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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

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EPA REGION VIII  
HEARING CLERK

IN THE MATTER OF: )  
)  
)  
Barker-Hughesville Superfund Site )  
Cascade and Judith Basin Counties )  
Montana )  
)  
The Doe Run Resources Corporation )  
Respondent. )

ADMINISTRATIVE  
SETTLEMENT AGREEMENT  
AND ORDER ON CONSENT  
FOR REMOVAL ACTION

CERCLA Docket No. **CERCLA-08-2011-0010**

Proceeding Under Sections 104,  
106(a), 107 and 122 of the  
Comprehensive Environmental  
Response, Compensation, and  
Liability Act, as amended,  
42 U.S.C. §§ 9604, 9606(a), 9607  
and 9622

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## **I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Settlement Agreement and Order on Consent (Settlement Agreement) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and The Doe Run Resources Corporation (Respondent). This Settlement Agreement provides for the performance of a removal action by Respondent at or in connection with the Barker-Hughesville Superfund Site (the Site) generally located near the town of Monarch in Cascade and Judith Basin Counties, Montana.
2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as amended (CERCLA).
3. EPA has notified the Montana Department of Environmental Quality Montana (the MDEQ) of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
4. EPA and Respondent recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of facts, conclusions of law, and determinations in Sections IV and V of this Settlement Agreement. Respondent agrees to comply with and be bound by the terms of this Settlement Agreement and further agrees that it will not contest the basis or validity of this Settlement Agreement or its terms.

## **II. PARTIES BOUND**

5. This Settlement Agreement applies to and is binding upon EPA and upon Respondent and its successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Settlement Agreement.
6. Respondent is liable for carrying out all activities required by this Settlement Agreement.
7. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Respondent shall be responsible for any noncompliance with this Settlement Agreement.

## **III. DEFINITIONS**

8. Unless otherwise expressly provided in this Settlement Agreement, terms used in this Settlement Agreement which 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 Settlement Agreement or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on August 19, 2010, by the Regional Administrator, EPA Region 8, or his/her delegate, and all attachments thereto. The "Action Memorandum" is attached as Appendix B.

b. "Barker-Hughesville Special Account" shall mean the special account, within the EPA Hazardous Substances Superfund, established for the Site by EPA pursuant to Section 122(b)(3) of CERCLA, 42 U.S.C. § 9622(b)(3), and pursuant to the ASARCO bankruptcy settlement.

c. "Barker-Hughesville Block P Disbursement Special Account" shall mean the special account, within the EPA Hazardous Substances Superfund, established for the Site by EPA pursuant to Section 122(b)(3) of CERCLA, 42 U.S.C. § 9622(b)(3), and Paragraph 54.

d. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*

e. "Day" shall mean a calendar day. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

f. "Effective Date" shall be the effective date of this Settlement Agreement as provided in Section XXXIII.

g. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

h. "MDEQ" shall mean the Montana Department of Environmental Quality and any successor departments or agencies of the State.

i. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Section IX. (Site Access - costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), and Section XIII. (emergency response), and Paragraph 80 (work takeover).

j. "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.

k. "Interest Earned" shall mean interest earned on amounts in the Barker-Hughesville Block P Disbursement Special Account, which shall be computed monthly at a rate based on the annual return on investments of the Hazardous Substance Superfund. The applicable rate of interest shall be the rate in effect at the time the interest accrues.

l. "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.

m. "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with this Settlement Agreement beginning on April 1, 2010 through the Effective Date of this Settlement Agreement, plus Interest on all such costs through such date.

n. "Oversight Costs" shall mean that portion of Future Response Costs incurred by EPA in monitoring and supervising Respondent's performance of the removal actions agreed to in this Order to determine whether such performance is consistent with the requirements of this Order, including costs incurred in reviewing plans, reports and other documents submitted pursuant to this Order, as well as costs incurred in overseeing implementation of the removal action; however, Oversight Costs do not include, *inter alia*, (1) the cost of activities by EPA pursuant to Paragraph 47 of this Order; (2) the cost of enforcing the terms of this Order, including all costs incurred in connection with Dispute Resolution pursuant to Section XVII; and (3) the cost of securing access under Paragraph 32.

o. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXXIV.). In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

p. "Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral.

q. "Parties" shall mean EPA and Respondent.

r. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.* (also known as the Resource Conservation and Recovery Act).

s. "Respondent" shall mean The Doe Run Resources Corporation.

t. "Season" shall mean that part of the calendar year in which Respondent shall perform Work at the Site and shall begin no later than June 1st of each year and end when adverse weather conditions prohibit Work to be conducted at the Site.

u. "Section" shall mean a portion of this Settlement Agreement identified by a Roman numeral.

v. "Site" shall mean the shall mean the Barker-Hughesville Superfund Site, which encompasses approximately 15 square miles, located in the Little Belt Mountains near the town of Monarch in Cascade and Judith Basin Counties, Montana, depicted generally on the map attached as Appendix A.

w. "State" shall mean the State of Montana.

x. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the removal action, as set forth in Appendix C to this Settlement Agreement, and any modifications made thereto in accordance with this Settlement Agreement.

y. "Waste Material" shall mean 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); 3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and 4) any "hazardous waste" under State law.

z. "Work" shall mean all activities Respondent is required to perform under this Settlement Agreement.

#### **IV. FINDINGS OF FACT**

9. The Barker-Hughesville Site (Site) is located in west-central Montana east of the town of Monarch, within the very western portion of Judith Basin County and adjacent Cascade County. The Site is located in the Little Belt Mountains mostly within the Dry Fork Belt Creek Watershed and encompasses approximately fifteen (15) square miles. The Site was listed on the National Priorities List (NPL) on September 13, 2001.

10. The Site is the location of historic mining operations with approximately 45 known abandoned mine sites and associated waste rock dumps and approximately 16 known discharging mine adits. The historic mining operations resulted in deposits of waste rock, mill tailings and uncontrolled acid mine drainage from mine workings in the Dry Fork Belt Creek watershed.

11. The Upper Galena Creek drainage is located in the center of the Site, downstream from the Green Creek and Daisy Creek drainages. It includes the area from the Block P Mine downstream through the Barker town site. The Upper Galena Creek drainage is

dominated by the Block P Mine. Galena Creek is one of the most heavily impacted tributaries to the Dry Fork Belt Creek within the Site.

12. Hazardous substances present in the mine waste rock and acid mine drainage at the Site include arsenic, copper, cadmium, lead and zinc, which are being released into the environment. Sampling showed concentrations of lead and arsenic at several times those levels considered safe for human exposure (i.e. Belt Patent Mine 3520 parts per million (ppm) arsenic, Edwards Mine 24,900 ppm lead). Water quality sampling in Galena Creek showed metals present at levels above aquatic life standards and/or maximum contaminant levels for drinking water.

13. In approximately March 1927, the St. Joseph Lead Company purchased the Barker (Block P) Mine, the Wright Mine, the Edwards Mine, the Grey Eagle Mine and the Belt Patent Mine (the "Block P Mine Complex") and operated those mines during several periods until 1944 when they were sold. These mines are all located in the Upper Galena Creek drainage portion of the Site.

14. The Respondent is a successor company to the St. Joseph Lead Company.

15. On August 7, 2008, EPA and Respondent entered into an "Administrative Settlement Agreement and Order on Consent For Engineering Evaluation/Cost Analysis (EE/CA)," (EE/CA AOC) (Docket Number CERCLA-08-2008-0007) that required Respondent to conduct an EE/CA at the Block P Mine Complex at the Site.

16. Respondent conducted Site investigations of surface water quality, ground water quality, waste rock dumps, underground workings and related discharges in support of the EE/CA.

17. Respondent completed and submitted the EE/CA to EPA in March, 2010.

18. EPA provided public notice of the EE/CA from March 22, 2010 through April 30, 2010 and conducted a public meeting in Monarch, Montana on March 31, 2010.

19. On September 9, 2010 EPA modified the SOW for the EE/CA AOC to allow Respondent to conduct additional work at Block P.

## **V. CONCLUSIONS OF LAW AND DETERMINATIONS**

20. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

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

b. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

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

d. Respondent is a successor to an "owner" and/or "operator" of the Block P Mine Complex portion of the facility at the time of disposal of hazardous substances at the Site, 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) and is therefore a liable party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

e. The conditions described in the Findings of Fact above constitute an actual 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 removal action required by this Settlement Agreement is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Settlement Agreement, will be consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

#### **VI. SETTLEMENT AGREEMENT AND ORDER**

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Settlement Agreement, including, but not limited to, all attachments to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

#### **VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR**

21. Respondent shall retain one or more contractors to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) within thirty (30) days of the Effective Date. Respondent shall also notify EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least ten (10) working days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by the Respondent. If EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within ten (10) working days of EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

22. Within fourteen (14) days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Settlement Agreement and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within ten (10) working days following EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

23. EPA has designated Steve Way of the Region 8, Site Assessment and Emergency Response Program, as its On-Scene Coordinator (OSC). Except as otherwise provided in this Settlement Agreement, Respondent shall direct all submissions required by this Settlement Agreement to the OSC at U.S. Environmental Protection Agency, Region 8, MC 8EPR-SA, 1595 Wynkoop Street, Denver, CO 80202-1129. Submissions and notices to be given to MDEQ shall be directed to Keith Large, MDEQ Project Officer, P.O. Box 200901, Helena, MT 59620-0901 or, for overnight mail, to 1100 N. Last Chance Gulch, Helena, MT 59601.

24. EPA and Respondent shall have the right to change their respective designated OSC or Project Coordinator. Respondent shall notify EPA ten (10) working days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

### **VIII. WORK TO BE PERFORMED**

25. EPA and Respondent shall perform, at a minimum, all actions necessary to implement the Action Memorandum, attached hereto as Appendix B, and the Statement of Work, attached hereto as Appendix C. The actions to be implemented generally include, but are not limited to, the following:

- **Pre-Construction Planning Documents (Task 1)**
  - Work Plan - Including a project description and how Respondent will accomplish the selected removal action and related objectives
  - Mine Waste Repository Plan - Summarizing potential storage sites that are being evaluated prior to initiating design.
  - Construction Quality Assurance/Quality Control Plan (QA/QC Plan) - Shall be submitted with Repository Design and Specifications and shall include provisions for construction oversight by the Respondent and independent engineering inspection to ensure specifications are met.
  - Health and Safety Plan - Review and, as necessary, revise the Site specific project health and safety plan that Respondent prepared as part of the EE/CA AOC.

- Sampling and Analysis Plan (SAP) & Quality Assurance Project Plan (QAPP) - The existing SAP and QAPP for the Site established for the EE/CA AOC are applicable to any sampling activities required for the Work. EPA may require modifications to the SAP under this AOC.
- Removal Action Implementation (Task 2) - The approved Work described in the SOW and the approved Work Plan and Design Report shall be implemented by the Respondent to complete the Removal Action approved by EPA.
- Reporting Requirements (Task 3) - Respondent shall prepare and submit written progress reports to EPA, MDEQ and the Forest Service during the course of the work on-Site and at the completion of the on-Site work, submit a Final Report for review and approval by EPA.
- Post-Removal Site Controls (Task 4) - Monitoring and maintenance of the areas involved with this action.

26. Work Plan and Implementation.

a. Pursuant to the schedule set forth in the SOW, Respondent shall submit to EPA for approval a draft Work Plan for performing the removal action generally described in Paragraph 25 above and in the SOW. The draft Work Plan shall provide a description of, and a schedule for, the actions required by this Settlement Agreement. If EPA requires modifications to the QAPP, the modified QAPP should be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998).

b. EPA may approve, disapprove, require revisions to, or modify the draft Work Plan in whole or in part provided that any revisions or modifications are consistent with achieving the objectives set forth in the SOW. If EPA requires revisions, Respondent shall submit a revised draft Work Plan within fourteen (14) days of receipt of EPA's notification of the required revisions. Respondent shall implement the Work Plan as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement.

c. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement. Respondent shall not commence implementation of the Work Plan developed hereunder until receiving written EPA approval pursuant to Paragraph 26.b.

