APPENDIX A

STATEMENT OF WORK FOR
TIME CRITICAL REMOVAL AND NON-TIME ~~CRTICAL~~CRITICAL REMOVAL ACTIONS

STIBNITE MINE SITE
VALLEY COUNTY, IDAHO

This Statement of Work (SOW) is Appendix A to the Administrative Settlement Agreement and Order on Consent (ASAOC) for implementation of response actions at the Stibnite Mine site (hereafter referred to as "the Site"). The purpose of this SOW is to identify time critical and non-time critical removal actions at Source Areas at the Site.

Commented [A1]: Not capitalized in definitions section of ASAOC

The description of the technical work described herein is intended to provide information to the Respondents for the purpose of implementing the ASAOC. All terms used in this SOW shall be interpreted in a manner consistent with the definitions provided in the ASAOC. Any discrepancies between the ASAOC and the SOW are unintended, and whenever necessary the ASAOC will govern any interpretative disputes. This SOW is also consistent with both the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This SOW sets forth the requirements for conducting investigation, design, and removal actions at Source Areas at the Site. Work under this SOW has been divided into phases: Work in Phase 1 must be completed under the ASAOC. The Work in the subsequent Bridge Phase, Phase 2, and Phase 3 are not required under the ASAOC until the Respondents elect to do that Work as provided in the ASAOC and the Agencies agree to the performance of the Work by Respondents. Potential removal actions have been identified for the optional phases but are not required until the elections set forth in the ASAOC have been made. As described in this unamended SOW, Work set forth in this SOW for Phase 1 is focused on addressing Waste Material consisting of waste rock, tailings, and mine water at the Source Areas identified in Attachment 1. Later amendment to the SOW may occur, in accordance with the ASAOC, to specify further actions in later Phases.

The Agencies may, at their discretion, extend the timeframe set forth in this SOW for completion of Phase 1, the optional Bridge Phase, and optional Phases 2 and 3. Non-CERCLA actions that are performed pursuant to an approved mine plan of operations (or "mine plan", "Plan of Restoration and Operations", or "PRO"), permits, and authorizations under State or other Federal authorities are outside the scope of this ASAOC and SOW and are not authorized by, covered by, nor subject to the terms of this ASAOC and SOW.

1.0 General Requirements

1.1 Oversight

Respondents' work conducted under the SOW will be overseen jointly by the Agencies and the Agencies' respective roles and responsibilities shall be addressed in a separate Memorandum of Understanding.

Respondents shall submit all documents and deliverables required as part of this SOW to the Agencies for their review and approval. Work will not be initiated until deliverables associated with that Work are reviewed and approved by the Agencies.

Throughout implementation of the Work, Respondents shall prepare and submit Quarterly Progress Reports to the Agencies to aid in project planning. The Reports shall list deliverables submitted during the quarter; summarize and provide the results of all data collected and of all analytical laboratory results received; and describe the actions and decisions taken, problems encountered, and activities scheduled during the upcoming quarter. Quarterly progress reports shall also summarize the extent to which the procedures and dates set forth in the ASAOC and SOW are being met. The parties may also hold more frequent meetings (for example, monthly), and may adjust the frequency of meeting as needed to accommodate current activities to implement the ASAOC.

1.2 Work Phases

Work under this SOW has been divided into phases:

- Work in Phase 1 is required under the ASAOC and will be implemented as a Time Critical Removal Action (TCRA).
- The activities in the Bridge Phase are optional until both the Respondents elect to perform them, and then the Agencies agree to the performance of the Bridge Phase Work by Respondents.
- Phase 2 and Phase 3 are optional until both the Respondents elect to perform them, and then the Agencies agree to the performance of the Phase 2 and Phase 3 Work by Respondents. Phase 2 and Phase 3 Work will be conducted as Non-Time Critical Removal Actions, and will be performed consistent with the SOW, any amended SOW, and approved Work Plans.

Table 1 describes the estimated timing of the ASAOC phases and potential mine activities assuming that, approvals and permits for mine operations are issued and mining proceeds accordingly. Attachment 1 lists Source Areas with Waste Material that may be addressed through projects involving removal, management, or other disturbance of Waste Material in the Bridge Phase, and Phase 2 of this agreement.

2.0 Phase 1 – ASAOC Removal Actions and studies to determine future Removal Actions (ASAOC Years 1–4 / 2021-2025)

2.1 Purpose

Phase 1 removal actions will occur during the mine permitting process and pre-mining activities. Phase 1 includes time critical removal actions and time critical studies at several adits. Phase 1 actions are described briefly in this section. Additional details are provided in Section 2.5. An overview of the Site is provided on Figure 1.

2.2 Phase I TCRA Projects

The Respondents shall develop (1) detailed TCRA Work Plans, the associated design packages, and a Project Schedule for the Agencies' review and approval, (2) conduct adit studies as described below, and (3) design and carry out such actions to the extent consistent with the requirements of Phase 1 of the ASAOC. After the Agencies' approval, the Respondents shall implement the TCRAs. TCRAs shall include the following actions:

- Stream Diversion Project: Measures to divert upgradient surface water around three historic mining features: NW Bradley Dumps / Hennessy Creek, the Defense Minerals Exploration

Administration (DMEA) Waste Rock Dump, and Smelter Flats/Hangar Flats[1]. Stream diversion actions shall take into consideration the March 2013 USFS guide entitled, "Planning and Layout of Small Stream Diversions." A TCRA Work Plan and design package for the alignment of the diversions that shall define the means and methods used to divert water and the discharge areas will be prepared by the Respondents for review and approval by the Agencies prior to construction. Water diversions shall be designed to divert upgradient water around the following Source Areas:

- **The Northwest Bradley Dumps**: this Source Area consists of extensive waste rock dumps covering over 30 acres along the bank of the East Fork of the South Fork of the Salmon River (EFSFSR) southwest of the confluence with Sugar Creek. Hennessy Creek currently leaks from a ditch system and infiltrates upgradient of the Northwest Bradley Dumps. Respondents' existing technical analyses indicate that this water likely infiltrates through waste rock in the dumps, potentially contributing to the elevated metals concentrations observed in the EFSFSR.
- **The DMEA Waste Rock Dump Area**: this Source Area is on the western side of the EFSFSR valley approximately 0.75 miles south of Fiddle Creek and infills a portion of a small tributary valley. Respondents' analyses of existing data suggest that seeps from the DMEA Waste Rock Dump contribute to elevated metals concentrations at monitoring station YP-T-17. The diversion work in this area will be preceded by an evaluation of the potential for multiple seeps and water sources contacting mine waste in the DMEA Waste Rock Dump.
- **Smelter Flats/Hangar Flats**: this Source Area is the site of former mineral processing activities in Meadow Creek valley approximately 0.75 miles southwest of the EFSFSR confluence. The area is southwest of the Hecla Heap Leach Pads, and northeast of the Spent Ore Disposal Area (SODA) and Bradley Tailings Pile, and groundwater and seeps from this area potentially impact water quality in Meadow Creek.

- Lower Meadow Creek Valley Tailings Removal Action: Respondents shall identify lateral and vertical extent of tailings and other mine wastes in lower Meadow Creek and the EFSFSR downstream of the USFS reconstructed Meadow Creek Channel and upstream of the EFSFSR Box Culvert. Remove 25,000 tons of mine waste material from the stream channel and banks of this reach of Meadow Creek and the EFSFSR and place the material on the Canadian Superior Heap Leach Pads[2]. Mine waste that is saturated or that contains ice/snow should not be placed in the repository area until it is dry. The Respondent is responsible for ensuring the geotechnical stability of mine waste placement within the repository built on the Canadian Superior Heap Leach pads. Identification of fluvial deposits of mine waste include multiple lines of evidence, including visual observations that identifies areas where mine waste is present versus natural stream sediment; excavation of test pits, soil auger borings; and/or field measurements using an XRF to assist in delineation providing real time data of metal concentrations (e.g., arsenic) to determine the lateral and vertical extent of mine waste. GPS or other surveying methods shall be used to document the removal areas.

[1] Also known as the Bradley Mill and Smelter and the Meadow Creek Mill and Smelter.
[2] Also known as the On/Off Pads.

During removal of the mine waste, Best Management Practices (BMPs) shall be used to minimize suspension of sediment and protect existing fish habitat during in-stream work and work adjacent to the stream, including:

- Refined Means and Methods: Conduct in-stream and bank work when the water level is lower (fall); use a smaller excavation equipment and slower operating speeds; work in smaller segments each day rather than digging out a long area of mine waste sediment.
- Structural controls: Use rock gabion logs, temporary check dams, temporary coffer dams adjacent/surrounding the removal areas to slow or divert water from the working area and reduce sediment load to the stream; and/or creation of temporary (or possibly permanent) diversions downstream, step-down pools or meanders using clean materials; use of sediment booms to trap and contain sediment and silt.
- Vegetation Controls: for example, removal work can include use of willows just downstream of the work area to slow the water velocity.

Following completion of the removal, the Meadow Creek and EFSFSR disturbed channels and banks along this reach shall be reconstructed such that each bank has a similar profile that is appropriate for the stream's hydrological and ecological setting. The 2004 USFS channel reconstruction immediately upstream of this reach should be used as a model for this reconstructed reach.

- Bradley Man Camp Dumps Removal and On-Site Repository Project: Remove Bradley Man Camp Dumps from streambanks and/or floodplains and stabilize remaining slopes to prevent erosion during flood events. The Bradley Man Camp Dumps are a large area of mine waste (mappable extent estimated as approximately 200,000 tons of waste material) (commonly referred to as the "Upper Man Camp" and "Sawmill and Lower Man Camp" waste dumps). The dumps are located on the floodplain and banks of the EFSFSR and are a significant source of metals and sediment to the EFSFSR. This material will be consolidated on the existing Canadian Superior Heap Leach Pads, which is a historic mine waste repository. The repository will take advantage of the existing leach pad liner systems and will be designed to standards that could constitute a permanent disposal location for the waste materials, if Respondents do not proceed to Phase 2 of the ASAOC.[3] Placement of mine waste on to the former leach pad liner systems shall be done in a manner to protect the existing liner systems, by placing a minimum 6-inch cushion soil layer and/or placing select waste material that is free of angular rock. Mine waste that is saturated or that contains ice/snow should not be placed in the repository area until it is dry. The Respondent is responsible for ensuring the geotechnical stability of mine waste placement within the repository built on the Canadian Superior Heap Leach pads.

  After placement, the consolidated mine waste shall be covered. The waste piles should be graded to drain, minimize ponding (e.g., with slopes of 2 percent to 3 percent, and not steeper than 33 percent) and include drainage ditches or channels, as appropriate for the final configuration, to direct stormwater away from the consolidated mine waste and minimize erosion. The main waste shall be covered with at least 18-inches of clean fill material, stabilized

[3] The Parties acknowledge that should Respondents proceed to mine operations, the Waste Materials placed on the Canadian Superior Heap Leach Pads ("On/Off pads") in Phase 1 are expected to be moved to a permanent disposal facility that will be constructed as part of mine development. The Agencies acknowledge that this ASAOC is not intended to foreclose such later relocation.

with appropriate temporary (e.g., erosion control blanket, coir logs) and permanent erosion controls such as riprap drainages or check dams, and revegetated with a native perennial seed mix. This material may include sediments from Blow-Out Creek or other appropriate material that have been screened for metals. This mixed gradation of materials can be beneficial. Some larger-sized rocks mixed in with the finer-grained soil can help to control erosion.

- NW Bradley Dump Stream Waste Material Removal and Slope Stabilization: Removal of 100,000 tons (includes lay back material) of saturated and potentially saturated waste material/tailings within and along the bank of the EFSFSR adjacent to the NW Bradley Dumps to improve stream water quality. Identification of fluvial deposits of mine waste include multiple lines of evidence, including visual observations that identifies areas where mine waste is present versus natural stream sediment; excavation of test pits, soil auger borings; and/or field measurements using an XRF to assist in delineation providing real time data of metal concentrations (e.g., arsenic) to determine the lateral and vertical extent of mine waste. GPS or other surveying methods shall be used to document the removal areas. Removal of mine waste from the stream shall be conducted to minimize erosion and sediment disturbance into the creek using BMPs described for the Lower Meadow Creek Valley Tailings Removal Action described above.

  Removed material will be preferentially placed adjacent to the USFS repository on top of the NW Bradley Dump. This upland location contains similar material and therefore will not require a cap. It provides the greatest separation from groundwater available in the vicinity of the removal. If additional storage is required, a stable lower bench on the existing NW Bradley Dump shall be used for placement of the remaining material. The banks shall be cut back to a stable slope (e.g., 3:1 slope) to prevent continued sloughing and erosion into the EFSFSR. Stabilize the newly cut slope to prevent erosion of the mine waste material into the creek using temporary and permanent BMPs for erosion control and revegetation.

