 2020. Another property northeast of the site also inquired for soil impacts. Testing was conducted as part of the SRI report. I believe no impacts were found.
4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.
 - I handled communication with the resident on his well concerns. I have attended yearly update meetings with city officials and a public meeting held in 2017.
5. Are you aware of any changes to state laws that might affect the protectiveness of the Site's remedy?
 - No I am not aware of any state law changes that could affect protectiveness of the site remedy.
6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

- I am comfortable with the ICs at the site.
7. Are you aware of any changes in projected land use(s) at the Site?
- No I am not aware of any projected land uses at the site.
8. How would you describe the community's relationship with EPA and the IDEQ during the Superfund cleanup process?
- I believe the relationship between the agencies and community is very good.
9. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?
- I do not. I believe the TCRA in 2017-2018 did a lot to improve the site conditions. The monitoring network is excellent and the FFS will hold more details and suggestions to proceed further with cleaning the groundwater contamination emanating from the site.
10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
- Yes.

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name: Meshach Padilla	Interviewer affiliation: EPA
Subject name: Bryce Somsen	Subject affiliation: Caribou County Commissioner
Interview date: March 25, 2022	Interview time: 8:00PM MT
Interview location: Phone	
Interview format (circle one): In Person <u>Phone</u> Mail Email Other:	
Interview category: Local Government	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
 - Yes, ever since it started.
2. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey site-related information in the future?
 - Yes, informed enough. Perfect amount.
3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?
 - Not that I am aware of.
4. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy?
 - No, I am not.
5. Are you aware of any changes in projected land use(s) at the Site?
 - No, I am not. County has been trying to promote solar energy by suggesting a solar farm on the former site. County has reached out to solar companies about creating a solar farm, but no response from company.
6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site?
 - How can EPA best provide site-related information in the future? Yes, through the local newspaper (Caribou County Sun). It’s been a while since EPA has provided updates, maybe provide some more information.
 - EPA should provide recommendations on how to use the land. Provide information on what can/cannot be done on the site. Provide way to contact someone through the EPA for more information.
 - County Commissioner’s use social media extensively to share information.

7. Has the community been receiving sufficient technical information from EPA? Has this information been clear and easy-to-understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the Site?
 - I don't know. Probably. Everyone knows about last remedial actions. People only need general information and images/visuals. Most people understand what's going on.
8. How would you describe the community's relationship with EPA and your organization during the Superfund cleanup process? I don't know.
 - Good really. Soda Springs is mining community. When you mention EPA in some places, they spit on the ground, but there's no problems at all. EPA is done above what was expected. NOTE: CIC had to inform/remind the interviewee that the current remedial actions were not fully effective, that's why we're doing CIP interviews. Interviewee was surprised and CIC offered to re-send the current factsheet and told them that they could email/call CIC for any additional questions.
9. Do you have any comments, suggestions or recommendations regarding the project?
 - No. Solar farms would be perfect after the remediation is done. Interested to see if a solar farm would cause any disturbance to the remediation.
10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
 - Sure.
11. Is there anyone else who you would suggest we should talk to?
 - No, not really.

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE	
FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name: Meshach Padilla	Interviewer affiliation: EPA
Subject name: Eric Hobson	Subject affiliation: Caribou County Director of Public Safety
Interview date: March 11, 2022	Interview time: 11:00AM EST
Interview location: Phone	
Interview format (circle one): In Person <u>Phone</u> Mail Email Other:	
Interview category: Local Government	

Mr. Hobson indicated he reviewed the provided fact sheet and read through the information on the website prior to the call.

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
 - When they started to do the remediation, we met with Greenfield team and they provided us information and kept us updated on the process.
 - Yes, one of the guys that works for me used to work out there for many years. I have been familiar with the process with the vanadium extraction. Our community has multiple Superfund sites, so we are used to and familiar with them through our LACP process. We were informed of the cleanup plan and the stages involved, as well as the overall process. We are periodically updated on the progress, which is helpful and keeps us informed.
2. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey site-related information in the future?
 - Yes. On the county side, they came to talk to us for staging meetings. Because we have industry in the area, we have a very active LACP and they report to LACP. It has worked out great. They provide very regular updates through a phone call or email updates. We had large amounts of input both on the city and county sides.
 - I feel like the way information is shared now is the best way to do it. We have heard about doing it more digitally and on social media, but I don’t prefer to share it on social media due to comments and it sometimes gets disrupted with misinformation. You could possibly reach more people with social media, but it could run like wildfire and comments have to be turned off as people argue. We have had public hearings, flyers, local paper notices, local county and city meetings and that seems to be the best way to share the direct and targeted information about the Site.
3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?
 - None that I know of. Would defer to sheriff for definitive answer. We haven’t had to respond to the Site, and in past had an emergency response plan with Terratech.

4. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site's remedy?
 - None that I'm aware of, but we don't necessarily follow the IDEQ and EPA regulations. Locally, we don't have any local rules, ordinances or laws that regulate the industries. We have a great relationship with the local facilities and they usually go through the correct permitting processes as needed.
5. Are you aware of any changes in projected land use(s) at the Site?
 - Not aware of any, but I know the goal is to reuse the Site. There were a lot of little talks about what to do with the Site. We know they left the landfill onsite and wonder how that is taken into account during reuse. We heard they had considered a new rail spur on site, but it didn't end up happening.
6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?
 - We were kept informed through fliers and public meetings. I know that they talked about talking to neighbors of the Site, but not sure if they actually spoke to neighboring residents/farms.
 - Best way to provide site-related information is through the weekly local paper and presenting at a local, public meeting (city council or county commission).
 - Meshach: how would the community respond to a virtual meeting option?

Likely more receptive to a virtual meeting since we all know what zoom is now and have worked remotely for two years. I think you get more people coming to a public meeting in person, and is the best method, but anyone that works in any form of business would be comfortable with virtual.
 - Meshach: what is internet availability in the area?

It is a bit hit or miss. We have two local options in town, and outside of town we have some other options. Most folks have internet access, even if it's a hotspot on their phone.
7. Has the community been receiving sufficient technical information from EPA? Has this information been clear and easy-to-understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the Site?
 - I think it has been great information. It's not the most technical information but it's geared to the people reading it. I like that every time a flyer goes out or we go to a meeting, in comes the poster board with maps and figures, which is helpful. The visuals help the community to understand what is going on at the Site. The fact sheet was very informative and explained what was going on at the Site.
8. How would you describe the community's relationship with EPA and your organization during the Superfund cleanup process?
 - Pretty good, we have multiple sites here, and most of the population works at one of the facilities. Most people are used to them here. Locally I don't think we have problems with communication with EPA. There are a few folks who do not care for the government and may not understand roles of the involved entities. Once the purpose is explained and/or clarified, people will understand since they are familiar with the remediation happening at the sites.
9. Do you have any comments, suggestions or recommendations regarding the project?

- One thing I thought that was weird about the project (please note I'm not a site manager, engineer, chemist, etc.) is how they left the landfill on the Site. If you leave the landfill, does it make it harder to reuse the Site? You would think you would want that gone.

10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

- Yes.

11. Is there anyone else we should talk to?

- From the city: Mitch Hart and city manager

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name: Meshach Padilla, with support by Laura Knudsen	Interviewer affiliation: EPA
Subject name: Mitch Hart	Subject affiliation: Soda Springs City Council President
Interview date: March 8, 2022	Interview time: 1:30PM EST
Interview location: Phone	
Interview format (circle one): In Person <u>Phone</u> Mail Email Other: Written response also provided by email on February 25, 2022.	
Interview category: Local Government	

Refer to February 25, 2022 written response for additional information.

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
 - Yes – see written response.
2. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey site-related information in the future?
 - Yes, I am well informed. As a city leader, I have more latitude and have received more information than a regular citizen. Until the Trust took over, there was sporadic information shared; information is now more readily available. They have generously responded to requests and provided tours of the Site. The previous Mayor raised concerns about risk of fire with grass and weed control and the Trust was very responsive. The latest fact sheet was helpful to reiterate the work the Trust has been doing. It parallels some other fact sheets that have come out about other phosphate mines under CERCLA. Fact sheets going forward is encouraged and would be helpful for the community. I would advise using the Caribou County Sun to channel information to the community. The community loves to read the paper and it’s well read in the broader community. Mailers and newspaper would be great way to share information.
3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?
 - Not aware of any. If it was a problem, I would probably hear about it. What is unique about the Site is that it’s in the county, but abuts the city limits, so we are definitely neighbors.
4. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy?
 - None seen.
5. Are you aware of any changes in projected land use(s) at the Site?

- It's county land, but there is a buffer zone outside city limits that the city and county try to collaborate and cooperate on. Even though county planning and zoning ordinances apply, the city's zoning ordinance influence what goes on in that area. The Site is within the area of city impact. Should be aware of where the county is going and how the city's plan influences the county's. They are going through a public outreach process and the county is targeting later this year to adopt their comprehensive plan. The city will piggyback off of that. There will be more pressure on how the county addresses zoning. Potential redevelopment on portions of the Site, which will possibly be influenced by the forthcoming comprehensive plan.
6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?
- I commend the Trust and regulatory agencies for sending the fact sheet out. I have heard the Trust may have an open house, maybe in the summer. If those are well advertised, you'll get ok attendance; maybe dozens, not hundreds. But interested parties will come out if it's well advertised.
 - Meshach: how would virtual meetings be received.
 - i. Face to face is better because you can offer refreshments, which will further entice participants. Virtual might not provide you an avenue to get more people to participate. But you could do both. We do both at city council meetings.
 - There is some perception that email is old school, and other social media is more acceptable. With the next generation, email might not be best way to communicate.
 - Laura: can you please suggest good events or places to share information
 - i. Booth at the county fair (first full week in August)
 - ii. 4th of July – booths to share information (population doubles for this holiday)
7. Has the community been receiving sufficient technical information from EPA? Has this information been clear and easy-to-understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the Site?
- Yes, and continue to build on what you have already done.
8. How would you describe the community's relationship with EPA and your organization during the Superfund cleanup process?
- As resources wane, public outreach goes by the wayside. Would encourage EPA to have more outreach on a regular basis. This has gone and will go a long way to be consistent with that.
 - Laura: do you like the Trust's involvement.
 - i. Yes, it's helpful, let's take advantage of what postal service and other forums allow for broad communication. Every 6 months or once a year, a fact sheet or mass mailer would be easy and fairly low cost.
 - Meshach: is there anything that could be changed/added to the fact sheet?
 - i. The indication that we're getting is that it's very likely that an MNA approach will be a significant part of the next remedy, which may be another 40 years to see how cooperative mother nature is going to be. Is there some way to turn those lemons into lemonade and look at the feasibility of redeveloping a portion of the Site. Light industrial possibly or commercial development or intermodal hub; all of the infrastructure is there. Can we take advantage of the economical potential at

the site sooner rather than later? There are a lot of plusses in or around the site to help guide the redevelopment.

9. Do you have any comments, suggestions or recommendations regarding the project?
 - None beyond what has already been provided and is in written response.
10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
 - Yes.
11. Is there anyone else who you would suggest we should talk to?
 - County commissioners
 - Other city officials
 - Reach out if you need additional contacts.