27. Health and Safety Plan. Pursuant to the schedule set forth in the SOW, Respondent shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-Site work under this Settlement Agreement. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration

(OSHA) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

28. Quality Assurance and Sampling.

a. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements.

b. Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by EPA, Respondent shall allow EPA or MDEQ or their authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than five (5) days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA and MDEQ shall have the right to take any additional samples that they deem necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

29. Reporting.

a. Respondent shall submit a written progress report to EPA and MDEQ concerning actions undertaken pursuant to this Settlement Agreement according to the schedule set forth in Sections V. and VI. of the Statement of Work until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the

reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

b. Respondent shall submit four (4) copies to EPA, two (2) copies to MDEQ, and two (2) copies to Forest Service, of all plans, reports or other submissions required by this Settlement Agreement and the Statement of Work, or any approved work plan. Respondent shall also submit such documents in electronic form to EPA, MDEQ and the Forest Service.

c. Respondent shall, at least thirty (30) days prior to the conveyance of any interest in real property at the Site, give written notice to the transferee that the property is subject to this Settlement Agreement and written notice to EPA and MDEQ of the proposed conveyance, including the name and address of the transferee. Respondent also agrees to require that its successors comply with the immediately preceding sentence and Sections IX (Site Access) and X (Access to Information).

30. **Final Report.** Within ninety (90) days following completion of the Work at the Site, Respondent shall submit for EPA review and approval and MDEQ review, a final report as described in Section V.C. of the SOW and summarizing the actions taken to comply with this Settlement Agreement, SOW and Work Plans. The final reports shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final reports shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (*e.g.*, manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

#### **IX. SITE ACCESS**

31. If the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by the Respondent, such Respondent shall, commencing on the Effective Date, provide EPA, MDEQ and their representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Settlement Agreement.

32. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within ninety (90) days after the Effective Date, or as otherwise specified in writing by the OSC. Respondent shall immediately notify EPA if after using its best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Respondent shall describe in writing its efforts to obtain access. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described in this Settlement Agreement, using such means as EPA deems appropriate. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Response Costs).

33. If the Site, or any other real property where access or land/water use restrictions are needed, is owned or controlled by Respondent:

a. Respondent shall, commencing on the Effective Date, provide EPA and MDEQ, and their representatives, contractors, and subcontractors, with access at all reasonable times to the Site, or such other real property, to conduct any activity regarding the Settlement Agreement including, but not limited to, the following activities:

- (1) Monitoring the Work;
- (2) Verifying any data or information submitted to EPA and MDEQ;
- (3) Conducting investigations regarding contamination at or near the Site;
- (4) Obtaining samples;
- (5) Assessing the need for, planning, or implementing additional response actions at or near the Site;
- (6) Assessing implementation of quality assurance and quality control practices as defined in the approved plans;
- (7) Implementing the Work pursuant to the conditions set forth in Paragraph 80 (Work Takeover);
- (8) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondent or its agents, consistent with the Section X. (Access to Information);
- (9) Assessing Respondent's compliance with the Settlement Agreement;
- (10) Determining whether the Site or other real property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Settlement Agreement; and
- (11) Implementing, monitoring, maintaining, reporting on, and enforcing any Institutional Controls.

b. Commencing on the Effective Date, Respondent shall not use the Site, or such other real property, in any manner that EPA determines will pose an unacceptable risk to

human health or to the environment due to exposure to Waste Materials or interfere with or adversely affect the implementation, integrity, or protectiveness of the Work; and

c. Respondent shall:

- (1) execute and record in the appropriate land records office Proprietary Controls that: (i) grant a right of access to conduct any activity regarding the Settlement Agreement including, but not limited to, those activities listed in Paragraph a, and (ii) grant the right to enforce the land/water use restrictions set forth in Paragraph b., including, but not limited to, the specific restrictions listed therein, as further specified in Paragraph 33.c.(2)-(4).
- (2) The Proprietary Controls shall be granted to one or more of the following persons, as determined by EPA: (i) EPA and its representatives, (ii) MDEQ and its representatives, and/or (iii) other appropriate grantees. The Proprietary Controls, other than those granted to EPA, shall include a designation that EPA, as appropriate, is a "third-party beneficiary," allowing EPA to maintain the right to enforce the Proprietary Controls without acquiring an interest in real property. If any Proprietary Controls are granted to Respondent pursuant to this Paragraph c.(2)(iii), then such Respondent shall monitor, maintain, report on, and enforce such Proprietary Controls.
- (3) Within thirty (30) days of the Effective Date, submit to EPA for review and approval regarding such real property: (i) a draft Proprietary Control that is enforceable under state law; and (ii) a current title insurance commitment or other evidence of title acceptable to EPA, which shows title to the land affected by the Proprietary Control to be free and clear of all prior liens and encumbrances (except when EPA waives the release or subordination of such prior liens or encumbrances or when, despite best efforts, Respondent is unable to obtain release or subordination of such prior liens or encumbrances).
- (4) Within fifteen (15) days of EPA's approval and acceptance of the Proprietary Control and the title evidence, update the title search and, if it is determined that nothing has occurred since the effective date of the commitment, or other title evidence, to affect the title adversely, record the Proprietary Control with the appropriate land records office. Within thirty (30) days of recording the Proprietary Control, Respondent shall provide EPA with a final title insurance policy, or other final evidence of title acceptable to EPA, and a certified copy of the original recorded Proprietary Control showing the clerk's recording stamps. If the Proprietary Control is to be

conveyed to EPA, the Proprietary Control and title evidence (including final title evidence) shall be prepared in accordance with the U.S. Department of Justice Title Standards 2001, and approval of the sufficiency of title shall be obtained as required by 40 U.S.C. § 3111.

34. If the Site, or any other real property where access and/or land/water use restrictions are needed, is owned or controlled by persons other than Respondent, Respondent shall use best efforts to secure from such persons:

a. An agreement to provide access thereto for EPA, MDEQ, Respondent, and their representatives, contractors and subcontractors, to conduct any activity regarding this Settlement Agreement including, but not limited to, the activities listed in Paragraph 33.a. above;

b. An agreement, enforceable by Respondent and EPA, to refrain from using the Site, or such other real property, in any manner that EPA determines will pose an unacceptable risk to human health or to the environment due to exposure to Waste Materials or interfere with or adversely affect the implementation, integrity, or protectiveness of the Work. The agreement shall include, but not be limited to, the land/water use restrictions listed in Paragraph 33.b; and

c. (1) the execution and recordation in the appropriate land records office of Proprietary Controls, that (i) grants a right of access to conduct any activity regarding this Settlement Agreement including, but not limited to, those activities listed in Paragraph a., and (ii) grant the right to enforce the land/water use restrictions set forth in Paragraph b., including, but not limited to, the specific restrictions listed therein.

(2) The Proprietary Controls shall be granted to one or more of the following persons, as determined by EPA: (i) EPA and its representatives, (ii) MDEQ and its representatives, (iii) Respondent and its representatives, and/or (iv) other appropriate grantees. The Proprietary Controls, other than those granted to EPA, shall include a designation that EPA and/or MDEQ is a "third party beneficiary," allowing EPA and/or MDEQ to maintain the right to enforce the Proprietary Control without acquiring an interest in real property. If any Proprietary Controls are granted to Respondent pursuant to this Paragraph, then Respondent shall monitor, maintain, report on, and enforce such Proprietary Controls.

(3) Within thirty (30) days of the Effective Date, Respondent shall submit to EPA for review and approval regarding such property: (i) a draft Proprietary Control that is enforceable under state law; and (ii) a current title insurance commitment, or other evidence of title acceptable to EPA, which shows title to the land affected by the Proprietary Control to be free and clear of all prior liens and encumbrances (except when EPA waives

the release or subordination of such prior liens or encumbrances or when, despite best efforts, Respondent is unable to obtain release or subordination of such prior liens or encumbrances.

(4) Within fifteen (15) days of EPA's approval and acceptance of the Proprietary Control and the title evidence, Respondent shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment, or other title evidence, to affect the title adversely, the Proprietary Control shall be recorded with the appropriate land records office. Within thirty (30) days of the recording of the Proprietary Control, Respondent shall provide EPA with a final title insurance policy, or other final evidence of title acceptable to EPA, and a certified copy of the original recorded Proprietary Control showing the clerk's recording stamps. If the Proprietary Control is to be conveyed to the United States, the Proprietary Control and title evidence (including final title evidence) shall be prepared in accordance with the U.S. Department of Justice Title Standards 2001, and approval of the sufficiency of title must be obtained as required by 40 U.S.C. § 3111.

35. For purposes of Paragraphs 33. and 34., "best efforts" includes the payment of reasonable sums of money to obtain access, an agreement to restrict land/water use, a Proprietary Control, and/or an agreement to release or subordinate a prior lien or encumbrance. If, within thirty (30) days of EPA's request for Proprietary Controls, Respondent has not: (a) obtained agreements to provide access, restrict land/water use or record Proprietary Controls, as required by Paragraph a., b. or c.; or (b) obtained, pursuant to Paragraph 33.c.(1) or 34.c.(1), agreements from the holders of prior liens or encumbrances to release or subordinate such liens or encumbrances to the Proprietary Controls, Respondent shall promptly notify EPA in writing, and shall include in that notification a summary of the steps that Respondent has taken to attempt to comply with Paragraph 33. or 34. EPA and MDEQ may, as they deem appropriate, assist Respondent in obtaining access, agreements to restrict land/water use, Proprietary Controls, or the release or subordination of a prior lien or encumbrance.

36. If EPA determines that Institutional Controls in the form of state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls are needed, Respondent shall cooperate with EPA's and MDEQ's efforts to secure and ensure compliance with such governmental controls.

37. Notwithstanding any provision of this Settlement Agreement, EPA and MDEQ retain all of its their access authorities and rights including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

#### **X. ACCESS TO INFORMATION**

38. Respondent shall provide to EPA and MDEQ, upon request, copies of all documents and information within their possession or control or that of their contractors

or agents relating to activities at the Site or to the implementation of this Settlement Agreement, 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 related to the Work. Respondent shall also make available to EPA and MDEQ, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

39. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA and MDEQ under this Settlement Agreement 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). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA and MDEQ, or if EPA has notified Respondent that the documents or information 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 documents or information without further notice to Respondent.

40. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondent assert such a privilege in lieu of providing documents, they shall provide EPA and MDEQ with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

41. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

## **XI. RECORD RETENTION**

42. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXXII (Notice of Completion of Work), each Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after Respondent's receipt of EPA's notification pursuant to XXX. (Notice of Completion of Work), Respondent shall also instruct its

contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

43. Upon EPA request, Respondent shall provide an index of all documents retained by Respondent. The inventory for the index shall contain for each document (1) the document date; (2) the author(s) including title and affiliation; (3) the recipient(s) including title and affiliation; (4) the document title or subject; (5) a summary of its contents; and (6) the number of pages.

44. At the conclusion of this document retention period, Respondent shall notify EPA and MDEQ at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by EPA or MDEQ, Respondent shall deliver any such records or documents to EPA and MDEQ. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent assert such a privilege, they shall provide EPA or MDEQ with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

45. The Respondent hereby certifies 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, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA or MDEQ or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information 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.

## **XII. COMPLIANCE WITH OTHER LAWS**

46. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable state and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(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 Settlement Agreement 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. Respondent and EPA identified ARARs in the EE/CA and EPA identified and approved ARARs in the Action Memorandum.

### **XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES**

47. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer Region 8, Emergency Response Unit, at (303) 293-1788 of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

48. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the OSC, at (303) 312-6723 or the Regional Spill Report Hotline and the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

### **XIV. AUTHORITY OF ON-SCENE COORDINATOR**

49. The OSC shall be responsible for overseeing Respondent's implementation of this Settlement Agreement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement Agreement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

### **XV. PAYMENT OF RESPONSE COSTS**

50. Past Response Costs EPA agrees not to seek payment of Past Response Costs from Respondent, in consideration of this Settlement Agreement, wherein Respondent has agreed to perform the work and pay Future Response Costs, as set forth in paragraph 51.