- Adit Study: Conduct baseline studies of Mine Influenced Water (MIW) at five adits: Bailey Tunnel, DMEA Adit, Bonanza Adit, Cinnabar Tunnel, and Meadow Creek Adit. Respondents shall take measurements of water quality, quantity and geotechnical data needed to inform removal actions. This data will be used to provide baseline conditions and seasonal measurements of current (pre-dewatering) and expected post closure groundwater quality, quantity, elevations and flow. Initiate baseline studies to inform the design of removal action alternatives for the following existing mine features: Bailey Tunnel Adit, Meadow Creek Mine Adit, Cinnabar Tunnel Adit, DMEA Adit, and Bonanza Adit. The baseline studies for removal actions could include drilling and installing monitoring wells to measure groundwater elevations, installing surface water flow measurement weirs or flumes, continuously measuring hydraulic pressure, collecting water quality parameters including specific conductance, temperature, pH, and seasonally measuring metals and suspended solids concentrations.

When appropriate for the particular TCRA, Design Packages shall include a basis for the design, specifications, drawings, supporting calculations, and construction quality control/quality assurance requirements for delineation of the excavation limits, and the basis for that delineation; method for determining when the depth and lateral extent of removal is sufficient; drainage design; repository design including geotechnical evaluation; hauling plan; means and methods for conducting the work including survey control, dust control, stormwater and erosion control during TCRA implementation, spill control/cleanup; and health and safety plans.

Data Analyses, Removal Action Area Investigations, and associated Time Critical Removal Action Work Plans and Design Packages:

- Provide all relevant data compiled or collected by the Respondents at the time the ASAOC related to Waste Material at the Site to the Agencies in electronic format consistent with the requirements of Section 2.3.2. This shall be summarized in a Site Characterization Report and include a data gaps analysis.
- TCRA Work Plan and Design Package for the Stream Diversion Projects.
- TCRA Work Plan and Design Package for the Lower Meadow Creek Valley Tailings Removal Project. Respondents will develop a TCRA Work Plan, including a Quality Assurance Project Plan (QAPP) which includes elements of both a Sampling and Analysis Plan (SAP) and a Field Sampling Plan (FSP) to guide the collection of any additional data needed for the purpose of implementing the Phase 1 waste/sediment removal action. The TCRA Work Plan will include review of appropriate and relevant site materials characterization data. Design Packages shall include information identified in Section 2.3 for design deliverables, including design plans and specifications for the removal, including means and methods for excavation, consolidation, cover construction, stormwater management, in-stream work BMPs, and post-removal stabilization after the removal of tailings within and along the bank of lower Meadow Creek and the EFSFSR from the 2004 USFS reconstructed channel to the box culvert on the EFSFSR; design criteria for the on-site repository at the Canadian Superior Heap Leach Pads shall be detailed in the Bradley Man Camps Dump Removal and On-Site Repository Project, detailed below.
- TCRA Work Plan and Design Package for the NW Bradley Dump Stream Removal and Bank Stabilization. Respondents will develop a TCRA Work Plan, including a Quality Assurance Project Plan (QAPP) which includes elements of both a Sampling and Analysis Plan (SAP) and a Field Sampling Plan (FSP) to guide the collection of any additional data needed for the purpose of implementing the Phase 1 waste/sediment removal action. The TCRA Work Plan will include review of appropriate and relevant site materials characterization data. Design Packages shall include information identified in Section 2.3 for design deliverables, including design plans, specifications for the removal action, including means and methods for excavation, grading, stormwater management, in-stream BMPs, and post-removal stabilization for the removal of tailings within and along the bank of the EFSFSR adjacent to the NW Bradley Dumps.
- TCRA Work Plan for characterization of Adit Discharges. Respondents will develop a TCRA Work Plan, including a QAPP, to guide baseline studies of Mine Influenced Water (MIW) at five adits: Bailey Tunnel, DMEA Adit, Bonanza Adit, Cinnabar Tunnel, and Meadow Creek Adit. The studies will include measurements of volumetric flow and contaminant concentrations in water discharged from the adits, as well as geotechnical evaluations as needed to inform potential removal actions. Respondents will develop a Removal Alternatives Analysis (RAA) Report, in which they will evaluate data and potential response actions for each of the five adits.

2.3 WORK APPROACH AND KEY DELIVERABLES

Deliverables specified in this SOW shall be consistent with the NCP and appropriate EPA policy and guidance. Except where noted below, deliverables for removal actions shall include preparation, delivery of a draft, incorporation of the Agencies' comments, and finalization of the following:

1. Site Characterization Report with data gap analysis using existing data.
2. TCRA Work Plans (as described above and in Section 2.5) including QAPP and Construction Quality Assurance Plan (CQAP) (draft and final), as appropriate.

3. TCRA Design Documents (as described above and in Section 2.5).
4. Biological Assessment (BA), Clean Water Act (CWA) Section 404 Evaluation, and Cultural Resources Survey (may be included in the TCRA Work Plan identified in Section 2.5)
5. Adit Removal Action Area Discharge Characterization Report[4].
6. Removal Alternative Analysis Report for the Adits.
7. Implementation of Removal Actions and weekly report documentation.
8. Removal Action implementation data including but not limited to field monitoring, laboratory analysis, geotechnical investigations, survey documentation.
9. Annual Removal Action Completion Report(s).
10. Quarterly Progress Reports.
11. Post-Removal Site Control Report and Plan.

Table 2 provides a general schedule of deliverable deadlines for Phase 1 of this ASAOC/SOW. Data submittal requirements are defined in the following sections.

2.3.1 General Requirements for Deliverables

Respondents shall submit all deliverables required by this SOW, or any approved work plan, to Agencies in accordance with the schedule set forth in Table 2.

Respondents shall submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Section 2.3.2. All other deliverables shall be submitted to the Agencies in the form specified by the OSC. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches, Respondents shall also provide the Agencies with paper copies of such exhibits.

2.3.2 Technical Specifications for Deliverables

Sampling and monitoring data should be submitted in standard Regional Electronic Data Deliverable (EDD) format (see Region 10 Data Management Plan, Appendix B Data Element Dictionary). Other delivery methods may be allowed if the Agencies approve them in advance.

Spatial data, including spatially referenced data and geospatial data, shall be submitted: (a) in the ESRI File Geodatabase format; and (b) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at https://edg.epa.gov/EME/.

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[4] TCRAs in Phase 1 to divert water around the NW Bradley Dumps / Hennessy Creek, Smelter Flats / Hangar Flats, and the DMEA Waste Rock Dump do not require a Removal Action Area Characterization Report.

Each file must include an attribute name for each site unit or sub-unit submitted. Consult http://www.epa.gov/geospatial/geospatial-policies-and-standards for any further available guidance on attribute identification and naming.

Spatial data submitted by the Respondents does not, and is not intended to, define the boundaries of the Site.

2.3.3 Design Document Submittal Sequence and General Contents

Removal Action designs shall be developed by the Respondents in phases as outlined in this section, and each required design submittal shall include the following separate components

- Design Analysis Report;
- Construction Schedule;
- Design Plans and Specifications;
- Construction Quality Assurance Plan (CQAP).

Phasing and content of each design deliverable, common to all project types, are listed below.

The Design Analysis Report shall provide the design criteria and the basis of design for the Removal Actions. Examples of the types of information to be included are described below:

- Technical parameters and supporting calculations upon which the design will be based;
- Descriptions of the analyses conducted to select the design approach, including a justification of design assumptions and verification that the design will meet performance goals and associated industry standards;
- Access and easement requirements (if any);
- Permit requirements or substantive requirements of permits;
- Plans shall be prepared and attached to the Design Analysis Report for reducing negative effects on the environment during construction (e.g., dust control, spill control, stormwater and erosion control, sediment control, waste management, decontamination, etc.);
- An outline of the Post-Removal Action Site Controls; and Analysis and recommendations on institutional controls and/or engineering controls that may be implemented to ensure long-term effectiveness of the removal actions that are likely to remain in place through and beyond mining activities under the PRO (see "Institutional Controls" OSWER 9355.0-74FS-P, EPA 540-00-005, September 2000).

The Draft (30/50 percent) Design Package shall include:

- Draft Design Analysis Report;
- Draft Construction Schedule;
- Draft Plans and Specifications;
- Draft CQAP;

The Prefinal (90/95 percent) Design Package shall include:

- Draft Final Design Analysis Report;
- Draft Final Construction Schedule;
- Draft Final Plans and Specifications;
- Draft Final CQAP;

- Draft Post Removal Site Control Plan; and
- Draft Final cost estimate for the Removal Action and estimated monitoring costs.

The Final (100 percent) Design Package and shall include:

- Final Design Analysis Report;
- Final Construction Schedule;
- Final Plans and Specifications;
- Final CQAP;
- Final Post Removal Site Control Plan; and
- Final cost estimate for the Removal Action and estimated monitoring costs.

The Prefinal Design (90/95 percent) shall fully address all the Agencies' comments made on the Draft Design (30/50 percent). The final design shall fully address all the Agencies' comments made on Prefinal Designs (90/95 percent). The Final Design Package (100 percent) shall be stamped by licensed Professional Engineer, registered in the State of Idaho.

A statement of qualifications for the construction contractor(s) will be prepared during preparation, or after completion, of the design documents and submitted for review and approval by the Agencies. The statement of qualifications for the construction contractor shall identify the appropriate areas of construction expertise including years of experience on projects with similar scope, size, and quality requirements to successfully implement the TCRA.

2.4 GENERAL TASKS TO BE IMPLEMENTED DURING PHASE 1

Health and Safety Plan (HASP)
Respondents shall develop a HASP designed to protect on-site personnel, area residents and visitors to the removal action areas from physical, chemical, biological, and all other hazards posed by the removal actions in this ASAOC/SOW. The HASP shall be submitted within 15 days of the Effective Date. The HASP shall include the following items:

- Facility Description
- Personnel
- Levels of protection
- Safe work practices and safeguards
- Personal protective equipment including a respiratory protection program if appropriate
- Medical monitoring
- Personal Hygiene
- Decontamination of personnel and equipment from Site work zones
- Contaminant control
- Stop work authority; documentation of near misses, incidents, and accidents
- Contingency and emergency planning logs, reports and record keeping
- Task-specific or activity evaluation of hazards

The HASP shall be prepared in accordance with EPA's Standard Operating Safety Guidance (PUB 9285.1-03, PB 92-963414, June 1992). In addition, pursuant to 40 CFR Part 300.150, the plan shall comply with all currently applicable Occupational Safety and Health Act ("OSHA") requirements, standards and regulations found at 29 C.F.R. part 1910; (Occupational Safety and Health Standards), Part 1926 (Construction Standards), including the General Industry Standards found in Part 1910, and the general

duty requirements of section 5(a)(1)(29 U.S.C. § 654(a)(1)); and any other applicable safety laws and regulations. The Respondents shall submit a draft HASP to the Agencies for review. A final HASP shall be prepared that incorporates the Agencies' comments on the draft HASP. If the Agencies determine that existing HASP(s) for other areas of the Site or other activities adequately address health and safety issues, the existing plans can be referenced. However, previously prepared HASPs and the general site-wide HASP must be amended to address new job tasks and associated safety issues/hazards, and employer-specific safety requirements for the Respondents' work scope.

Site Characterization Report

The Respondents shall prepare a report presenting existing Site data relevant related to Waste Material in the areas of the Site described below, including information about:

- The site's physical features and underlying geology;
- Previous mining actions, past disposal practices, and reclamation actions;
- Previous environmental investigations and removal or other cleanup actions;
- The varieties and quantities of hazardous substances at the Site, including soil, sediment, surface water and groundwater sampling results; and
- Data gaps and uncertainties that exist and may affect implementation of the TCRA.

The report shall discuss existing data related to the following Site features:

- Meadow Creek Mine adit area
- Meadow Creek
- Hecla heap leach & Pioneer tailings (NE of Hecla leach pads)
- Canadian Superior Heap Leach Pads area
- Defense Minerals Exploration Administration (DMEA) Waste Rock Dump area
- DMEA adit area
- Bradley Man Camp Waste Rock Dump area
- Areas adjacent to and NE of the Yellow Pine Pit, including Monday Camp, Monday Camp Waste Rock Dump, and SE Bradley Waste Rock Dump
- Areas adjacent to and SW of the Yellow Pine Pit, and the BMC NW Bradley Waste Rock Dump
- Cinnabar Tunnel adit area
- Northwest Bradley Waste Rock Dumps / Hennessy Creek area
- Northeast Bradley Northeast Oxide Dumps area
- Bailey Tunnel outlet area
- Bonanza adit area (Sugar Creek)
- Bonanza Dump

The report shall include a bibliography of the studies and reports cited, and electronic copies of cited reports shall be provided to the Agencies along with the report. In addition, data compiled by the Respondents shall be provided to the Agencies in a Scribe electronic database.

Data Validation Summaries

Data collected to support characterization and TCRA activities shall be validated in accordance with EPA guidance and policies. Data Validation Reports shall be provided to the Agencies upon completion of each sampling event.