KERR-MCGEE (SODA SPRINGS, ID) SUPERFUND SITE	
FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name: Laura Knudsen, with support by Meshach Padilla	Interviewer affiliation: EPA
Subject name: Resident (Name Redacted)	Subject affiliation: Redacted
Interview date: March 8, 2022	Interview time: 11AM EDT
Interview location: Phone	
Interview format (circle one): In Person <u>Phone</u> Mail Email Other:	
Interview category: Resident	

1. What do you know about the former environmental issues at the Site and the cleanup activities that have taken place to date?
 - I know why the plant was there in the first place, when Kerr-McGee shut down, they ended up hiring some operators back then at our facility. I believe a fertilizer entity was attempting to use some of the waste to use as marketable fertilizer, but that didn't pan out. That may have led to some of the contamination. I understand the site pretty well and was aware of ROD in 1995 and cleanup efforts that kicked off 2000 and remembers when the plants were demolished. I knew one of the environmental people that helped with initial capping. At the time, community assumed that was going to fix it up and wouldn't be concerns. But FYRs would point out things weren't progressing. Too many FYRs took place before the issue was addressed. Bankruptcy obviously complicated things. Because of (b) (6), I knew every time they wanted to drill a well in 2014 or 2015, had to punch wells throughout city to try and track the plume. They got rid of tailings pond and put bulk of waste that couldn't be removed in the "sarcophagus". From what I have gathered, things have been proceeding better with the later work that was done past couple years as compared to 2001-2004. I'm glad to see it's working. Back when (b) (6), it appeared in some projections that the Site couldn't be used as Brownfields facility to do something else out there for 10-20 years. The infrastructure is there; it has rail, gas, electricity, and water. There needs to be a way to get interested parties to find something worthwhile to put out there. While I'm glad they recognized still contamination taking place, I hate to see that taken out of a productive use for another couple of decades. Reuse and redevelopment is an interest at the site. It's the ideal spot for something. People looking at it may be apprehensive because of potential liability. Would really like to see it repurposed sooner than 20 years.
2. What is your overall impression of the project, including cleanup, and maintenance activities (as appropriate)?
 - I knew a lot of people who worked on it, some of the contractors do work for us. A lot of work is done in the summer and we'd ask about it and they said it seemed they were doing a thorough job. And after touring it seemed like they were doing what they were supposed to do to address the plume. Looking back with 2020 hindsight, it took 15-20 years to figure out it wasn't doing what it was supposed to do. The tailings pond sitting out there was presumably causing some issues.
 - Laura: Do others feel similarly?

- I'm probably more cognizant of the site. The rest of the community asks if it's contaminating the water supply. Water supply wells sit to north and south of the site. Obviously concern about water source being contaminated. We've been told there are no issues. Sometimes people don't believe what the government tells them. That does happen. But the general community was more concerned about how it's affecting the water. And they said don't drill a well within city limits and use for cooking.
3. What have been the effects of this Site on the surrounding community, if any?
 - In general, I think there is some hesitation (not necessarily apprehension), but a bit of apprehension that people read the documents and it says the public water is safe, but then it talks about the groundwater and surface water and you get a perception for some that it's continuing to contaminate and no one is doing anything for the community. It does exist within certain members of the community, not prevalent. They are concerned about being next door and being negatively impacted because of it. That is the general perception of some. And that broad paintbrush affects perception of other facilities, like the one where I work. We do have a housing shortage here. Even before that, folks that work at facilities here live in other places because they indicated they don't want to live near a Superfund site. Not everyone says that, but some think that.
 - Laura: Has anyone mentioned the mailing of the fact sheet?
 - Haven't heard anything, but during the winter in Soda Springs people don't get together for much more than basketball games, and that doesn't usually come up since the focus is on the games. EPA could set up a summer public meeting. Won't get hundreds of people, but could get 20-30 people who are curious and want to have a better understanding of what's going on.
 4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
 - I don't believe there has been any. It's outside of the city limits, so county sheriff would deal with that. I'm not aware of any.
 5. Do you and others you know in the community feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
 - Laura: can you talk about EPA being a trusted source in the community? For example, the water issue and not trusting the government.
 - For various reasons, regulations coming from farm service agency, or USDA, or other agencies, but people, in their minds, think it's EPA coming after them. I don't think every citizen in Soda Springs feels that way, but generically, various farmers have dealt with chemicals and they blame the EPA. Perception is reality.
 - I feel well informed because (b) (6) . Most in community have a basic understanding that yes, they made something out there, it contaminated the water and the EPA and others are trying to clean it up. State has a new rule that county and cities need a comprehensive plan for growth, housing, etc., including hazardous or unsafe areas within your city or county. City updated theirs to mention industrial sites adjacent to the city that have contamination and plan indicates the city works with them to expedite cleanup. That comprehensive plan included an online poll of what do people want to see in the plan; they had to use leading questions. But they got at least a hundred people to respond.
 6. How do you receive information regarding any aspects of the project?
 - Do you use social media? If so, which kinds of social media?
 - Do you get information through a computer, smart phone, word of mouth or other?

- What newspapers, websites, TV, or radio stations do you normally use?
- City has a Facebook page, Community 411 or something. (b) (6)

I think the county has a Facebook page, I know EPA has a website. And the Trust is working on a new one. Social media is good way to share information. The local paper, Caribou County Sun – I think everyone reads that and you’ve included info there in the past. No real local radio station. The Pocatello TV stations broadcast over here, so if people have over the air antenna or on streaming, might be seen on local news if shared. Not everyone reads the mailers, and if it’s an envelope that says EPA, they may not take the time to open it and it may go directly in the trash. A 6x9 mailer, postcard with info directly seen when they get the mail, might have more people reading it. A lot of information is shared by word of mouth. Didn’t get much email communication, usually read in the Sun or see it on Facebook is what gets people to ask questions or come out to attend something.

An online survey might be useful. Don’t make it too long. If you have the right questions, people could bang through it in 3-5 minutes, might get good feedback. End with a blank box to allow other questions.

7. Has the community been receiving sufficient technical information from EPA? Has this information been clear and easy-to-understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the Site?
 - Probably adequate for the general product. Anything more complex and people might not understand. Would be helpful to give people information about water quality.
8. Do you have any comments, questions, suggestions or recommendations regarding any aspects of the project?
 - Let’s get it back to productive use sooner rather than later.
9. Is there anyone else who you would recommend that we speak with as we continue with the Five-Year Review and the Community Involvement Plan for the Kerr-McGee Chemical Corp. (Soda Springs Plant) Superfund Site?
 - (Names Redacted)
10. May we follow-up with you if we have any clarifying questions as we review the information you have provided to us today?
 - Yes, no problem.

Kerr-McGee (Soda Springs, ID) SUPERFUND SITE	
FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Kerr-McGee (Soda Springs, ID) Superfund Site	
EPA ID: IDD041310707	
Interviewer name: Meshach Padilla	Interviewer affiliation: EPA
Subject name: Resident (Name Redacted)	Subject affiliation: Redacted
Interview date: March 17, 2022	Interview time: 1:00PM EDT
Interview location: Phone	
Interview format (circle one): In Person <u>Phone</u> Mail Email Other:	
Interview category: Resident	

May have a potential conflict. I live within city limits, on the south end. I have a domestic well, (b) (6) tasted a metallic taste a week ago Sunday. (b) (6) (north of us). He also has a metallic taste – ran samples up to a lab in Pocatello – high E. coli and coliform. But does not explain the metallic taste. We had them run some heavy metals and other contaminants. We are within the molybdenum plume. New cows across the street could explain ecoli. We are hauling water now. We had this metallic taste two years ago as well but there was some lag time with getting results.

1. What do you know about the former environmental issues at the Site and the cleanup activities that have taken place to date?
 - I have reviewed the fact sheet that was sent out. Some of my background is the land just below Kerr-McGee (Kelly Park, used to be Finch Ranch). (b) (6). I am familiar with Kerr-McGee quite a bit that date way back. (b) (6). I am likely more familiar than some about the Superfund background.
2. What is your overall impression of the project, including cleanup, and maintenance activities (as appropriate)?
 - They got in gear a few years ago. It was stagnated until recently. Initially when they first proposed the cleanup, there were a couple of us opposed to the type of cleanup they were doing. They were going to line some of the materials and we were concerned that it wasn't a permanent fix. We were told it was the best science at the time, and we countered that hauling it away to a hazardous waste landfill would have been more thorough. That is water under the bridge, there seems to be quite a lag between then and five years ago. Greenfield Trust got more involved recently and have done a pretty good job. I am pleased that they have been very aggressive over the last approximately 5 years.
3. What have been the effects of this Site on the surrounding community, if any?
 - I think a cloud hanging over it that it's a Superfund site. We had all of the old buildings (now gone) that was an ugly eyesore. We're still dealing with the plumes. They will have to address with what to do with the land. The bigger thing was that Soda Springs as a community didn't want to get labeled as a Superfund Site as it has a really bad connotation to it. It affected us as well as the neighboring industrial facilities (Behr, Monsanto, etc.). And we have found the plume has migrated further south. Which is a concern with the private wells in the area; it becomes a public health issue. Monsanto was pro community and pro environment. They had more money they could spend on cleanup and environment and

looking good, but were concerned they were going to get a black eye because of the Superfund site.

4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
 - No. I used to walk my dog in the area daily and haven't seen anything. Taking the buildings down and cleaning up was an excellent idea.
5. How do you receive information regarding any aspects of the project?
 - Basically from what the agencies send me, whether the Trust or DEQ and sometimes EPA (not a heavy hitter in this). I have a couple good sources locally that I can talk to that work or consult in industry, they are helpful with Superfund cleanup. They help fill me in if I have questions. EPA has come down before and held public meetings that I have attended. They have been extremely candid once the meeting is over. I ask if there is a health issue and they say no. I tend to agree with the findings I've seen before. I get the news releases or flyers. I used that to rewrite a story in the paper in case it gets thrown away at various homes.
 - Do you use social media? If so, which kinds of social media?
 - a. I don't use social media or the internet. I know it's popular, but most is hateful and inaccurate and I refuse to participate.
 - Do you get information through a computer, smart phone, word of mouth or other?
 - a. I do take emails.
 - What newspapers, websites, TV, or radio stations do you normally use?
 - a. There is not much of a radio station here, but I will plug the newspaper: Caribou County Sun. Circulation is 2,600. We have a solid readership. 1,300 are subscribers. There is a certain amount of trust in the community, if we don't talk politics.
6. Are you aware of any changes in land use?
 - I can't address the hazardous material that remains, but you are right next to Kelly Park, which is a great attraction for hiking, skiing, etc. It would be great to consider hiking trails, foot paths (not motorized vehicles), maybe bike trails, dog park, tie into the Kelly Park pathways to Kerr-McGee and work over to the Formation Springs view area (to the north and east of Kerr-McGee). Could be great for locals and visitors. Use the open space so you won't be disturbing the caps. Would need a trust set up for maintenance. Industry may create additional, unwanted problems. May want to deed it to the city or the conservancy.
7. Do you and others you know in the community feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
 - I do, but I am more involved in general. Some community can be confused by the plumes. People are generally comfortable that it doesn't get into the city water. There are sometimes fugitive dust issue, but it's being addressed by remedial actions.
 - Occasionally you could have a short meeting at city council – have an EPA spokesperson update them. Not all night long – just a short 10-15 minute update to talk about where things are and what has happened and what will happen. Could also be from DEQ. I am a firm believer in being up front with people. We are used to mining and industry and if there is a problem, we need to know. What bothers us is what we have missed, but it's the nature of the beast. We can handle it.
8. Has the community been receiving sufficient technical information from EPA? Has this information been clear and easy-to-understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the Site?
 - I think so, I think the mailer was very good. The problem you have is attention spans anymore. It can't be much more than a text or you might lose people. Those that care and pay

attention, like industry engineers, environmental people, there are the ones that need a bit more information. They can assimilate more hardcore stuff that others may skip over. Not everyone may have an interest in the more technical information but some of us do. Which is why updating city council would be good.