51. Payments for Future Response Costs.

a. On a periodic basis, EPA shall submit to Respondent a bill for Future Response Costs, excluding the first \$1,512,500 in Oversight Costs, which bill shall

include the cost summary, including direct and indirect costs incurred by EPA and its contractors. Respondent shall make all payments within thirty (30) days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 53. of this Settlement Agreement.

b. Respondent shall make all payments required by this Paragraph by a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund," referencing the name and address of the party making payment and EPA Site ID number 08-5N. Respondent shall send the check(s) to:

US Environmental Protection Agency  
**Superfund Payments**  
Cincinnati Finance Center  
PO Box 979076  
St. Louis, MO 63197-9000

For US checks sent by Fed Ex and other non-US Postal Service express mail:

U.S. Bank  
Government Lockbox 979076  
**US EPA Superfund Payments**  
1005 Convention Plaza  
SL-MO-C2-GL  
St. Louis, MO 63101  
(314) 418-1029

For wire transfers:

Federal Reserve Bank of New York  
ABA: 021030004  
Account Number: 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"

c. At the time of payment, Respondent shall send notice that payment has been made to by email to [acctsreceivable.cinwd@epa.gov](mailto:acctsreceivable.cinwd@epa.gov), and to:

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

and

David Sturn  
EPA Montana Operations Office  
Federal Building  
10 West 15th Street, Suite 3200  
Helena, MT 59626  
406-457-5027  
[sturn.david@epa.gov](mailto:sturn.david@epa.gov)

Martha Walker  
United States Environmental Protection Agency  
Region 8  
1595 Wynkoop Street (TMS-FMP)  
Denver, Colorado 80202-1129

d. The total amount to be paid by Respondent pursuant to Paragraph 51.a. shall be deposited by EPA in the Barker-Hughesville Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

52. In the event that the payment for Future Response Costs are not made within thirty (30) days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on Future Response Costs shall begin to accrue on the date of the bill 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 Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XIX.

53. Respondent may contest payment of any Future Response Costs billed under Paragraph 51. if it determines that EPA has made a mathematical error, or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP. Such objection shall be made in writing within thirty (30) days of receipt of the bill and must be sent to the OSC. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection,

Respondent shall within the 30-day period pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 51. Simultaneously, Respondent shall establish an interest-bearing escrow account in a federally-insured bank and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondent shall send to the EPA OSC a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondent shall initiate the Dispute Resolution procedures in Section XVII (Dispute Resolution). If EPA prevails in the dispute, within five (5) days of the resolution of the dispute, Respondent shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 51. If Respondent prevails concerning any aspect of the contested costs, Respondent shall pay that portion of the costs (plus associated accrued interest) for which it they did not prevail to EPA in the manner described in Paragraph 51. Respondent shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XVII (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondent's obligation to reimburse EPA for its Future Response Costs.

#### **XVI. DISBURSEMENT OF SPECIAL ACCOUNT FUNDS**

54. Creation of Barker-Hughesville Block P Disbursement Special Account and Agreement to Disburse Funds to Respondent. Within thirty (30) days after the Effective Date, EPA shall establish the Barker-Hughesville Block P Disbursement Special Account and shall transfer \$242,000 from the Barker-Hughesville Special Account to the Barker-Hughesville Block P Disbursement Special Account. Subject to the terms and conditions set forth in this Section, EPA agrees to make the funds in the Barker-Hughesville Block P Disbursement Special Account, including Interest Earned on the funds in the Barker-Hughesville Block P Disbursement Special Account, available for disbursement to Respondent as partial reimbursement for performance of the Work under this Settlement Agreement. EPA shall disburse funds from the Barker-Hughesville Block P Disbursement Special Account to Respondent in accordance with the procedures and milestones for phased disbursement set forth in this Section.

55. Timing, Amount, and Method of Disbursing Funds From the Barker-Hughesville Block P Disbursement Special Account. Within thirty (30) days of EPA's receipt of a Cost Summary and Certification, as defined by Paragraph 56.b., or if EPA has requested additional information under Paragraph 56.b. or a revised Cost Summary and Certification under Paragraph 56.c, within thirty (30) days of receipt of the additional information or revised Cost Summary and Certification, and subject to the conditions set forth in this Section, EPA shall disburse the funds from the Barker-Hughesville Block P Disbursement Special Account at the completion of the following milestones, and in the amounts set forth below:

Milestone	Disbursement of Funds
1. Site Preparation (clearing vegetation, prepare staging areas)	\$40,000 (estimate) from the Barker-Hughesville Block P Disbursement Special Account
2. Excavate and stage waste rock at Block P in the 2011 Season	Remainder of funds in the Barker-Hughesville Block P Disbursement Special Account (project estimate is no less than \$235,000)

EPA shall disburse the funds from the Barker-Hughesville Block P Disbursement Special Account to Respondent in the following manner:

Automated Clearing House ("ACH") funds transfer to:

Bank Name: Wells Fargo, Wachovia

ABA No. : 053000219

Bank Address: Attn: Funds Transfer Security NC0803

1525 W WT Harris Blvd.

Charlotte, NC 28288-0803

For Credit to: The Doe Run Resources Corporation or

The Doe Run Company

Account No.: 2000035275905

56. Requests for Disbursement of Special Account Funds.

a. Within fifteen (15) days of issuance of EPA's written confirmation that a milestone of the Work, as defined in Paragraph 55, has been satisfactorily completed, Respondent shall submit to EPA a Cost Summary and Certification, as defined in Paragraph 56.b., covering the Work performed pursuant to this Settlement Agreement up to the date of completion of that milestone. Respondent shall not include in any submission costs included in a previous Cost Summary and Certification following completion of an earlier milestone of the Work if those costs have been previously sought or reimbursed pursuant to Paragraph 55.

b. Each Cost Summary and Certification shall include a complete and accurate written cost summary and certification of the necessary costs incurred and paid by Respondent for the Work covered by the particular submission, excluding costs not eligible for disbursement under Paragraph 57. Each Cost Summary and Certification shall contain the following statement signed by the Treasurer of Respondent:

To the best of my knowledge, after thorough investigation and review of Respondent's documentation of costs incurred and paid for Work performed pursuant to this Settlement Agreement [insert, as appropriate: "up to the date of

completion of milestone 1,” “between the date of completion of milestone 1 and the date of completion of milestone 2] I certify that the information contained in or accompanying this submission is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

The Treasurer of Respondent shall also provide EPA a list of the documents that he or she reviewed in support of the Cost Summary and Certification. Upon request by EPA, Respondent shall submit to EPA any additional information that EPA deems necessary for its review and approval of a Cost Summary and Certification.

c. If EPA finds that a Cost Summary and Certification includes a mathematical error, costs excluded under Paragraph 57, costs that are inadequately documented, or costs submitted in a prior Cost Summary and Certification, it will notify Respondent and provide it an opportunity to cure the deficiency by submitting a revised Cost Summary and Certification. If Respondent fails to cure the deficiency within fifteen (15) days after being notified of, and given the opportunity to cure, the deficiency, EPA will recalculate Respondent's costs eligible for disbursement for that submission and disburse the corrected amount to the Respondent in accordance with the procedures in Paragraph 55 of this Section. Respondent may dispute EPA's recalculation under this Paragraph pursuant to Section XVII (Dispute Resolution). In no event shall Respondent be disbursed funds from the Barker-Hughesville Block P Disbursement Special Account in excess of amounts properly documented in a Cost Summary and Certification accepted or modified by EPA.

57. Costs Excluded from Disbursement. The following costs are excluded from, and shall not be sought by Respondent for, disbursement from the Barker-Hughesville Block P Disbursement Special Account: (a) response costs paid pursuant to Section XV (Payment of Response Costs); (b) any other payments made by Respondent to the United States pursuant to this Settlement Agreement, including, but not limited to, any interest or stipulated penalties paid pursuant to Section XIX (Stipulated Penalties); (c) attorneys' fees and costs, except for reasonable attorneys' and costs necessarily related to obtaining access or institutional controls, as required by Section IX (Site Access); (d) costs of any response activities Respondent performs that are not required under, or approved by EPA pursuant to, this Settlement Agreement; (e) costs related to Respondent's litigation, settlement, development of potential contribution claims, or identification of respondents; (f) internal costs of Respondent, including but not limited to, salaries, travel, or in-kind services, except for those costs that represent the work of employees of Respondent directly performing the Work; (g) any costs incurred by Respondent prior to the Effective Date except for approved Work completed pursuant to this Settlement Agreement; or (h) any costs incurred by Respondent pursuant to Section XVII (Dispute Resolution).

58. Termination of Disbursements from the Special Account. EPA's obligation to disburse funds from the Barker-Hughesville Block P Disbursement Special Account under this Settlement Agreement shall terminate upon EPA's determination that Respondent: (a) has knowingly submitted a materially false or misleading Cost Summary and Certification; (b) has submitted a materially inaccurate or incomplete Cost

Summary and Certification, and has failed to correct the materially inaccurate or incomplete Cost Summary and Certification within fifteen (15) days after being notified of, and given the opportunity to cure, the deficiency; or (c) failed to submit a Cost Summary and Certification as required by Paragraph 56 within fifteen (15) days (or such longer period as EPA agrees) after being notified that EPA intends to terminate its obligation to make disbursements pursuant to this Section because of Respondent's failure to submit the Cost Summary and Certification as required by Paragraph 56. EPA's obligation to disburse funds from the Barker-Hughesville Block P Disbursement Special Account shall also terminate upon EPA's assumption of performance of any portion of the Work pursuant to Paragraph 80, when such assumption of performance of the Work is not challenged by Respondent or, if challenged, is upheld under Section XVII (Dispute Resolution). Respondent may dispute EPA's termination of special account disbursements under Section XVII (Dispute Resolution).

59. Recapture of Special Account Disbursements. Upon termination of disbursements from the Barker-Hughesville Block P Disbursement Special Account under Paragraph 58, if EPA has previously disbursed funds from the Barker-Hughesville Block P Disbursement Special Account for activities specifically related to the reason for termination, e.g., discovery of a materially false or misleading submission after disbursement of funds based on that submission, EPA shall submit a bill to Respondent for those amounts already disbursed from the Barker-Hughesville Block P Disbursement Special Account specifically related to the reason for termination, plus Interest on that amount covering the period from the date of disbursement of the funds by EPA to the date of repayment of the funds by Respondent. Within thirty (30) days of receipt of EPA's bill, Respondent shall reimburse the Hazardous Substance Superfund for the total amount billed. Payment shall be made in accordance with Paragraphs 51.b. and 51.c. Upon receipt of payment, EPA may deposit all or any portion thereof in the Barker-Hughesville Special Account, the Barker-Hughesville Block P Disbursement Special Account, or the Hazardous Substance Superfund. The determination of where to deposit or how to use the funds shall not be subject to challenge by Respondent pursuant to the dispute resolution provisions of this Settlement Agreement or in any other forum. Respondent may dispute EPA's determination as to recapture of funds pursuant to Section XVII (Dispute Resolution).

60. Balance of Special Account Funds. After EPA issues its written Notice of Completion of Work pursuant to this Settlement Agreement, and after EPA completes all disbursement to Respondent in accordance with this Section, if any funds remain in the Barker-Hughesville Block P Disbursement Special Account, EPA may transfer such funds to the Barker-Hughesville Special Account or to the Hazardous Substance Superfund. Any transfer of funds to the Barker-Hughesville Special Account or the Hazardous Substance Superfund shall not be subject to challenge by Respondent pursuant to the dispute resolution provisions of this Settlement Agreement or in any other forum.

## **XVII. DISPUTE RESOLUTION**

61. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

62. If Respondent objects to any EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, it shall notify EPA in writing of its objection(s) within ten (10) days of such action, unless the objection(s) has/have been resolved informally. EPA and Respondent shall have thirty (30) days from EPA's receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA.

63. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, the Assistant Regional Administrator of the Office of Enforcement, Compliance and Environmental Justice or the Assistant Regional Administrator of Office of Ecosystems, Protection, and Remediation, in EPA's sole discretion, will issue a written decision on the dispute to Respondent. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondent's obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

## **XVIII. FORCE MAJEURE**

64. Respondent agrees to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

65. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondent shall notify EPA orally within three (3) days of when Respondent first knew that the event might cause a delay. Within five (5) days thereafter, Respondent shall provide to EPA in writing an explanation and description of the reasons for the

delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

66. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondent in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

**XIX. STIPULATED PENALTIES**

67. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 68. and 69. for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVIII (*Force Majeure*). "Compliance" by Respondent shall include completion of the activities under this Settlement Agreement or any work plan or other plan approved under this Settlement Agreement identified below in accordance with all applicable requirements of law, this Settlement Agreement, the SOW, and any plans or other documents approved by EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

68. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 68.b.:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th day
\$2,000	15th through 30th day
\$37,500	31st day and beyond

b. Compliance Milestones

Pre-Construction Planning Documents (Task 1 of the SOW)

- Submission of draft and final Work Plan
- Submission of draft and final Mine Waste Repository Plan
- Submission of draft and final Construction Quality Assurance/Quality Control Plan (QA/QC Plan)
- Submission of draft and final modified Health and Safety Plan (only if required under this Settlement Agreement)
- Submission of draft and final modified Sampling and Analysis Plan (SAP) & Quality Assurance Project Plan (QAPP) (only if required under Settlement Agreement)

Removal Action Implementation (Task 2 of the SOW)

Post-Removal Monitoring (Task 4 of the SOW)

Payment of Future Response Costs

69. Stipulated Penalty Amounts - Reports. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports, including, but not limited to, the reports set forth below, or other written documents as required by this Settlement Agreement, SOW or Work Plan:

Pre-Construction Planning Documents (Task 1 of the SOW)

- Submission of draft and final Work Plan
- Submission of draft and final Mine Waste Repository Plan
- Submission of draft and final Construction Quality Assurance/Quality Control Plan (QA/QC Plan)
- Submission of draft and final modified Health and Safety Plan (only if required under this Settlement Agreement)
- Submission of draft and final modified Sampling and Analysis Plan (SAP) & Quality Assurance Project Plan (QAPP) (only if required under Settlement Agreement)

Reporting (Task 3 of the SOW)

Post-Removal Monitoring (Task 4 of the SOW)

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500	1st through 14th day
\$1,000	15th through 30th day
\$2000	31st day and beyond

70. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 80. of Section XXI, Respondent shall be liable for a stipulated penalty in the amount of \$500,000.

71. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated

penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and 2) with respect to a decision by the Assistant Regional Administrator level or higher, under Section XVII (Dispute Resolution), during the period, if any; beginning on the 31st day after the Negotiation Period begins until the date that the EPA management official issues a final decision regarding such dispute. Nothing in this Settlement Agreement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement. If the EPA management official makes a final decision pursuant to Section XVII (Dispute Resolution) that there has been no violation, there shall not be a penalty associated with this alleged violation.

72. Following EPA's determination that Respondent has failed to comply with a requirement of this Settlement Agreement, EPA may give Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

73. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) days of Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invoke the dispute resolution procedures under Section XVII (Dispute Resolution). All payments to EPA under this Section shall be made in accordance with the payment instructions set forth in Paragraph 51. above.

74. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Settlement Agreement.

75. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until fifteen (15) days after the dispute is resolved by agreement or by receipt of EPA's decision under Section XVIII (Dispute Resolution).

76. If Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 72. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Section, except in the case of a willful violation of this Settlement Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XXI, Paragraph 80.

Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

**XX. COVENANT NOT TO SUE BY EPA**

77. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work, Past Response Costs, and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondent of all obligations under this Settlement Agreement, including, but not limited to, payment of Past and Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondent and does not extend to any other person.

**XXI. RESERVATIONS OF RIGHTS BY EPA**

78. Except as specifically provided in this Settlement Agreement, nothing in this Settlement Agreement 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 Settlement Agreement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

79. The covenant not to sue set forth in Section XX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

- a. claims based on a failure by Respondent to meet a requirement of this Settlement Agreement;
- b. liability for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;

e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

80. Work Takeover. In the event EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondent may invoke the procedures set forth in Section XVII (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondent shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this Settlement Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

## **XXII. COVENANT NOT TO SUE BY RESPONDENT**

81. Respondent covenants not to sue and agrees not to assert any claims or causes of action against EPA, or its contractors or employees, with respect to the Work, Past Response Costs or Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the State of Montana Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against EPA pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work, or Future Response Costs.

d. any direct or indirect claim for (1) disbursement from the Barker-Hughesville Special Account or Barker-Hughesville Block P Disbursement Special Account, except as provided in Section XVI (Disbursement of Special Account Funds).

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

83. Respondent agrees not to seek judicial review of the final rule listing the Site on the NPL based on a claim that changed Site conditions that resulted from the performance of the Work in any way affected the basis for listing the Site.

### **XXIII. OTHER CLAIMS**

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

85. Except as expressly provided in Section XX (Covenant Not to Sue by EPA), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement Agreement, 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 for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

86. No action or decision by EPA pursuant to this Settlement Agreement 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).

### **XXIV. CONTRIBUTION**

87. a. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work and Future Response Costs.

b. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondent has, as of the Effective Date, resolved its liability to the United States for the Work and Future Response Costs.

c. Nothing in this Settlement Agreement precludes the United States or Respondent from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing in this Settlement Agreement diminishes the right of the United States, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

## **XXV. INDEMNIFICATION**

88. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any such contractor shall be considered an agent of the United States.

89. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

90. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

## **XXVI. INSURANCE**

91. At least five (5) days prior to commencing any on-Site work under this Settlement Agreement, Respondent shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of one (1) million dollars, combined single limit, naming EPA as an additional insured. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondent shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Settlement Agreement. If Respondent demonstrates 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 an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

## **XXVII. FINANCIAL ASSURANCE**

92. On or before June 30, 2011, Respondent shall establish and maintain financial security for the benefit of EPA for the Work to be conducted during the 2011 Season pursuant to this Settlement Agreement in the amount of \$2,000,000 in one or more of the following forms, in order to secure the completion of Work by Respondent:

- a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;
- b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA; and/or
- c. a trust fund administered by a trustee acceptable in all respects to EPA.

93. Within sixty (60) days before initiation of Work for the 2012 Season, pursuant to this Settlement Agreement, Respondent shall establish and maintain financial security for the benefit of EPA for the 2012 Season of Work in the amount of \$2,000,000 in one of the forms set forth in paragraph 92, in order to secure the completion of Work by Respondent.

94. Within sixty (60) days before initiation of Work for the 2013 Season, pursuant to this Settlement Agreement, Respondent shall establish and maintain financial security for the benefit of EPA for the 2013 Season of Work in the amount of \$2,000,000 in one of the forms set forth in paragraph 92, in order to secure the completion of Work by Respondent.

95. If Work is required beyond the 2013 Season, EPA will notify Respondent in writing in a timely manner and state the reasons for any Work beyond the 2013 Season. Within sixty (60) days before initiation of any additional Seasons, in accordance with the terms of this Settlement Agreement, Respondent shall establish and maintain financial security for the benefit of EPA for any additional Season of Work in the amount of \$2,000,000 (or in a lesser amount in the event such Work is less than \$2,000,000), in one of the forms set forth in paragraph 92, in order to secure the completion of Work by Respondent.

96. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondent shall, within thirty (30) days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 92, above. In addition, if at any time EPA notifies Respondent that the anticipated cost of completing the Work to be performed during one of the Seasons identified in Paragraph 95., 96., 97., and 98., above has increased by more than 25% (based on the minimal value of work per Season), then, within thirty (30) days of such notification, Respondent shall obtain and present to EPA for approval a revised form of financial assurance for that Season (otherwise acceptable under this Section) that reflects such cost increase. Respondent's inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

97. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining Work for the Season has diminished below the amount set forth in Paragraph 92., 93., 94., or 95. of this Section, Respondent may, one time during each Season and one time after each Season, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondent may seek dispute resolution pursuant to Section XVII (Dispute Resolution). Respondent may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

98. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

## **XXVIII. MODIFICATIONS**

99. The OSC may make modifications to any plan or schedule or Statement of Work in writing or by oral direction provided that any revisions or modifications are consistent with achieving the objectives set forth in the SOW. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement Agreement may be modified in writing by mutual agreement of the parties.

100. If Respondent seeks permission to deviate from any approved work plan or schedule or Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 99.

101. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

## **XXIX. ADDITIONAL REMOVAL ACTIONS**

102. If EPA determines, at any time, that additional removal actions not included in an approved plan are necessary to protect public health, welfare, or the environment, EPA may select further response actions for the Block P Mine Complex in accordance with the requirements of CERCLA and the NCP provided that any revisions or modifications are consistent with achieving the objectives set forth in the SOW, and will notify Respondent of that determination. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional removal actions are necessary to protect public health, welfare, or the environment, Respondent shall submit for approval by EPA a Work Plan for the additional removal actions. The plan shall conform to the applicable requirements of Section VIII (Work to Be Performed) of this Settlement Agreement. Upon EPA's approval of the plan pursuant to Section VIII, Respondent shall implement the plan for additional removal actions in accordance with the provisions and schedule contained therein. This Section does not alter or diminish the OSC's authority to make oral modifications to any plan or schedule pursuant to Section XXVIII. (Modifications).

## **XXX. REMEDY REVIEW**

103. Periodic Review. Respondent shall conduct any studies and investigations that EPA requests in order to permit EPA to conduct reviews of whether the removal action is protective of human health and the environment at least every five years as required for remedial actions by Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable

regulations. The five year reviews for this removal action will be incorporated into the five year reviews for the remedial action for the Site.

104. Opportunity To Comment. Respondent and, if required by Sections 113(k)(2) or 117 of CERCLA, 42 U.S.C. § 9613(k)(2) or 9617, the public, will be provided with an opportunity to comment on any further response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA and to submit written comments for the record during the comment period.

105. Respondent's Obligation To Perform Further Response Actions. If EPA selects further response actions for the Site, EPA may require Respondent to perform such further response actions. Respondent may invoke the procedures set forth in Section XVII (Dispute Resolution) to dispute (a) EPA's determination that the reopener conditions set forth in Section XXI (Reservation of Rights by EPA) are satisfied, (b) EPA's determination that the removal action is not protective of human health and the environment, or (c) EPA's selection of the further response actions.

106. Submission of Plans. If Respondent is required to perform further response actions pursuant to Paragraph 102., it shall submit a plan for such response action to EPA for approval in accordance with the procedures of Section VIII (Work To Be Performed). Respondent shall implement the approved plan in accordance with this Settlement Agreement.

### **XXXI. NOTICE OF COMPLETION OF WORK**

107. When EPA determines, after EPA's review of the Final Report, that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including record retention, EPA will provide written notice to Respondent. If EPA determines that any such Work has not been completed in accordance with this Settlement Agreement, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan if appropriate in order to correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Settlement Agreement.

### **XXXII. INTEGRATION/APPENDICES**

108. This Settlement Agreement and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement: Appendix A Site Map; Appendix B Action Memorandum; and Appendix C Statement of Work.

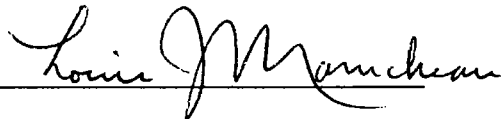
**XXXIII. EFFECTIVE DATE**

109. This Settlement Agreement shall be effective when it is signed by the Regional Administrator or his/her delegate.

The undersigned representative of Respondent certifies that it is fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the party it represents to this document.

Agreed this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

THE DOE RUN RESOURCES CORPORATION

By: 


Date: 6 JUN 11

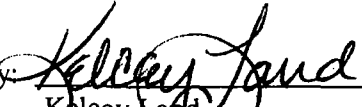
Name: LOUIS J. MARUCHEAU


Title: VICE PRESIDENT LAW

It is so ORDERED and Agreed this 15<sup>th</sup> day of June, 2011

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

By:  Date: 6/14/11  
David Ostrander  
Director, Preparedness, Assessment and  
Emergency Response Program  
Office of Ecosystems Protection  
and Remediation

By:  Date: 6/15/11  
Kelcey Land  
Director, Technical Enforcement Program  
Office of Enforcement, Compliance  
and Environmental Justice

By:  Date: 6/15/11  
Matthew Cohn  
Supervisory Attorney, Legal Enforcement Program  
Office of Enforcement, Compliance  
and Environmental Justice



C:\GIS\Barker-Hughesville\Tech\Memo\Figures\Oblique.mxd

Figure 1.1-2  
 Oblique View, Barker-Hughesville Mining District  
 Site Investigation Summary Report - January 2005  
 Barker-Hughesville Mining District NPL Site



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 8  
DENVER, CO 80202-1129  
1595 Wynkoop Street  
Phone 800-227-8917  
<http://www.epa.gov/region08>

Ref: 8EPR-ER

**ACTION MEMORANDUM**

**SUBJECT:** Request for Approval of a Non-Time-Critical Removal Action at the Barker Hughesville Mining District NPL Site – Block P Mine Complex

**FROM:** Steven Way, On-Scene Coordinator  
Emergency Response Unit *Steven Way*

**THROUGH:** Curtis Kimbel, Chief  
Emergency Response Unit *Curtis Kimbel*

**TO:** David A. Ostrander, Director  
Preparedness, Assessment & Response Program

Site ID#: *085N*  
~~08RN~~ - OU 01 *870*

Category of Removal: Non-Time Critical, PRP-Lead

**I. PURPOSE**

The purpose of this Action Memorandum is to request and document approval of the proposed PRP-lead removal action described herein for the Block P Mine Complex of Operable Unit 01 (OUI) at the Barker Hughesville Mine District NPL Site, located near the town of Monarch, Cascade and Judith Basin County(s), Montana. The actions discussed herein are consistent with anticipated and/or potential future Remedial actions at the Site. The extent of the construction required to complete these actions and the very short annual construction season at the Site will necessitate the removal taking more than twelve (12) months to complete.