2.5 PHASE 1 REMOVAL ACTION AND SOURCE AREA INVESTIGATION TASKS

2.5.1 Water Diversion Removal Actions Planning Documents

TCRA Stream Diversion Project Work Plan

Within 60 days of the Effective Date, Respondents shall submit a TCRA Stream Diversion Project Work Plan that will include an evaluation of alternative designs for implementation of the removal action selected in the Action Memorandum. The selected removal action is the Stream Diversion Project. In addition to the evaluation, the TCRA Stream Diversion Project Work Plan will include the following elements:

- Executive Summary;
- Introduction;
- Procedures for addressing and protecting any cultural resources in the areas in which stream diversion will occur;
- Description of estimated background water quality at selected locations upstream and downstream of the proposed diversions.
- Identification of Remedial Action Objectives (may be narrative rather than numerical) and performance goals (e.g., to convey flows up to a design criterion around the identified Source Areas);
- Identification of technologies (e.g., unlined or lined ditches, pipes; excavation equipment; and erosion prevention methods);
- Identification of Removal Action Alternatives (e.g., liner types, conveyance routing, outfall locations). Each alternative shall be developed to the conceptual design level;
- Evaluation of Removal Action Alternatives;
- Schedule and estimated cost for recommended Removal Action;
- Biological Assessment that characterizes baseline conditions of existing habitat in and around TCRA areas; addresses potential project impacts that the projects may have on threatened or endangered species, their habitat, and their food stocks; and describes best management practices and conservation measures designed to avoid or minimize any negative impacts;
- A Clean Water Act Section 404 analysis memorandum, if the recommended removal action alternative will impact jurisdictional wetlands. The memorandum shall document the information gathered regarding practicability and cost, long and short-term effects from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation;
- Procedures for processing design changes and securing the Agencies' review and approval of such changes to ensure changes are consistent with the objectives of the Removal Actions; and
- Procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable.

The Respondents shall provide a revised TCRA Stream Diversion Work Plan within 60 days of receipt of consolidated ~~agency~~ Agencies' comments.

Project Design Documents

After the Effective Date, the Respondents shall produce design documents, including construction plans and specifications, supporting calculations, QAPPs, and CQAPs to implement the Removal Actions, as described below and in Section 2.3.3. Respondents shall meet regularly with the Agencies prior to and during development of design documents, and provide the Agencies for review and approval, the technical documents that support the removal design.

For the Stream Diversion Project, the Respondents shall submit:

- Draft Design Package, when the design effort is 30/50 percent complete, within 30 days of the final TCRA Stream Diversion Work Plan Submittal;
- Prefinal Design when the design effort is 90/95 percent complete, within 30 days of receipt of consolidated Agencies'~~agency~~ comments on the Draft Design;
- Design when the design effort is 100 percent complete, within 30 days of receipt of consolidated Agencies'~~agency~~ comments on the Prefinal Design.

2.5.2 Lower Meadow Creek Valley Tailings Removal Planning Documents

TCRA Lower Meadow Creek Valley Tailings Removal Work Plan

Within 60 days of the Effective Date, Respondents shall submit a TCRA Lower Meadow Creek Valley Tailings Removal Work Plan that will evaluate and recommend actions to remove 25,000 tons of tailings /-waste material within and along the banks of the Meadow Creek and the EFSFSR between the 2004 USFS reconstructed channel and the box culvert on the EFSFSR.

In addition to the evaluation, the TCRA Waste Removal Work Plan shall include a QAPP. The TCRA Waste Removal Work Plan shall include, at a minimum, the following information:

- Executive Summary;
- Introduction/Purpose;
- Discussion of the likely removal approach for removal of tailings and waste material from within and along the banks of Meadow Creek and the EFSFSR, including the equipment that would be needed and any new roads or other improvements that would be required to facilitate construction;
- Identification of data needed to design waste/sediment removal actions, which may include geochemical and engineering characteristics of the Waste Materials and potential slope stability issues;
- Procedures for addressing and protecting any aquatic, vegetation, wildlife and cultural resources that may be present in the areas in which Removal Actions will occur;
- Identification of Removal Action Objectives (may be narrative in nature) and performance goals (e.g., methods for verifying source material removal, maintenance of slope stability after Waste Materials are removed);
- Identification of technologies (e.g., excavation equipment, bank stabilization methods, Waste Material repository containment strategies);
- Identification of Removal Action Alternatives (e.g., what portions of tailings are targeted for removal, Waste Material disposal locations, and waste haul routes,). Each alternative shall be developed to the conceptual (30 percent) design level;
- Schedule and estimated cost for recommended Removal Action;

- Biological Assessment that characterizes baseline conditions of existing habitat in and around TCRA areas; addresses potential project impacts that the projects may have on threatened or endangered species, their habitat, and their food stocks; and describes best management practices and conservation measures designed to avoid or minimize any negative impacts;
- A Clean Water Act Section 404 analysis memorandum, if the recommended removal action alternative will impact jurisdictional wetlands. The memorandum shall document the information gathered regarding practicability and cost, long and short-term effects from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation;
- Environmental Protection Plan detailing measures to minimize harm to the surrounding environment and prevent cross contamination during construction including BMPs for minimizing disturbance of sediment within the stream (described in detail in Section 2.2), storm water management and dust control, sediment control, waste management, spill control, decontamination requirements for equipment and personnel. Appropriate measures could include the use of silt fencing to reduce soil erosion into nearby waterbodies, procedures to reduce the risk of spills during onsite refueling of vehicles and equipment, and established traffic patterns to reduce the risk of vehicle accidents during construction, etc.;
- Procedures for processing design changes and securing the Agencies' review and approval of such changes to ensure changes are consistent with the objectives of the Removal Actions;
- Procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable; and
- ARARs identification and a discussion of how the Removal Actions will meet the identified ARARs.

The procedures the Respondents plan to implement when conducting all field activities will be detailed in the approved QAPP that will be included in the TCRA Lower Meadow Creek Valley Tailings Removal Work Plan. The QAPP will ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and meet data quality objectives. The QAPP will follow the "EPA Requirements for Quality Assurance Project Plans" EPAQA/R-5 with DQOs developed and included in accordance with EPAQA/G-4, "Guidance on Systematic Planning Using the Data Quality Objectives Process". The QAPP will follow the Uniform Federal Policy (UFP) format, as described in the guidance documents listed in Attachment 3.

The Respondents shall provide a revised TCRA Lower Meadow Creek Valley Tailings Removal Work Plan within 60 days of receipt of consolidated Agencies'~~agency~~ comments.

Project Design Documents

After the Effective Date, the Respondents will produce design documents, including construction plans and specifications, supporting calculations/justification, QAPPs, and CQAPs to implement the Removal Actions, as described below and in Section 2.3.3. Respondents shall meet regularly with the Agencies prior to and during development of design documents, and provide to the Agencies for review and approval, the technical documents that support the removal design.

For the Lower Meadow Creek Valley Tailings Removal Project, the Respondents shall submit:

- Draft Design when the design effort is 30 /50 percent complete, within 90 days of submittal of the Final TCRA Lower Meadow Creek Valley Tailings Removal Work Plan;
- Prefinal Design when the design effort is 90/95 percent complete, within 90 days of receipt of consolidated Agencies'~~agency~~ comments on the Draft Design; and
- Final Design when the design effort is 100 percent complete, within 90 days of receipt of consolidated Agencies'~~agency~~ comments on the Prefinal Design.

2.5.3 Bradley Man Camp Dumps Removal and Repository Planning Documents

TCRA Bradley Man Camp Dumps Removal and On-Site Repository Work Plan

Within 90 days of the Effective Date, Respondents shall submit a TCRA Waste Removal and On-Site Repository Work Plan that will evaluate and recommend actions to remove 200,000 tons of Waste Materials at the Bradley Man Camps and construct an on-site repository for long-term containment of the excavated Waste Material.

In addition to the evaluation, the TCRA Waste Removal and On-Site Repository Work Plan shall include a QAPP. The TCRA Waste Removal and On-Site Repository Work Plan shall include, at a minimum, the following information:

- Executive Summary;
- Introduction/Purpose;
- Discussion of the likely removal approach for removal of the Waste Materials from the Bradley Man Camp dumps, including the equipment that would be needed and any new roads or other improvements that would be required to facilitate construction;
- Identification of data needed to design waste/sediment removal actions and repository, which may include geochemical and engineering characteristics of the Waste Materials, potential slope stability issues, and siting criteria (e.g., topography, geotechnical considerations, and soil properties information) in and around potential waste repository locations;
- Procedures for addressing and protecting any aquatic, vegetation, wildlife and cultural resources that may be present in the areas in which Removal Actions will occur;
- Identification of Removal Action Objectives (may be narrative in nature) and performance goals (e.g., methods for verifying source material removal, maintenance of slope stability after Waste Materials are removed);
- Identification of technologies (e.g., excavation equipment, bank stabilization methods, Waste Material repository containment strategies);
- Identification of Removal Action Alternatives (e.g., what portions of dumps are targeted for removal, potential Waste Material disposal locations, waste haul routes, etc.). Each alternative shall be developed to the conceptual (30 percent) design level;
- Schedule and estimated cost for recommended Removal Action;
- Biological Assessment that characterizes baseline conditions of existing habitat in and around TCRA areas; addresses potential project impacts that the projects may have on threatened or endangered species, their habitat, and their food stocks; and describes best management practices and conservation measures designed to avoid or minimize any negative impacts;
- A Clean Water Act Section 404 analysis memorandum, if the recommended removal action alternative will impact jurisdictional wetlands. The memorandum shall document the

information gathered regarding practicability and cost, long and short-term effects from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation;

- A CQAP and statement of qualifications for the construction contractor. The CQAP will describe in detail the methods for direct measurement to be made during construction to ensure removal action objectives and performance goals and standards will be met. Attachment 3 provides relevant EPA guidance documents for CQAPs;
- Environmental Protection Plan detailing measures to minimize harm to the surrounding environment and prevent cross contamination during construction including best management practices (BMPs) for storm water management and dust control, waste management, spill control, decontamination requirements for equipment and personnel. Appropriate measures could include the use of silt fencing to reduce soil erosion into nearby waterbodies, procedures to reduce the risk of spills during onsite refueling of vehicles and equipment, and established traffic patterns to reduce the risk of vehicle accidents during construction, etc.;
- Procedures for processing design changes and securing the Agencies' review and approval of such changes to ensure changes are consistent with the objectives of the Removal Actions;
- Procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable; and
- ARARs identification and a discussion of how the Removal Actions will meet the identified ARARs.

The procedures the Respondents plan to implement when conducting all field activities will be detailed in the approved QAPP that will be included in the TCRA Waste Removal and On-Site Repository Work Plan. The QAPP will ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and meet data quality objectives. The QAPP will follow the "EPA Requirements for Quality Assurance Project Plans" EPAQA/R-5 with DQOs developed and included in accordance with EPAQA/G-4, "Guidance on Systematic Planning Using the Data Quality Objectives Process". The QAPP will follow the Uniform Federal Policy (UFP) format, as described in the guidance documents listed in Attachment 3.

The Respondents shall provide a revised TCRA Waste Removal and On-Site Repository Work Plan within 60 days of receipt of consolidated Agencies'~~agency~~ comments.

Project Design Documents

After the Effective Date, the Respondents will produce design documents, including construction plans and specifications, supporting calculations/justification, QAPPs, and CQAPs to implement the Removal Actions, as described below and in Section 2.3.3. For the repository, the design package shall identify the final cap or cover requirements and Post-Removal Site Controls. Respondents shall meet regularly with the Agencies prior to and during development of design documents, and provide to the Agencies for review and approval, the technical documents that support the removal design.

For the waste/sediment removal and on-site repository project, the Respondents shall submit:

- Draft Design when the design effort is 30/50 percent complete, within 90 days of submittal of the final TCRA Waste Removal and On-Site Repository Work Plan.

- Prefinal Design when the design effort is 90/95 percent complete, within 90 days of receipt of consolidated Agencies'~~agency~~ comments on the Draft Design; and
- Final Design when the design effort is 100 percent complete, within 90 days of receipt of consolidated Agencies'~~agency~~ comments on the Prefinal Design.

2.5.4 NW Bradley Dump Stream Removal and Bank Stabilization Planning Documents

TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan

Within 410 days of the Effective Date, Respondents shall submit a TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan that will evaluate and recommend actions to remove up to 100,000 tons of Waste Material within and along the banks of the EFSFSR adjacent to the NW Bradley Dumps.