Meshach: any updates we should make to the fact sheet?

I like to see the list of things, more on the science end of it personally. But needs to be written for an average reader, which the flyer did well. Having details on more technical data is helpful for some of us and people may want to know what the levels are and how they compare.

9. Do you have any comments, questions, suggestions or recommendations regarding any aspects of the project?
 - Great to reuse the land as mentioned above so it's not just sitting there.
10. Is there anyone else who you would recommend that we speak with as we continue with the Five-Year Review and the Community Involvement Plan for the Kerr-McGee Chemical Corp. (Soda Springs Plant) Superfund Site?
 - City Council President Mitch Hart
 - i. Community has faith in him, and the council, and he is honest. He handles bad news and takes care of it. A good solid source to keep informed.
11. May we follow-up with you if we have any clarifying questions as we review the information you have provided to us today?
 - Absolutely.

APPENDIX G – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST															
I. SITE INFORMATION															
Site Name: Kerr-McGee Chemical Corp. (Soda Springs Plant) Superfund Site	Date of Inspection: <u>4/26/2022</u>														
Location and Region: Soda Springs, Idaho Region 10	EPA ID: <u>IDD041310707</u>														
Agency, Office or Company Leading the Five-Year Review: <u>EPA</u>	Weather/Temperature: <u>50s, windy</u>														
Remedy Includes: (Check all that apply) <table style="width: 100%; margin-top: 10px;"> <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 checked="" type="checkbox"/> Other: <u>Groundwater monitoring</u></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 checked="" type="checkbox"/> Other: <u>Groundwater monitoring</u>	
<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 checked="" type="checkbox"/> Other: <u>Groundwater monitoring</u>															
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached															
II. INTERVIEWS (check all that apply)															
1. O&M Site Manager	<u>Joel Gerhart, P.E.</u>	_____	<u>02/24/2022</u>												
	Name	Title	Date												
	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____														
	Problems, suggestions <input type="checkbox"/> Report attached: _____														
2. O&M Staff	<u>Scott Rigby</u>	_____	<u>02/18/2022</u>												
	Name	Title	Date												
	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____														
	Problems/suggestions <input type="checkbox"/> Report attached: _____														
3.	Local Regulatory Authorities and Response Agencies (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.														
	Agency <u>IDEQ</u>														
	Contact <u>Stan Christensen</u>	_____	<u>02/18/2022</u> _____												
	Name	Title	Date Phone No.												
	Problems/suggestions <input type="checkbox"/> Report attached: _____														

Agency Caribou County Commissioner

Contact Bryce Somsen _____ 03/25/2022 _____
Name Title Date Phone No.

Problems/suggestions Report attached: _____

Agency Caribou County

Contact Eric Hobson Director of 03/11/2022 _____
Name Public Safety Date Phone No.
Title

Problems/suggestions Report attached: _____

Agency Soda Springs City Council

Contact Mitch Hart Council 03/08/2022 _____
Name President Date Phone No.
Title

Problems/suggestions Report attached: _____

Agency _____

Contact _____ _____ _____ _____
Name Title Date Phone No.

Problems/suggestions Report attached: _____

4. **Other Interviews** (optional) Report attached: _____

Lars Peterson, Multistate Trust

Residents

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

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** Readily available Up to date N/A
 Contingency plan/emergency response plan Readily available Up to date N/A

Remarks: _____

3. **O&M and OSHA Training Records** Readily available Up to date N/A

Remarks: _____

4.	Permits and Service Agreements	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Air discharge permit			
	<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: _____			
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 type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____			
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks: _____			
8.	Leachate Extraction Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input 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 type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____			
10.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks: _____			
IV. O&M COSTS				
1.	O&M Organization			
	<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for state		
	<input type="checkbox"/> PRP in-house	<input checked="" type="checkbox"/> Contractor for Multistate Trust		
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility		
	<input type="checkbox"/> _____			
2.	O&M Cost Records			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		
	<input checked="" type="checkbox"/> Funding mechanism/agreement in place	<input type="checkbox"/> Unavailable		
	Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached			
	Total annual cost by year for review period if available			
	From: _____	To: _____	_____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	
	From: _____	To: _____	_____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	

2.	Land Use Changes On Site	<input checked="" type="checkbox"/> N/A
Remarks: _____		
3.	Land Use Changes Off Site	<input type="checkbox"/> N/A
Remarks: <u>Monsanto is building a new rail spur north of the Site along Trail Creek Road and recently purchased the (former) (b) (6) Property adjacent to the northeast.</u>		
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>Several buildings are located onsite and are in good condition. The fencing surrounding the waste areas of the Site is also in good condition.</u>		
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
A. Landfill Surface		
1.	Settlement (low spots)	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Settlement not evident
Area extent: _____		Depth: _____
Remarks: _____		
2.	Cracks	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Cracking not evident
Lengths: _____		Widths: _____
Depths: _____		Remarks: _____
3.	Erosion	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Erosion not evident
Area extent: _____		Depth: _____
Remarks: _____		
4.	Holes	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Holes not evident
Area extent: _____		Depth: _____
Remarks: _____		
5.	Vegetative Cover	<input checked="" type="checkbox"/> Grass <input checked="" type="checkbox"/> Cover properly established
<input type="checkbox"/> No signs of stress <input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)		Remarks: _____
6.	Alternative Cover (e.g., armored rock, concrete)	<input checked="" type="checkbox"/> N/A
Remarks: _____		
7.	Bulges	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Bulges not evident
Area extent: _____		Height: _____
Remarks: _____		
8.	Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident

<input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map	Area extent: _____ Area extent: _____ Area extent: _____ Area 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 Area extent: _____ Remarks: _____		
B. Benches <input type="checkbox"/> Applicable <input checked="" 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.)		
C. Letdown Channels <input type="checkbox"/> Applicable <input checked="" 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.)		
D. Cover Penetrations <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1. Gas Vents <input type="checkbox"/> Active <input checked="" 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: <u>Installed in the East Waste Repository due to the moisture. Off-gassing is not expected to occur since the waste material is not volatile.</u>		
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 checked="" 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 checked="" type="checkbox"/> N/A Remarks: _____		
4. Extraction Wells Leachate <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 checked="" type="checkbox"/> N/A Remarks: <u>Sump</u>		
5. Settlement Monuments <input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed <input checked="" type="checkbox"/> N/A Remarks: _____		
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		

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 type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
Remarks: _____		
G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
H. Retaining Walls <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
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
Area extent: _____		Depth: _____
Remarks: _____		
2. Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Vegetation does not impede flow		
Area extent: _____		Type: _____
Remarks: _____		
3. Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Area extent: _____		Depth: _____
Remarks: _____		
4. Discharge Structure	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
Remarks: _____		
VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
X. OTHER REMEDIES		
If there are remedies applied at the site and 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 designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).		
<p><u>The goal of the implemented remedy was to restore impacted groundwater to meet PSLs. Remedial activities from 1997 through 2004 included reclamation of several ponds, creation of on-site repositories and lined ponds and capping. Starting in 2015 and 2016, the Multistate Trust, under oversight of EPA and in consultation with IDEQ, completed site investigation activities and studies to fully characterize the extent of contamination in support of the development of an FFS and ROD Amendment. Concurrently with these investigation activities, the Multistate Trust also performed removal actions to reduce risk to human health and the environment and removed a large amount of source material that was resulting in impacts to groundwater on and off-site. There are currently two plumes (vanadium and molybdenum) extending off-site and groundwater concentrations are well above PSLs. The Multistate Trust submitted a draft FFS to EPA and IDEQ in 2021 and anticipates it will be finalized in 2022. EPA will then select an</u></p>		

<u>amended remedy for the Site in a ROD Amendment.</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>O&M is adequate and no issues were observed.</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. <u>None.</u>
D.	Opportunities for Optimization
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>None.</u>

Inspection Roster:

Zoë Lipowski, EPA RPM

Stan Christensen, IDEQ

Nick Nielsen, IDEQ

Lars Peterson, Multistate Trust

Alison Cattani, Skeo

Johnny Zimmerman-Ward, Skeo

APPENDIX H – SITE INSPECTION PHOTOS



Signage at entrance



Vegetated surface of the East Waste Repository



Surface of the East Waste Repository with East Calcine Area in background



Fencing along the East Waste Repository boundary



Former 10-Acre Pond, looking north



East Calcine Area/Scrubber Pond Area with Monsanto facility in background



Monitoring well KM-8



Evergreen seep surface water sampling location

Figure I-2: 2021 Groundwater Elevations and Potentiometric Contours

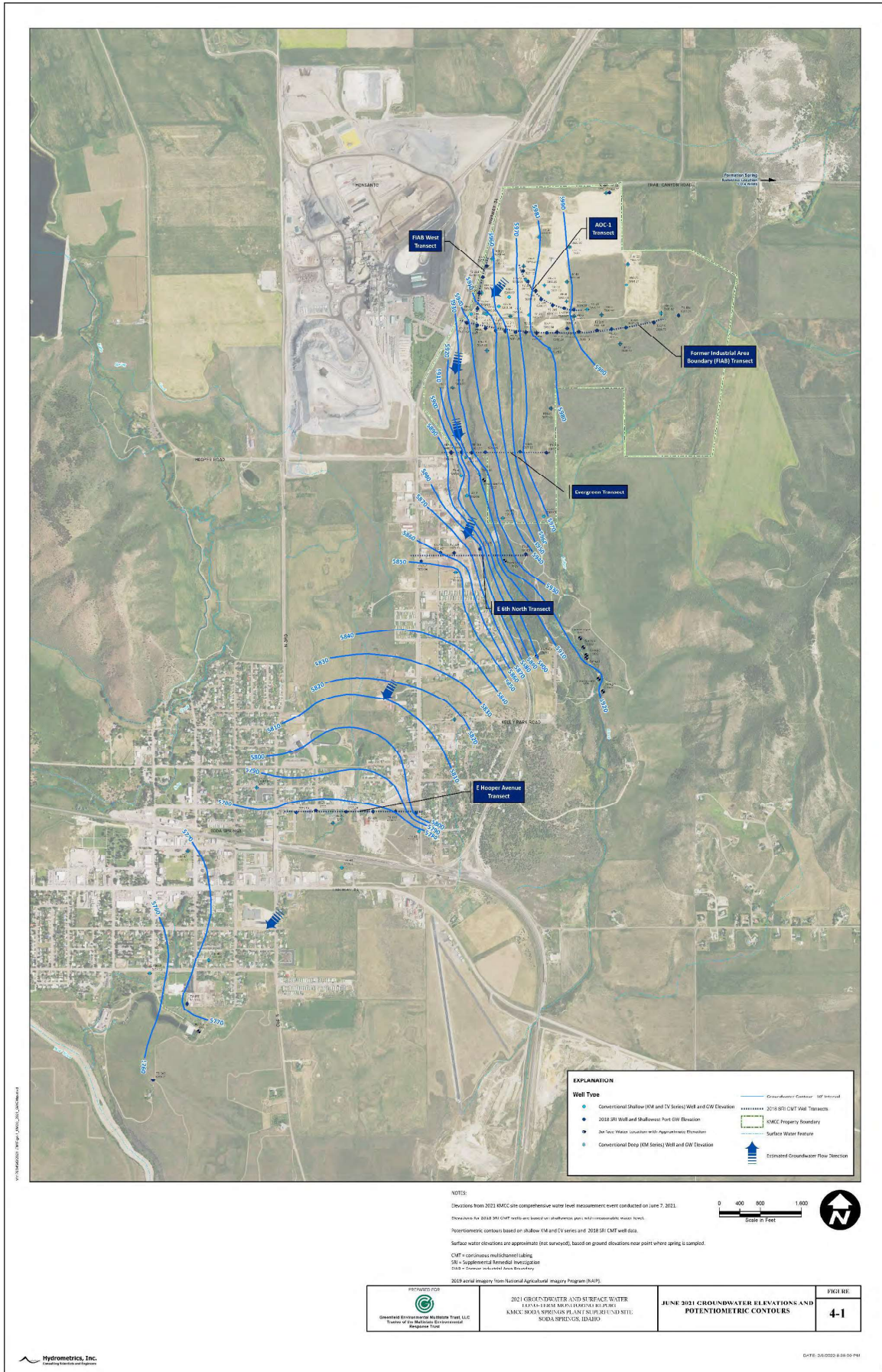


Figure I-3: October 2021 Arsenic Concentrations

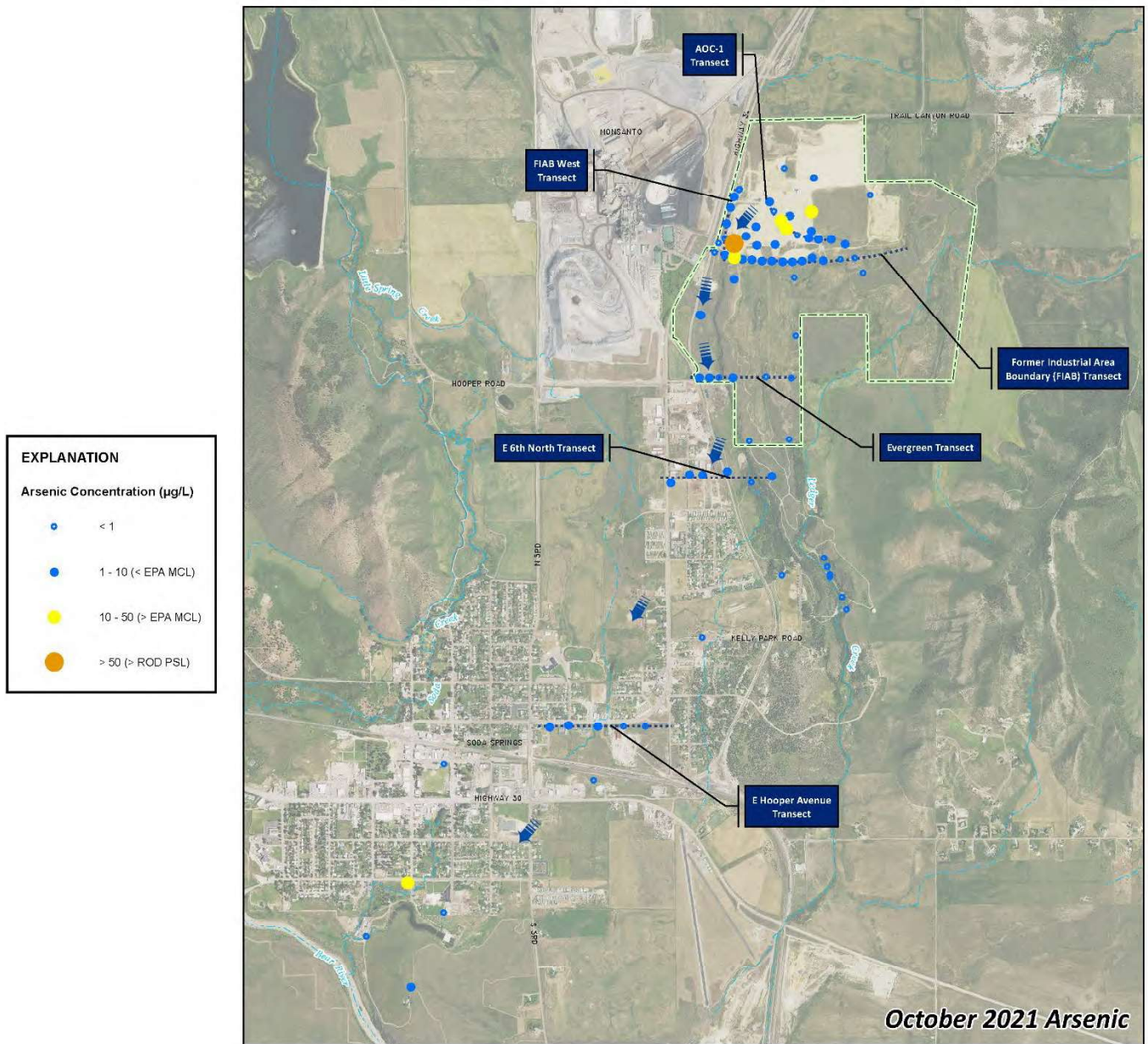


Figure I-4: October 2021 Lithium Concentrations

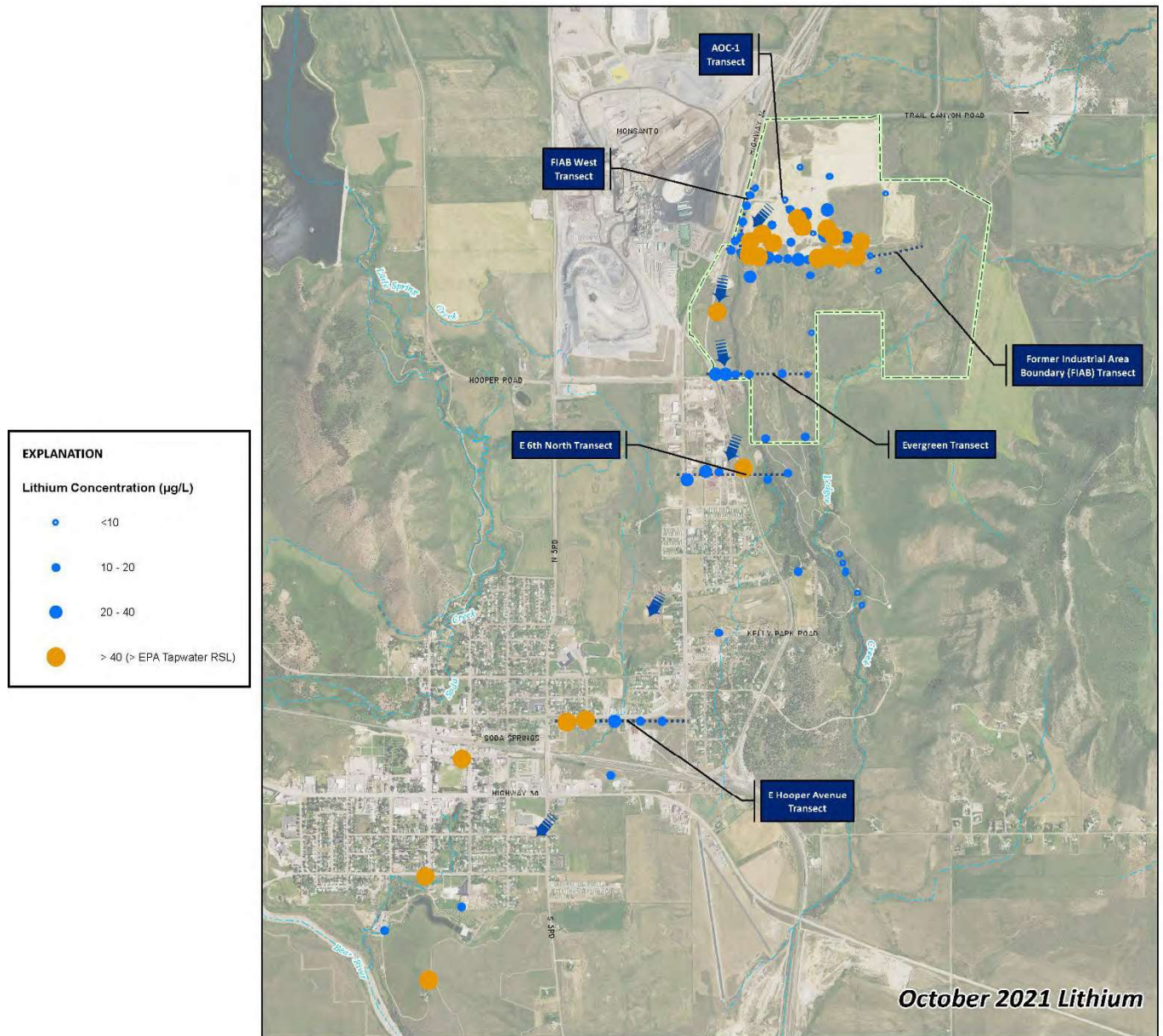


Figure I-5: October 2021 Manganese Concentrations

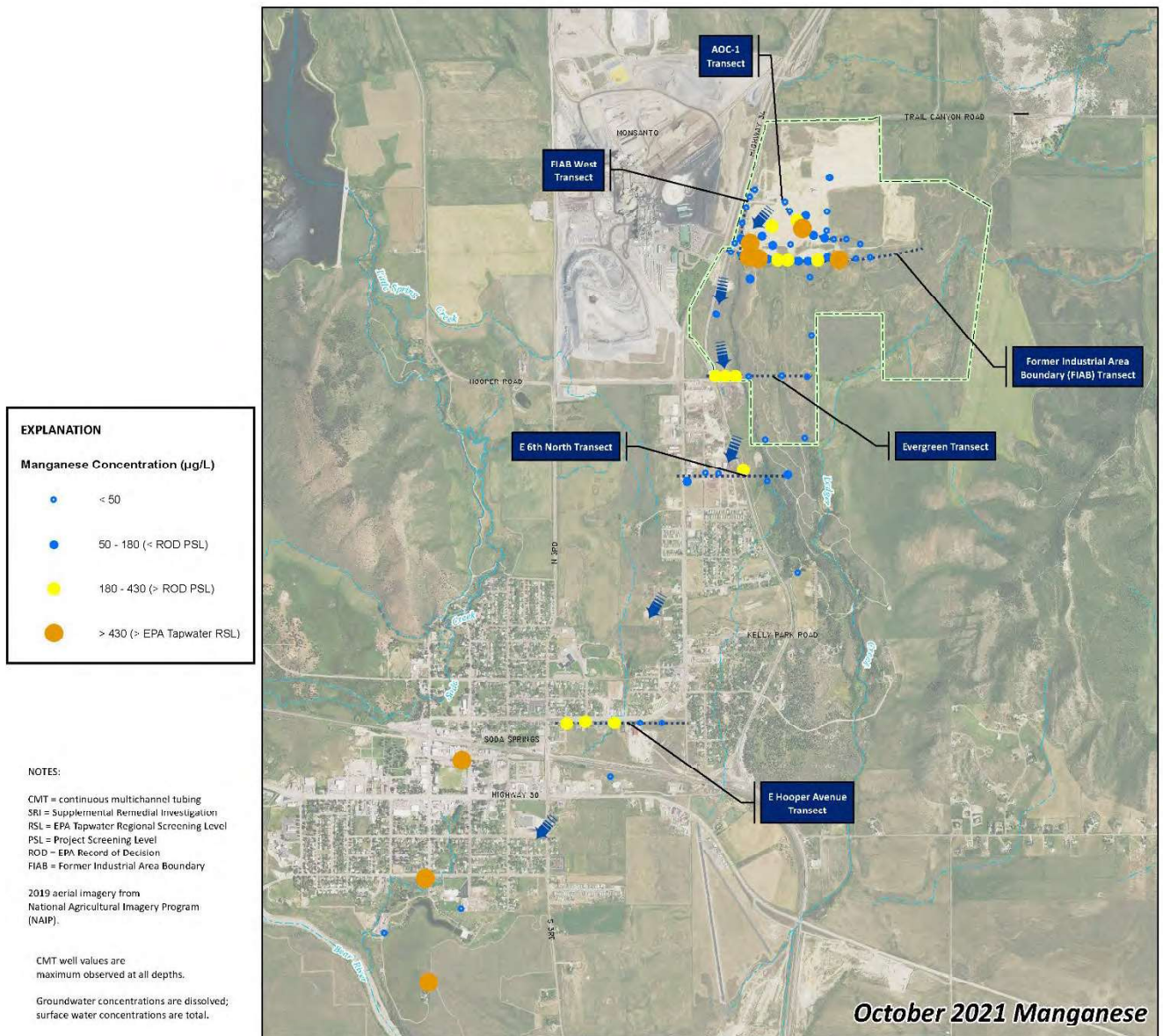
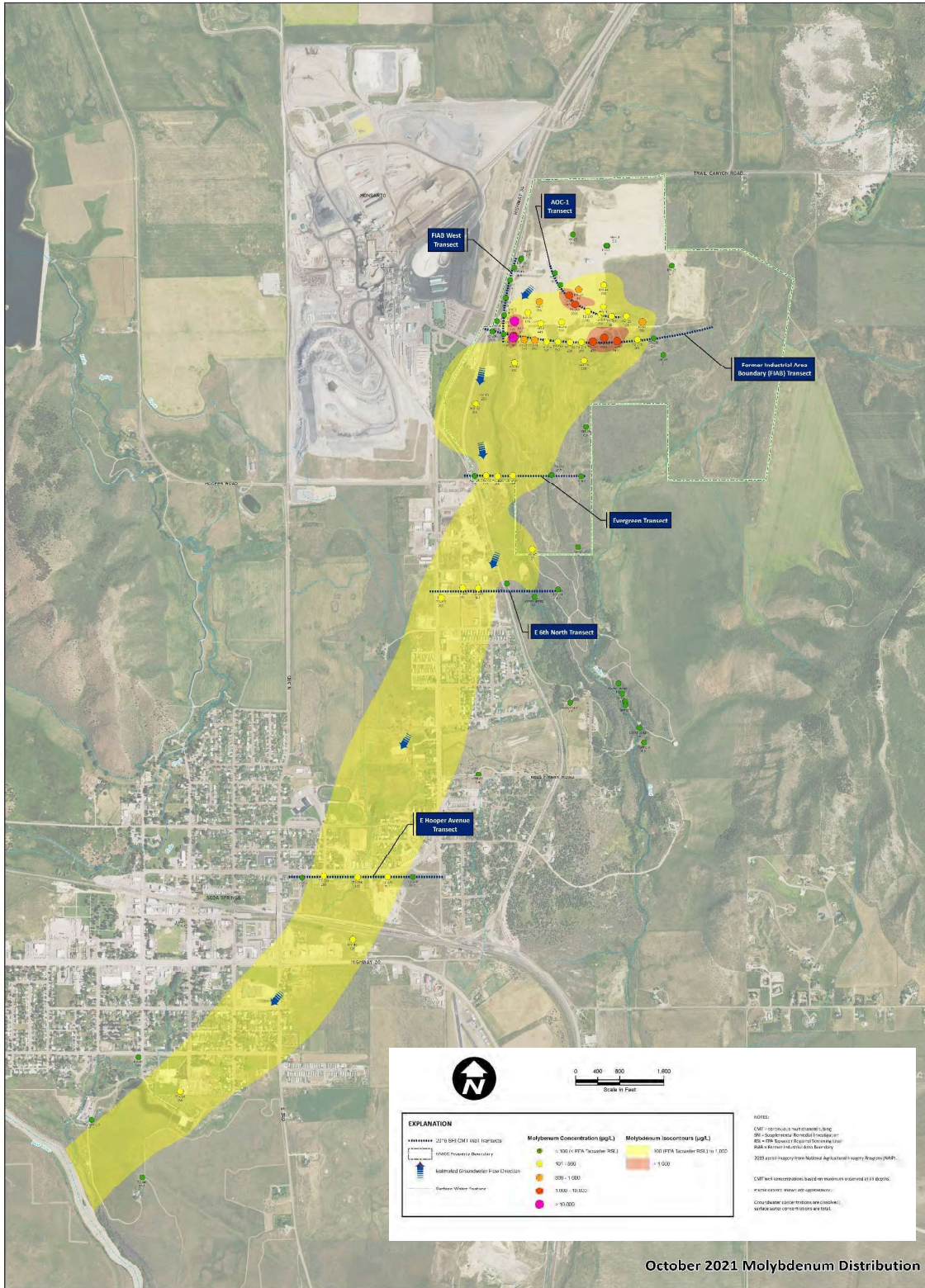