Ongoing releases of hazardous substances from the Block P Mine Complex waste dumps and mine workings into area drainages continue to cause water quality standards, for both aquatic life and drinking water, to be exceeded in Galena Creek and associated groundwater. Accordingly, conditions at the Site present an imminent and substantial endangerment to human health or the environment and meet the criteria for initiating a Non-Time Critical Removal Action (n-TCRA) under 40 C.F.R. Section 300.415(b)(2) of the National Contingency Plan (NCP).

## II. SITE CONDITIONS AND BACKGROUND

### A. Site Description

The Barker-Hughesville Mining District NPL Site (Site) is within Judith Basin County and Cascade County, approximately 40 miles southeast of Great Falls, Montana. Actions discussed in this Memorandum include related activities at the Block P mine, the Wright/Edwards mines, the Belt Patent mine, and the Grey Eagle mine (the 'Block P Mine complex').

Mining activities in the project area date back to 1879, when the first discovery of silver and lead ores was made. By 1883, near-surface ore deposits were depleted and underground workings were being expanded. Mining continued into the mid-1900s at the Block P Mine complex. (Data are summarized in the Engineering Evaluation/Cost Analysis (EE/CA) for the Block P Mine Complex, Barr Engineering; March 2010.)

#### 1. Removal Site Evaluation

**Upper Galena Creek Drainage:** The Upper Galena Creek drainage is located in the center of the Site, downstream of Green Creek and Daisy Creek. It encompasses about 1,178 acres and includes Galena Creek from the Block P Mine through the town of Barker. The Upper Galena Creek drainage also includes Silver Creek and Bend Gulch Creek. There are a total of 19 mine sites located within this drainage, the largest of which is the Block P Mine. Water quality in Galena Creek is poor throughout the drainage due to degrading influences from the Block P Mine Complex, upstream tributaries with contaminated with mine waste, numerous adit discharges to the creek, and recharge from impacted groundwater. Creek water is often rust-colored, the pH is seasonally low, and the stream bed is iron stained.

**Lower Galena Creek Drainage:** The Lower Galena Creek drainage is located downstream of the town of Barker and includes Galena Creek through its confluence with Dry Fork Belt Creek. This drainage encompasses 549 acres and includes three mine sites including the Block P Tailings, Silver Bell, and SW SE Section 7 mine.

#### 2. Physical Location

The Site is located in west-central Montana, in the Little Belt Mountains. The portion of the Site being addressed by this action is approximately ten miles east of the town of Monarch, MT, in the Galena Creek watershed. Site elevations range from approximately 5,500 ft MSL to more than 6,000 ft MSL. (Figure 1, Attachment 1 – Site Map)

### **3. Site Characteristics**

The estimated waste rock volume for the five mines of the Block P Mine complex is approximately 260,000 cubic yards. These waste rock dumps are located within the channels of Galena Creek and a tributary (an intermittent stream) to Silver Creek. Recent samples have shown lead concentrations in the waste rock dumps range from approximately 4,500 milligrams per kilogram (mg/kg) to 21,000 mg/kg. Zinc is also highly elevated in several waste rock samples with concentrations ranging up to approximately 3,000 mg/kg. Water from seasonal snow melt run-off and precipitation events percolate through the mine wastes, producing acid mine drainage from the dumps, releasing hazardous substances into area drainages and associated ground water, and eroding additional wastes into surface water.

In addition, contaminated water accumulated in underground mine workings flow from adits directly into surface drainages. Flow volumes from the Block P mine adit (discharge water at approximately a pH of 3.5 standard units) vary widely during the year, ranging as high as approximately 300 gallons per minute. Also, alluvial groundwater levels rise seasonally, saturating portions of the waste dumps which further contribute to hazardous substance releases into surface water.

### **4. Release or Threatened Release Into the Environment of a Hazardous Substance, or Pollutant or Contaminant**

Analyses of samples collected at the Site indicate presence of high concentrations of heavy metals, including zinc, cadmium, and lead, in waste, sediment and mine drainage waters. For example, flows from the Block P Mine adit contain zinc at concentrations ranging from 27,000 to 30,000 micrograms per liter (ug/L). In addition, these same hazardous substances are found in several miles of surface water at the Site. These heavy metals are "hazardous substances" as defined by Section 101(14) of the Comprehensive Environmental, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Section 9601(14). Accordingly, release of these hazardous substances into the environment from this Site poses an imminent and substantial threat to public health or the environment.

Aquatic life in Galena Creek below the Block P Mine complex is practically non-existent. Impacts to aquatic life are evident in the Dry Fork of Belt Creek below the confluence with Galena Creek due to elevated concentrations of heavy metals and low pH water being transported from the mines. Galena Creek surface water sampling shows that concentrations of heavy metals increase 10 to 20 times immediately below the Block P Mine from those samples collected immediately above the Block P mine. These concentrations are more than 10 times above the surface water quality standards for some metals.

## **5. NPL Status**

The Barker Hughesville Mine District Site has been listed on the NPL.

### **B. Other Actions to Date**

#### **1. Previous Actions**

There have been no previous CERCLA removal actions performed at Block P Mine complex

Initial investigations at the Site were performed by the EPA Region 8 Superfund Remedial program. Subsequent Site removal evaluations continued pursuant to terms of an Administrative Order on Consent (AOC) with the PRP for development of an EE/CA.

A 2004 removal action at the Block P Tailings Impoundment was performed by the PRP pursuant to terms of an administrative order from the USDA-FS. . Accordingly, the Block P Tailings impoundments were consolidated into the upper tailings pond and covered with a geo-membrane and vegetated soil cap.

Water quality in Lower Galena Creek remains poor due primarily to upstream discharges to Upper Galena Creek, within the NPL Site.

#### **2. Current Actions**

In addition to the removal action described herein, EPA is conducting a remedial action at the Site, as discussed elsewhere in this document.

### **C. Federal, State, and Local Authorities' Roles**

#### **1. Federal, State and Local Actions to Date**

The State of Montana has directly assisted with site assessment activities. They have participated in the assessment and planning associated with the removal proposed in this document.

#### **2. Potential for Continued State/Local Response**

The State is anticipating involvement in future activities in the area during subsequent remedial actions. The State is expected to remain involved in the removal planning and oversight, and supports this proposed removal.

### **III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

The levels of surface contamination and the unsecured nature of ongoing Site releases support the decision to develop an EE/CA and perform a removal at the Site. Conditions existing at the Site meet the criteria for initiating a Removal Action under 40 CFR, §300.415 (b) (2) of the National Contingency Plan (NCP).

The following factors from § 300.415 (b) (2) of the NCP form the basis for EPA's determination of the threat present and the appropriate action to be taken:

**(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;**

Flora and fauna in the surrounding aquatic environment are being exposed to and adversely affected by heavy metals released from the Site through direct contact (primarily ingestion) with waste rock containing hazardous substances, and/or consumption of water impacted by mine discharge waters. There is a potential for direct human and animal access to areas of the Site where hazardous substances exist at high concentrations on the surface, and where offsite migration of hazardous substances into surface waters, channel bottoms, wetlands, and seasonal private recreation properties, creates additional threats of exposure;

**(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;**

Risk to aquatic life from heavy metals in surface water is elevated for Galena Creek, Dry Fork Belt Creek, and their tributaries where there exists multiple metals which have a high frequency of hazard quotients (HQ) values above 1, based on both the chronic and acute toxicity benchmarks (HQ values were often into the 10-100 range, indicating a significant threat to aquatic life). The highest risks appear to be due to cadmium, copper, iron, lead, and zinc. The highest HQ are usually in Galena Creek, Daisy Creek, and Silver Creek. Similar levels of risks are found for the sediments present in the channel bottoms of these water ways. (Ref: Screening-Level Ecological Risk Assessment (SLERA) for the Barker Hughesville Mining District Superfund Site. April 25, 2007)

**(iii) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;**

As evidenced by the sampling analyses and Site evaluation which have been completed thus far, there are several findings that demonstrate the release of hazardous substances, pollutants, or contaminants into the environment. Metals (especially lead and zinc) have been found in the soil and surface water sediments and there is obvious evidence of erosion of mineralized waste rock into surface water and onto surrounding areas. Recent samples have shown lead concentrations found in the waste rock dumps ranges from approximately 4,500 mg/kg to 21,000 mg/kg. Zinc is also highly elevated in several waste rock samples ranging up to approximately 3,000 mg/kg. Surface water quality standards are exceeded for these metals and others within this area of the Site. Substantial increases in dissolved metals concentrations are observed for copper, zinc, and lead below the Block P mines.

- (iv) **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;**

Annual snow melt run-off conditions contribute significantly to the continuing release of the hazardous substances into adjacent surface water, which has led to heavy sediment contamination and low pH values in the water.

- (vi) **The availability of other appropriate federal or state response mechanisms to respond to the release;**

EPA is the lead agency for overseeing PRP Removal actions at this NPL Site, as discussed in this Action Memorandum.

**A. Threats to the Public Health or Welfare**

The following are descriptions of the threats posed to the human population by the specific contaminants found in the material in the various Site piles. However, the frequency of exposure is generally expected to be low.

**Lead**

There is a potential for humans to come into direct contact with material in the various piles. Lead concentrations are elevated in numerous waste rock samples. Lead is classified as a B2 carcinogen by EPA, and lead compounds are known to cause acute health effects. (The classification as a carcinogen is the result of animal studies determining that these compounds are probable human carcinogens). Lead can enter the body via ingestion and inhalation. Children appear to be the segment of the population at greatest risk from toxic effects of lead. Initially, lead travels in the blood to the soft tissues (heart, liver, kidney, brain, etc.). Then it gradually redistributes to the bones and teeth where it tends to remain. Children exposed to high levels of lead have exhibited nerve damage, permanent mental retardation, colic, anemia, brain damage, and death.

**B. Threats to the Environment**

The threats to the environment, specifically to the aquatic life in Galena Creek and the Dry Fork of Belt Creek have been described previously in this document. The following are descriptions of the threats to the environment posed by the specific contaminants found in the waste and acid mine drainage at the Site.

**Zinc**

Zinc is found in Galena Creek at levels 10 to 20 times above the surface water quality standard. Zinc produces acute toxicity in freshwater organisms over a range of concentrations below those found on the Site. Acute toxicity is similar for freshwater

fish and invertebrates. In many types of aquatic plants and animals, growth, survival, and reproduction can all be adversely affected by elevated zinc levels.

### Cadmium

Cadmium levels in Galena Creek below the Block P mine are at approximately 30 times above surface water quality standards. Laboratory experiments suggest that cadmium may adversely effect fish reproduction in levels present at the Site. Cadmium is highly toxic to wildlife; it is cancer-causing and teratogenic and potentially mutation-causing, with severe sub-lethal and lethal effects at even low environmental concentrations. It bio-accumulates at all trophic levels, accumulating in the livers and kidneys of fish. Crustaceans appear to be more sensitive to cadmium than fish and mollusks. Cadmium can be toxic to plants at lower soil concentrations than other heavy metals and is more readily taken up than other metals.

### Copper

Copper concentrations in Galena Creek are found at levels approximately 10 times above the highest (based on water hardness) surface water quality standards. Copper produces acute toxicity in freshwater animals and data is available for species in 41 genera. Data for eight species indicates that acute toxicity also decreases with increases in alkalinity and total organic carbon. Chronic values are available for 15 freshwater species (for Brook Trout, as low as 3.873 ug/l, depending on hardness). Copper concentrations are found above 200 ug/L in Galena Creek. Fish and invertebrate species seem to be about equally sensitive to the chronic toxicity of copper. Copper is highly toxic in aquatic environments, adversely effecting fish, invertebrates and amphibians. Copper will bio-concentrate in many different organs in fish (potential low, however) and mollusks. Copper sulfates and other copper compounds are algacides, with sensitive algae potentially affected by free copper at low ppb concentrations. Toxicity tests have been conducted on copper with a wide range of freshwater plants, and their sensitivities are similar to those of animals.