In addition to the evaluation, the TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan shall include a QAPP. TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan shall include, at a minimum, the following information:

- Executive Summary;
- Introduction/Purpose;
- Discussion of the likely removal approach for removal of tailings and waste material from within and along the banks of the EFSFSR, including the equipment that would be needed and any new roads or other improvements that would be required to facilitate construction;
- Identification of data needed to design waste/sediment removal actions, which may include geochemical and engineering characteristics of the Waste Materials, potential slope stability issues, and siting criteria (e.g., topography, geotechnical considerations, and soil properties information) in and around potential NW Bradley Dump waste material placement locations;
- Procedures for addressing and protecting any aquatic, vegetation, wildlife and cultural resources that may be present in the areas in which Removal Actions will occur;
- Identification of Removal Action Objectives (may be narrative in nature) and performance goals (e.g., methods for verifying source material removal, maintenance of slope stability after Waste Materials are removed);
- Identification of technologies (e.g., excavation equipment, bank stabilization methods, Waste Material repository containment strategies);
- Identification of Removal Action Alternatives (e.g., what portions of stream and banks are targeted for removal, potential Waste Material disposal locations, and waste haul routes). Each alternative shall be developed to the conceptual (30 percent) design level;
- Schedule and estimated cost for recommended Removal Action;
- Biological Assessment that characterizes baseline conditions of existing habitat in and around TCRA areas; addresses potential project impacts that the projects may have on threatened or endangered species, their habitat, and their food stocks; and describes best management practices and conservation measures designed to avoid or minimize any negative impacts;
- A Clean Water Act Section 404 analysis memorandum, if the recommended removal action alternative will impact jurisdictional wetlands. The memorandum shall document the information gathered regarding practicability and cost, long and short-term effects from all

proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation;

- Environmental Protection Plan detailing measures to minimize harm to the surrounding environment and prevent cross contamination during construction including BMPs for minimizing disturbance of sediment within the stream (described in detail in Section 2.2), storm water management and dust control, sediment control, waste management, spill control, decontamination requirements for equipment and personnel. Appropriate measures could include the use of silt fencing to reduce soil erosion into nearby waterbodies, procedures to reduce the risk of spills during onsite refueling of vehicles and equipment, and established traffic patterns to reduce the risk of vehicle accidents during construction, etc.;
- Procedures for processing design changes and securing the Agencies' review and approval of such changes to ensure changes are consistent with the objectives of the Removal Actions;
- Procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable; and
- ARARs identification and a discussion of how the Removal Actions will meet the identified ARARs.

The procedures the Respondents plan to implement when conducting all field activities will be detailed in the approved QAPP that will be included in the TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan. The QAPP will ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and meet data quality objectives. The QAPP will follow the "EPA Requirements for Quality Assurance Project Plans" EPAQA/R-5 with DQOs developed and included in accordance with EPAQA/G-4, "Guidance on Systematic Planning Using the Data Quality Objectives Process". The QAPP will follow the Uniform Federal Policy (UFP) format, as described in the guidance documents listed in Attachment 3.

The Respondents shall provide a TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan within 60 days of receipt of consolidated Agencies'~~agency~~ comments.

Project Design Documents

After the Effective Date, the Respondents will produce design documents, including construction plans and specifications, supporting calculations/justification, QAPPs, and CQAPs to implement the Removal Actions, as described below and in Section 2.3.3. Respondents shall meet regularly with the Agencies prior to and during development of design documents, and provide to the Agencies for review and approval, the technical documents that support the removal design.

For the NW Bradley Dump Stream Removal and Bank Stabilization project, the Respondents shall submit:

- Draft Design when the design effort is 30/50 percent complete, within 180 days of submittal of the Final TCRA NW Bradley Dump Stream Removal and Bank Stabilization Work Plan;
- Prefinal Design when the design effort is 90/95 percent complete, within 90 days of receipt of consolidated Agencies'~~agency~~ comments on the Draft Design; and
- Final Design when the design effort is 100 percent complete, within 90 days of receipt of consolidated Agencies'~~agency~~ comments on the Prefinal Design.

2.5.5 Adits Planning Documents

TCRA Adit Study Work Plan

Within 360 days of the Effective Date, Respondents shall prepare and submit for the Agencies' review and approval a TCRA Adit Study Work Plan for adit investigations to characterize baseline (pre-mining) conditions at the Bailey Tunnel, DMEA Adit, Bonanza Adit, Cinnabar Tunnel, and Meadow Creek Adit. The TCRA Adit Study Work Plan shall include:

- Executive Summary;
- Introduction;
- A summary of existing information about the history and operation of the Bailey Tunnel, DMEA Adit, Bonanza Adit, Cinnabar Tunnel, and Meadow Creek Adit;
- Description of the physical features of these adits and the nature and extent of contamination, including information about water quality (including background conditions) and the volumetric flow and timing of the adit discharges;
- A preliminary Conceptual Site Model (CSM) for each adit. The CSM should include known and suspected sources of natural metal loading, hazardous material contamination, types of contamination and affected media/resources and known and potential routes of contaminant migration;
- Identification of baseline data needed to characterize discharges from the five adits listed above which may include but is not limited to continuous flow measurements (e.g., high and low flow measurements), surface water quality sampling, groundwater sampling, sediment and/or soil sampling, and assessments of the physical characteristics of the adits, the surrounding geology, geotechnical data and background conditions;
- A QAPP detailing the procedures the Respondents plan to implement when conducting all field activities, which will conform to the QAPP Guidance listed in Attachment 3;
- A Job Hazard Analysis identifying the specific tasks workers will undertake during the adit investigations, and a HASP Amendment, if needed, to ensure the safety of workers implementing the field activities; and
- Schedule.

Respondents will submit a revised work plan within 60 days of receipt of consolidated Agencies' ~~agency~~ comments.

Adit Removal Action Area Characterization Report

Respondents shall submit a draft, draft final, and final Adit Removal Action Area Characterization Report for the adit seeps that includes information from the field sampling events to characterize baseline conditions at the Bailey Tunnel, DMEA Adit, Bonanza Adit, Cinnabar Tunnel, and Meadow Creek Adit. The draft report will be due within 90 days of receipt of all validated data from the Adit Study. The revised reports will be due 60 days after receipt of consolidated Agencies'~~agency~~ comments. The Report shall include, at a minimum, the following sections:

- Introduction/purpose;
- Summary of the field sampling effort that, at a minimum, includes field effort dates, a summary of sample collection efforts (e.g., adit discharge flow measurements, water quality sampling), field sample observations, and a summary of sample and station locations, with maps and figures;

- Summary of adit physical properties including geotechnical characteristics to be used in evaluation of adit seep remedial technologies (e.g., structures etc.);
- Deviations from the QAPP;
- Summary of all data, including a data validation report. Data from this effort shall be provided to the Agencies electronically as well as in report tables;
- Updated CSMs based on current knowledge presented in the report;
- An evaluation of when in the planned mining sequence each adit would best be addressed; and
- Outstanding data gaps that will need to be filled during Design.

Removal Alternatives Analysis Report for the Adits

Within 120 days after receipt of ~~Agency~~ Agencies approval of the Adit Removal Action Area Characterization Report, Respondents shall prepare a Removal Alternatives Analysis Report (RAA) identifying and evaluating alternatives for the adit removal actions. This report will be prepared based on characterization of the adits, discharges, and shall identify and provide an initial screening of technologies. Individual technologies that are retained through the initial screening process shall be assembled into removal action alternatives and presented in the RAA Report. The removal alternative analysis shall include evaluation of implementability, effectiveness, and cost criteria. This analysis will be used to develop the EE/CA(s) prepared in Phase 2 and/or 3. The removal alternative analysis shall be prepared according to EPA's 1993 *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA*. Removal Actions recommended by the RAA Report may be implemented during optional Phase 2 after the completion of EE/CAs that evaluate adit removal alternatives.

The Respondents shall prepare a revised document within 60 days of receipt of consolidated ~~agency~~ Agencies' comments.

2.6 Implementation of Removal Action

Respondents shall provide notification to the Agencies thirty (30) days prior to initiation of removal action related field work to all the Agencies to coordinate field oversight activities.

The Respondents shall complete the Removal Action in accordance with the approved Final Design documents and TCRA Work Plans. The following activities shall be conducted during construction of the Removal Action.

The Agencies and Respondents shall participate in an on-site preconstruction meeting(s) to:

- Review each construction location and confirm current site conditions;
- Review methods for documenting and reporting compliance with specifications and plans including methods for processing design changes and securing the Agencies' review and approval of such changes as necessary;
- Review methods for distributing and storing documents and reports;
- Review work area security and safety protocols, as appropriate;
- Demonstrate that construction management is in place, and discuss any appropriate modifications to the design (drawings, specifications, CQAP, QAPP, etc.) to ensure that project specific considerations are addressed; and

- Respondent shall transmit (electronically) draft key points and action items from the preconstruction meeting to all parties within seven (7) days of the meeting.

Weekly reports shall be prepared and submitted (electronically) to the Agencies for review during the Removal Action construction. Weekly reports shall include work performed, problems encountered, and solutions proposed, any monitoring results such as water quality monitoring, and work to be performed during the following week. If applicable, Respondents shall inform the Agencies of the off-Site disposal facility proposed to receive any debris or hazardous materials from the Removal Action areas and obtain approval per the CERCLA Off-Site Rule.

Depending on the repository design, independent QA oversight and certification by a licensed Professional Engineer registered in Idaho may be required. The need for independent Professional Engineer certification will be specified in the CQAP.

Within seven (7) days after Respondents make a preliminary determination that construction is complete, Respondents shall verbally notify the Agencies for the purposes of scheduling prefinal and final inspections and/or meeting. Prior to scheduling the prefinal and final inspections, the Respondents shall send a letter to the Agencies stating that construction is substantially complete (prior to the prefinal inspection) and complete (for the final inspection) including completion of/ responding to any outstanding issues or punch-list items that were raised or identified by the Agencies during the prefinal inspection/meeting.

2.7 Removal Action Completion Report and Annual Status Report

Within 60 days after completion of construction of each of the Phase 1 removal actions, the Respondents shall submit to the Agencies for review and approval a Removal Action Completion Report, as identified in Table 2. In addition, to document annual progress completed in the implementation of the Phase 1 removal action, an annual removal action status report shall be submitted by January 31 of each year describing the work completed in the previous year.

The Removal Action Completion Report shall contain a description of the work required in the TCRA Work Plan and/or design packages, and all approved deviations including nonconforming conditions and corrective actions. In the report, a professional engineer registered in the State of Idaho and the Respondents' project coordinator shall state that the TCRAs were constructed in accordance with the Final Designs and the Final TCRA Work Plans. The written report shall include as-built drawings signed and stamped by a professional engineer registered in the State of Idaho, summary of data such as removal quantities and locations, analytical data collected in support of the Removal Action, an estimate of total costs for the TCRA, and any lessons learned. All analytical data collected under the ASAOC and SOW shall be provided electronically to the Agencies. The Removal Action Completion Report shall contain a description of any institutional controls that are in place, or engineering controls that are necessary to sustain the integrity of the Removal Action, along with copies of any agreements or other documents used to establish and implement such controls.

The final report shall also include the following certification signed by a person who supervised or directed the preparation of the report:

> "Under penalty of perjury under the laws of the United States, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I

am aware that there are significant penalties for submitting false information, including the possibility of imprisonment."

2.8 Post-Removal Site Control

Post-Removal Site Control shall include actions necessary to ensure the effectiveness and integrity of the removal action to be performed pursuant to this Settlement consistent with Sections 300.415(l) and 300.5 of the NCP and "Policy on Management of Post-Removal Site Control" (OSWER Directive No. 9360.2-02, Dec. 3, 1990).

Upon the Agencies' approval Respondents shall either conduct Post-Removal Site Control activities or obtain a written commitment from another party to conduct such activities, until such time as the Agencies determine that no further Post-Removal Site Control is necessary. Respondents shall provide the Agencies with documentation of all Post-Removal Site Control commitments.

Respondents shall submit a plan for Post-Removal Site Control activities for constructed Removal Actions.

2.9 Community Involvement Activities

Respondents shall provide information supporting community involvement programs related to the activities performed pursuant to this ASAOC and SOW and shall participate in public meetings upon the request of the Agencies. The public meetings may be held or sponsored by the Agencies to explain activities at the Removal Action Area or concerning Work performed pursuant to this ASAOC and SOW.

3.0 Bridge Phase Time Critical Removal Action (ASAOC Year 5/~~2025~~2026)

Commented [A2]: Heading for 2.0 has been updated so that years 1-4 are now 2021-2025; recommend updating remaining headings (e.g., year 5 would now be 2026)

After completion of all Work in Phase 1, if the approvals, authorizations, and permits have not been obtained for mine operations at the Site, Respondents may elect to perform activities in the optional Bridge Phase. Respondents must notify the Agencies in writing not later than thirty (30) days after issuance by the Agencies of a Notification of Completion of Phase 1 that the Respondents agree to perform the activities under the Bridge Phase. If the Respondents elect to enter the Bridge Phase, and the Agencies agree to the performance of the Bridge Phase by Respondents, Respondents shall implement the Bridge Phase Removal Action(s) as set forth in the Bridge Phase Action Memorandum.

Optional Bridge Phase Tasks are described below.

- The optional Bridge Phase tasks may only occur in the Source Areas listed in Attachment 1. Respondents shall evaluate the feasibility and cost effectiveness of additional water diversions, capping/cover of mine waste in place, and targeted removal of additional Waste Materials to improve water quality. The Bradley NE Oxide Dumps, NW Bradley Dumps, DMEA Dump, and/or other sources listed in Attachment 1 should be considered for additional removals during the Bridge Phase. The outcome of this evaluation shall be used by Respondents to propose, subject to approval by the Agencies, which source reduction removal action(s) may be completed during the Bridge Phase. The Agencies may issue an Action Memorandum selecting the final response action. The scope and requirements for planning, execution, and reporting of the selected action(s) shall be commensurate with equivalent projects conducted under Phase 1.

