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EPA REGION VIII
HEARING CLERK

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 8

IN THE MATTER OF:

Silver Bow Creek/Butte Area Superfund
Site, Butte, Silver Bow County, Montana
West Side Soils
Operable Unit 13

Atlantic Richfield Company and
ARCO Environmental Remediation, L.L.C.

Respondents

Proceeding under Section 106(a)
of the Comprehensive Environmental
Response, Compensation, and Liability
Act, 42 U.S.C. § 9606(a).

CERCLA Docket No. CERCLA-08-2019-0004

**UNILATERAL ADMINISTRATIVE
ORDER FOR REMEDIAL
INVESTIGATION DATA
COLLECTION**

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order (Order) is issued under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9606(a) to the Atlantic Richfield Company and ARCO Environmental Remediation, L.L.C (together "Respondents"). This authority was delegated to the Administrator of the United States Environmental Protection Agency (EPA) by Executive Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987), and further delegated to the Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-B. These authorities were further redelegated to the undersigned officials.

2. This Order pertains to Operable Unit 13 (OU13), also known as the West Side Soils Operable Unit, of the Silver Bow Creek/Butte Area Superfund Site (Site) in Butte, Silver Bow County, Montana. This Order requires Respondents to perform sampling of, and data collection on, certain property owned and/or operated by the Respondents in support of an OU13 remedial investigation (RI) being prepared by EPA. The RI will determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances at or from OU13. The data collected by Respondents will be used by EPA and incorporated into EPA's ongoing RI at OU13.

3. EPA has notified the State of Montana (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

4. This Order applies to and is binding upon Respondents and their successors and assigns. Any change in ownership or control of the Site or change in the corporate or partnership status of a Respondent, including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondents' responsibilities under this Order.

5. Atlantic Richfield Company (AR) and ARCO Environmental Remediation LLC (ARCO) are jointly and severally liable for implementing all activities required by this Order. Compliance or noncompliance by any Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent. No Respondent shall interfere in any way with performance of the Work in accordance with this Order by any other Respondent. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Order, the remaining Respondents shall complete all such requirements. Respondents shall provide a copy of this Order to each contractor hired to perform the Work required by this Order and to each person representing any Respondent with respect to the Site or the Work and shall condition all contracts entered into under this Order upon performance of the Work in conformity with the terms of this Order. Respondents or their contractors shall provide written notice of the Order to all subcontractors hired to perform any portion of the Work required by this Order. Respondents shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work in accordance with the terms of this Order.

III. DEFINITIONS

6. Unless otherwise expressly provided in this Order, terms used in this Order that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in appendices to or documents incorporated by reference into this Order, the following definitions shall apply:

“Butte Priority Soils Operable Unit” or “BPSOU” includes the BPSOU surface area as defined in the 2006 Record of Decision; the portions of Silver Bow Creek and Blacktail Creek that run through the area shown in Appendix B; and the Granite Mountain Memorial Interpretive Areas shown in Appendix B; and the alluvial groundwater that contains Hazardous Substances originating from the various facilities and sources within the BPSOU. The BPSOU does not include (1) the Butte Mine Flooding Site, as defined in the Butte Mine Flooding Site consent decree, CV 02-35-BU-RFC, entered in August of 2002; (2) the Butte Active Area Site, as defined in the Response Decision Document attached to the Butte Mine Flooding Site consent decree as appendix B to that document; (3) the West Side Soils operable unit, the boundaries of which have not been defined; or (4) the Montana Pole and Treating Plant Site, as defined in the Montana Pole and Treating Plant Site consent decree, CV 90-75-BU-SEH, entered in July 1996.

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Day” or “day” shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

“Effective Date” shall mean the effective date of this Order as provided in Section VIII.

“EPA” shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

“EPA Hazardous Substance Superfund” shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

“Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year. Rates are available online at <https://www.epa.gov/superfund/superfund-interest-rates>.

“MDEQ” shall mean the Montana Department of Environmental Quality and any successor departments, agencies, or instrumentalities.

“National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

“Order” shall mean this Unilateral Administrative Order, all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.

“OU13” shall mean the Westside Soils Operable Unit of the Silver Bow Creek/Butte Area Superfund Site. OU13 lies generally to the north and west of the BPSOU and includes other historic mining and metals-impacted areas within the Silver Bow Creek/Butte Area Site not addressed under the BPSOU, the Butte Mine Flooding OU, or the Active Mining OU. OU13 abuts the BPSOU and Active Mining OU to the east and the Streamside Tailings OU and Rocker Timber Framing and Treating Plant OU to the south. In early documents associated with the Site, OU13 was referred to as the Non-Priority Soils OU. The map included as Appendix B to this Order shows the Operable Units of the Site. The exact boundary of the WSSOU is currently undetermined.

“Paragraph” shall mean a portion of this Order identified by an Arabic numeral or an upper or lower case letter.

“Parties” shall mean EPA and Respondents.

“Property” shall mean the property owned and/or operated by the Respondents as identified in Table 1 and Figure 1 of Appendix A of this Order.

“RCRA” shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

“Respondents” shall mean Atlantic Richfield Company and ARCO Environmental Remediation, L.L.C.

“Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in monitoring and supervising Respondents’ performance of the Work to determine whether such performance is consistent with the requirements of this Order, including costs incurred in reviewing any deliverable submitted pursuant to this Order, as well as costs incurred in overseeing implementation of this Order, including, but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs.

“Section” shall mean a portion of this Order identified by a Roman numeral.

“Site” shall mean the Silver Bow Creek/Butte Area Superfund Site, located in Butte, Silver Bow County, Montana which in addition to the West Side Soils OU includes 6 other operable units including the Butte Priority Soils OU, the Mine Flooding OU, Active Mining OU, Warm Spring Ponds OU, Streamside Tailings OU, Rocker Timber and Framing and Treatment Plant Operable Unit.

“State” shall mean the State of Montana.

“Statement of Work” or “SOW” shall mean the document describing the activities Respondents must perform to collect data for the RI, for the portions of OU13 that are owned by the Respondents as set forth in Appendix A to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order as are any modifications made thereto in accordance with this Order.

“Transfer” shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

“Waste Material” shall mean: (a) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (c) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

“Work” shall mean all activities and obligations Respondents are required to perform under this Order, except those required by Section XVI (Record Retention).

“West Side Soils Operable Unit” or “WSSOU” shall mean Operable Unit 13 as defined by this Order.

IV. FINDINGS OF FACT

7. The Site, including OU13, was listed on the National Priorities List by EPA pursuant to CERCLA § 105, 42 U.S.C. § 9605 on September 8, 1983, 48 Fed. Reg. 40658 – 40673. The Site listing was amended to include areas in and around Butte on July 22, 1987, 52 Fed. Reg. 27627. The Site encompasses approximately 85 square miles, including the entire length of Silver Bow Creek and associated land contamination from Butte westward, approximately 25 miles to the Warm Springs Ponds near Anaconda, which are also included within the Site. The Site lies immediately west of the Continental Divide in southwestern Montana, at the easternmost extent of the upper Clark Form River drainage.

8. EPA has organized the Site into 7 remedial OUs.¹ OU13 lies generally to the north and west of the Butte Priority Soils Operable Unit (BPSOU) and includes other historic mining and metals-impacted areas within the Site not addressed under the BPSOU, the Butte Mine Flooding Operable Unit (BMFOU), or the active mining area. OU13 abuts the BPSOU and active mining area/BMFOU to the east, and the Streamside Tailings OU and Rocker Timber

¹ An eighth remedial operable unit once designated at the Site, known as the Active Area operable unit, is the subject of a decision by the EPA to defer cleanup activities at that site to MDEQ’s Hard Rock Mining Permit issued to the current owner and operator of the mining operations occurring there.

Framing and Treating Plant OU to the south. The map attached as Appendix B to this Order, shows the operable units at the Site.

9. The area west and northwest of the City of Butte and Montana Tech within the larger Summit Valley Mining District (which encompasses all the City of Butte and surrounding area) was previously known as the Independence Mining District. In the 1880s, at least 18 actively producing silver mines were operating in the district. Placer claims were also established along various area drainages which were likely used for silver and gold production. The town of Burlington appeared in the 1880s in support of the extensive active mining, along with other smaller communities of Busterville and Champion in the area, all of which have since been abandoned. Fluctuating silver prices resulted in boom and bust conditions through the 1920s and minor mining activity occurred in this area thereafter.

10. Generally, EPA's current OU13 mine study area was established to encompass the Independence Mining District in an area of primarily range land, with some rural residences. Several hundred mine claims are present with smaller disturbances associated with exploration, as well as several larger abandoned mines with substantial surface mine dumps and underground workings.