Figure I-6: October 2021 Molybdenum Plume



October 2021 Molybdenum Distribution

Figure I-7: October 2021 Vanadium Plume

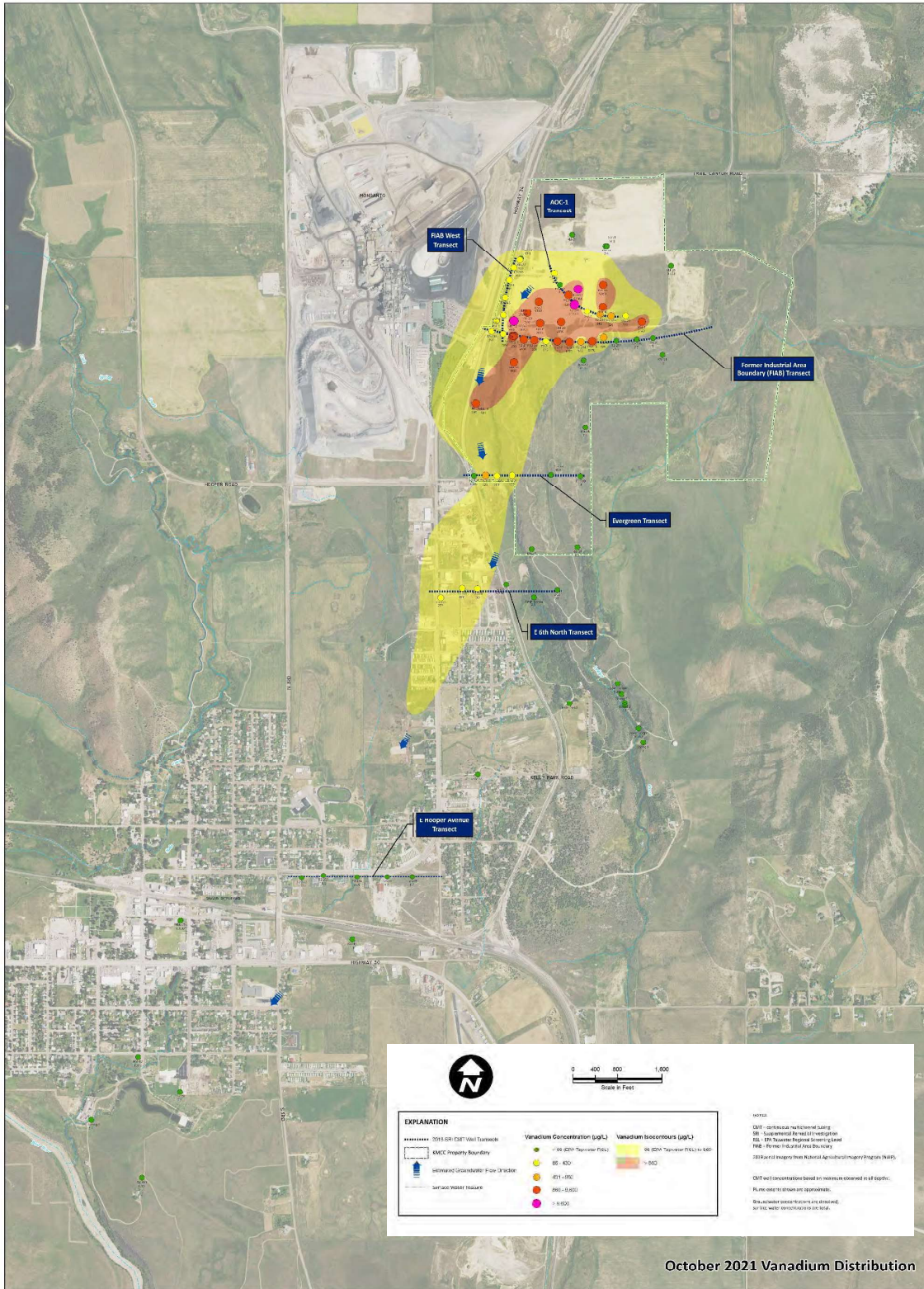


Table I-1: 2021 Groundwater Monitoring Results

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
KM-1	6/10/2021		0.6	7.5	0.22 U	10.5	59.6		
KM-2	6/10/2021		7.5	74.4	33	526	3590		
KM-4	6/8/2021		3.8	48.5	27.9	534	2140		
KM-6	6/9/2021		2.9	42.3	101	464	3190		
KM-7	6/8/2021		3.6	14	180	451	2880		
KM-8	6/14/2021		48.5	1780	2950	26300	14300	0.535	140
KM-8	6/14/2021	Duplicate	46.9	1650	2900	24100	13100	0.593	160
KM-9	6/14/2021		0.83	12.9	4.7	76.4	237	0.506	
KM-10	6/10/2021		0.19 J	6.6	0.22 U	2.9	4.4		
KM-12	6/16/2021		0.76	30.2	24.6	139	266		
KM-15	6/15/2021		1.7	37.5	32.7	239	866		
KM-16	6/9/2021		2.9	41.8	64.9	462	2230		
KM-17	6/9/2021		0.7 U	15.5	10.2	280	87.7		
KM-18	6/14/2021		1.3	34	27.5	214	619		
KM-21	6/9/2021		0.29 J	6.9	0.22 U	8	25.6		
KM-22	6/11/2021		0.77	7.7	0.22 U	12.9	216		
KM-24	6/8/2021		5.6	30.9	102	422	15100	0.0859 J+	
KM-25	6/10/2021		0.14 U	6.2	0.22 U	2.1	1		
KM-28	6/10/2021		1	36.6	9.3	116	303		
KM-29	6/8/2021		3.9	17.4	6.5	214	2200		
KM-29	6/8/2021	Duplicate	3.5	15.9	5.8	195	1990		
KM-30	6/9/2021		1.7	64.3	63.4	168	1980		
KM-31	6/9/2021		0.7 U	6.7	1.1 U	1.9 J	1.3 U		
KM-35	6/8/2021		0.43 J	8.2	0.24 J	5.8	53		
KM-36	6/9/2021		0.7 U	6.9	1.1 U	6.8	1.3 U		
KM-37	6/16/2021		0.38 J	10.7	0.5 U	1.5	1.4		
KM-38	6/10/2021		0.36 J	10.8	0.22 U	9.5	1.2		
KM-43	6/11/2021		0.38 J	11.3	0.4 J	162	3.5		
KM-43	6/11/2021	Duplicate	0.41 J	11.5	0.42 J	166	3.4		
KM-44	6/8/2021		13.3	23.9	2.5	398	7970		
KM-45	6/16/2021		0.26 J	15.5	0.22 U	160	1.1		
KM-45	6/16/2021	Duplicate	0.25 J	15.3	0.22 U	158	1.1		
KM-47	6/11/2021		0.55	94.5	1110	0.31 J	0.27 U		
KM-48	6/16/2021		19	145	572	0.53	0.28 J		
T1-101-01	5/27/2021		1.4	15.1	0.84	39.4 J	388 J-		
T1-101-02	6/14/2021		1	15.6 J	0.22 U	41.8	339		
T1-101-03	6/15/2021		0.74	10.8	0.73	19.6	170		
T1-101-04	6/15/2021		0.85	10.5	1.8	19.6	157		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T1-101-05	6/15/2021		0.66	10	0.32 J	13.8	140		
T1-101-06	5/27/2021		0.73	9	6	26.6	6.3		
T1-102-01	6/9/2021		2.4	21.5	39.4	238	1490		
T1-102-02	6/10/2021		2.1	22.8	39.4	251	987		
T1-102-03	6/10/2021		5.1	40.1	173	80.1	0.96 J		
T1-102-04	6/10/2021		1.2	19.4	162	26.7	0.27 U		
T1-102-05	6/9/2021		0.73	22.7	68.6	3.9	3.5		
T1-102-06	6/9/2021		0.2 J	20.8	15.5	3.3	1.3		
T1-104-01	WELL DRY NO SAMPLE								
T1-104-02	WELL DRY NO SAMPLE								
T1-104-03	5/25/2021		1.7	22.9	402	5.9	0.58 J	0.0511	0.31 U
T1-104-04	6/7/2021		2.9	27.7	544	8.3	0.75 J		
T1-104-05	WELL DRY NO SAMPLE								
T1-104-06	5/27/2021		7.1	35.2	61.4	34.9	0.27 U		
T1-105-01	5/26/2021		1.6 J	30.1	15.7	265	595	0.0526 U	0.32 U
T1-105-02	5/25/2021		1.7 J	35.5	14.5	289	573		
T1-105-03	5/25/2021		1.2	27.5 J	4.8	397	180	0.037 J	0.31 U
T1-105-04	5/25/2021		1.4 U	28.6	241	3.6 J	2.7 U		
T1-105-05	5/25/2021		0.76	32.6	243	2.2	0.27 U	0.0392 J	0.31 U
T1-105-06	5/26/2021		2.7	54.2	158	1.1	0.27 U		
T1-106-01	5/25/2021		0.91	13	11.1	128	94.9		
T1-106-02	5/25/2021		0.86	12.3	203	158	37.8	0.048 J	0.32 U
T1-106-03	5/25/2021		1.4 U	13.7	4.4 J	144	68		
T1-106-03	5/25/2021	Duplicate	1.4 U	13.4	4.4 J	142	67.1		
T1-106-04	5/25/2021		0.46 J	12.4	116	8.7	2.9	0.0437 J	0.31 U
T1-106-05	5/25/2021		1.4 U	13.5	101	42.6	2.7 U		
T1-101-01	WELL DRY NO SAMPLE								
T1-107-02	5/26/2021		1.4 U	9.1	15.6	61.3	12.8	0.0619	0.31 U
T1-107-03	5/26/2021		0.72	10.6	3.5	89.9	65.2		
T1-107-04	6/14/2021		0.84	13.6	1.6	130	128	0.0603 J	0.31 U
T1-107-04	6/14/2021	Duplicate	0.84	13.4	1.5	131	127	0.152 J	0.31 U
T1-107-05	5/26/2021		1.1	12.4	9.8	115	102		
T1-107-06	5/26/2021		0.79	12.3	8	125	98.5		
T1-107-07	5/26/2021		1.4 U	18.6	2.2 U	253	164	0.0477 U	0.3 U
T1-108-01	5/27/2021		0.41 J	9.3	6.6	95.2	17.5		
T1-108-02	6/10/2021		1.2	10.3	226	137	4.5		
T1-108-03	5/27/2021		0.7	9.4	1.2	2.6	1.3		
T1-108-04	5/27/2021		1.2	30	105	12.3	0.27 U		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T1-108-05	5/27/2021		0.49 J	27.2	0.33 J	20.8	2.1		
T1-108-06	WELL DRY NO SAMPLE								
T1-109-01	5/24/2021		0.25 J	6.3	0.28 J	1.8	1.2		
T1-109-02	5/24/2021		0.38 J	6.4	0.44 J	2.1	0.85 J		
T1-109-03	5/24/2021		0.33 J	7.4	0.38 J	1.6	0.95 J		
T1-109-04	5/24/2021		2 J	29.9	185	6.9	2.7 U		
T1-109-05	6/10/2021		0.83	48.5	81.4	2.2	0.27 U		
T1-109-06	WELL DRY NO SAMPLE								
T1-109-07	WELL DRY NO SAMPLE								
T2-201-01	5/28/2021		0.52	7.4	0.39 J	10.5	103		
T2-201-04	6/7/2021		0.59	7.8	0.43 J	7.7	89.7		
T2-202-01	6/8/2021		120	246	436	9710	53900	0.161 J+	
T2-202-05	6/8/2021		0.34 J	12.6	52.8	2.4	1.8		
T2-203-01	6/8/2021		14.8	80.5	89.3	2530	1010		
T2-203-01	6/8/2021	Duplicate	14.8	72.8	86.7	2550	956		
T2-203-06	6/8/2021		3	14	28.1	176	3500		
T2-204-01	6/9/2021		35.2	88.8	2400	3090	250000	0.297	0.31 U
T2-204-02	6/8/2021		0.86 J	8.4	181	231	186		
T2-204-05	6/8/2021		1.8 J	20	125	57.6	2.1 J		
T2-205-02	6/8/2021		0.7	10.4	72.4	122	92	0.0593 J+	
T2-206-01	6/8/2021		1.4 J	30.6	60.2	231	721		
T2-206-01	6/8/2021	Duplicate	1.4 J	30.9	59.9	233	730		
T2-206-04	6/8/2021		0.7 U	8.3	1.1 U	34.3	62.7		
T2-207-02	6/9/2021		2.3 J	66.9	39	398	547		
T2-207-04	6/8/2021		0.7 U	7.4	1.1 U	25.8	19.3		
T2-208-01	6/7/2021		1	13.7	1.1 U	34.9	294		
T2-208-02	5/25/2021		1.4 U	12	10.7	68.2	223		
T2-208-03	5/27/2021		0.89	10.1	1.3	45.6	167		
T2-208-04	5/27/2021		0.8	9.3	1	32.1	158		
T2-208-05	5/27/2021		0.73	9.3	1	38.2	134		
T2-209-01	5/27/2021		5.4	168	1550	1650	1940		
T2-209-02	5/27/2021		4.8	256	284	8200	1660		
T2-209-03	6/14/2021		2.8 J	281	2530	12900	56.8		4
T2-209-04	5/27/2021		1.4	18.5	164	451	142		
T2-209-05	5/27/2021		0.84	9.5	4.5	25.2	23.2		