## **IV. ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions described in this Action Memorandum, present an imminent and substantial threat to public health, or welfare, or the environment.

## **V. EXEMPTION FROM STATUTORY LIMITS**

This is to be a PRP-Lead Removal action: Therefore, an exemption from the statutory limits is not required. This removal will be consistent with potential remedial actions currently anticipated for the Site. The amount of construction discussed herein, combined with a very short construction season at this location, necessitates construction taking more than twelve (12) months to complete.

## VI. PROPOSED ACTIONS AND ESTIMATED COSTS

### A. Proposed Actions

#### 1. Proposed Action Description

The recommended actions include removing waste rock from its current location on the Block P Mine Complex mines on hillsides (slopes) adjacent to Galena Creek, in and along surface water drainages, and consolidating the waste rock into an engineered repository located on-Site (Figure 2 – Site Layout, Attachment 1). (Currently, Area 2 is the planned location for the on-Site repository as shown in Figure 3 – Proposed Repository Locations, Attachment 1.) The repository will be designed so as to minimize infiltration and run-on and, in turn, prevent migration of hazardous substances from the waste rock. The removal action is expected to contribute to remedial performance, is intended to provide long-term protection, and to be consistent with future actions at the Site.

The major components of the action are listed below and may include other actions consistent with the overall scope of this removal:

- a. Temporarily diverting Galena Creek flow around the construction area;
- b. Clearing out the damaged old wooden structures, metal pipe and other debris on the waste dump(s) and from the channel;
- c. Constructing or improving existing roads between the Site to the repository so as to support haul-truck traffic;
- d. Constructing an engineered repository so as to permanently store Site wastes, to include an earthen and geo-membrane (e.g., HDPE, PVC or equivalent) composite cover;
- e. Removing waste rock and other mine waste (approximately 260,000 cubic yards) from the specified mines, impacted adjacent land and portions of Galena Creek within and near the area adjacent to the Block P Mine Complex;
- f. Constructing an engineered seal in the mine shaft that is connected to the Block P Mine adit so as to prevent draining water from entering the workings from nearby surface and near surface flow;
- g. Reducing water inflow to the Block P mine workings from surface and near surface drainage, where possible; and
- h. Restoring areas impacted during the removal, including re-constructing Galena Creek and amending and revegetating the waste dump areas.

#### 2. Contribution to Remedial Performance

This Site is a part of the Barker Hughesville Mine District NPL Site. Removal actions described herein are intended to provide long-term Site protection, and are consistent with future remedial actions contemplated for other portions of the

NPL Site. As part of the requirements under the Administrative Order and the Statement of Work for this removal action, the PRP will institute appropriate post-removal Site controls (PRSC). Such PRSC include actions necessary to ensure the effectiveness and integrity of this action, including but not limited to those steps taken to minimize inflow to or outflow from the Block P mine shaft adit, securing the repository cap so as to ensure long-term cap integrity, and re-vegetating, re-contouring, or restoring areas disturbed during the removal.

### **3. Description of Alternative Technologies**

At this time, no alternative technologies have been identified as appropriate for the removal actions discussed herein. Alternative technologies for remedial actions anticipated elsewhere on the Site are continually being investigated and, as appropriate, will be selected during Remedial design.

Doc Run Resources Corporation prepared an Engineering Evaluation and Cost Analysis (EE/CA) that EPA submitted to the public for comment from March 22 – April 30, 2010.

### **5. Applicable or Relevant and Appropriate Requirements (ARARs)**

This Removal Action will attain to the extent practicable, considering the exigencies of the situation, applicable or relevant and appropriate requirements of federal environmental or more stringent state environmental laws. General regulatory conditions that apply to the Site are described below. A list of potential ARARs and detailed analysis is presented in Attachment 2.

The Removal Action as it relates to channel construction/stabilization and waste pile removal within a channel is covered under the auspices of the nationwide permit by rule provided for under the Clean Water Act 404 requirements.

RCRA Section 3001(b) (3) (A) (ii), the **Bevill exclusion**, excludes "solid waste from the extraction and beneficiation of ores and minerals" from regulation as hazardous waste under Subtitle C of RCRA.

### **6. Project Schedule**

This PRP-lead Removal start is planned for August 2010, with the completion anticipated in November 2012

#### **B. Estimated Costs**

The estimated PRP Removal cost, as presented in the EE/CA for this action, is approximately \$ 6 million. EPA oversight costs will be incurred, and reimbursed, during PRP implementation of this Removal.

**VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

Heavy metal contaminants will continue to migrate off-site from the Block P Mine Complex by various leaching and erosion mechanisms and from active mine discharges into Galena Creek, impacting and degrading creek ecosystems. Additionally, contaminants in the creek will be carried downstream into the Dry Fork of Belt Creek, thereby adversely impacting additional ecosystems should action be delayed or not taken.

**VIII. ENFORCEMENT**

As indicated above, the Doe Run Resources Corporation, a PRP, is expected to perform the proposed Removal Action under the terms of an Administrative Order.

**IX. RECOMMENDATION**

This decision document represents the selected Removal Action for the Block P Mine Complex waste piles, which is a portion of Operable Unit 01 of the NPL Site, and it is developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP Section 300.415(b) (2) criteria for a Removal, and I recommend your approval of this proposed PRP-lead, Non-Time Critical Removal Action.

Approve: David A. Ostrander  
David A. Ostrander  
Director  
Preparedness, Assessment, and  
Response Program

Date: 8/19/2010

Disapprove: \_\_\_\_\_  
David A. Ostrander  
Director  
Preparedness, Assessment, and  
Response Program

Date: \_\_\_\_\_

### SUPPLEMENTAL DOCUMENTS

Support/reference documents which may be helpful to the reader and/or have been cited in the report may be found in the Administrative Record File at the Superfund Records Center for EPA Region 8 – Montana Operations office in Helena, Montana.

Attachment 1: Figures

Attachment 2: ARARs Analysis

**Attachment 1 (Figures)**

**Figure 1 - Site Location**

**Figure 2 – General Site Layout**

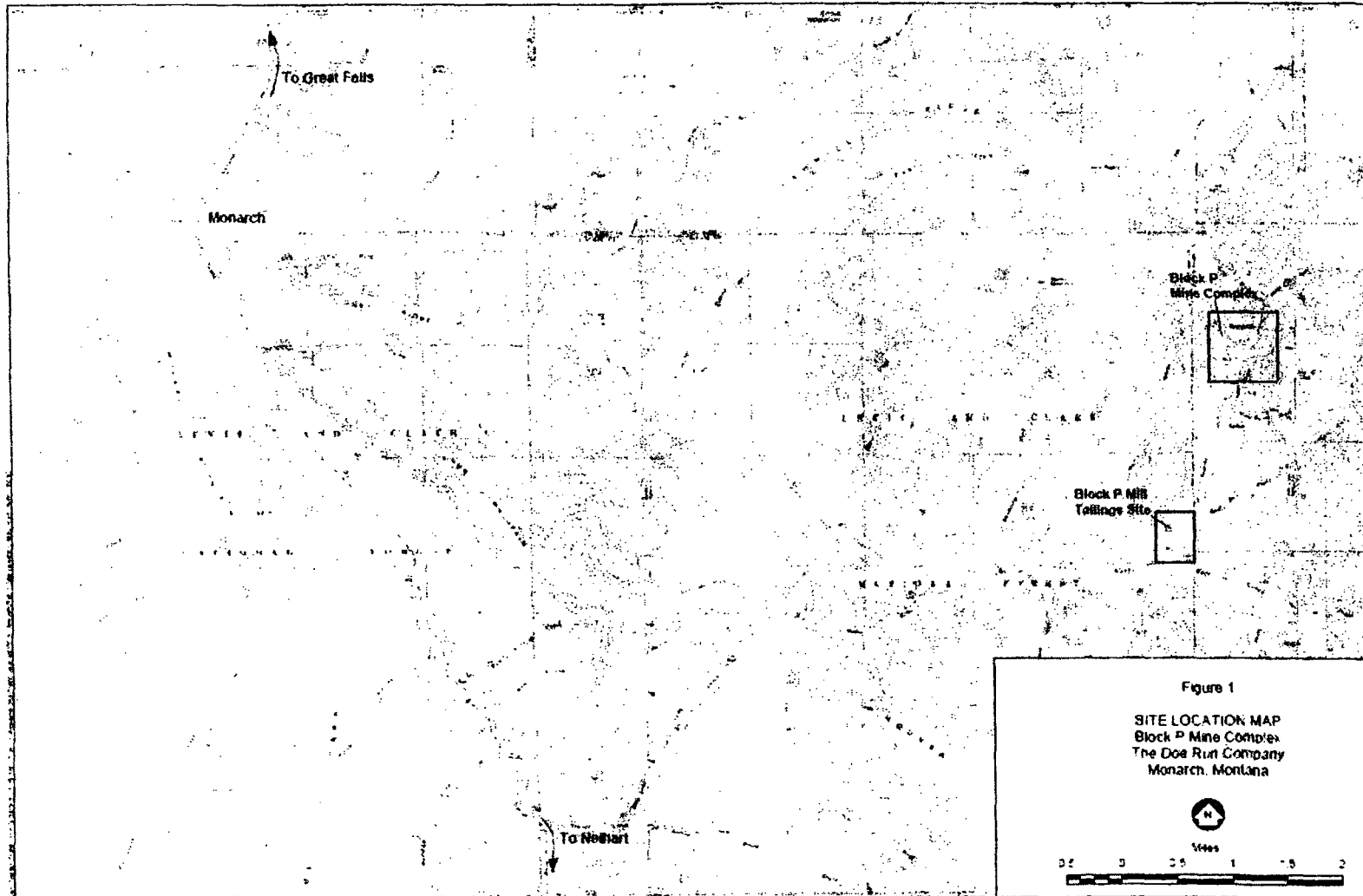
**Figure 3 - Proposed Repository Locations**

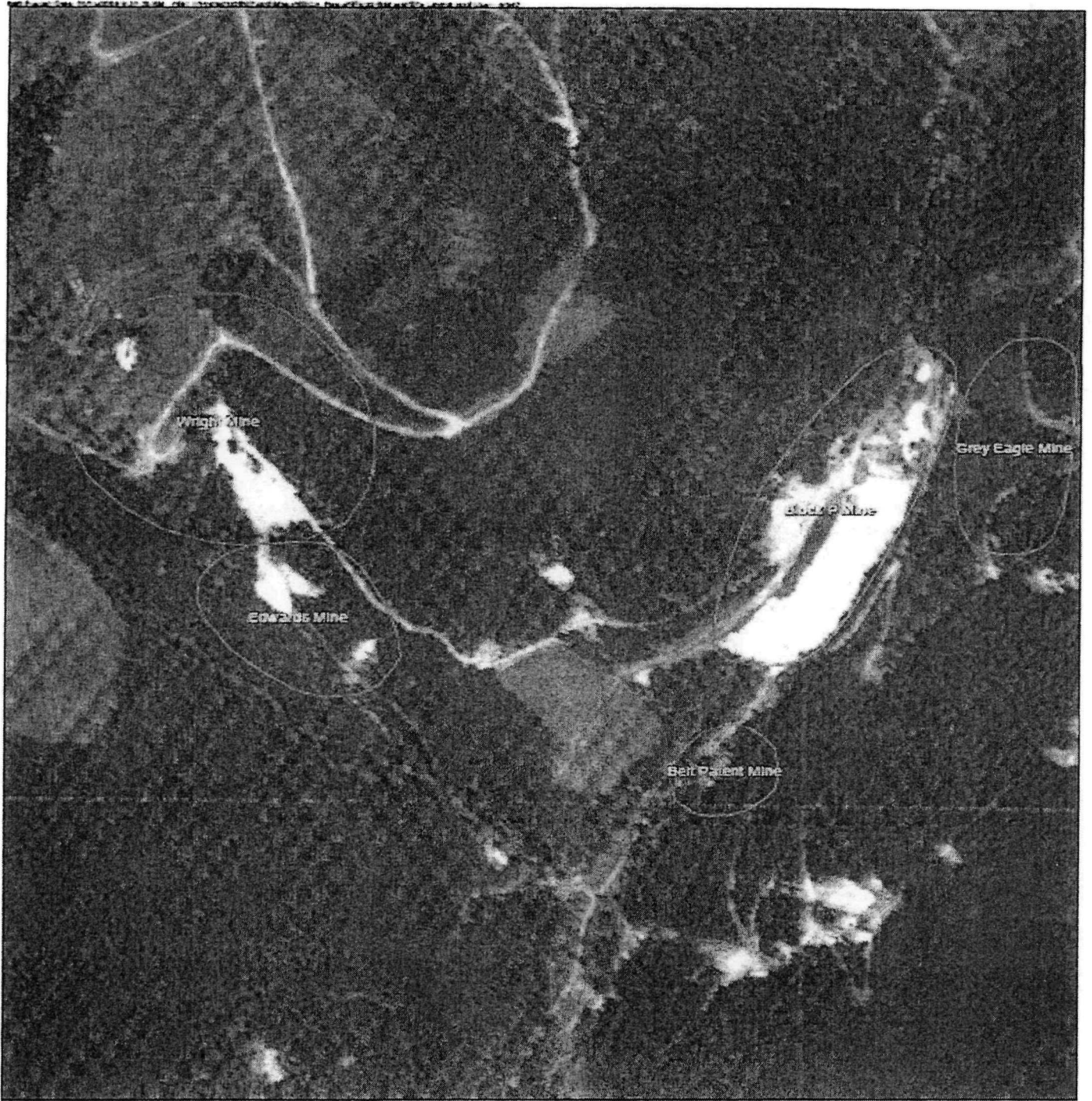
**Barker Hughesville Mine District NPL Site  
Block P Mine Complex  
Removal Action**