11. EPA is conducting a remedial investigation in OU13 to determine the nature and extent of contamination and potential remedial actions. To date, there have been sampling efforts in the area at other parts of the Site. These studies indicate the potential threat of release of various hazardous substances in OU13, including arsenic, copper, lead, mercury and zinc. Sampling of soil and surface water in the OU13 mine study area to inform the RI commenced in April of 2019 and will continue into 2020.

12. One known adit discharge within OU13 is located at the Green Seep, which is connected to the Orphan Boy mine. This discharge enters a pond and wetland complex within Whiskey Gulch, which ultimately flows to Silver Bow Creek. The water quality of the Green Seep is monitored by the Montana Bureau of Mines and Geology. In addition, due to higher than usual groundwater levels within the Orphan Boy mine, which is used as a demonstration project for the mining engineering program at Montana Tech, water is currently being pumped from the mine and discharged west of the university.

13. Elevated levels of metals found at the Site can be toxic to benthic invertebrates and fish. In addition, exposure to elevated levels of metals, such as lead and arsenic in soil and drinking water, can have adverse effects on human health.

14. As a result of a merger with the Anaconda Company (also known as the Anaconda Copper Mining Company) in 1977, Respondent AR is also the successor-in-interest to, and assumed the liabilities incurred by the Anaconda Company and/or its subsidiaries and related corporations or businesses, which were owners and operators of "facilities" within and adjacent to the Butte Site and the Anaconda Smelter facility. As a result of one or more mergers, restructurings, transfers of assets, continuations of business activities, or other corporate action, Respondent AR is also the successor-in-interest to, and has assumed the liabilities incurred by predecessors to the Anaconda Company, the Anaconda Copper Mining Company and/or either

companies' subsidiaries and related corporations or businesses which were also owners and operators of "facilities" within and adjacent to the Site.

15. Respondent ARCO is the current owner of property and mine claims within OU13.

16. Respondent AR and Respondent ARCO are corporations doing business in the State of Montana, organized under the laws of the State of Delaware.

17. No prior enforcement actions requiring Site sampling have been taken by EPA for OU13.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

18. Based on the Findings of Fact set forth above and the administrative record, EPA has determined that:

a. OU13 of the Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

c. Each Respondent is a liable party under one or more provisions of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

(1) ARCO is an "owner" and/or "operator" of the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

(2) AR is the successor-in-interest to the Anaconda Company which was the "owner" and/or "operator" of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

d. The contamination, including arsenic, copper, lead, mercury and zinc, found at the Site, as identified in the Findings of Fact above, includes "hazardous substance[s]" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

e. The conditions described in Paragraphs 9-12 of the Findings of Fact above constitute an actual and/or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The conditions at OU13 may constitute a threat to public health or welfare or the environment, based on the factors set forth in Section 300.415(b)(2) of the NCP. These factors include, but are not limited to, the following:

- (1) potential exposure to nearby human populations, animals, or the food chain from hazardous substances; this potential is present at OU13 due to the existence of arsenic and heavy metals from numerous mine dumps as well as larger mine complexes; and
- (2) the unavailability of other appropriate federal or state response mechanisms to respond to the release; this factor supports the actions required by this Order at the Site because EPA is the lead agency at the Site. There are no other appropriate federal or state entities that have the funding resources to perform sampling of the property that respondents own within OU13.

g. The conditions at OU13 may constitute an imminent and substantial endangerment to public health or welfare or the environment.

h. The actions required by this Order are necessary to protect the public health, welfare, or the environment.

VI. ORDER

19. Based upon the Findings of Fact, Conclusions of Law and Determinations set forth above, and the administrative record, Respondents are hereby ordered to comply with all provisions of this Order and any modifications to this Order, including all appendices to this Order and all documents incorporated by reference into this Order.

VII. OPPORTUNITY TO CONFER

20. No later than 10 days after this Order is signed by the Regional Administrator or his delegatee, Respondents may, in writing, a) request a conference with EPA to discuss this Order, including its applicability, the factual findings and the determinations upon which it is based, the appropriateness of any actions Respondents are ordered to take, or any other relevant and material issues or contentions that Respondents may have regarding this Order, or b) notify EPA that they intend to submit written comments or a statement of position in lieu of requesting a conference.

21. If a conference is requested, Respondents may appear in person or by an attorney or other representative. Any such conference shall be held no later than 5 days after the conference is requested. Any written comments or statements of position on any matter pertinent to this Order must be submitted no later than 5 days after the conference or 15 days after this Order is signed if Respondents do not request a conference. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondents a right to seek review of this Order. Any request for a conference or written comments or statements should be submitted to:

William Lindsey, Office of Regional Counsel, CERCLA Enforcement Section.
United States Environmental Protection Agency
1595 Wynkoop Street
Denver, CO 80202-1129 Mailcode 8ORC-C
Lindsey.William@epa.gov
303-312-6282

VIII. EFFECTIVE DATE

22. This Order shall be effective 5 days after the Order is signed by the Regional Administrator or his delegatee unless a conference is requested or notice is given that written materials will be submitted in lieu of a conference in accordance with Section VII (Opportunity to Confer). If a conference is requested or such notice is submitted, this Order shall be effective on the 10th day after the conference, or if no conference is requested, the 10th day after written materials, if any, are submitted, unless EPA determines that the Order should be modified based on the conference or written materials. In such event, EPA shall notify Respondents, within the applicable 10-day period, that EPA intends to modify the Order. The modified Order shall be effective 5 days after it is signed by the Regional Administrator or his delegatee.

IX. NOTICE OF INTENT TO COMPLY

23. On or before the Effective Date, each Respondent shall notify EPA in writing of Respondent's irrevocable intent to comply with this Order. Such written notice shall be sent to EPA as provided in Paragraph 21. Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date, any "sufficient cause" defense(s) asserted by such Respondent under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice required by this Paragraph shall not be deemed to be acceptance of any Respondent's assertions. Failure of Respondent to provide such written notice within this time period shall, as of the Effective Date, be treated as a violation of this Order by such Respondent.

X. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS

24. **Selection of Contractors, Personnel.** All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within 30 days after the Effective Date, and before the Work outlined below begins, Respondents shall notify EPA in writing of the names, titles, addresses, telephone numbers, email addresses, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such Work. If, after the commencement of Work, Respondents retain additional contractors or subcontractors, Respondents shall notify EPA of the names, titles, contact information, and qualifications of such contractors or subcontractors retained to perform the Work at least 30 days prior to commencement of Work by such additional contractors or subcontractors. EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Respondents. If EPA disapproves of a selected contractor or subcontractor, Respondents shall retain a different contractor or subcontractor and shall notify EPA of that contractor's or subcontractor's name, title, contact information, and qualifications within 30 days after EPA's disapproval. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor demonstrates compliance with ASQ/ANSI E4:2014 "Quality management

systems for environmental information and technology programs – Requirements with guidance for use” (American Society for Quality, February 2014), by submitting a copy of the proposed contractor’s Quality Management Plan (QMP). The QMP should be prepared in accordance with “EPA Requirements for Quality Management Plans (QA/R-2),” EPA/240/B-01/002 (Reissued May 2006) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondent shall be subject to EPA’s review for verification based on objective assessment criteria (e.g., experience, capacity, technical expertise) and that they do not have a conflict of interest with respect to the project.

25. Within 15 days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of the Work required by this Order and shall submit to EPA the designated Project Coordinator’s name, title, address, telephone number, email address, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on-Site or readily available during the Work. EPA retains the right to disapprove of a designated Project Coordinator who does not meet the requirements of Paragraph 24 (Selection of Contractors, Personnel). If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person’s name, title, contact information, and qualifications within 10 days following EPA’s disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA’s right to disapprove. Respondents shall notify EPA 10 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Communications between Respondents and EPA, and all documents concerning the activities performed pursuant to this Order, shall be directed to the Project Coordinator. Receipt by Respondents’ Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by all Respondents.

26. EPA has designated Nikia Greene of the Superfund Remedial Program, Region 8 as its Remedial Project Manager (RPM) EPA will notify Respondents of a change of its designated RPM. Communications between Respondents and EPA, and all documents concerning the activities performed pursuant to this Order, shall be directed to the EPA RPM in accordance with Paragraph 35.a.

27. EPA’s RPM shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the NCP. In addition, EPA’s RPM shall have the authority, consistent with the NCP, to halt, conduct, or direct any Work required by this Order, or to direct any other response action when he determines that conditions at the Site constitute an emergency situation or may present a threat to public health or welfare or the environment. Absence of the EPA RPM from the area under study pursuant to this Order shall not be cause for stoppage or delay of Work.