3.1 Post-Removal Site Control

Respondents shall continue to implement Post-Removal Site Control activities for all completed and ongoing removal actions during the optional Bridge Phase. Respondents shall provide the Agencies with documentation of all Post-Removal Site Control commitments.

4.0 Non-Time Critical Removal Actions

Two NTCRAs are described below as Optional Phase 2 and Optional Phase 3. NTCRAs shall be implemented in accordance with EPA's, *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA*. EPA 540-R-93-057.

4.1 Optional Phase 2 (ASAOC Years 5-8, or 6-9 if Bridge Phase selected/~~2025~~2026-~~2028~~2029 or ~~2026~~2027-~~2029~~2030)

Commented [A3]: To conform to changes made to Phase 1

If Respondents elect to perform Phase 2, and the Agencies agree to the performance of Phase 2 by Respondents, Phase 2 shall begin upon the date of the Agencies' initial comments on the Removal Action Work Plan for Phase 2. Phase 2 Work shall only be performed by Respondents if Respondents have obtained an approved mine plan and permits. Phase 2 work includes the following:

- Develop a detailed Project Schedule for the Agencies' approval; and
- Develop a draft and final EE/CA, which will include an evaluation of removal actions for each of the five adits identified as Source Areas in this SOW. The EE/CA prepared during optional Phase 2 will build off the adit characterization TCRA performed during Phase 1 and incorporate the alternative evaluation documented in the RAA Report. Potential removal actions could include but are not limited to collecting and treating MIW discharged from the adits, diverting clean upgradient water away from adit intake structures, constructing bulkheads, and installing passive treatment systems.

Implement an Action Memorandum (if one is issued by the Agencies) that is based on the EE/CA Report to address discharges of MIW at the five adits studied in Phase 1. An Action Memorandum will be based on the EE/CA Report prepared to address discharges of MIW at the five adits studied in Phase 1. The Respondents shall respond to and implement the Action Memorandum through the documents identified in Section 5.0, with removals complying with ARARs to the extent practicable and providing bases for any waivers in consultation with EPA, the USFS, and the State of Idaho.

OPTIONAL PHASE 2 TASKS

Optional Additional Adit Investigation

During mining under an approved mine plan, dewatering the open pit mines could decrease discharge flows from many of the Site's adits. Dewatering may facilitate access and enable additional studies in one or more of the adits that could not be completed safely during normal flow conditions. If needed to support the selection and design of removal actions for the Bailey Tunnel, DMEA Adit, Bonanza Adit, Cinnabar Tunnel, or the Meadow Creek Adit, the Respondents may propose additional studies during Phase 2. These studies, which could include geotechnical and engineering investigations, should complement the baseline studies completed in Phase 1. If Respondents decide to collect additional data at the adits, they will prepare an EE/CA Work Plan for the Agencies' review and approval. Additional adit data collection will be consistent with EPA's memorandum on "Developing Consultation Packages for CERCLA Activities at Abandoned Hardrock Mining and Mineral Processing Sites in Preparation for the Fiscal Year 2017 Construction Season" or a future revised memo, if available. This memo assists the EPA

regions in Fiscal Year planning for applicable CERCLA removal assessment, pre-remedial and remedial evaluation, investigation and response activities at hardrock mining and mineral processing sites with actual or potential fluid release hazards. The new EE/CA Work Plan shall incorporate by reference relevant portions of the approved TCRA Work Plan for Adits completed during Phase 1. The new EE/CA Work Plan shall also include:

- An updated Conceptual Site Model (CSM) for each adit. The updated CSM should explain how data collected during Phase 1 has informed changes to the CSM.
- Identification of data gaps to be filled.
- A QAPP detailing the procedures the Respondents plan to implement when conducting all field activities. Attachment 3 identifies guidance for preparation of a QAPP.
- A Job Hazard Analysis identifying the specific tasks workers will undertake during the additional adit investigations, and a HASP Amendment, if needed, to ensure the safety of workers implementing the field activities.

When the results of the additional investigations are available, Respondents shall present the additional data in an EE/CA report(s) that includes a newly updated CSM for the adits.

EE/CA for Adit Seeps
In optional Phase 2, Respondents shall prepare an EE/CA report for the five adits studied in Phase 1. The EE/CA shall evaluate and recommend potential remedial technologies consistent with EPA's 2017 guidance document entitled "Best Practices for Preventing Sudden, Uncontrolled Fluid Mining Waste Releases," OLEM Directive #9200.3-118, to address the adit seeps (e.g., installing bulkheads, diverting water away from adit intake structures, demolishing adit structures). The report shall discuss when in the planned sequence of mining activities construction would be most feasible. The EE/CA report will follow EPA's guidance document entitled "Guidance for Conducting Non-Time-Critical Removal Actions Under CERCLA," Office of Emergency and Remedial Response, EPA/540/R-93/057. For any recommended removal actions that require regular or continuous operations and maintenance (for example, passive or active water treatment), the report shall provide an estimate of annual operations costs. Additional documents required to complement and implement the EE/CA report are listed in the "Work Approach and Key Deliverables for all NTCRA Tasks" section of this SOW.

Implement Removal Action for Adit Seeps
In optional Phase 2, Respondents shall implement removal actions for the five adits recommended by the EE/CA and agreed upon by the Agencies. Implementation of agreed-upon adit removal actions will follow steps 4 – 10 of Section 5.0 (Work Approach and Key Deliverables for all NTRA Tasks). Adit removals shall assess any impacts mining may have on future adit discharge volume and chemistry.

Post-Removal Site Control
Respondents shall continue to implement Post-Removal Site Control activities for all completed Phase 1 and completed optional Bridge Phase removal actions, as well as for all completed removal actions during Phase 2.

The Agencies will amend the SOW for optional Phase 2 to address the details of Optional Phase 2 Work after Respondents have notified the Agencies in writing of their commitment to perform optional Phase 2. The amended SOW will include further definition of:

I. Project Planning and Support;
II. Removal Designs/Removal Actions;

III. Schedule of Deliverables; and
IV. Post-Removal Site Controls.

If the Respondents elect to conduct Work under Phase 2, they shall submit a proposal for Post-Removal Site Control that addresses all Post-Removal Site Control work required in Phase 1, the Bridge Phase, and Phase 2. Upon ~~Agency~~ Agencies' approval, Respondents shall either conduct Post-Removal Site Control activities, or obtain a written commitment from another party to conduct such activities, until such time as the Agencies determines that no further Post-Removal Site Control is necessary. Respondents shall provide the Agencies with documentation of all Post-Removal Site Control commitments.

4.2 Optional Phase 3 (ASAOC Years 9-20 or 10-20 / ~~2029~~ 2030 or ~~2030~~ 2031 - ~~2049~~ 2041)

Commented [A4]: To conform to changes made to Phase 1 years

Within thirty days of written notification by Respondents that they commit to perform the optional Phase 3, Respondents will develop and implement removal action work plans to address Waste Material remaining at the Site which may include removal actions in locations agreed to by the parties that the Agencies determine were not subject to mining and reclamation activities.

During the optional Phase 3, Respondents will conduct a synoptic study in the EFSFSR. The synoptic study will be completed on two reaches of the EFSFSR: (1) from the box culvert to Yellow Pine Pit; and (2) from the Yellow Pine Pit to Sugar Creek. The study will be used to identify areas for implementation of removal actions and implement those actions in accordance with an Action Memorandum that may be issued by the Agencies to address releases of hazardous substances in areas that are not included in Phase 1, optional Bridge Phase, optional Phase 2, an approved mine plan, or permits. Respondents' actions for Phase 3 shall include:

- Develop a detailed Project Schedule for the Agencies' approval;
- As necessary, conduct a supplemental Data Gaps Analysis to identify characterization needs that would inform an optimization of the overall remedy;
- Submit an Optimization Report proposing areas for implementation of further response actions;
- Develop an EE/CA for any actions not covered or completed under Phase 1 or 2, or an approved mine plan, or a Clean Water Act Permit which are needed to address remaining Waste Material; and
- Implement any response actions selected by the Agencies in an Action Memorandum (if one is issued by the Agencies).

OPTIONAL PHASE 3 TASKS

If Respondents elect to perform Phase 3, and the Agencies agree to the performance of Phase 3 by Respondents, Phase 3 shall begin upon the date of the Agencies' initial comments on the Removal Action Work Plan for the Phase 3 Work. If Respondents elect to continue work under the ASAOC in Phase 3, and the Agencies agree to the performance of Phase 3 by Respondents, the Agencies will amend the SOW to identify the specific Source Areas to be addressed and the tasks to be performed. Work to be performed in Phase 3 may include removal actions in locations agreed to by the parties that the Agencies determine were not subject to mining and reclamation activities and based on the PRO in effect on the date of the determination, are unlikely to be subject to mining and reclamation activities.

The Agencies will consider, where appropriate, the approved mine plan and mine operations and sequencing when approving the schedule for work in Phase 3. Areas and actions that could be addressed in Phase 3 include, but are not limited to:

- Necessary upgrades to the water diversion projects at the NW Bradley Dumps / Hennessy Creek, the DMEA Waste Rock Dump, and the Smelter Flats / Hangar Flats. Replacement of the water diversion projects with more permanent and durable remedies (e.g., removal or capping of Source Areas), if the water diversion systems are difficult or costly to maintain;
- Construction and/or ongoing maintenance of final, permanent actions to address any of the ~~Adit~~ adit seeps in Phase 2 where interim removal actions were installed;
- Response actions to address Waste Material in the remaining portions of Bradley Man Camp Dumps, the Bradley NE Oxide Dumps, the BMC Northwest Bradley Waste Rock Dumps and areas adjacent to, and SW of the Yellow Pine Pit;
- Response actions to address Waste Material in other Source Areas within Figure 1; and
- Response actions in locations that the Agencies determine were not, and based on the PRO in effect on the date of the Agencies'~~Agency~~ determination, are not likely to be subject to mining and reclamation activities.

Post-Removal Site Control

Respondents shall continue to implement Post-Removal Site Control activities associated with previous phases of Work under this ASAOC and shall implement Post-Removal Site Control activities for Work conducted under Phase 3.

If Respondents elect to perform Phase 3, and the Agencies agree to the performance of Phase 3 by Respondents, the agencies will amend this SOW set forth the Work to be performed in Phase 3. The amended SOW update will further define:

I. Project Planning and Support;
II. Removal Designs / Removal Actions;
III. Schedule of Deliverables; and
IV. Post-Removal Site Control.

Respondents shall provide all documentation associated with implementing these tasks as outlined above in optional Phase 2. If Respondents elect to conduct work under Phase 3, they shall submit a proposal for Post-Removal Site Control. Upon Agencies'~~Agency~~ approval, Respondents shall either conduct Post-Removal Site Control activities, or obtain a written commitment from another party to conduct such activities, until such time as the Agencies determine that no further Post-Removal Site Control is necessary. Respondents shall provide the Agencies with documentation of all Post-Removal Site Control commitments.

5.0 WORK APPROACH AND KEY DELIVERABLES FOR ALL NTCRA TASKS

Deliverables specified in this SOW for NTCRA activities shall be consistent with the NCP and appropriate EPA policy and guidance including "EPA's Guidance on Conducting Non-Time Critical Removal Actions under CERCLA" (EPA/540/R-93/057, OSWER 9360.0-32). illustrates requirements for documents and records generated during the NTCRA process that are to be included in the Administrative Record for

the Site. Except where noted below, removal actions shall include preparation, delivery, and implementation of the following:

1. Engineering Evaluation/Cost Analysis (EE/CA) Work Plan including a Sampling and Analysis Plan (QAPP) (draft and final)
2. Removal Action Area Characterization Report (draft and final)
3. EE/CA Report (draft and final)
4. Biological Assessment (BA), Clean Water Act (CWA) Section 404 Evaluation, and Cultural Resources Survey
5. Removal Action Design Documents
6. Removal Action Work Plan
7. Implementation of Removal Actions
8. Removal Action Completion Report
9. Progress Reports
10. Post-Removal Site Control

Attachments

Table 1 – ASAOC Phases
Table 2 – Schedule for Phase 1 Tasks
Figure 1 – Map of the Stibnite Mine Site
Attachment 1 – Stibnite Site Source Areas
Attachment 2 – Scribe Data Element Dictionary
Attachment 3 – Regulations and Guidance Documents

Table 1 – ASAOC Phases

Table 1 lists the ASAOC phases and years, along with calendar years and the mining activities anticipated during each phase

ASAOC Phase	First AOC Year~~s~~	Estimated Calendar Years	Mining Schedule Under PRO
1	1 ~~–4~~	2021 - 2025	Mine permitting & construction (if approvals & permits received)
Bridge	5	~~2025~~2026	Bridge phase if permits are not received by end of Phase 1
2	5 or 6	~~2025~~ 2026 to ~~2029~~2029 or ~~2026~~ 2027 to ~~2029~~2030	Mine construction, mine operations
3	~~7~~ 9 or ~~8~~ 10	~~2029~~2030/~~2030~~ 2031 to ~~3040~~2041	Mine operations and reclamation

Table 2 – Target Schedule for Phase 1 Tasks

NOTE: The Respondents shall prepare a detailed schedule for review and approval by the Agencies.