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○ Approximate Mine Site Areas

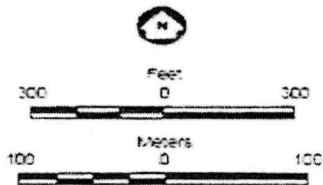
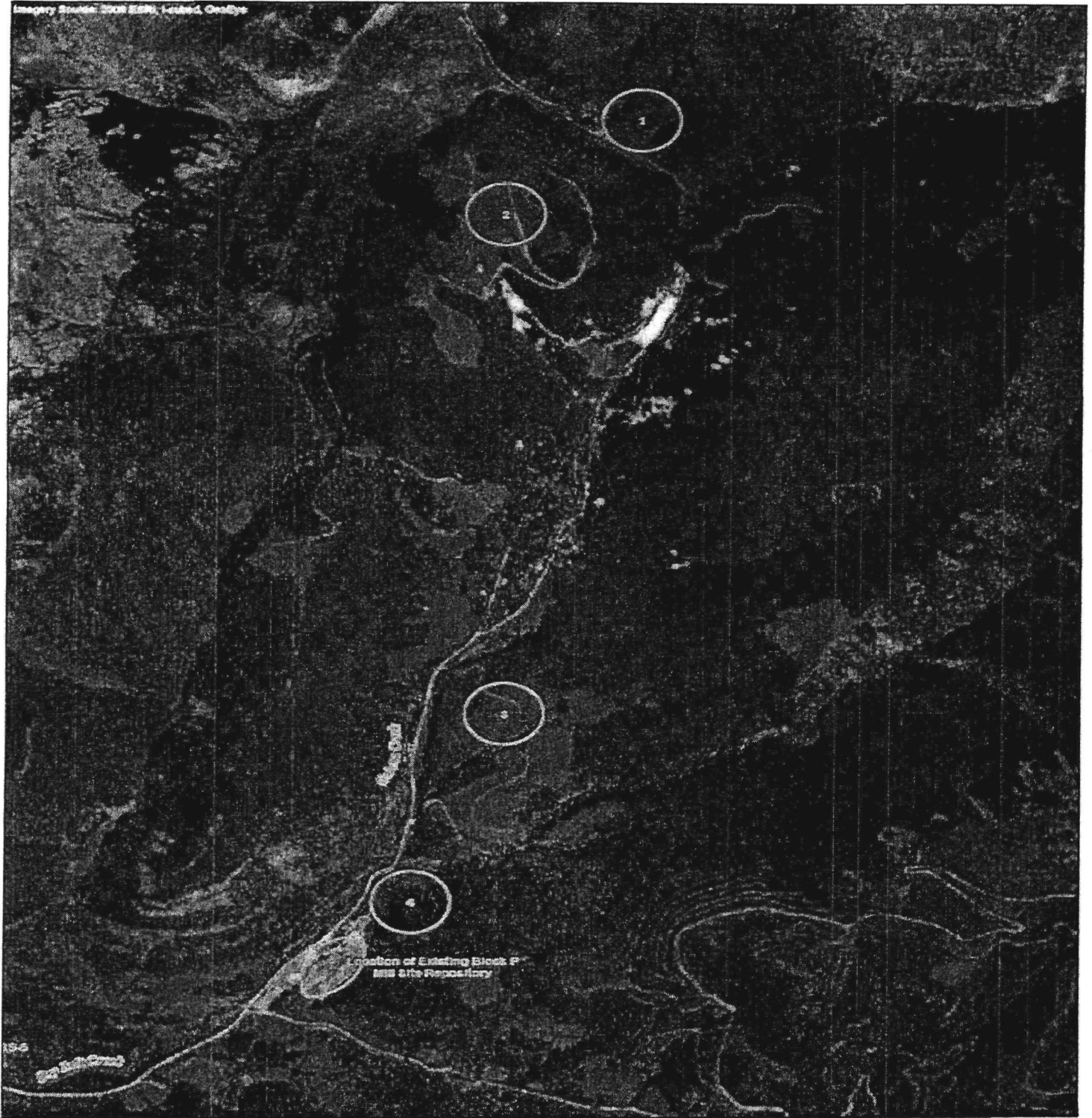


Figure 2  
 GENERAL SITE LAYOUT  
 Block P Mine Complex  
 The Doe Run Company  
 Monarch, Montana



Potential Repository  
Location

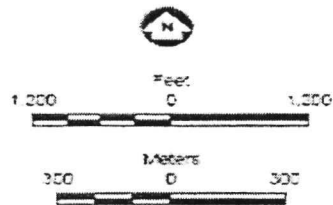


Figure 17  
POTENTIAL REPOSITORY  
LOCATIONS  
Block P Mine Complex  
The Doe Run Company  
Monarch Montana

**Attachment 2  
Applicable or Relevant and Appropriate Requirements  
(ARARs) Analysis**

**Barker Hughesville Mine District NPL Site  
Block P Mine Complex  
Removal Action**

**Table H-1  
Contaminant-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
<i>Federal</i>			
Safe Drinking Water Act	40 USC § 300 <sup>1</sup>		
National Primary Drinking Water Regulations	40 CFR Part 141	Establishes health-based standards for public water systems (maximum contaminant levels).	Relevant and Appropriate <sup>2</sup>
National Secondary Drinking Water Regulations	40 CFR Part 143	Establishes aesthetic standards for public water systems (secondary maximum contaminant levels).	Relevant and Appropriate <sup>3 4</sup>
Water Pollution Prevention & Control Act	33 USC §§ 1251-1387 <sup>5</sup>		
Water Quality Regulations	40 CFR Part 131	Sets criteria for water quality based on toxicity to aquatic organisms and human health.	Not Applicable, Defer to Montana Regulations <sup>6</sup>
National Priority Pollutant Discharge Elimination System	40 CFR Part 122	General permits for discharge from construction.	Not Applicable, Defer to Montana Regulations <sup>7</sup>
Clean Air Act	40 USC § 7409 <sup>8</sup>		
National Primary and Secondary Ambient Air Quality Standards	40 CFR Parts 50.6 and 50.12	Air quality levels that protect public health. Specifically, PM-10 and lead airborne concentration limits.	Not Applicable, Defer to Montana Regulations <sup>9</sup>
Resource Conservation and Recovery Act	42 USC § 6901-6987 <sup>10</sup>		
Lists of Hazardous Wastes	40 CFR Part 261, Subpart D	Defines those solids wastes which are subject to regulation as hazardous wastes under 40 CFR Parts 262-265 and Parts 124, 270, and 271.	Not applicable based on Bevill Amendment. <sup>11</sup>
	40 CFR Part 264	Requirements for proper handling, transport, storage, and disposal of hazardous wastes.	Not applicable based on Bevill Amendment. <sup>12</sup>

**Table H-1  
Contaminant-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
<i>State of Montana</i>			
<b>Montana Water Quality Act</b>	<b>MCA 75-5-101 et seq.</b>	Laws to prevent, abate, and control the pollution of state waters.  It is unlawful to cause pollution of any state waters, to place any wastes in a location where they are likely to cause pollution of any state waters, or to violate any permit provision.	Applicable <sup>13</sup>
Regulations Establishing Ambient Surface Water Quality Standards	ARM 17.30.623  ARM 17.30.637	Provides the water use classification for various streams and imposes specific water quality standards per classification.  Requires that the State's surface waters be free from, among other things, substances that will create concentrations or combinations of materials that are harmful to human, animal, plant or aquatic life. No waste may be discharged and no activities may be conducted that can reasonably be expected to violate any of the standards.	Applicable, Outside Scope <sup>14</sup>  Applicable, Outside Scope <sup>15</sup>
Regulations Establishing Waste Treatment Standards	ARM 17.30.635	Imposes waste treatment requirements to restore and maintain the quality of surface water to applicable water use categories.	Applicable, Outside Scope
Nondegradation of Water Quality	ARM 17.30.705-717	Applies nondegradation requirements to any activity which would cause a new or increased source of pollution to state waters and outlines review procedures.	Applicable, Outside Scope <sup>16</sup>
<b>Montana Groundwater Act</b>	<b>MCA 85-2-101 et seq.</b>		
Montana Groundwater Pollution Control System Regulation	ARM 17.30.1006	Classifies groundwater into Classes I through IV and establishes the groundwater quality standards for each groundwater classification	Applicable, Outside Scope <sup>17</sup>

**Table H-1  
Contaminant-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Montana Groundwater Pollution Control System Regulation (continued)	ARM 17.30.1005	Establishes the applicability of groundwater quality standards and the basis for classification	Applicable, Outside Scope <sup>18</sup>
	ARM 17.30.1011	Requires that any groundwater whose existing quality is higher than the standard for its classification must be maintained at that high quality unless degradation is allowed under the principles established in 75-5-303, MCA, and nondegradation rules ARM 17.30.705 et seq.	Applicable, Outside Scope <sup>19</sup>
Clean Air Act of Montana	MCA 75-2-102		
Air Quality Regulations	ARM 17.8.220	No person shall cause or contribute to concentrations of particulate matter in the ambient air such that the mass of settled particulate matter exceeds the following 30-day average; 10 grams per square meter.	Applicable <sup>20</sup>
	ARM 17.8.222	Ambient air lead standard.	Applicable <sup>21</sup>
	ARM 17.8.223	Ambient air PM-10 standard.	Applicable <sup>22</sup>
	ARM 17.8.304-308	Requires construction and demolition to control emissions of airborne particulate matter.	Applicable <sup>23</sup>

**Table H-1  
Contaminant-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Air Quality Regulations (continued)	ARM 17.8.604	Lists certain wastes that may not be disposed of by open burning, including oil or petroleum products, RCRA hazardous wastes, chemicals, and treated lumber and timbers.	Applicable
	ARM 17.24.761	Requires a fugitive dust control program be implemented in reclamation operation, and lists specific components of such a program.	Relevant and Appropriate <sup>24</sup>

<sup>1</sup> These are enforceable in Montana under the Public Water Supplies, Distribution, and Treatment Act and corresponding regulations, MCA § 75-6-101, *et seq.*, and ARM § 17.38.203.

<sup>2</sup> The National Primary Drinking Water Regulations (40 CFR Part 141) establish maximum contaminant levels (MCL) for chemicals in drinking water distributed in public water systems. Safe Drinking Water Act MCLs are relevant and appropriate to this removal action because the water in Galena Creek and nearby tributaries is a potential source of drinking water to residents in the area. These regulations also establish maximum contaminant level goals (MCLG) which are also relevant and appropriate for this removal action. MCLGs are health-based goals which are established at levels at which no known or anticipated adverse effects on the health of persons occur and which allow an adequate margin of safety. According to the NCP, MCLGs that are set at levels above zero must be attained by removal actions for ground or surface waters, such as Galena Creek, that are current or potential sources of drinking water. Where the MCLG for a contaminant has been set at a level of zero, the MCL promulgated for that contaminant must be attained by the removal actions.