XI. WORK TO BE PERFORMED

28. For any regulation or guidance referenced in the Order, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondents receive notification from EPA of the modification, amendment, or replacement.

29. Respondents shall conduct sampling of, and data collection on, the Property identified in Table 1 and Figure 1 of Appendix A, in support of an RI to be prepared by EPA, and prepare all plans in accordance with the provisions of this Order, the attached SOW, CERCLA, the NCP, and EPA guidance, including, but not limited to, the “Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA” (“RI/FS Guidance”), OSWER Directive # 9355.3-01 (October 1988), available at <https://semspub.epa.gov/src/document/11/128301>, “Guidance for Data Useability in Risk Assessment (Part A), Final,” OSWER Directive #9285.7-09A, PB 92-963356 (April 1992), available at <http://semspub.epa.gov/src/document/11/156756>, and guidance referenced therein, and guidance referenced in the SOW. The data collection exercise shall consist of collecting data to characterize the property conditions and reporting the data results to EPA. All data collected by the Respondents shall follow the existing EPA QAPP and any revisions to the EPA QAPP

30. All written documents prepared by Respondents pursuant to this Order shall be submitted by Respondents in accordance with Section XII (Submission and Approval of Deliverables). With the exception of progress reports and the Health and Safety Plan, all such submittals will be reviewed and approved by EPA in accordance with Section XII (Submission and Approval of Deliverables). Respondents shall implement all EPA approved, conditionally approved, or modified deliverables.

31. **Modification of the RI Sampling Work Plan**

a. If at any time during the sampling process, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to EPA’s RPM within 10 days after identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into deliverables.

b. In the event of unanticipated or changed circumstances at the Property Respondents shall notify EPA’s RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the unanticipated or changed circumstances warrant changes in the RI Sampling Work Plan, EPA shall modify the RI Work Plan in writing accordingly or direct Respondents to modify and submit the modified RI Sampling Work Plan to EPA for approval. Respondents shall perform the RI Sampling Work Plan as modified.

c. EPA may determine that, in addition to tasks defined in the initially approved RI Sampling Work Plan, other additional sampling work on the Property may be necessary to accomplish the objectives of the data collection for the RI. Respondent shall perform the additional sampling Work in addition to the Work required by the initially approved RI Sampling Work Plan, including any approved modifications, if EPA determines that such actions are necessary for a thorough RI.

d. Respondents shall complete the additional work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI Sampling Work Plan or written RI Sampling Work Plan supplement. EPA reserves the

right to conduct the work itself, to seek reimbursement from Respondents for the costs incurred in performing the work, and/or to seek any other appropriate relief.

e. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

32. **Off-Site Shipments**

a. Respondents may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).

b. Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide written notice to the appropriate state environmental official in the receiving facility's state and to EPA's RPM. This notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondents shall also notify the state environmental official referenced above and EPA's RPM of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the written notice after the award of the contract for the RI and before the Waste Material is shipped.

c. Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the SOW. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

33. **Meetings.** Respondents shall make presentations at, and participate in, meetings at the request of EPA during the preparation of the RI. In addition to discussion of the technical aspects of the RI, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

34. **Progress Reports.** In addition to the deliverables set forth in this Order, Respondents shall submit written monthly progress reports to EPA by the 10th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall:

a. describe the actions that have been taken to comply with this Order;

- Respondents;
- b. include all results of sampling and tests and all other data received by
 - c. describe Work planned for the next two months
 - d. describe all problems encountered in complying with the requirements of this Order and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XII. SUBMISSION AND APPROVAL OF DELIVERABLES

35. Submission of Deliverables

a. General Requirements for Deliverables

- (1) Except as otherwise provided in this Order, Respondents shall direct all submissions required by this Order to EPA's RPM, Nikia Greene, at the following address: U.S. EPA Region 8, Montana Office, Federal Building, 10 West 15th Street, Suite 3200, Helena, MT 59626, and to the MDEQ Project Manager, Daryl Reed at: PO Box 200901, Helena Mt 59620. Respondents shall submit all deliverables required by this Order, the attached SOW, or any approved work plan in accordance with the schedule set forth in such plan.
- (2) Respondents shall submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Paragraph 35.b. All other deliverables shall be submitted in the electronic form specified by EPA'S RPM. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches. Respondents shall also provide paper copies of such exhibits.

b. Technical Specifications for Deliverables

- (1) Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable (EDD) format as specified in the U.S. EPA Region 8, Superfund Remedial Data Management Plan, as amended. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.
- (2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (i) as specified in the U.S. EPA Region 8, Superfund Remedial Data Management Plan, as amended, and (ii) 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/>.

- (3) Each file must include an attribute name for each site unit or sub-unit submitted. Consult <https://www.epa.gov/geospatial/geospatial-policies-and-standards> for any further available guidance on attribute identification and naming.
- (4) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

36. Approval of Deliverables

a. Initial Submissions

- (1) After review of any deliverable that is required to be submitted for EPA approval under this Order or the attached SOW, EPA shall:
 - (i) approve, in whole or in part, the submission;
 - (ii) approve the submission upon specified conditions;
 - (iii) disapprove, in whole or in part, the submission;
 - (iv) any combination of the foregoing.
- (2) EPA also may modify the initial submission to cure deficiencies in the submission if:
 - (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work;
 - (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

b. **Resubmissions.** Upon receipt of a notice of disapproval under Paragraph 36.a(1) (Initial Submissions), or if required by a notice of approval upon specified conditions under Paragraph 36.a(1), Respondents shall, within 5 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. After review of the resubmitted deliverable, EPA may:

- (a) approve, in whole or in part, the resubmission;
- (b) approve the resubmission upon specified conditions;
- (c) modify the resubmission;
- (d) disapprove, in whole or in part, the resubmission, requiring Respondents to correct the deficiencies;
- (e) any combination of the foregoing.

c. **Implementation.** Upon approval, approval upon conditions, or modification by EPA under Paragraph 36.a (Initial Submissions) or Paragraph 36.b

(Resubmissions), of any deliverable, or any portion thereof: (i) such deliverable, or portion thereof, will be incorporated into and enforceable under the Order; and (ii) Respondents shall take any action required by such deliverable, or portion thereof. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for penalties under Section XX (Enforcement/Work Takeover) for violations of this Order.

37. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA.

38. Respondents shall not proceed with any activities or tasks dependent on the following deliverables until receiving EPA approval, approval on condition, or modification of such deliverables: RI Sampling Work Plan. While awaiting EPA approval, approval on condition, or modification of these deliverables, Respondents shall proceed with all other tasks and activities that may be conducted independently of these deliverables, in accordance with the schedule set forth under this Order.

39. For all remaining deliverables not listed in Paragraph 38, Respondents shall proceed with all subsequent tasks, activities, and deliverables without awaiting EPA approval of the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity, or deliverable at any point during the Work.

40. **Material Defects.** If an initially submitted or resubmitted plan, report, or other deliverable contains a material defect, and the plan, report, or other deliverable is disapproved or modified by EPA under Paragraph 36.a (Initial Submissions) or 36.b (Resubmissions) due to such material defect, Respondents shall be deemed in violation of this Order for failure to submit such plan, report, or other deliverable timely and adequately. Respondents may be subject to penalties for such violation as provided in Section XX (Enforcement/Work Takeover).

41. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA.

XIII. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

42. Respondents shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)," EPA/240/B-01/003, March 2001 (reissued May 2006), "Guidance for Quality Assurance Project Plans (QA/G-5)," EPA/240/R-02/009 (December 2002), and "Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3," EPA/505/B-04/900A-900C (March 2005).

43. Laboratories

a. Respondents shall ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondents pursuant to this Order. In addition, Respondents shall ensure that such laboratories

shall analyze all samples submitted by EPA pursuant to the Quality Assurance Project Plan (QAPP) for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance with the Agency's "EPA QA Field Activities Procedure" CIO 2105-P-02.1 (9/23/2014), available at <https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures>. Respondents shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Order meet the competency requirements set forth in EPA's "Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions," available at <https://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements>, and that the laboratories perform all analyses using EPA-accepted methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA's Contract Laboratory Program (<https://www.epa.gov/superfund/programs/clp/>), SW 846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (<https://www.epa.gov/hw-sw846>), "Standard Methods for the Examination of Water and Wastewater" (<http://www.standardmethods.org/>), and 40 C.F.R. Part 136, "Air Toxics - Monitoring Methods" (<https://www.epa.gov/ttnamti1/airtox.html>).

b. Upon approval by EPA, after a reasonable opportunity for review and comment by the State, Respondents may use other appropriate analytical methods, as long as (i) quality assurance/quality control (QA/QC) criteria are contained in the methods and the methods are included in the QAPP, (ii) the analytical methods are at least as stringent as the methods listed above, and (iii) the methods have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, e.g., EPA, ASTM, NIOSH, OSHA, etc.

c. Respondents shall ensure that all laboratories they use for analysis of samples taken pursuant to this Order have a documented Quality System that complies with ASQ/ANSI E4:2014 "Quality Management Systems for Environmental Information and Technology Programs – Requirements With Guidance for Use" (American Society for Quality, February 2014), and "EPA Requirements for Quality Management Plans (QA/R-2)" EPA/240/B-01/002 (March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs as meeting the Quality System requirements.

d. Respondents shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order are conducted in accordance with the procedures set forth in the approved QAPP.