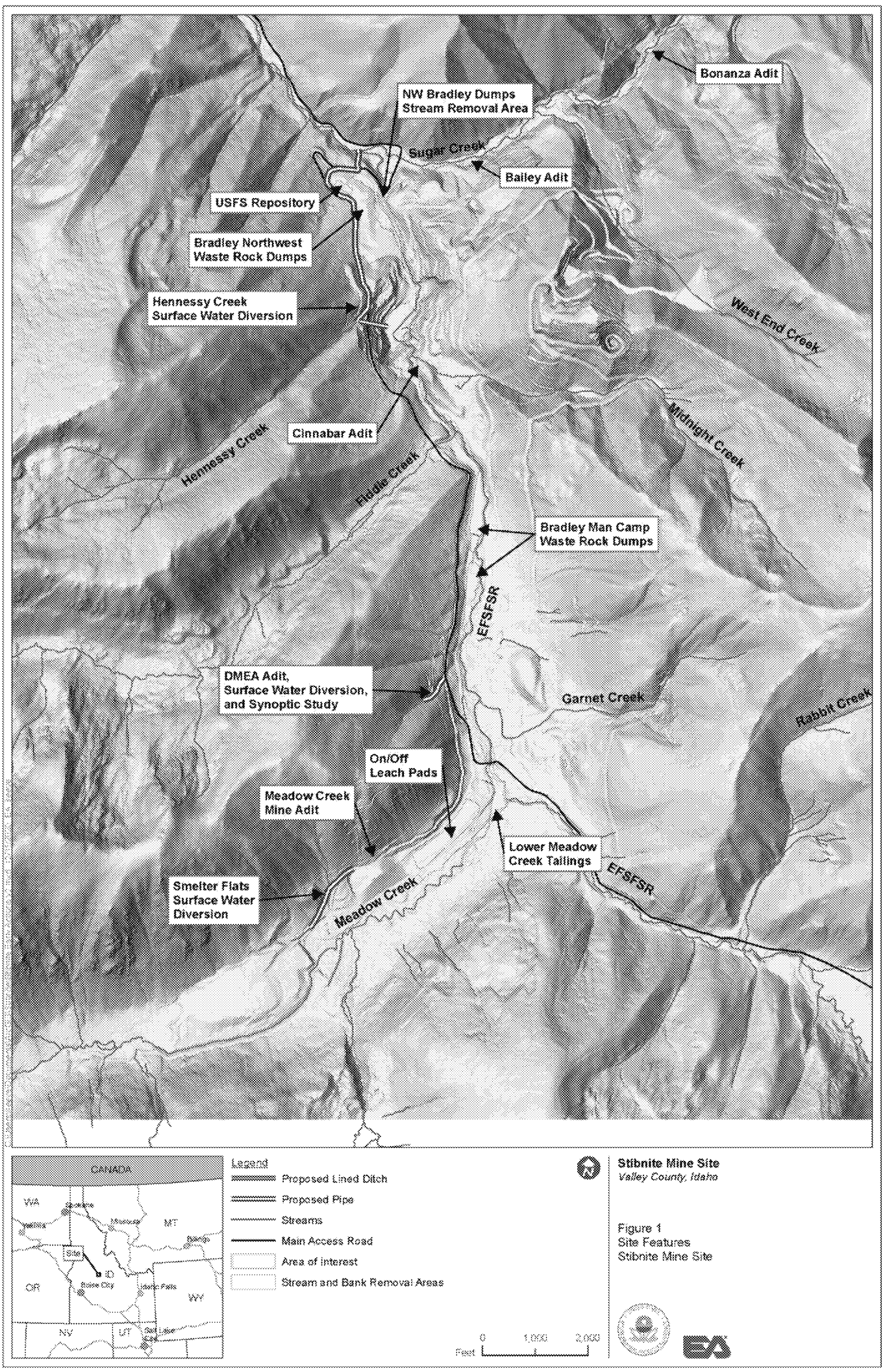
Task or Deliverable	Target Schedule
Site Characterization Report with data gap analysis	Q2 2021
Health and Safety Plan(s)	Prior to implementation of field work and/or construction activities
Water Diversion Removal Action	
• TCRA Work Plan, draft and final	Q1/Q2 2021
• Design Documents, draft and final	
○ Draft 30/50 percent Design Package	Q2 2021
○ Draft final 90/95 percent Design Package and response to comments	Q2 2021
○ Final 100 percent Design Package and response to comments	Q2 2021
• Removal Action Construction	Q3-Q4 2021, Q2-Q3 2022 (if needed)
• Removal Action Construction Completion Report, draft and final	Q1 2022, Q1 2023 (if needed)
• Post Removal Site Control, draft, draft final, and final	Q1 2022, Q1 2023 (if needed)
Lower Meadow Creek Valley Tailings Removal Project	
• TCRA Work Plan, draft and final	Q1/Q2 2021
• Design Documents:	
○ Draft 30/50 percent Design Package	Q3 2021
○ Draft final 90/95 percent Design Package and response to comments	Q4 2021
○ Final 100 percent Design Package and response to comments	Q1 2022
• Removal Action Construction	Q2-Q4 2022, Q2-Q3 2023

Task or Deliverable	Target Schedule
• Removal Action Construction Completion Report, draft and final Post Removal Site Control, draft, draft final, and final	Q1/Q2 2024 Q1/Q2/Q3 2024

Bradley Man Camp Dumps Removal and On-Site Repository Project
 	
• TCRA Work Plan, draft and final
• Design Documents:
  ○ Draft 30/50 percent Design Package
  ○ Draft final 90/95 percent Design Package and response to comments
  ○ Final 100 percent Design Package and response to comments
• Removal Action Construction
• Removal Action Construction Completion Report, draft and final
• Post Removal Site Control, draft, draft final, and final
	
	Q1/Q2 2021
	
	Q3 2021
	Q4 2021
	
	Q1 2022
	
	Q3-Q4 2022, Q3-Q4 2023
	Q1/Q2 2024
	
	Q1/Q2/Q3 2024

NW Bradley Dump Stream Removal and Bank Stabilization
 	
• TCRA Work Plan, draft and final
• Design Documents:
  ○ Draft 30/50 percent Design Package
  ○ Draft final 90/95 percent Design Package and response to comments
  ○ Final 100 percent Design Package and response to comments
• Removal Action Construction
• Removal Action Construction Completion Report, draft and final
• Post Removal Site Control, draft, draft final, and final
	
	Q1/Q2 2022
	
	Q4 2022
	Q1 2023
	
	Q2 2023
	
	Q2-Q4 2023, Q2-Q3 2024
	Q3 2024
	
	Q3/Q4/Q4 2024

Investigation of Baseline Conditions at Adits • TCRA Work Plan, draft, draft final, and final • Adit Characterization • Adit Removal Action Area Characterization Report, draft, draft final, and final • Removal Action Alternatives Report, draft, draft final, and final	 Q4 2021 / Q4 2021 / Q1 2022 Q3/Q4 2022 Q2/Q3 2023 Q4 2024
Feasibility Evaluation -- Bridge Phase Diversion, Capping/ Cover and Source Removal Actions	Q2-Q4 2024
Data Validation Summaries	30 days after validation of data collected for each sampling event
Quarterly Progress Reports	15 days after end of previous calendar quarter
Annual Removal Action Status Reports	January 31 of each year


Bonanza Adit
NW Bradley Dumps
Stream Removal Area
Sugar Creek
Bailey Adit
USFS Repository
Bradley Northwest
Waste Rock Dumps
Hennessy Creek
Surface Water Diversion
West End Creek
Cinnabar Adit
Hennessy Creek
Fiddle Creek
Midnight Creek
Bradley Man Camp
Waste Rock Dumps
EFSFSR
DMEA Adit,
Surface Water Diversion,
and Synoptic Study
Garnet Creek
Rabbit Creek
On/Off
Leach Pads
Meadow Creek
Mine Adit
Lower Meadow
Creek Tailings
EFSFSR
Smelter Flats
Surface Water
Diversion
Meadow Creek
CANADA
WA
MT
OR
ID
WY
NV
UT
Legend
Proposed Lined Ditch
Proposed Pipe
Streams
Main Access Road
Area of interest
Stream and Bank Removal Areas
0
1,000
2,000
Feet
Stibnite Mine Site
Valley County, Idaho
Figure 1
Site Features
Stibnite Mine Site

ATTACHMENT 1—Stibnite Site Source Areas

The following table lists Source Areas at the Stibnite Mine site that are candidates for removal actions, including sampling or other evaluation activity, under the SOW with their estimated annual arsenic loading.

Source[1]	Land Status	~ Arsenic loading (lb/year)[2]
NW Bradley Dumps / Hennessy Creek	Mixed	86
Hecla Heap leach & Pioneer (Canadian Superior) tailings	Mixed	61
Lower Meadow Creek Valley tailings	Mixed	Loading has not been determined.
DMEA Waste Rock Dump, Adit and Shaft	Unpatented	9
Bailey Tunnel	Patented	23
Cinnabar Tunnel	Unpatented	21
Bonanza Adit	Unpatented	1 Note: The primary loading concern at this location and Sugar Creek is Mercury. This adit contributes approximately 0.5 percent of Hg loading to Sugar Creek.
Bonanza Dump	Unpatented	Loading for this feature has not been determined.
Keyway Dam and Marsh Area	Mixed	29
Bradley Man Camp Dumps	Unpatented	20
Bradley NE Oxide Dumps	Mixed	8
Meadow Creek Adit Seep	Patented	6
Areas adjacent to and SE of the Yellow Pine Pit, including Monday Camp, Monday Camp Waste Rock Dump, and SE Bradley Waste Rock Dump	Mixed	Loading has not been determined.
Areas adjacent to and NW of the Yellow Pine Pit, and the BMC NW Bradley Waste Rock Dump	Mixed	Loading has not been determined.

Commented [A5]: Remove extra row

Footnotes:

1. Estimates of arsenic loading from SRK, 2017, Existing Conditions Site-Wide Water Chemistry (SWWC) Memo, November 22, 2017 memo to Piper Goessel, USFS, p. 46.
2. One source of Bailey Tunnel is Yellow Pine Pit. Tunnel could continue to flow after completion of PRO due to connection to backfilled YPP unless bulkheading/closure is completed.

ATTACHMENT 2 – Scribe Data Element Dictionary

Region 10 Data Element Dictionary and Example Electronic Data Deliverables

- This document is meant to serve as a guide to assist Region 10 Superfund data providers who are responsible for submitting project and monitoring location information for archive to Scribe.net.
- It can serve as a preliminary guide to assist data providers who are in the process of planning data collection activities and need to determine the necessary data elements for their projects.
- The data elements in this file represent a complete list of the data types used by all the EPA Regions and are produced in CLP Electronic Data Deliverables. Many of these data fields are not used by Region 10 and are labeled as "Not Applicable" or "NA".
- Required data elements are clearly labelled and represent the minimum amount of information needed to represent lab results and to describe the sample disposition in terms of location, date/time of sample collection, matrix types, etc.
- The layout of this data element dictionary is to facilitate corrections to information submitted by field personnel (through COC XML resubmittals) and/or to upload lab data back into the Scribe Lab Results Table.

Questions should be submitted to Don Matheny (matheny.don@epa.gov) or Meghan Dunn (dunn.meghan@epa.gov).

The Data Element Dictionary (next tab) contains the following information.

Data Element Field Names

EDD Type - identifies the association of the data element as either a "Lab Result" or as "Sample" related information.

Required, Optional, Conditional, Not Applicable (R/O/C/NA) - Identifies the data element as required, etc. The details for some conditional data elements may be found in the description column.

Description or Preferred Values - General description of the data element, where the values are derived and possible values.

Field Format/Length - Identifies the data element format type and field length.

Origin - Identifies the origin of the data element. Some elements are "pass through" fields originating from Scribe or lab scheduling (i.e., RSCC). Otherwise, these may be generated by the lab or during validation.

Scribe Table. Data Field Name - Name of the corresponding Scribe Table and Data Field Name(s) for that data element. A data element may correspond to more than one Scribe data field.

COC XML Field Name - Name of the corresponding XML tag for that data element. Required for elements that originate from Scribe.

EDD Data Element Updated w/resubmittal of COC XML? - (Y or N) Identifies if the data element may be updated through a COC XML that is resubmitted at a later time after samples have arrived at the lab.

Upload into Scribe from EDD? - (Y or N) Identifies whether the data element is uploaded into the Scribe "Lab Results Table".

Comments - additional explanation of data element.