T2-209-06	5/28/2021		0.64	8.2	0.68	12.6	62.1		
T2-210-01	6/9/2021		3.5	61	46.7	471	2490		
T2-210-02	5/28/2021		3.5	43.4	28.9	457	2420		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T2-210-03	5/28/2021		2	47.4	977	883	116		
T2-210-04	6/9/2021		1.6 J	21.6	2.4 J	162	914	0.0304 J	
T2-210-04	6/9/2021	Duplicate	1.5 J	20.4	2.2 J	154	873	0.03 J	
T2-210-05	6/9/2021		2.1	20.8	7.2	154	676		
T2-210-06	5/28/2021		0.9	10.3	4	43.6 J	159		
T2-211-01	6/14/2021		3.4	44.9	67.6	727	1730		
T2-211-02	6/11/2021		3.4	41.7	19.1	444	2040		
T2-211-03	6/14/2021		0.76	24.1	34.8	59.7	117		
T2-211-04	6/14/2021		0.57	35.1	316	7.8	0.27 U		
T2-211-05	6/14/2021		1.2	70.9	69.5	15.7	0.59 J		
T2-211-06	WELL DRY NO SAMPLE								
T2-212-01	6/9/2021		1.3 J	10.9	73.2	134	4.8 J	0.0286 J	
T2-212-02	6/9/2021		1.3	13.3	119	18.2	4.7 J		
T2-212-03	6/9/2021		0.85	12.6	638	9.9	2.6 J		
T2-212-04	6/9/2021		1.6	11.2	54.1	42.2	186		
T2-212-05	6/9/2021		0.9	16.1	0.67	72.8	251		
T2-212-06	6/9/2021		0.97	15	17.7	58.3	49.2		
T2-213-01	6/11/2021		1.7	17.1	11.7	161	1090		
T2-213-02	6/10/2021		1.8	16.4	20.3	187	1000		
T2-213-03	6/15/2021		4.7	9.1	422	36.9	1.7		
T2-213-04	6/10/2021		1.8	16.2	26.1	187	1030		
T2-213-05	6/11/2021		1.7	16.1	4.6	206	943		
T2-213-05	6/11/2021	Duplicate	1.7	16.9	4.4	211	966		
T2-214-01	6/11/2021		1.3	16.2	12.3	152	593		
T2-214-02	6/10/2021		1	14.1	17	307	191		
T2-214-03	6/10/2021		1	10.1	59.9	207	9.1		
T2-214-04	6/11/2021		1.3	15.1	127	212	2.7		
T2-214-05	6/10/2021		1	18.6	130	5.7	2.9		
T2-214-06	6/16/2021		0.51	10.7	0.75	62.7	19.7		
T2-215-01	6/9/2021		7	114	345	1710	3490		
T2-215-02	6/10/2021		1.2	28.6	14.9	435	223		
T2-215-02	6/10/2021	Duplicate	1.1	28.5	15.5	441	227		
T2-215-03	6/10/2021		0.72	20.7	4.3	246	118		
T2-215-04	6/10/2021		0.56	16.1	28.1	276	63.2		
T2-215-05	6/10/2021		0.67	9.4	0.54	33.3	124		
T2-216-01	6/8/2021		6.3	465	44.6	7290	641	0.148 J+	
T2-216-02	6/8/2021		0.39 J	23.5	79.4	2050	6.6		
T2-216-03	6/8/2021		0.58	33.6	334	537	6.4		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T2-216-04	6/8/2021		0.25 J	6.1	0.22 U	3.4	1.4		
T2-216-05	6/8/2021		0.49 J	5.9	0.31 J	2.9	1.8		
T2-217-01	WELL DRY NO SAMPLE								
T2-217-02	6/9/2021		4.3	548	1160	7560	12.7	0.631	570
T2-217-02	6/9/2021	Duplicate	4.3	581	1190	7200	13.1	0.609	760
T2-217-03	6/9/2021		0.35 J	7.1	19.3	5.2	2		
T2-217-04	6/9/2021		0.26 J	6.3	0.25 J	2	1.1		
T2-217-05	6/9/2021		0.33 J	7.2	6.8	2.7	0.78 J		
T2-219-01	6/10/2021		0.38 J	60.6	20.9	400	2.5		
T2-219-02	6/10/2021		0.24 J	6.7	0.34 J	1.7	0.95 J		
T2-219-02	6/10/2021	Duplicate	0.25 J	6.4	2.2 J	1.7	0.94 J		
T2-219-03	6/9/2021		0.26 J	6.8	0.36 J	2.1	1.3		
T2-219-04	6/10/2021		0.3 J	6.4	2.2 J	2.8	1		
T2-219-05	6/11/2021		1.3	8.2	101	4.9	1.1		
T2-220-01	6/9/2021		0.41 J	6.7	0.92	2.9	1		
T2-227-03	WELL DRY NO SAMPLE								
T2-227-04	6/15/2021		1.4	20.4	108	322	99.1		
T2-228-03	5/26/2021		1.5	21.9	15.6	271	154		
T2-228-05	5/26/2021		1.4 U	15.4	21.4	392	2.8 J		0.31 U
T2-229-02	6/15/2021		1.1	15.9	4.4	148	110		
T2-229-06	6/15/2021		0.66	16.9	10.4	83.3	5.2		
T2-230-02	6/9/2021		2.3	201	179	9.9	0.27 U		
T2-231-02	6/14/2021		1.3	16.8	93.7	50.2	3.3	0.0901 J	
T2-232-03	5/24/2021		5.3 J	207	278	8.2 J	5.3 U		
T2-233-01	6/14/2021		1.4	19.7	153	148	18.5		
T2-233-01	6/14/2021	Duplicate	1.6	20.2	146	136	16.4		
T2-233-04	6/14/2021		1.7	23	320	260	4.2		
T2-233-07	6/14/2021		1.9	70.3	40.3	91.2	2.3		
T2-234-01	6/14/2021		0.73	15.2	0.24 J	84.1	5.9		
T2-234-03	6/14/2021		0.88	15.4	22.5	176	27.8		
T2-234-03	6/14/2021	Duplicate	0.87	15.1	22.6	174	27.7		
T2-234-06	6/14/2021		1.3	19.5	349	214	8.8		
T2-235-02	5/24/2021		1.4 U	11.9	2.2 U	79	3.8 J		
T2-235-05	5/24/2021		1.4 U	15.1	20.7	139	3.8 J		
T2-236-04	5/24/2021		1.4 U	13.6	5 U	47.1	2.7 U		
T2-238-02	6/15/2021		0.32 J	13	35	208	2		
T2-238-02	6/15/2021	Duplicate	0.29 J	12.4	33.2	195	1.9		
T2-238-05	6/15/2021		0.53	14.3	6.2	214	1.9		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T2-240-02	6/15/2021		7.1	38.4	866	25.9	0.28 J		
T2-240-03	6/15/2021		8	89.1	231	58	0.27 U		
T2-240-03	6/15/2021	Duplicate	8.1	88.5	232	58.6	0.27 U		
T2-240-07	6/15/2021		1.4	72.5	66.5	9.1	0.27 U		
T2-242-01	6/11/2021		0.92	15.4	1.2	34.9	349		
T2-242-03	6/14/2021		1.2	12.4	161	40.2	178		
T2-242-06	6/14/2021		0.64	7.5	2.5	7.9	68.1		
T2-243-01	6/14/2021		0.92	18.8 J	5.8	35.6	357		
T2-243-03	6/11/2021		2.5	11.7	28.3	21.9	184		
T2-244-02	5/25/2021		1.4 U	14	2.2 U	26.1	312		
T2-244-04	5/25/2021		1.4 U	9	2.2 U	23.4	105		
T2-245-01	5/24/2021		1.4 U	8.4	2.2 U	15.1	227		
T2-245-01	5/24/2021	Duplicate	1.4 U	8.2	2.2 U	14.6	224		
T2-245-04	5/24/2021		1.6 J	12.7	42	11.2	29.9		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
KM-1	9/30/2021		0.5 J	7.9	0.31 J	9	44.9		
KM-2	10/4/2021		7.2	72.2	30.7	514	2980		
KM-2	10/4/2021	Duplicate	7.6	76.3	32.2	538	3140		
KM-4	9/30/2021		2.9	41.9	16.8	500	1330		
KM-6	9/29/2021		3.1	44.6	97.7	441	2930		
KM-7	9/29/2021		5	15.6	246	633	4140		
KM-8	10/4/2021		73.7	1900	2470	26500	21200	0.504 J	0.29 U
KM-9	10/4/2021		1	15	6.3	88.2	261	0.47 J	
KM-10	10/6/2021		0.21 J	7.4	0.5 U	2.9	5.4		
KM-12	10/4/2021		1.2	33.3	21.6	170	448		
KM-15	10/5/2021		1.9	43.5	36.4	250	891		
KM-16	10/4/2021		2.6	37.2	50.2	384	1850		
KM-16	10/4/2021	Duplicate	2.7	37.7	51	390	1880		
KM-17	10/1/2021		0.25 J	14	5.1	238	35.9		
KM-18	10/5/2021		1.3	33.3	27.1	200	594		
KM-21	9/29/2021		0.31 J	6.7	0.2 U	6.8	24		
KM-22	10/5/2021		0.75	8.1	0.5 U	12.8	226		
KM-24	9/29/2021		7.3	38.9 J	158	765	22000	0.146	
KM-25	9/29/2021		0.15 J	6.6	0.2 U	2.1	0.97 J		
KM-28	10/4/2021		1.2	35.6	11.1	121	299		
KM-29	9/29/2021		3.6	16.5	5.6	200	2000		
KM-30	10/1/2021		1.6	52	55.9	115	1570		