44. **Sampling**

a. Upon request, Respondents shall provide split or duplicate samples to EPA and the State or their authorized representatives. Respondents shall notify EPA and the State not less than 7 days in advance of any sample collection activity. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deems necessary.

Upon request, EPA and the State shall provide to Respondents split or duplicate samples of any samples they take as part of EPA's oversight of Respondents' implementation of the Work, and any such samples shall be analyzed in accordance with the approved QAPP.

b. Respondents shall submit to EPA and the State, in the next monthly progress report as described in Paragraph 34 (Progress Reports) the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondents with respect to the Site and/or the implementation of this Order.

XIV. PROPERTY REQUIREMENTS

45. **Agreements Regarding Access and Non-Interference.** Respondents shall, with respect to the Property: (i) provide EPA and the State, and their representatives, contractors, and subcontractors with access at all reasonable times to such Property to conduct any activity regarding the Order, including those listed in Paragraph 45.a (Access Requirements); and (ii) refrain from using such Property in any manner that EPA determines will pose an unacceptable risk to human health or to the environment due to exposure to Waste Material, or interfere with or adversely affect the implementation or integrity of the Work. Respondents shall use best efforts to secure access to any other property necessary to carry out the work through an agreement enforceable by Respondents and EPA. Respondents shall provide a copy of such access agreement(s) to EPA and the State.

a. **Access Requirements.** The following is a list of activities for which access is required regarding the Respondent's Property:

- (1) Monitoring the Work;
- (2) Verifying any data or information submitted to EPA or the State;
- (3) Conducting investigations regarding contamination at or near the Site;
- (4) Obtaining samples;
- (5) Assessing the need for, planning, implementing, or monitoring response actions;
- (6) Assessing implementation of quality assurance and quality control practices as defined in the approved QAPP;
- (7) Implementing the Work pursuant to the conditions set forth in Paragraph 64 (Work Takeover);
- (8) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondent or its agents, consistent with Section XV (Access to Information);
- (9) Assessing Respondent's compliance with the Order;

- (10) Determining whether the Respondent's Property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Order; and
- (11) Implementing, monitoring, maintaining, reporting on, and enforcing any land, water, or other resource use restrictions regarding the Respondent's Property.

46. **Best Efforts.** As used in this Section, "best efforts" means the efforts that a reasonable person in the position of Respondents would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements, as required by this Section. If Respondents are unable to accomplish what is required through "best efforts," they shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondents, or take independent action, in obtaining such access and/or use restrictions. EPA reserves the right to seek payment from Respondents for all costs, including cost of attorneys' time, incurred by the United States in obtaining such access or agreements to restrict land, water, or other resource use. In the event of any Transfer of the Property, unless EPA otherwise consents in writing, Respondents shall continue to comply with their obligations under the Order, including their obligation to secure access and ensure compliance with any land, water or other resource use restrictions regarding the Property.

47. Notwithstanding any provision of this Order, EPA and the State retain all of their access authorities and rights, as well as all of their rights to require land, water, or other resource use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statute or regulations.

XV. ACCESS TO INFORMATION

48. Respondents shall provide to EPA and the State, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as "Records") within Respondents' possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondents shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

49. Privileged and Protected Claims

a. Respondents may assert that all or part of a Record requested by EPA or the State is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondents comply with Paragraph 49.b, and except as provided in Paragraph 49.b.

b. If Respondents asserts a claim of privilege or protection, they shall provide EPA and the State with the following information regarding such Record: its title; its

date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondents shall provide the Record to EPA and the State in redacted form to mask the privileged or protected portion only. Respondents shall retain all Records that they claim to be privileged or protected until EPA and the State or a court determines that such Record is privileged or protected.

c. Respondents may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondents are required to create or generate pursuant to this Order.

50. **Business Confidential Claims.** Respondents may assert that all or part of a Record provided to EPA and the State under this Section or Section XVI (Record Retention) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondents shall segregate and clearly identify all Records or parts thereof submitted under this Order for which Respondents assert business confidentiality claims. Records claimed as confidential business information will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA and the State, or if EPA has notified Respondents that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Respondents.

51. Notwithstanding any provision of this Order, EPA and the State retain all of their information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XVI. RECORD RETENTION

52. During the pendency of this Order and for a minimum of 10 years after Respondents' receipt of EPA's notification pursuant to Section XXVI (Notice of Completion of Work), Respondents shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control, or that come into its possession or control, that relate in any manner to its liability under CERCLA with respect to the Site, provided, however, a Respondent who is potentially liable as an owner or operator of the Site must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. Respondents must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above, all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that Respondents (and its contractors and agents) must retain, in addition, copies of all data generated during performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

53. At the conclusion of this document retention period, Respondents shall notify EPA and the State at least 90 days prior to the destruction of any such Records, and, upon request by EPA or the State, and except as provided in Paragraph 49 (Privileged and Protected Claims), Respondents shall deliver any such Records to EPA or the State.

54. Within 30 days after the Effective Date, Respondents shall submit a written certification to EPA's RPM that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since notification by the United States or the State, and that it has fully complied with any and all EPA and State requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law. Any Respondent unable to so certify shall submit a modified certification that explains in detail why it is unable to certify in full with regard to all Records.

XVII. COMPLIANCE WITH OTHER LAWS

55. Nothing in this Order limits Respondents' obligations to comply with the requirements of all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws.

56. No local, state, or federal permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work that is not on-site requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XVIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

57. **Emergency Response.** If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondents shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan. Respondents shall also immediately notify EPA's RPM or, in the event of his unavailability, the Regional Duty Officer at 303-312-6510 of the incident or Site conditions. In the event that a Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, EPA reserves the right to pursue cost recovery.

58. **Release Reporting.** Upon the occurrence of any event during performance of the Work that Respondents are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-To-Know Act (EPCRA), 42 U.S.C. § 11004, Respondents shall immediately orally notify EPA's RPM, or, in the event of his unavailability, the Regional Duty Officer at 303-312-6510 and the National Response Center at (800) 424-8802. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103 of CERCLA, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004.

59. For any event covered under this Section, Respondents shall submit a written report to EPA within 7 days after the onset of such event, setting forth the action or event that occurred and the measures taken, and to be taken, to mitigate any release or threat of release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release or threat of release.

XIX. PAYMENT OF RESPONSE COSTS

60. Upon EPA's written demand, Respondents shall pay EPA all Response Costs incurred, or to be incurred, in connection with this Order. On a periodic basis, EPA will send Respondents a bill requiring payment of all Response Costs incurred by the United States with respect to this Order that includes a SORPIOS Report which includes direct and indirect costs incurred by EPA, its contractors, and the Department of Justice.

61. Respondents shall make all payments within 30 days after receipt of each written demand requiring payment. Payment shall be made to EPA by Fedwire Electronic Funds Transfer (EFT) to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number 0822 and the EPA docket number for this action.

For ACH payment:

Respondents shall make payment to EPA by Automated Clearinghouse (ACH) to:

500 Rivertech Court
Riverdale, Maryland 20737
Contact – John Schmid 202-874-7026 or REX, 1-866-234-5681
ABA = 051036706
Transaction Code 22 - checking
Environmental Protection Agency

Account 310006
CTX Format

and shall reference Site/Spill ID Number 0822 and the EPA docket number for this action.

For online payment:

Respondents shall make payment at <https://www.pay.gov> to the U.S. EPA account in accordance with instructions to be provided to Respondents by EPA.

62. At the time of payment, Respondents shall send notice that payment has been made to EPA's RPM, to Shawn McCaffrey, Enforcement Specialist, U.S. EPA Region 8, Mailcode 8SEM-PA-C, 1595 Wynkoop, Denver CO 80202-1129, and to the EPA Cincinnati Finance Office by email at cinwd_acctsreceivable@epa.gov, or by mail to

EPA Cincinnati Finance Office
26 W. Martin Luther King Drive
Cincinnati, Ohio 45268

Such notice shall reference Site/Spill ID Number 0822 and the EPA docket number for this action.