Data Element Field Names	EDD Type	Required, Optional, Conditional, Not Applicable (R/O/C/NA)	Origin	Scribe Table.DataFieldName	CDC XML Field Name	EDD Data Element Updated w/new enter (Y/N) at CDC XML?	Upload into Scribe from EDD?	Comments
CASE_NUMBER	Lab Results	C	Scribe / Lab	CDC.CaseNumber	Sys.CaseNumber	N	N	In Scribe this is found in the "CDC.CaseNumber" and "Sys.CaseNumber" fields. In the end file it is the Sys.CaseNumber element. There's no place for this in the Scribe LabResults Table
SAMPLE_DELIVERY_GROUP	Lab Results	C	Lab	LabResults.Lab_Batch_No		N	Y	Generated by the Lab
SAMPLE_ID	Lab Results	C	Lab	Samples.tblSamples.CLP_Sample_No LabResults.QA_Sample_No	Sample.SampleID	N	Y	Originated in Scribe from the "Samples.tblSamples.CLP_Sample_No" field and is also uploaded into the "LabResults.Sample_QA_No" field. Generated by Lab in EDD.
CAS_NUMBER	Lab Results	R	Lab	LabResults.Cas_No		N	Y	Generated by the Lab
ANALYTE	Lab Results	R	Lab	LabResults.Analyte		N	Y	Generated by the Lab
FINAL_RESULT	Lab Results	R	Lab / Data Reviewer	LabResults.Result		N	Y	Generated by the Lab & verified by Data Reviewer. May be edited in EDM whereas the "Lab_Result" field below cannot be edited during data validation. The Final_Result field is automatically for MDL and other data accepted, generated, etc. Data
RESULT_UNITS	Lab Results	R	Lab	LabResults.Result_Units		N	Y	Generated by the Lab
FINAL_VALIDATION_QUALIFIER	Lab Results	R	EDM / Data Reviewer	LabResults.Result_Qualifier		N	Y	Generated by the EDM or Data Reviewer
DATA_VAL_LABEL	Lab Results	R	EDM / Data Reviewer	LabResults.QA_Comment		N	Y	Generated by the EDM or Data Reviewer. The Scribe LabResults Table will utilize the QA Comment field in order to accommodate the optional data element
SAMPLE_ADJUSTED_CRQL	Lab Results	R	Lab	LabResults.Quantitation_Limit		N	Y	Generated by the Lab
SAMPLE_ADJUSTED_MDL	Lab Results	R	Lab	LabResults.MDL		N	Y	Generated by the Lab
LAB_RESULT	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The "Final_Result" data element which passes validation/lab verification, will be uploaded into the Scribe lab result table.
LAB_QUALIFIERS	Lab Results	C	Lab	LabResults.Lab_Result_Qualifier		N	Y	Generated by the Lab
METHOD_CRQL	Lab Results	R	Lab	LabResults.Reporting_Limit		N	Y	Generated by the Lab
CRQL_UNITS	Lab Results	R	Lab	LabResults.Quantitation_Limit_Units LabResults.Reporting_Limit_Units		N	Y	Generated by the Lab. The Quantitation and Reporting Limit data elements are well-intentioned, there isn't the same unit of measurement for this data element needed to be uploaded into two different fields.
MDL_UNITS	Lab Results	R	Lab	LabResults.MDL_Units		N	Y	Generated by the Lab
PERCENT_SOLIDS	Lab Results	R	Lab	LabResults.Percent_Solids		N	Y	Generated by the Lab
PERCENT_MOISTURE	Lab Results	R	Lab	LabResults.Percent_Moisture		N	Y	Generated by the Lab
DILUTION_FACTOR	Lab Results	R	Lab	LabResults.Dilution_Factor		N	Y	Generated by the Lab
ANALYSIS_FRACTION	Lab Results	R	Lab	LabResults.Analysis		N	Y	Generated by the Lab
ANALYSIS_LEVEL	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
REPORTING_BASIS	Lab Results	R	Lab	LabResults.Basis		N	Y	Generated by the Lab
SAMPLE_DATE_TIME	Samples	C	Scribe	Samples.SampleDate LabResults.Date_Collected	Location.SampleDate Location.SampleTime	N	Y	Originated in Scribe but need a converter to CDC XML requirements. This is due to the ability to edit this information in EDM during data validation. To allow consistency in CDC XML requirements would require a business rule against data overwriting input pathways and introduce an vulnerability to the system. Sample Date & Time are concatenated from two Scribe SQL XML fields.
DATE_SHIPPED	Samples	R	Scribe	COC.DateShipped	Tests.DateShipped	Y	N	There's no data field for this in the Scribe LabResults Table and it never appears in the COC Table.
DATE_TIME_RECEIVED	Samples	C	Lab	LabResults.Date_Received		N	Y	Generated by the Lab. Should be possible from the date/time fields in the LabResults Table. The Scribe Table Data file shows the length of these fields to be "9" but we need them to be "20".
PREP_DATE_TIME	Lab Results	R	Lab	LabResults.Date_Extracted		N	Y	Generated by the Lab.
ANALYSIS_DATE_TIME	Lab Results	C	Lab	LabResults.Date_Analyzed		N	Y	Generated by the Lab
LAB_SAMPLE_TYPE	Lab Results	R	Lab	LabResults.QC_Type		N	Y	Generated by the Lab. This data uses the Lab QC long name (e.g. "Laboratory Control Sample") and perfectly matches the data definition of the QC_Type data field. The previously identified Sample_Type_Code is merely 10 characters long.
SAMPLE_MATRIX	Lab Results	R	Lab	LabResults.Matrix_ID		N	Y	Generated by the Lab. CLP has a definition which doesn't also need to match up with the Samples.Matrix Scribe data field. I thought these were populated separately.
RESULT_COMMENT	Lab Results	C	Lab	LabResults.Comments		N	Y	Generated by the Lab. For the CLP this was concatenated from the Form 1 comment field to provide information such as dilution.
LAB_NAME	Samples	R	Lab	LabResults.Lab_Name		N	Y	Generated by the Lab
LAB_CODE	Samples	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table
CONTRACT_NUMBER	Samples	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table
METHOD_NUMBER_OR_CLP_SOW	Lab Results	R	Lab	LabResults.Analytical_Method		N	Y	Generated by the Lab.
MA_NUMBER	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table
TR_COC_NUMBER	Samples	R	Scribe	Samples.Tags.COC LabResults.Lab_Coc_No	Analysis.TRNo	N	Y	Generated by the Lab.
LAB_SAMPLE_ID	Samples	C	Lab	LabResults.Lab_Samp_no		N	N	Generated by the Lab.
LAB_FILE_ID	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table
INSTRUMENT_ID	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table
SAMPLE_ALIQUOT	Lab Results	R	Lab	LabResults.SubSample_Amount		N	Y	Generated by the Lab.
SAMPLE_ALIQUOT_UNITS	Lab Results	R	Lab	LabResults.SubSample_Amount_Unit		N	Y	Generated by the Lab.
FINAL_VOLUME	Lab Results	R	Lab	LabResults.Final_Volume		N	Y	Generated by the Lab.
FINAL_VOLUME_UNITS	Lab Results	R	Lab	LabResults.Final_Volume_Unit		N	Y	Generated by the Lab.
SOIL_EXTRACT_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analyte requires the use of two many fields (e.g. final volume is already filled)
SOIL_EXTRACT_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analyte requires the use of two many fields (e.g. final volume is already filled)

SOIL_ALIQUOT_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysts requires the use of re[illegible] many fields (e.g. final volume is already filled).
SOIL_ALIQUOT_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysts requires the use of re[illegible] many fields (e.g. final volume is already filled).
PURGE_VOLUME	Lab Results	C	Lab	LabResults.Final_Volume		N	Y	Generated by the Lab.
PURGE_VOLUME_UNITS	Lab Results	C	Lab	LabResults.Final_Volume_Unit		N	Y	Generated by the Lab.
SPIKE_ADDED	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
CONCENTRATED_EXTRACT_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysts requires the use of re[illegible] many fields (e.g. final volume is already filled).
CONCENTRATED_EXTRACT_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysts requires the use of re[illegible] many fields (e.g. final volume is already filled).
INJECTION_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
INJECTION_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
PREPARATION_METHOD	Lab Results	R	Lab	LabResults.Extraction_MethRef		N	Y	Generated by the Lab.
GPC_CLEANUP	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
GPC_FACTOR	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
DECANTED	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
PH	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
COOLER_TEMP	Samples	R	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
SAMPLE_FRACTION	Lab Results	C	Scribe	LabResults.Total_Or_Dissolved		N	Y	Generated by the Lab.
METHOD_SPECIATION	Lab Results	C	Lab			N	N	Generated by the Lab. There's no data field for this in the Scribe LabResults Table.
SAMPLE_SUBMATRIX	Samples	R	Scribe	Samples.Matrix	Location.Matrix	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLING_REASON	Samples	R	Scribe	Site.Site_Action	Sites.Action	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLE_COLLECTION_METHOD	Samples	R	Scribe	Samples.SampleCollection	Location.CompositeGrab	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
EPA_REGION	Samples	R	Scribe	Site.EPARegionNumber	Sites.EPARegionNumber	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
STATION_LOCATION	Samples	R	Scribe	Location.Location	Station.LocationName	N	N	Originated in Scribe but is not overwritten in COC/EIMS, read-only field. This is due to the priority to use the LocationLocation in EDM during data validation. To allow overwrites via COC/EIMS, conceptual would violate a business rule against user overwrite input parameters and introduce an vulnerability to the system.
LOCATION_DESCRIPTION	Sample	R	Scribe	Location.LocationDescription	Location.LocationDescription	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_SAMPLE_NUMBER	Samples	R	Scribe	Samples.Samp_No LabResults.Samp_No	Location.SampleIdentifier	Y	Y	Originated in Scribe in the "Samples.Samp_No" field but is also uploaded into the "LabResults.Sample_ID_No" field.
LOCATION_ZONE	Samples	R	Scribe	Location.LocationZone	Location.LocationZone	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
LATITUDE	Samples	R	Scribe	Location.Latitude	Location.Latitude	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
LONGITUDE	Samples	R	Scribe	Location.Longitude	Location.Longitude	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
DATUM	Samples	R	Scribe	Location.Datum	Location.Datum	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
GEOMETHOD	Samples	R	Scribe	Location.GeoMethod	Location.LocationMethod	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION	Samples	C	Scribe	Location.Surf_Elev	Location.SurfaceElevation	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION_UNITS	Samples	C	Scribe	Location.Surf_Units	Location.SurfaceElevationUnits	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION_METHOD	Samples	C	Scribe	Location.ElevMethod	Location.SurfaceElevationMethod	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION_DATUM	Samples	C	Scribe	Location.ElevDatum	Location.SurfaceElevationDatum	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
TOP_DEPTH	Samples	C	Scribe	Samples.Samp_Depth	Location.Depth	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
BOTTOM_DEPTH	Samples	C	Scribe	Samples.Samp_Depth_To	Location.DepthTo	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
TOP_DEPTH_UNITS	Samples	C	Scribe	Samples.Samp_Depth_Units	Location.DepthUnit	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
BOTTOM_DEPTH_UNITS	Samples	C	Scribe	Samples.Samp_Depth_Units	Location.DepthUnit	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLER_NAME	Samples	R	Scribe	Samples.Sampler	Location.SampleName	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLING_COMPANY_CONTACT	Samples	R	Scribe	Site.CTRContact	Sites.ProjectLeader	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLING_COMPANY_NAME	Samples	R	Scribe	Site.Contractor	Sites.SamplingCompany	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
PROJECT_NAME	Samples	R	RSCQSDM	Site.Site_Name	Sites.SiteName	N	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling.
SITE_PROJECT_CODE	Samples	R	RSCQSDM	COCProjectCode	Sites.ProjectCode	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling. Also hand entered into COC during COC generation and uploaded to Lab in COC.dat.
SITE_EVENT_ID	Samples	R	Scribe	Site.Control_No	Sites.EventID	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
STATE	Samples	R	RSCQSDM	Site.Site_State	Sites.State	N	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling.
CITY	Samples	R	RSCQSDM	Site.Area		N	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling.
CERCLIS	Samples	R	Scribe	Site.CERCLIS	Sites.CERCLIS	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_SITE_NUMBER	Samples	R	Scribe	Site.Site_No	Sites.SiteNumber	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_SITE_PROJECT_ID	Samples	R	Scribe	Site.ScribeLabProjectID	Sites.ScribeNewProjectID	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLE_TAG	Samples	R	Scribe	Samples.FlagsTag	Bottle.FlagTag	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_COMMENT	Samples	C	Scribe	Samples.Remarks	Location.SampleComments	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
FIELD_SAMPLE_TYPE	Samples	R	Scribe	Samples.SampleType	Samples.SampleType	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
QC_SPIKE_RECOVERY	Lab Results	R	Lab	LabResults.Percent_Recovery			Y	Generated by the Lab.