KM-31	10/1/2021		0.18 J	7.3 J	0.2 U	2	1.2		
KM-35	10/5/2021		0.43 J	7.6	0.2 U	5.9	57.1		
KM-36	10/5/2021		0.2 J	6.2	0.5 U	6.8	1.1		
KM-37	10/5/2021		0.45 J	10.1	0.5 U	1.6	1.3		
KM-38	10/6/2021		0.4 J	12.2	0.2 U	9.4	1.2		
KM-43	10/5/2021		0.44 J	13.1	0.54	176	4.1		
KM-44	9/28/2021		14.1	24.8 J	2.8	378	8360		
KM-45	10/5/2021		0.32 J	14.2	0.5 U	157	1.1		
KM-45	10/5/2021	Duplicate	0.3 J	13.9	0.55 J+	155	1		
KM-47	10/6/2021		0.5	109	1230	0.18 J	0.16 U		
KM-48	10/6/2021		25	141	576	0.56	0.17 J		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T1-101-01	9/30/2021		1.1	15.5	0.6	35.1	374		
T1-101-05	9/30/2021		0.57	9.9	0.3 J	15.8	159		
T1-101-06	9/30/2021		0.68	12.8	6.1	29.3	3.9		
T1-102-01	9/29/2021		2.4	21.1	95.3	224	1270		
T1-104-03	10/5/2021		1.5	23	407	5.9	0.46 J	0.0246 U	0.29 U
T1-105-01	10/4/2021		1.6	31.8	14.5	288 J+	623	0.0246 UJ	0.3 U
T1-105-03	10/4/2021		1.2	31.5	7.9	421	183	0.0459 J	0.31 U
T1-105-05	10/5/2021		0.85	37.5	214	2.8	0.23 J	0.0335 J	0.28 U
T1-106-01	10/4/2021		0.91	12.6	11.2	138	97.7		
T1-106-02	10/4/2021		0.78	14.8	161	177	46.9	0.0246 UJ	0.29 U
T1-106-02	10/4/2021	Duplicate	0.96	12.9	192	206	55	0.0246 UJ	0.29 U
T1-106-04	10/4/2021		0.37 J	13.4	119	11.5	3.7	0.032 J	0.29 U
T1-107-02	10/4/2021		0.39 J	8.6	2.6	70.6	14	0.0246 UJ	0.3 U
T1-107-04	10/4/2021		0.86	13.6	1.5	142	129	0.0246 UJ	0.3 U
T1-107-04	10/4/2021	Duplicate	0.86	12.5	1.6	143	132	0.0246 UJ	0.3 U
T1-107-07	10/4/2021		1.4	18.9	1	289 J+	177	0.0246 UJ	0.3 U
T1-108-01	9/30/2021		0.42 J	9.5	2	97.7	19.6		
T1-108-03	9/30/2021		0.68	11.1	3.2	2.8	1.3		
T1-109-01	9/30/2021		0.22 J	6.6	0.43 J	2.1	1.4		
T2-201-01	9/28/2021		1.2	8.7	0.64	15.7	143		
T2-201-04	9/28/2021		0.55	7.8	0.98	7.6	97.2		
T2-202-01	WELL DRY NO SAMPLE								
T2-202-05	9/28/2021		0.34 J	10.3	29	2 J	3		
T2-203-01	9/28/2021		15	75.1	97.8	2270	836		
T2-203-01	9/28/2021	Duplicate	14.4	70.2	95.4	2450	891		
T2-203-06	9/28/2021		3.2	13.9	184	183	3250		
T2-204-01	9/28/2021		40.7	108	2720	3560	213000	0.277	0.36 U
T2-204-02	9/28/2021		0.96	8	155	228	196		
T2-204-05	9/28/2021		1.3	14.7	92.6	36	1.9		
T2-205-02	9/29/2021		0.82	9.5	65.2	115	112	0.044 J	
T2-206-01	9/28/2021		1.5	34.1	57.1	209	648		
T2-206-04	9/28/2021		0.33 J	8.8	0.72	33.4	59.6		
T2-207-02	9/27/2021		2.5	65.5	35.9	381	549		
T2-207-04	9/27/2021		0.27 J	7.6	0.5 U	22.3 J	18.1		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
T2-208-01	9/29/2021		0.94	12.9	0.2 U	29.2	296		
T2-208-05	9/30/2021		0.85	10	26.4	36.6	141		
T2-209-01	9/28/2021		4.7	137	1290	1080	1750		
T2-209-01	9/28/2021	Duplicate	4.6	138	1340	1120	1870		
T2-209-02	9/28/2021		4.4	223	205	7070	1790		
T2-209-03	9/28/2021		3.3	275	2270	13600	82.8		2.4
T2-209-04	9/28/2021		1.7	16.1	181	446	114		
T2-209-05	9/28/2021		0.95	10.3	3.2	28.5	28.9		
T2-209-06	9/28/2021		0.69	7.9	1.2	12.8	64.6		
T2-210-01	9/29/2021		3.1	54.4	41.5	432	2400		
T2-210-03	9/29/2021		1.9	40.3	851	718	92.4		
T2-210-04	9/29/2021		1.6	21.1	2.3	148	868	0.0246 U	
T2-210-05	9/29/2021		1.9	17.9	6.3	133	610		
T2-211-01	9/29/2021		3.2	38.2	57.8	624	1650		
T2-211-03	9/29/2021		0.77	23	2.8	55.8	121		
T2-212-01	10/4/2021		1.3	11.3	79	126	4.8	0.0246 UJ	
T2-212-03	9/30/2021		0.67	11.5	402	10.3	2.7		
T2-212-05	9/30/2021		0.94	17	0.27 J	75.3	275		
T2-213-01	9/29/2021		1.8	18.6	13.9	190	1170		
T2-213-03	9/29/2021		4.6	8.4	425	37.3	3.5		
T2-213-05	9/29/2021		1.7	15.7	4.8	209	930		
T2-213-05	9/29/2021	Duplicate	1.7	15.9	4.6	212	947		
T2-214-01	9/29/2021		1.3	15.6	11.4	146	572		
T2-214-02	9/29/2021		1	13.8	13.7	288	195		
T2-214-05	9/29/2021		0.95	18.1	126	5.4	2.7		
T2-215-01	9/29/2021		6.7	105	335	1430	3170		
T2-215-05	9/29/2021		0.49 J	8.5	0.2 U	32.8	127		
T2-216-01	10/4/2021		6.6	478	59.5	6500	685	0.232 J	
T2-216-04	9/30/2021		0.26 J	7	0.2 U	3.3	1.7		
T2-216-04	9/30/2021	Duplicate	0.24 J	7.7	0.2 U	3.2	1.6		
T2-217-01	WELL DRY NO SAMPLE								
T2-217-02	9/29/2021		4.3	784	946	5420	20.2	0.622	790
T2-217-03	9/29/2021		0.35 J	6.6	12.4	4.5	1.7		
T2-219-01	9/29/2021		0.36 J	50	20.1	360	2.7		
T2-219-03	9/29/2021		0.15 J	6.3	0.43 J	2.1	1.3		
T2-220-01	9/28/2021		0.26 J	6.5	0.75	2.4	1		
T2-227-03	10/5/2021		1.8	24.9	4.8	286	272		
T2-227-04	10/5/2021		1.4	20.7 J	87.8	299	130		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L		
T2-228-03	10/4/2021		1.5	23.1 J	15 J	244	160		
T2-228-05	10/5/2021		0.81	13.8	19.6	448	3		0.28 U
T2-229-02	10/4/2021		1.1	15	4	143	100		
T2-229-06	10/4/2021		0.76	17.1	11.1	86.6	5.3		
T2-230-02	9/30/2021		1.8	209	199	11.1	0.16 U		
T2-230-02	9/30/2021	Duplicate	1.9	212	201	10.9	0.16 U		
T2-231-02	10/4/2021		1.3	13.9	65	49.8	3.5	0.0377 J	
T2-232-03	10/1/2021		5.4	181	273	7.7	0.22 J		
T2-233-01	10/1/2021		2.1	15.7	130	96.1	14.8		
T2-233-04	10/1/2021		1.6	21.5 J	268	238	5.4		
T2-233-04	10/1/2021	Duplicate	1.6	21.3 J	279	233	5.6		
T2-233-07	10/4/2021		1.7	70.7	37.1 J	84.4	2.4		
T2-234-01	9/30/2021		0.84	16.4	0.94	91	11.3		
T2-234-03	9/30/2021		0.84	14.6	22.7	205	34.5		
T2-234-06	10/1/2021		1.6	22.5 J	374	192	6		
T2-235-02	9/30/2021		0.4 J	11.5	1.3	81.2	4		
T2-235-05	10/4/2021		0.5	14.6	18.5	157	4.3		
T2-236-04	10/4/2021		0.51	13.9	1.7 J+	50.2	1.7		
T2-238-02	10/1/2021		0.38 J	13.8	37.5	228	2.2		
T2-238-05	10/1/2021		0.4 J	13.5	5.4	230	2.1		
T2-240-02	10/5/2021		7	37.6	803	23.3	0.16 U		
T2-240-03	10/5/2021		9.2	98.3	271	62.3	0.16 U		
T2-240-03	10/5/2021	Duplicate	8.9	96.3	266	60	0.16 U		
T2-240-07	10/5/2021		1.6	86	76	9.7	0.16 U		
T2-242-01	9/30/2021		0.88	14.2	0.76	29.5	308		
T2-242-03	9/30/2021		0.92	12.4	165	41.4	219		
T2-242-06	9/30/2021		0.53	8.6	1.4	8.6	79.9		
T2-243-01	9/30/2021		0.89	19.6	2.6	35.9	369		
T2-243-03	9/29/2021		2.6	11.3	17.2	21.5	191		