63. In the event that the payments for Response Costs are not made within 30 days after Respondents' receipt of a written demand requiring payment, Respondents shall pay Interest on the unpaid balance. The Interest on Response Costs shall begin to accrue on the date of the written demand and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section. Respondents shall make all payments required by this Paragraph in the manner described in Paragraphs 61 and 62.

XX. ENFORCEMENT/WORK TAKEOVER

64. Any willful violation, or failure or refusal to comply with any provision of this Order may subject Respondents to civil penalties of up to \$57,317 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), and the Civil Monetary Penalty Inflation Adjustment Rule, 84 Fed. Reg. 2056; technical correction, 84 Fed. Reg. 5955, 40 C.F.R. Part 19.4. In the event of such willful violation, or failure or refusal to comply, EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. Respondents may also be subject to punitive damages in an amount up to three times the amount of any costs incurred by the United States as a result of such failure to comply, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

XXI. RESERVATIONS OF RIGHTS BY EPA

65. Nothing in this Order shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Order shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law. EPA reserves the right to bring an action against Respondents under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order or the Site and not paid by Respondents.

XXII. OTHER CLAIMS

66. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or EPA shall not be deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

67. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

68. Nothing in this Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), or 40 C.F.R. § 300.700(d).

69. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. INSURANCE

70. No later than 10 days before commencing any on-site Work, Respondents shall secure, and shall maintain for the duration of this Order, commercial general liability insurance with limits of liability of \$1 million per occurrence, automobile liability insurance with limits of liability of \$1 million per accident, and umbrella liability insurance with limits of liability of \$5 million in excess of the required commercial general liability and automobile liability limits, naming EPA and the State as additional insured parties with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Order. Within the same time period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for

all persons performing Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Respondents need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor. Respondents shall ensure that all submittals to EPA under this Paragraph identify the Site name, City, State and the EPA docket number for this action.

XXIV. MODIFICATION

71. The EPA RPM may modify any plan or schedule or the SOW in writing or by oral direction. Any oral modification will be memorialized in writing by EPA within 10 days, but shall have as its effective date the date of EPA's Project Coordinator's oral direction. Any other requirements of this Order may be modified in writing by signature of the designees of Region 8.

72. If Respondents seek permission to deviate from any approved Work Plan or schedule or the SOW, Respondents' Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondents may not proceed with the requested deviation until receiving approval from the EPA Project Coordinator pursuant to Paragraph 71.

73. No informal advice, guidance, suggestion, or comment by EPA's Project Coordinator or other EPA representatives regarding any deliverables submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXV. DELAY IN PERFORMANCE

74. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to the EPA Project Coordinator within 48 hours after Respondents first knew or should have known that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within 7 days after notifying EPA by telephone and email, Respondents shall provide to EPA written notification fully describing the nature of the delay, the anticipated duration of the delay, any justification for the delay, all actions taken or to be taken to prevent or minimize the delay or the effect of the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and any reason why Respondents should not be held strictly accountable for failing to comply with any relevant requirements of this Order. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

75. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of Paragraph 74 shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to fully perform all obligations under the terms and conditions of this Order.

XXVI. NOTICE OF COMPLETION OF WORK

76. When EPA determines that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including Payment of Response Costs, and Record Retention, EPA will provide written notice to Respondents. If EPA determines that any Work has not been completed in accordance with this Order, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the RI Work Plan, if appropriate, in order to correct such deficiencies within 10 days after receipt of the EPA notice. The modified RI Work Plan shall include a schedule for correcting such deficiencies. Within 30 days after receipt of written approval of the modified RI Work Plan, Respondents shall implement the modified and approved RI Work Plan. Failure by Respondents to implement the approved modified RI Work Plan shall be a violation of this Order.

XXVII. ADMINISTRATIVE RECORD

77. EPA has established an administrative record that contains the documents that form the basis for the issuance of this Order. The administrative record may be reviewed upon request. In addition, EPA has created a local repository at the Montana Tech Library in Butte, Montana where the administrative record may be reviewed.

78. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents shall submit to EPA documents developed during the course of the RI upon which selection of the remedial action may be based. Upon request of EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports. Upon request of EPA, Respondents shall additionally submit any previous studies conducted under state, local, or other federal authorities that may relate to selection of the remedial action, and all communications between Respondents and state, local, or other federal authorities concerning selection of the remedial action.

XXVIII. SEVERABILITY

79. If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

It is so ORDERED.

BY: 

Kenneth C. Schefski

Regional Counsel

Office of Regional Counsel

Region 8

U.S. Environmental Protection Agency

DATE: 8/20/19

BY: 

Betsy Smidinger

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Region 8

U.S. Environmental Protection Agency

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Appendix A

Statement of Work for Remedial Investigation Data Collection

West Side Soils Operable Unit

1. INTRODUCTION

This Statement of Work (SOW) provides for Remedial Investigation (RI) sampling and data collection in the West Side Soils Operable Unit (WSSOU) of the Silver Bow Creek/Butte Area Superfund Site (Site) by Atlantic Richfield Company and ARCO Environmental Remediation, LLC on certain property currently owned by ARCO Environmental Remediation, LLC (Property) as identified in Table 1 and Figure 1 of this SOW. The objective is to provide sufficient data to the United States Environmental Protection Agency (EPA) to allow completion of a RI report to determine the nature and extent of contamination in soils, sediment, groundwater, and surface water in the WSSOU. In addition, sufficient information from the Property is also required to allow the EPA to complete a Feasibility Study (FS) for the WSSOU.

The EPA has established the initial study area boundaries for the WSSOU for the purpose of planning and developing the preliminary scope of the RI/FS. Soil and solid media sampling and investigation on the Property under the Unilateral Administrative Order (UAO) and SOW will focus on soils and solid media at mine disturbance areas on the Property as shown in Figure 1.

This SOW, and associated figures, table, and attachment, is "Appendix A" and incorporated as part of the UAO. Discrepancies between the UAO and this SOW are unintended, and wherever necessary, the UAO will control. The definitions set forth in the UAO are incorporated herein by reference and shall apply to this SOW.

2. PURPOSE OF THE STATEMENT OF WORK

This SOW sets forth requirements for conducting RI sampling and data collection on the Property in the WSSOU, as shown in Figure 1. The Respondents shall conduct the RI sampling in accordance with this SOW and the requirements in the UAO and consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), 40 CFR Part 300, and EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (OSWER Directive 9355.3-01, October 1988) and other guidance documents that EPA identifies as relevant to conducting an RI/FS. A list of the primary guidance documents is included as Attachment A to this SOW.

EPA, in consultation with the Montana Department of Environmental Quality (DEQ), will provide oversight of the Respondents' performance of the Work required under the UAO and this SOW. The Respondents shall support EPA's initiation and conduct of oversight activities. EPA's determinations, approvals and activities as provided for in the UAO and in this SOW, shall be conducted in consultation with DEQ as provided for in the UAO, and by CERCLA, the NCP, and applicable EPA guidance, including the guidance listed in Attachment A to this SOW.

Performance of the Work described in this SOW by the Respondents and EPA's review and approval of Deliverables and Work described in this SOW shall be performed in accordance with the procedures and other requirements in the UAO. The Respondents shall furnish the necessary personnel, materials, and services needed or incidental to, performing the Work described in this SOW, except as otherwise specified in the UAO.

3. SCOPE OF SAMPLING

It is expected that the investigation and sampling conducted by the Respondents will be consistent with the investigation and sampling being conducted by EPA. Thus, the quality assurance project plan prepared by CDM Smith on behalf of EPA (EPA QAPP) shall be used by the Respondents to govern the sampling, including any subsequent amendments or field modifications. The EPA QAPP specifically did not include sampling on the Property in its scope, however, the EPA QAPP shall be applied to the sampling conducted by the Respondents on the Property. The QAPP identifies mine claims and relevant study area polygons drawn around potential disturbances to focus the investigation, but does not include mine claims that were wholly owned by the Respondent. However, several claims partially owned by the Respondent were included because a portion of the claim lies on private property owned by others.

The parcels to be sampled that have been identified as being wholly, or partially, on the Property are shown on Figure 1, and listed in Table 1. For consistency with the sampling being performed by the EPA contractor, data collection shall be organized by mine claim. EPA will provide GIS layers that include mine claim overlays with Montana Cadastral ownership parcels for the south and north areas of the Site. The mine claim maps were obtained from the Bureau of Land Management (BLM) General Land Office Records website based on township, range, and section search (<https://glorerecords.blm.gov/default.aspx>). Maps for each section were georeferenced by section corners and stitched together using ArcGIS®. Claim locations are approximate and no guarantees are made for their position with respect to land ownership data in Montana Cadastral system or other available records.