SOIL_ALIQUOT_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysis requires the use of re[illegible] many fields (e.g. final volume is already filled).
SOIL_ALIQUOT_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysis requires the use of re[illegible] many fields (e.g. final volume is already filled).
PURGE_VOLUME	Lab Results	C	Lab	LabResults.Final_Volume		N	Y	Generated by the Lab.
PURGE_VOLUME_UNITS	Lab Results	C	Lab	LabResults.Final_Volume_Unit		N	Y	Generated by the Lab.
SPIKE_ADDED	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
CONCENTRATED_EXTRACT_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysis requires the use of re[illegible] many fields (e.g. final volume is already filled).
CONCENTRATED_EXTRACT_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table. The analysis requires the use of re[illegible] many fields (e.g. final volume is already filled).
INJECTION_VOLUME	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
INJECTION_VOLUME_UNITS	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
PREPARATION_METHOD	Lab Results	R	Lab	LabResults.Extraction_MethRef		N	Y	Generated by the Lab.
GPC_CLEANUP	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
GPC_FACTOR	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
DECANTED	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
PH	Lab Results	C	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
COOLER_TEMP	Samples	R	Lab			N	N	There's no data field for this in the Scribe LabResults Table.
SAMPLE_FRACTION	Lab Results	C	Scribe	LabResults.Total_Cr_Dissolved		N	Y	Generated by the Lab.
METHOD_SPECIATION	Lab Results	C	Lab			N	N	Generated by the Lab. There's no data field for this in the Scribe LabResults Table.
SAMPLE_SUBMATRIX	Samples	R	Scribe	Samples.Matrix	Location.Matrix	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLING_REASON	Samples	R	Scribe	Site.Site_Action	Sites.Action	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLE_COLLECTION_METHOD	Samples	R	Scribe	Samples.SampleCollection	Location.CompositeGrab	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
EPA_REGION	Samples	R	Scribe	Site.EPARegionNumber	Sites.EPARegionNumber	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
STATION_LOCATION	Samples	R	Scribe	Location.Location	Station.LocationName	N	N	Originated in Scribe but is not overwritten in COC/XML results/data. This is due to the priority to use the LocationLocation in EDM during data validation. To allow overwrites via COC/XML results/data would violate a business rule against user overwrite input parameters and introduce an vulnerability to the system.
LOCATION_DESCRIPTION	Sample	R	Scribe	Location.LocationDescription	Location.LocationDescription	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_SAMPLE_NUMBER	Samples	R	Scribe	Samples.Samp_No LabResults.Samp_No	Location.SampleIdentifier	Y	Y	Originated in Scribe in the "Samples.Samp_No" field but is also uploaded into the "LabResults.Sample_QA_No" field.
LOCATION_ZONE	Samples	R	Scribe	Location.LocationZone	Location.LocationZone	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
LATITUDE	Samples	R	Scribe	Location.Latitude	Location.Latitude	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
LONGITUDE	Samples	R	Scribe	Location.Longitude	Location.Longitude	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
DATUM	Samples	R	Scribe	Location.Datum	Location.Datum	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
GEOMETHOD	Samples	R	Scribe	Location.GeoMethod	Location.LocationMethod	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION	Samples	C	Scribe	Location.Surf_Elev	Location.SurfaceElevation	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION_UNITS	Samples	C	Scribe	Location.Surf_Units	Location.SurfaceElevationUnits	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION_METHOD	Samples	C	Scribe	Location.ElevMethod	Location.SurfaceElevationMethod	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SURFACE_ELEVATION_DATUM	Samples	C	Scribe	Location.ElevDatum	Location.SurfaceElevationDatum	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
TOP_DEPTH	Samples	C	Scribe	Samples.Samp_Depth	Location.Depth	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
BOTTOM_DEPTH	Samples	C	Scribe	Samples.Samp_Depth_To	Location.DepthTo	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
TOP_DEPTH_UNITS	Samples	C	Scribe	Samples.Samp_Depth_Units	Location.DepthUnit	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
BOTTOM_DEPTH_UNITS	Samples	C	Scribe	Samples.Samp_Depth_Units	Location.DepthUnit	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLER_NAME	Samples	R	Scribe	Samples.Sampler	Location.SampleName	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLING_COMPANY_CONTACT	Samples	R	Scribe	Site.CTRContact	Sites.ProjectLeader	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLING_COMPANY_NAME	Samples	R	Scribe	Site.Contractor	Sites.SamplingCompany	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
PROJECT_NAME	Samples	R	RSCQTDM	Site.Site_Name	Sites.SiteName	N	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling.
SITE_PROJECT_CODE	Samples	R	RSCQTDM	COCProjectCode	Sites.ProjectCode	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling. Also hand entered into COC during COC generation and uploaded to Lab in COC.dat.
SITE_EVENT_ID	Samples	R	Scribe	Site.Control_No	Sites.EventID	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
STATE	Samples	R	RSCQTDM	Site.Site_State	Sites.State	N	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling.
CITY	Samples	R	RSCQTDM	Site.Area		N	N	Already in Scribe. No place for it in the Scribe LabResults Table. Origination from the laboratory request submitted during scheduling.
CERCLIS	Samples	R	Scribe	Site.CERCLIS	Sites.CERCLIS	N	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_SITE_NUMBER	Samples	R	Scribe	Site.Site_No	Sites.SiteNumber	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_SITE_PROJECT_ID	Samples	R	Scribe	Site.ScribeLabProjectID	Sites.ScribeNewProjectID	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SAMPLE_TAG	Samples	R	Scribe	Samples.FlagsTag	Bottle.FlagTag	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
SCRIBE_COMMENT	Samples	C	Scribe	Samples.Remarks	Location.SampleComments	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
FIELD_SAMPLE_TYPE	Samples	R	Scribe	Samples.SampleType	Samples.SampleType	Y	N	Already in Scribe. No place for it in the Scribe LabResults Table.
QC_SPIKE_RECOVERY	Lab Results	R	Lab	LabResults.Percent_Recovery			Y	Generated by the Lab.

ATTACHMENT 3 – Regulations and Guidance Documents

The following list, although not comprehensive, comprises many of the regulations and guidance documents that may apply:

1. American National Standards Practices for Respiratory Protection. American National Standards Institute Z88.2-1980, March 11, 1981.

2. ARCS Construction Contract Modification Procedures September 89, OERR Directive 9355.5-01/FS.

3. CERCLA Compliance with Other Laws Manual, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988(DRAFT), OSWER Directive No. 9234.1-01 and -02.

4. Community Relations in Superfund – A Handbook, U.S. EPA, Office of Emergency and Remedial Response, June 1988, OSWER Directive No. 9230.0-3B.

5. A Compendium of Superfund Field Operations Methods, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

6. Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, U.S. EPA, Office of Solid Waste and Emergency Response, October 1986, OSWER Directive No. 9472.003.

7. Contractor Requirements for the Control and Security of RCRA Confidential Business Information, March 1984.

8. Data Quality Objectives for Remedial Response Activities, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

9. Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, U.S. EPA Region IV, Environmental Services Division, April 1, 1986 (revised periodically).

10. EPA NEIC Policies and Procedures Manual, EPA-330/9-78-001-R, May 1978, revised November 1984.

11. EPA *Technical Guidance Document for Final Covers on Hazardous Waste Landfills and Surface Impoundments*. July 1989.

12. EPA OSWER Directive 9355.7-01. *Memorandum regarding Permits and Permit "Equivalency" Process for CERCLA On-site Response Actions*. February 19, 1992.

13. Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potential Responsible Parties, U.S. EPA Office of Emergency and Remedial Response, EPA/540/G-90/001, April 1990.

14. Guidance on Expediting Remedial Design and Remedial Actions, EPA/54O/G-90/006, August 1990.

15. Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites, U.S. EPA Office of Emergency and Remedial Response (DRAFT), OSWER Directive No. 9283.1-2.

16. Guide for Conducting Treatability Studies Under CERCLA, U.S. EPA, Office of Emergency and Remedial Response, Prepublication version.

17. Guide to Management of Investigation-Derived Wastes, U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992.

18. Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.

19. Health and Safety Requirements of Employees Employed in Field Activities, U.S. EPA, Office of Emergency and Remedial Response, July 12, 1982, EPA Order No. 1440.2.

20. Interim Guidance on Compliance with Applicable of Relevant and Appropriate Requirements, U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

21. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.

22. Methods for Evaluating the Attainment of Cleanup Standards: Vol. 1, Soils and Solid Media, February 1989, EPA 23/02-89-042; vol. 2, Ground water (Jul 1997).

23. National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.

24. NIOSH Manual of Analytical Methods, 2nd edition. Volumes I-VII for the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.

25. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1985.

26. Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, February 19, 1992, OSWER Directive 9355.7-03.

27. Procedure for Planning and Implementing Off-Site Response Actions, Federal Register, Volume 50, Number 214, November 1985, pages 45933-45937.

28. Procedures for Completion and Deletion of NPL Sites, U.S. EPA, Office of Emergency and Remedial Response, April 1989, OSWER Directive No. 9320.2-3A.

29. Quality in the Constructed Project: A Guide for Owners, Designers and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment, American Society of Civil Engineers, May 1988.

30. *Remedial Design/Remedial Action (RD/RA) Handbook*, U.S. EPA, Office of Solid Waste and Emergency Response (OSWER) 9355.0-O4B, EPA 540/R-95/059, June 1995.

31. Revision of Policy Regarding Superfund Project Assignments, OSWEP Directive No. 9242.3-08, December 10, 1991. [Guidance, p. 2-21]

32. Scoping the Remedial Design (Fact Sheet), February 1995, OSWER Publ. 9355-5-21 FS.

33. Standard Operating Safety Guides, U.S. EPA, Office of Emergency and Remedial Response, November 1984.

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34. Standards for the Construction Industry, Code of Federal Regulations, Title 29, Part 1926, Occupational Health and Safety Administration.

35. Standards for General Industry, Code of Federal Regulations, Title 29, Part 1910, Occupational Health and Safety Administration.

36. Structure and Components of 5-Year Reviews, OSWER Directive No. 9355.7-02, May 23, 1991. [Guidance, p. 3-5]

37. Superfund Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, April 1990, EPA/54O/G-90/001.

38. Superfund Remedial Design and Remedial Action Guidance, U.S. EPA, Office of Emergency and Remedial Response, June 1986, OSWER Directive No. 9355.0-4A.

39. Superfund Response Action Contracts (Fact Sheet), May 1993. OSWER Publ. 9242.2-08FS.

40. TLVs-Threshold Limit Values and Biological Exposure Indices for 1987-88, American Conference of Governmental Industrial Hygienists.

41. Treatability Studies Under CERCLA, Final. U.S. EPA, Office of Solid Waste and Emergency Response, EPA/540/R-92/071a, October 1992.

42. USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, US. EPA, Office of Emergency and Remedial Response, July 1988.

43. USEPA Contract Laboratory Program Statement of Work for Organic Analysis, US. EPA, Office of Emergency and Remedial Response, February 1988.

45. Value Engineering (Fact Sheet), U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9355.5-03FS. May 1990.

46.Clean and Green Policy, US. EPA, Region 10 Superfund, RCRA, LUST, and Brownfields (Regional Policy). August 13, 2009.

47. Superfund Green Remediation Strategy, US. EPA Office of Solid Waste and Emergency Response and Office of Superfund Remediation and Technology Innovation. September 2010. (http://www.epa.gov/superfund/greenremediation)

48. Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA, USEPA, Office of Emergency and Remedial Response, EPA/540/R-93/057, OSWER 9360.0-32. August 1993.

49. Guidance on Choosing a Sampling Design for Environmental Data Collection for Use in Developing a Quality Assurance Project Plan, USEPA, Office of Environmental Information. December 2002.

50.Technical Guides to Streamline Site Cleanup: Smart Scoping, Strategic Sampling and Data Management Best Practices, USEPA, Office of Land and Emergency Management. November 2018.

51.EPA Fact Sheet on Evapotranspiration Cover Systems for Waste Containment. February 2011.

52. EPA. 1993b. Technical Guidance Document: Quality Assurance and Quality Control for Waste Containment Facilities. September.

53. EPA Requirements for Quality Assurance Project Plans (QA/R-5). EPA/240/B-01/003, March 2001, Reissued May 2006.

53. EPA Guidance for Quality Assurance Project Plans (QA/G-5). EPA/240/R-02/009), December 2002.

54. Intergovernmental Data Quality Task Force, Uniform Federal Policy for Quality Assurance Project Plans. Optimized UFP-QAPP Worksheets. March 2012.

55. Intergovernmental Data Quality Task Force, Uniform Federal Policy for Quality Assurance Project Plans. Evaluating, Assessing, and Documenting Environmental Data Collection and Use Programs. Part 1: UFP-QAPP Manual. EPA-505-B-04-900A. March 2005.

56. EPA Guidance on Systematic Planning Using the Data Quality Objectives Process. EPA QA/G-4. February 2006.

57. Interstate Technology Regulatory Council (ITRC). Technical and Regulatory Guidance for Design, Installation, and Monitoring of Alternative Final Covers. December 2003.

58. ITRC Incremental Sampling Methodology. February 2012.

59. EPA Technical Guidance Document: Quality Assurance and Quality Control for Waste Containment Facilities. September 1993.

60. U.S. Forest Service. Planning and Layout of Small-Stream Diversions. March 2013.

61. EPA Region 10 Data Management Plan for Environmental Monitoring and Associated Geospatial Data, Office of Environmental Assessment. June 2014.