Location	Date	QC Sample Type	Arsenic (Dissolved)	Lithium (Dissolved)	Manganese (Dissolved)	Molybdenum (Dissolved)	Vanadium (Dissolved)	Total Petroleum Hydrocarbons - Diesel Range Organics	Tributyl Phosphate
			µg/L	µg/L	µg/L	µg/L	µg/L		
T2-244-02	9/27/2021		0.86	14.7	0.5 U	24	315		
T2-244-04	9/30/2021		1.2	8.4	0.9	25.8	119		
T2-245-01	9/27/2021		0.8	7.7	0.5 U	14.4	223		
T2-245-04	9/28/2021		1.6	12.7	29.2	11	32.9		
FFS-1	9/30/2021		9.7	152	2770	869	189		
FFS-1	9/30/2021	Duplicate	10.1	165	3010	877	200		
FFS-2	9/30/2021		2.4	86.6	345	677	1910		
FFS-3	9/30/2021		3	128	355	1010	3850		
PSL			50	NA	180	180	260	0.730	180
MCL/RSL			10	40	430	100	86	0.100	5.2

NOTES: J = result qualified as estimated

J- = result qualified as estimated with potential low bias

J+ = result qualified as estimated with potential high bias

U = not detected above the associated value

PSL = project screening level

MCL/RSL = EPA primary maximum contaminant level (MCL) for arsenic; or tapwater Regional Screening Level (RSL) for other constituents

Green shading indicates exceedance of lower criterion (PSL or MCL/RSL)

Yellow shading indicates exceedance of both PSL and MCL/RSL

Table I-2: 2021 Surface Water Monitoring Results


Location	City of Soda Springs Drinking Water Source	Sample Date	QC Sample Type	Arsenic (Total)	Lithium (Total)	Manganese (Total)	Molybdenum (Total)	Vanadium (Total)	
				µg/L	µg/L	µg/L	µg/L	µg/L	
Big Spring	No	6/15/2021		0.56	12.1	0.64	101	3.4	
Evergreen SW	No	6/15/2021		0.52	12.1	2.1	83.5	59.5	
Finch Spring	No	6/15/2021		0.33 J	12.7	0.43 J	76.6	27.5	
Finch Spring	No	6/15/2021	Duplicate	0.31 J	12.9	0.35 J	75.1	27.4	
Formation Spring	Yes	6/15/2021		0.25 J	6.8	0.24 J	1.4	0.52 J	
Kelly Pond	No	6/15/2021		0.28 J	14.8	5.8	41.7	13	
Lower Ledger	Yes	6/15/2021		0.15 J	5.9	0.22 U	1.3	0.95 J	
Spring 2	Yes	6/15/2021		0.14 U	6.1	0.22 U	1.5	1	
Spring 3	No	6/15/2021		0.14 U	6	0.22 U	1.5	0.97 J	
Spring 4	Yes	6/15/2021		0.14 U	6	11.2	1.5	0.95 J	
Spring A	Yes	6/15/2021		0.21 J	6.4	0.83	1.3	1	
Upper Ledger	Yes	6/15/2021		0.14 U	6.1	0.32 J	1.6	0.92 J	
Upper Ledger	Yes	6/15/2021	Duplicate	0.14 U	6.2	0.35 J	1.6	0.93 J	
Big Spring 3	No	10/6/2021		0.61	13.3	2.1	99.4	3.7	
Evergreen SW	No	DRY NO SAMPLE							
Finch Spring	No	10/5/2021		0.28 J	11.2	0.23 J	50.3	8	
Finch Spring	No	10/5/2021	Duplicate	0.29 J	12.1	0.21 J	54	8.8	
Formation Spring	Yes	10/5/2021		0.29 J	7.2	0.2 U	1.3	0.56 J	
Kelly Pond	No	10/5/2021		0.24 J	16.2	2.5	12.6	2	
Lower Ledger	Yes	10/5/2021		0.18 J	6.5	0.2 U	1.4	0.94 J	
Spring 2	Yes	10/5/2021		0.17 J	6.6	0.2 U	1.5	1.1	
Spring 3	No	10/5/2021		0.16 J	6.3	0.2 U	1.5	0.95 J	
Spring 4	Yes	10/5/2021		0.17 J	6.7	0.2 U	1.6	1	
Spring A	Yes	10/5/2021		0.22 J	6.7	0.2 U	1.3	1	
Spring A	Yes	10/5/2021	Duplicate	0.23 J	6.9	0.2 U	1.3	0.98 J	
Upper Ledger	Yes	10/5/2021		0.15 J	7.1	0.2 U	1.6	0.98 J	
				PSL	50	NA	180	180	260
				MCL/RSL	10	40	430	100	86


NOTES: J = estimated concentration

U = not detected

PSL = project screening level

MCL/RSL = EPA primary maximum contaminant level (MCL) for arsenic; or tapwater Regional Screening Level (RSL) for other constituents

 Green shading indicates exceedance of lower criterion (PSL or MCL/RSL)

 Yellow shading indicates exceedance of both PSL and MCL/RSL