The Respondents shall first perform a desktop review sufficient to categorize mine claims on the Property as "primary" or "secondary" in accordance with the methodology presented in the EPA QAPP. As stated in the QAPP, a summary of the desktop review process involves the following for each claim:

- Review of historic mineral survey claim maps, mine workings, or other available maps to identify features for investigation. Mineral survey claim maps largely only provide information for exploration-only claims that were never actively mined. Former active mines typically have workings, geology, or other types of maps that can be obtained from various online sources, Montana Bureau of Mines and Geology, universities, or private sources. Original mineral survey claim maps have been downloaded from the (BLM) General Land Office Records website for the majority of claims partially or wholly owned by Respondent. These will be provided upon request.
- Review of maps and aerial imagery (e.g., Google Earth®) to determine locations of features such as exploration pits, shafts, adits, tunnels, crosscuts, and drifts.

- Completion of desktop review form to summarize site characteristics including presence of major mine dumps, presence of smaller disturbances or exploration areas, the approximate number of disturbances or dumps, the relative size of disturbances or dumps, vegetation impacts, visible rilling, pathways to surface water, discharging adits, shafts/raises/winzes, underground workings and extent, and other information that was found to be pertinent. Figure 2 provides a snapshot of the desktop review form. An electronic version of the form will be provided to the Respondents and contractors.
- Georeferencing of features, where applicable, to aid the field sampling effort.
- Drawing “study area” polygons in a digital platform (e.g., Google Earth or ArcGIS®) to focus the field sampling effort.
- Identification of primary vs. secondary study areas for each claim based on desktop review, which guides the level of effort anticipated for the field sampling. Primary study areas have larger disturbances and underground workings associated with former active mines, whereas secondary study areas have smaller disturbances typically associated with only exploration.

EPA and its contractor will be available to meet as necessary to review the logic and methodology for categorizing the claims. In order to ensure that the sampling decision methodology and required characterization information is obtained and is consistent among all areas, the Respondents shall then develop a sampling work plan detailing the approach for sampling, based on the desktop review and EPA QAPP, for review and approval by EPA, in consultation with Montana Department of Environmental Quality (DEQ). The work plan should reference the EPA QAPP and does not have to repeat sampling approaches. EPA will provide oversight during sampling to provide guidance regarding the sampling decision methodology. In addition, the Respondents are encouraged to accompany EPA’s efforts in the field for consistency

The sampling performed by the Respondents shall be focused on soils and solid media on the Property. The soils and solid media shall be sampled for all parameters listed in the EPA QAPP, including metals, modified synthetic precipitation leaching procedure (SPLP), acid base accounting (ABA), lithologic logging, paste pH, and X-ray fluorescence (XRF) measurements¹. For XRF data collection, all quality control (QC) methods in accordance with the SOP must be followed to generate enforcement level data. If these methods are not able to be followed, more laboratory metals samples could be utilized in place of XRF. Estimates of area and volume of mining-related wastes on Respondent’s property shall also be collected. In addition, global positioning system (GPS) coordinates of surface features, sample locations, and comprehensive site photographs shall be collected. The EPA QAPP provides the basis for the approach and types of samples to be collected; however, exact definitions of frequency or numbers/types of parameters per site are not defined due to the inherent differences amongst each claim site, such as size or extent of disturbances, types of geology present, location of disturbances with respect to water features,

¹ To collect enforcement level data using XRF, strict field laboratory QA/QC procedures are necessary, including running periodic standards and blanks to perform data validation.

extent of vegetation, and other aspects. EPA and its contractor will be available to meet with the Respondent to assist in developing the sampling approach.

Subsurface sampling shall be performed at sites identified as "primary" that contain large mine dumps for the purposes of collecting depth/extent information to estimate volumes of mining-related wastes. The number of these sites is not yet defined, but shall be determined as part of the desktop review process, and in discussion with EPA. Subsurface sampling shall be performed as detailed in the EPA QAPP.

Surface water sampling on the creeks crossing Respondent's properties will be conducted by EPA. If any adit discharges are encountered by the Respondent during the soil and solid media sampling, the Respondent shall identify the locations and provide the information to EPA, to allow those adit discharges to be sampled and gaged by EPA.

In cases where claims overlap the Property and other private property, EPA/EPA's contractor may sample these claims, including on the Property if the disturbances on those claims overlap. For efficiency and consistency, the Respondents shall coordinate with EPA and its contractor for sampling in these areas.

4. DATA ANALYSIS, VALIDATION, AND MANAGEMENT

The laboratory(ies) used by the Respondents for analyses shall meet the necessary reporting limits specified in the EPA QAPP, as well as quality assurance (QA)/QC requirements to allow the data to be validated such that it can be classified as enforcement quality data. This requires validation of 100% of the data collected.

All data shall be validated in accordance with the EPA QAPP. A data summary report shall be prepared detailing the data collected, validation, and data usability assessments following the CFRSSI Pilot Data Report format. No analysis of the data is required. Data shall be electronically submitted to EPA using Scribe.NET. EPA will establish and maintain the official project database.

During remedial investigation sampling, the Respondents, or their contractors, shall provide weekly reports summarizing the efforts conducted to the EPA. If sampling is not actively being conducted, regular meetings are anticipated with the EPA to discuss project status.

Upon completion of the work, the Respondents shall provide all geographic information system (GIS) data of sampling locations and other features in the Respondents' geodatabase in ArcGIS format. Examples of additional GIS data may include but are not limited to underground workings, shafts or other mine features, and mine dump extents. These data will be incorporated into the project geodatabase managed by EPA's contractor. The Respondents shall provide interim GIS data as requested by the EPA, or as needed to coordinate sampling efforts and communicate progress.

5. COMMUNITY RELATIONS

EPA will develop and implement community relations activities for the WSSOU. The Respondents shall, as requested by EPA, assist EPA by providing information regarding site history, participating in public meetings, developing graphics, or distributing fact sheets developed by EPA. All

community relations activities conducted by the Respondents, at EPA request, will be subject to oversight by EPA, in consultation with DEQ.

6. DELIVERABLES

As noted, the Respondents shall provide a sampling work plan, all analytical and GIS data shall be provided to the EPA, as well as a data summary report. Respondents shall prepare and submit for approval by EPA, in consultation with DEQ, the Respondents' Deliverables required under the UAO and this SOW, in accordance with the procedures and deadlines set forth in the UAO. The Respondents may discuss comments with EPA and/or DEQ to determine revisions acceptable to EPA on Respondents' Deliverables, however such discussions shall not extend the submittal and re-submittal deadlines absent agreement by EPA.

7. SCHEDULE

Task	Deadline
Meet with EPA to discuss sampling logic and approach	5 days after the effective date of UAO
Submit work plan for sampling approach to EPA	25 days after the effective date of UAO
EPA and DEQ review of work plan	10 days after receipt
Revise work plan and EPA, in consultation with DEQ approval	5 days after comments received
Begin sample collection	5 days after work plan is finalized
Complete sample collection	Approximately 3-week duration
Weekly Sampling Report and Photographs	Weekly During Sampling
Provide validated data and data summary report to EPA	March 2020
Additional RI data collection as needed	Spring-summer 2020

ATTACHMENT A
List of Guidance Documents

Final Quality Assurance Project Plan, West Side Soils Operable Unit Remedial Investigation Sampling. CDM Smith. US EPA Contract No. EP-W-05-049. April 26, 2019.

EPA Requirements for Quality Assurance Project Plans (QA/R-5).

Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA. OSWER Directive 9355.3-01.

Risk Assessment Guidance for superfund, Volume I, Human Health Evaluation Manual (Part A). EPA/540/1-89/002.

Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. OSWER 9285.7-25.

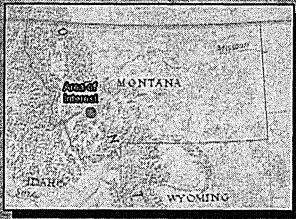
Guidance for Data Usability in Risk Assessment, (OSWER Directive #9285.7-05, October 1990), or subsequently issued guidance.

Uniform Federal Policy for Implementing Quality Systems, EPA-505-F-03-001, March 2005), or subsequently issued guidance.

A Guide to Developing and Documenting Cost Estimates during the Feasibility Study. EPA 540-R-D0-002, OSWER No. 9355.0-75.

CERCLA Compliance with Other Laws Manual. Part I. Interim Final EPA 540/G - 89/006, OSWER No. 9234.1-01.

CERCLA Compliance with Other Laws Manual: CERCLA Compliance with the CWA and SDWA. OSWER No. 9234.2-06/FS.



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- Mine Study Area Boundary
- BPSOU Boundary
- Atlantic Richfield Parcels

0 0.25 0.5 1
Miles

Datum
NAD 83
Coordinate System
State Plane Montana FIPS 2500 (ft)

N

Figure 1
Statement of Work for Remedial
Investigation Data Collection
 West Side Soils Operable Unit

United States
Environmental Protection
Agency

Table 1 - Parcel List

Parcel ID	Legal Description	Owner Name
01119616301010000	S16, T03 N, R09 W, LOT 3	ARCO ENVIRONMENTAL REMEDIATION LLC
01119623201150000	S23, T03 N, R09 W, 617B, PARCEL 00B, NE4NW4 TRACT B	ARCO ENVIRONMENTAL REMEDIATION LLC
01119623202010000	S23, T03 N, R09 W, 583A, PARCEL 001, TRACT 1, AKA POR S2N2, POR N2S2	ARCO ENVIRONMENTAL REMEDIATION LLC
01119701299040000	S01, T03 N, R08 W, EXCELSIOR #1891 (4.63 AC), JULIA #8224 (0.50 AC), MINNIE IRVINE #907(15.76 AC), MISSING LINK #1058 (0.02 AC), NON-CONSOLIDATED #1810 0.82 AC)	ARCO ENVIRONMENTAL REMEDIATION LLC
01119701299050000	S01, T03 N, R08 W, PAT #25-73-0090	ARCO ENVIRONMENTAL REMEDIATION LLC
01119701299060000	S01, T03 N, R08 W, BLAND #1160,DAISY #4344,POR EAGLE #2808, GLENGARRY #1139,HARKAWAY #909,JAMESTOWN #2304,JHC FRACTION NO 2-#9462,MARGARET	ARCO ENVIRONMENTAL REMEDIATION LLC
01119702299080000	S02, T03 N, R08 W, POR PAT #25-73-0090 LYING W OF BIG BONANZA #2235, N OF LITTLE EVELINE #2056 W OF CHEYENE #3860, W OF MINNIE #5115	ARCO ENVIRONMENTAL REMEDIATION LLC
01119702401160000	S02, T03 N, R08 W, VALLEY FORGE #3723	ARCO ENVIRONMENTAL REMEDIATION LLC
01119711298050000	S11, T03 N, R08 W, GULCH #1566, SARGENT #1615	ARCO ENVIRONMENTAL REMEDIATION LLC
01119711299070000	S11, T03 N, R08 W, POR PAT #25-73-0090, LYING E OF OROPHENO #4150, E OF LITTLE GEORGIA #1612, E OF BLACK WARRIOR #1302, WO OF GOLDEN KING #1625, E OF	ARCO ENVIRONMENTAL REMEDIATION LLC
01119712150010000	S12, T03 N, R08 W, C.O.S. 860A, PARCEL 1, AKA POR BELL OF BUTTE #787, POR AURARIA #1031, POR CHEIF JOSEPH #10084, AMADORE #8096	ARCO ENVIRONMENTAL REMEDIATION LLC
01119714299070000	S14, T03 N, R08 W, 804-B, PARCEL 000, POR BESSIE JAY #7726, POR HUMBOLDT #1164 POR MANHATTAN #2591, PORTLAND #2405, ROBERT #4384, POR TZARENA #1092	ARCO ENVIRONMENTAL REMEDIATION LLC
01119714299090000	S14, T03 N, R08 W, ACRES 0.28, POR PAT 25-73-0090, E OF KOLIB #4835, E OF MARIANNA G #9628, E OF ROBERT E LEE #2166, E OF ST PATRICK #6829, E OF SILVER	ARCO ENVIRONMENTAL REMEDIATION LLC
01119714299091001	S14, T03 N, R08 W, CHARMER #1591, ELBA #1020, GEORGIE #1200, GERMANIA #833 JOSEPH JOYCE #1755, KALB #4385, KIT CARSON #1045, MILWAUKEE #2369, MINNIE JANE	ARCO ENVIRONMENTAL REMEDIATION LLC
01119715299090000	S15, T03 N, R08 W, PAT #25-73-0090, S & W OF VIOLET #3367 E OF CONVENTION #5055, W OF ST LOUIS #2927, W OF UINTA #650, W OF CORA MAY #5466, W OF GENERAL	ARCO ENVIRONMENTAL REMEDIATION LLC
01119716299090000	S16, T03 N, R08 W, POR PAT 25-73-0090, LYING NW OF FAIR- VIEW #1627, N OF POOR MAN #1603 #3682, W OF LE PETIT DUC #1930, E N & S OF NAUTALUS #914, N & S OF	ARCO ENVIRONMENTAL REMEDIATION LLC
01119721201050000	S21, T03 N, R08 W, C.O.S. 911A-RW, PARCEL 003, AKA POR NW4 SEC 21, POR NE4 SEC 20	ARCO ENVIRONMENTAL REMEDIATION LLC
01119721299010000	S21, T03 N, R08 W, POR PAT 25-73-0090, LYING N OF LIZZIE #4670, E OF TAURUS #10217	ARCO ENVIRONMENTAL REMEDIATION LLC
01119722101250000	S22, T03 N, R08 W, HELEN BLAZES #2877 - 29/54 INT	ARCO ENVIRONMENTAL REMEDIATION LLC
01119722101400000	S22, T03 N, R08 W, ETTORE #8313	ARCO ENVIRONMENTAL REMEDIATION LLC
01119722101530000	S22, T03 N, R08 W, CELESTINA #8311	ARCO ENVIRONMENTAL REMEDIATION LLC
01119722435010000	S22, T03 N, R08 W, POR CONCENTRATOR PLACER #2140	ARCO ENVIRONMENTAL REMEDIATION LLC
01119723201400000	S23, T03 N, R08 W, TIGER #1152	ARCO ENVIRONMENTAL REMEDIATION LLC
01119723299020000	S23, T03 N, R08 W, POR PAT 25-73-0090 LYING N OF BLACK HAWK #1093, N OF JOSIAH	ARCO ENVIRONMENTAL REMEDIATION LLC
01119723299070000	S23, T03 N, R08 W, NEW MOON #2850	ARCO ENVIRONMENTAL REMEDIATION LLC
01119723335010000	S23, T03 N, R08 W, C.O.S. 982A-AL, ACRES 33.85, POR ISELE PLACER #1144	ARCO ENVIRONMENTAL REMEDIATION LLC
01119819218010000	VALLEY ADD, S19, T03 N, R07 W, E2 LTS 19,20 BLK 7, LTS 1-4, POR LTS 5-8, POR LTS 11-13, LOTS 14-20 BLK 8, LTS 3-10 BLK 9, POR LTS 1-4, POR LTS 13-16, LTS 17-20	ARCO ENVIRONMENTAL REMEDIATION LLC
01119830218230000	BELLEVUE ADD, S30, T03 N, R07 W, BLOCK 11, Lot 27, POR OF LT 27	ARCO ENVIRONMENTAL REMEDIATION LLC
01129029299030000	S29, T04 N, R07 W, PAT NO 25-73-0090, N OF MOUNTAIN BOY #9658, N OF PLACER #722, SE OF STANDARD #9442	ARCO ENVIRONMENTAL REMEDIATION LLC
0111962410145MINE	S24, T03 N, R09 W, POR MONTANA PLACER NORTH OF FRONTAGE RD & WEST OF	ARCO ENVIRONMENTAL REMEDIATION LLC
0111971129803MINE	S11, T03 N, R08 W, BELCHER #1081	ARCO ENVIRONMENTAL REMEDIATION LLC
0111971520125CRE1	S15, T03 N, R08 W, CREOLE #1203	ARCO ENVIRONMENTAL REMEDIATION LLC
0111971529909MINE	S15, T03 N, R08 W, BURLINGTON #960, COLONEL FUNSTON #7375 CORA MAY #5466, CORA NO 2 #5466,FREDONIA #1794, GUS #10560, HELEN #10413, HERBERT #2506, HIBERNIA #1	ARCO ENVIRONMENTAL REMEDIATION LLC
0111971629909MINE	S16, T03 N, R08 W, FAIRVIEW #1627, HAAKON #10012, INDEPENDENT #1655	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972119901MINE	S21, T03 N, R08 W, LIZZIE #, POR PAT 25-73-0090 WEST OF TAURUS	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972210118MINE	S22, T03 N, R08 W, VIRGO #6427	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972210137MINE	S22, T03 N, R08 W, BERATTO EXT #8310	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972220140CAR1	S22, T03 N, R08 W, CARRIE #4840	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972229901MINE	S22, T03 N, R08 W, JEWELL #7509	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972229906MINE	S22, T03 N, R08 W, COMSTOCK #4145, EAGLE BIRD #1381, SPUR #2357	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972329901MINE	S23, T03 N, R08 W, C.O.S. 982A-AL, POR JUMP UP #4055 LYING WEST OF I-15, POR OLIVE BRANCH #1995	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972329906MINE	S23, T03 N, R08 W, RED BOULDER #3099	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972330145MINE	S23, T03 N, R08 W, JOSIAH #2928 SECS 22/23	ARCO ENVIRONMENTAL REMEDIATION LLC
0111972339901MINE	S23, T03 N, R08 W, C.O.S. 982A-AL, POR SCHMIDT & GAMER PLACER, MA 927	ARCO ENVIRONMENTAL REMEDIATION LLC
0111980320101MINE	S03, T03 N, R07 W, CONSTITUTION #6557 - 17/24% INTEREST	ARCO ENVIRONMENTAL REMEDIATION LLC
0111980629805MINE	S06, T03 N, R07 W, J H C FRACTION #8836, J H C FRACTION #9400	ARCO ENVIRONMENTAL REMEDIATION LLC

Figure 2 - Desktop Review Spreadsheet Example

ID	Claim Name	Claim #	Primary or Secondary	Desktop Review By?	Sub Watershed	Major Mine Dump	Relative Size (S, M, L)	#Dumps	Smaller Disturbance/ Exploration	Relative Size (S, M, L)	#Disturbances	Visible Vegetation Impacts	Visible Rilling	Pathway to Surface Water	Distance to Surface Water (ft)
128	GOLDSMITH	981	PRIMARY	CK	BEEF STRAIGHT GULCH	YES	S-L	MULTIPLE	YES	S	MULTIPLE	YES	MAYBE	YES	100-1000
237	GREAT REPUBLIC	578	PRIMARY	NRA	GIMLET GULCH	YES	M-L	2	YES	S	3-4	YES	YES	YES	100-300
213	MOODY	2633	PRIMARY	CK	GIMLET GULCH	YES	S-M	MULTIPLE	YES	S	MULTIPLE	YES	MAYBE	YES	300-800
340	MONTANA CLUB	8813	SECONDARY	NRA	GIMLET GULCH	NO	NA	NA	YES	S	2-3	NO	NO	MAYBE	<100
342	NEW JERSEY	8005	SECONDARY	NRA	GIMLET GULCH	YES	S	MULTIPLE	NO	NA	NA	YES	UNKNOWN	NO	NA
371	SAINT PAUL	10810	SECONDARY	CK	ORO FINO GULCH	NO	NA	NA	YES	S	MULTIPLE	YES	NO	YES	<100

*****FIELD ENTRIES*****

PRIMARY	INITIALS	BEEF STRAIGHT GULCH	YES	#	S	YES	S	#	YES	YES	YES	#
SECONDARY		GIMLET GULCH	NO	#RANGE	M	NO	M	#RANGE	NO	NO	NO	#RANGE
		ORO FINO GULCH		MULTIPLE	L		L	MULTIPLE	MAYBE	MAYBE	MAYBE	<100
		WHISKEY GULCH		NA	RANGE		RANGE	NA	UNKNOWN	UNKNOWN	UNKNOWN	NA
					NA		NA		NA	NA	NA	

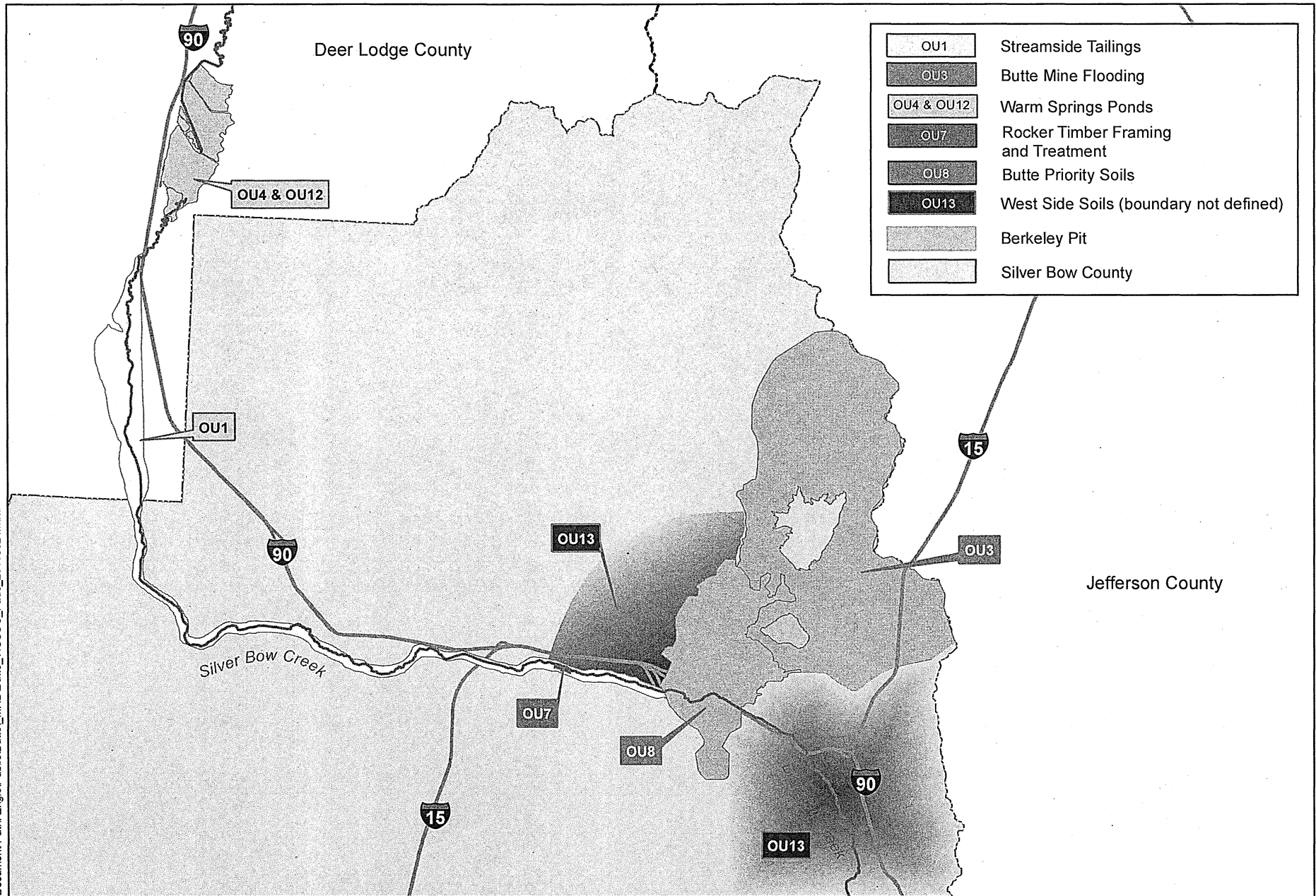
Figure 2 - Desktop Review Spreadsheet Example

Discharging Adit	Shaft/Raise/Winze	Underground Workings	WORKINGS EXTENT	Previous Reclamation Apparent	Near Residence (<300 feet)	Other Info	Other Historic Info
	YES	YES	EXTENSIVE	YES	NO	>300 FT FROM HORSE PASTURE/BARN	
	YES	YES	EXTENSIVE	NO	NO		
	YES	LIKELY	UNKNOWN/LIKELY EXTENSIVE	NO	NO		
MAYBE	YES	YES	MINOR/EXPLORATION	NO	NO		
	YES	YES	MINOR/EXPLORATION	NO	NO		
	YES	LIKELY	MINOR/EXPLORATION	NO	NO	NO MAP ALL INFO BASED ON GE	

*****FIELD ENTRIES*****

YES	YES	YES	EXPLORATION	YES	YES
NO	NO	NO	EXTENSIVE	NO	NO
MAYBE	UNKNOWN	LIKELY	MINOR/EXPLORATION	MAYBE	
	UNLIKELY	UNKNOWN/LIKELY EXTENSIVE			
		NA			

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Appendix B
Unilateral Administrative Order for Remedial Investigation Data Collection
West Side Soils Operable Unit



COORD SYS ZONE: MT SP
DATUM: NAD83
UNITS: FEET



0 2.25 4.5 Miles