<sup>3</sup> The National Secondary Drinking Water Regulations (40 CFR Part 143) establish MCLs for certain additional constituents, as identified in the table in Footnote 4.

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<sup>4</sup> The MCLs and MCLGs for contaminants of concern at the Block P Mine Complex are:

<u>Contaminant</u>	<u>MCL (mg/L)</u>	<u>MCLG<sup>a</sup> (mg/L)</u>
Antimony	0.006	0.006
Arsenic	0.01	NE
Cadmium	0.005 <sup>b</sup>	0.005 <sup>b</sup>
Copper	1.3 <sup>c</sup>	1.3 <sup>c</sup>
Iron	0.3 <sup>d</sup>	NE
Lead	0.015 <sup>c</sup>	0
Manganese	0.05 <sup>d</sup>	NE
Mercury	0.002 <sup>b</sup>	0.002 <sup>b</sup>
Silver	NE	NE
Thallium	0.002 <sup>b</sup>	0.0005
Zinc	5.0 <sup>d</sup>	NE

NE - Not Established

<sup>a</sup> 40 CFR § 141.51(b)

<sup>b</sup> 40 CFR § 141.62(c)

<sup>c</sup> 40 CFR § 141.80(c) No MCL, but specifies BAT to be applied

<sup>d</sup> 40 CFR § 143.3 Secondary MCL

<sup>5</sup> As provided under Section 303 of the Clean Water Act, 33 USC § 1313, the State of Montana has promulgated water quality standards. See the discussion concerning State surface water quality requirements in endnotes.

<sup>6</sup> Not an ARAR since the State of Montana has promulgated water quality standards.

<sup>7</sup> Not an ARAR since the regulation of storm-water runoff from mining operations is excluded in 40 CFR § 122.26. Defer to State of Montana requirements for storm-water control and BMP.

<sup>8</sup> These are enforceable in Montana under the Clean Air Act of Montana and corresponding regulations, MCA § 75-2-101, et seq., and ARM § 17.8.101-230.

<sup>9</sup> Not an ARAR since only "major" sources are subject to NAAQS requirements. Defer to corresponding State of Montana standards, found at ARM § 17.8.222 and ARM § 17.8.223. These provisions establish standards for PM-10 and lead emissions to air, respectively. The lead standard is 1.5

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$\mu\text{g}/\text{m}^3$ , maximum arithmetic mean averaged over a calendar quarter and the PM-10 standard is 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), 24-hour average concentration.

<sup>10</sup> Solid waste from the extraction, beneficiation, and processing of ores and minerals is not a listed waste in RCRA due to the Bevill Exemption, as outlined in 40 CFR § 261.4(b)(7). Further the State of Montana has incorporated by reference all federal RCRA requirements, as provided by ARM § 17.53.105, unless mentioned otherwise below.

<sup>11</sup> Not an ARAR – Bevill Exemption.

<sup>12</sup> Not an ARAR – Bevill Exemption. The RCRA Subtitle C requirements discuss provisions related to solid wastes left in place in “waste management areas,” (i.e. a repository) as a result of removal actions. Due to the similarity of mining waste repositories to the RCRA “waste management unit,” certain discrete portions of the RCRA Subtitle C implementing regulations will be relevant and appropriate for the Block P Mine Complex removal action. This will be further discussed in the Table H-3, Action-Specific ARARs.

<sup>13</sup> The Clean Water Act, 33 U.S.C. § 1251, et seq., provides the authority for each state to adopt water quality standards (40 CFR Part 131) designed to protect beneficial uses of each water body and requires each state to designate uses for each water body. The Montana Water Quality Act, MCA Section 75-5-101, et seq., establishes requirements to protect, maintain, and improve the quality of surface and groundwater.

<sup>14</sup> Montana’s regulations classify State waters according to quality, place restrictions on the discharge of pollutants to State waters, and prohibit degradation of State waters. Pursuant to this authority and the criteria established by Montana surface water quality regulations, ARM § 17.30.601, et seq., Montana has established the Water-Use Classification System. Under ARM § 17.30.610, tributaries to the Missouri River have been classified “B-1” according to the Water-Use Classification System. Galena Creek is a part of the Missouri River drainage, which is a documented recreational fishery.

Attainment of water quality standards, as described in this section, is beyond the scope of this removal action. Water quality will be addressed by the actions taken within the scope of work outlined in the EE/CA by reducing metals loading from surface runoff, groundwater infiltration through tailings and waste rock, and discharging mine workings passing over tailings and waste rock.

Waters classified B-1 are, after conventional treatment for removal of naturally present impurities, suitable for drinking, culinary and food processing purposes. These waters are also suitable for bathing, swimming and recreation, growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers, and use for agricultural and industrial purposes. This section provides also that concentrations of carcinogenic, bioconcentrating, toxic or harmful parameters which would remain in water after conventional water treatment may not exceed standards set forth in department circular DEQ-7. DEQ-7 provides that “whenever both Aquatic Life Standards and Human Health Standards exist for the same analyte, the more restrictive of these values will be used as the numeric Surface Water Quality Standard.” These numerical standards for the contaminants of concern are listed below.

**Montana DEQ-7 Surface Water Quality Standards**

**Aquatic Life Standards**

<b>Contaminant</b>	<b>Acute (µg/L)</b>	<b>Chronic (µg/L)</b>	<b>Human Health Standards (µg/L)</b>
Aluminum <sup>a</sup>	750	87	NE
Antimony	NE	NE	5.6
Arsenic	340	150	10
Cadmium	2.1 <sup>b</sup> /1.1 <sup>c</sup> /0.52 <sup>d</sup>	0.27 <sup>b</sup> /0.16 <sup>c</sup> /0.10 <sup>d</sup>	5
Copper	14 <sup>b</sup> /7.3 <sup>c</sup> /3.8 <sup>d</sup>	9.3 <sup>b</sup> /5.2 <sup>c</sup> /2.8 <sup>d</sup>	1,300
Iron <sup>e</sup>	NE	1,000	NE
Lead	82 <sup>b</sup> /34 <sup>c</sup> /14 <sup>d</sup>	3.2 <sup>b</sup> /1.3 <sup>c</sup> /0.54 <sup>d</sup>	15
Manganese <sup>e</sup>	NE	NE	NE
Mercury	1.7	0.91	0.05
Silver	4.1 <sup>b</sup> /1.2 <sup>c</sup> /0.37 <sup>d</sup>	NE	100
Thallium	NE	NE	0.24
Zinc	120 <sup>b</sup> /67 <sup>c</sup> /37 <sup>d</sup>	120 <sup>b</sup> /67 <sup>c</sup> /37 <sup>d</sup>	2,000

NE - Not Established

<sup>a</sup> The aluminum standard is based on the dissolved fraction. All other parameters are based on the total recoverable fraction.

<sup>b</sup> The aquatic life standard is based on hardness. Value shown is for a hardness of 100 mg/L as CaCO<sub>3</sub>.

<sup>c</sup> The aquatic life standard is based on hardness. Value shown is for a hardness of 50 mg/L as CaCO<sub>3</sub>.

<sup>d</sup> The aquatic life standard is based on hardness. Value shown is for a hardness of 25 mg/L as CaCO<sub>3</sub>.

- 
- Concentrations of iron and manganese must not reach values that interfere with the uses specified in the surface and groundwater standards (ARM 17.30.601 et seq. and ARM § 17.30.1001 et seq.). The secondary maximum contaminant levels of 300 µg/L and 50 µg/L, respectively, may be considered guidance to determine levels that will interfere with the specified uses.

The B-1 classification standards at ARM §17.30.623 also include the following criteria: 1) dissolved oxygen concentration must not be reduced below the levels given in department circular DEQ-7; 2) induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be less than 0.5 pH unit. Natural pH outside of this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0; 3) the maximum allowable increase above naturally occurring turbidity is 5 nephelometric turbidity units; 4) temperature increases must be kept within prescribed limits; 5) no increases are allowed above naturally occurring concentrations of sediment or suspended sediment, settleable solids, oils or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife; 6) true color must not be increased more than five color units above naturally occurring color.

<sup>15</sup> Provides that surface waters must be free of substances attributable to industrial practices or other discharges that will: (a) settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines; (b) create floating debris, scum, a visible oil film (or be present in concentrations at or in excess of 10 milligrams per liter) or globules of grease or other floating materials; (c) produce odors, colors or other conditions which create a nuisance or render undesirable tastes to fish flesh or make fish inedible; (d) create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life; (e) create conditions which produce undesirable aquatic life.

ARM §17.30.637 also states that no waste may be discharged and no activities conducted which, either alone or in combination with other waste activities, will cause violation of surface water quality standards.

In addition, ARM §17.30.637 provides that leaching pads, tailings ponds, or water or waste or product holding facilities must be located, constructed, operated and maintained in such a manner and of such materials to prevent any discharge, seepage, drainage, infiltration, or flow which may result in pollution of state waters, and a monitoring system may be required to ensure such compliance.

<sup>16</sup> The provisions of this subchapter apply to any activity of man resulting in a new or increased source which may cause degradation. "New or increased source" means an activity resulting in a change of existing water quality occurring on or after April 29, 1993. The term does not include the following: (b) nonpoint sources discharging prior to April 29, 1993, where "nonpoint source" means a diffuse source of pollutants resulting from the activities of man over a relatively large area, the effects of which normally must be addressed or controlled by a management or conservation practice. The removal action in the Block P Mine Complex will consolidate and cap several areas of nonpoint sources from mining activities before April 29, 1993, thus this is not applicable.

<sup>17</sup> Provides that groundwater is classified into Classes I through IV based on its specific conductance and establishes the applicable ground water quality standards with respect to each groundwater classification. Groundwater throughout the Block P Mine Complex is considered Class I

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groundwater to be maintained for its potential use as a public and private drinking water supply. The proposed action does not directly address groundwater and the existing impacts to groundwater quality from the site.

Concentrations of dissolved substances in Class I or II groundwater may not exceed the human health standards listed in Circular DEQ-7. These levels are listed below for the primary contaminants of concern.

<u>Contaminant</u>	<u>DEQ-7 Standard (mg/L)<sup>a</sup></u>
Antimony	0.006
Arsenic	0.01
Cadmium	0.005
Copper	1.3
Iron	NE <sup>b</sup>
Lead	0.015
Manganese	NE <sup>b</sup>
Mercury	0.002
Silver	0.1
Thallium	0.002
Zinc	2.0

NE- Not Established

<sup>a</sup> DEQ-7 standards for metals and arsenic in ground water are based on the dissolved portion of the sample (after filtration through a 0.45  $\mu$ m membrane filter).

<sup>b</sup> Concentrations of iron and manganese must not reach values that interfere with the uses specified in the surface and groundwater standards (ARM § 17.30.601 et seq. and ARM § 17.30.1001 et seq.). The secondary maximum contaminant levels of 300  $\mu$ g/L and 50  $\mu$ g/L, respectively, may be considered guidance to determine levels that will interfere with the specified uses.

Response actions must meet the DEQ-7 standards for all contaminants at the site. In addition, for Class I and Class II ground water, no increase of a parameter may cause a violation of MCA § 75-5-303, (nondegradation).

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ARM §17.30.1006 requires that concentrations of other dissolved or suspended substances must not exceed levels that render the waters harmful, detrimental or injurious to public health. Maximum allowable concentrations of these substances also must not exceed acute or chronic problem levels that would adversely affect existing or designated beneficial uses of groundwater of that classification.

<sup>18</sup> Establishes the applicability and basis for the groundwater standards in ARM § 17.30.1006, which establish the maximum allowable changes in groundwater quality and may limit discharges to groundwater.

<sup>19</sup> This section provides that any groundwater whose existing quality is higher than the standard for its classification must be maintained at that high quality in accordance with MCA § 75-5-303 and ARM §17.30.7.

An additional concern with respect to ARARs for groundwater is the impact of groundwater upon surface water. If significant loadings of contaminants from groundwater sources to any tributaries within the Block P Mine Complex contribute to the inability of the stream to meet B-1 class standards, then alternatives to alleviate such groundwater loading must be evaluated and, if appropriate, implemented. Groundwater in certain areas may have to be remediated to levels more stringent than the groundwater classification standards in order to achieve the standards for affected surface water. See Compliance with Federal Water Quality Criteria, OSWER Publication 9234.2-09/FS (June 1990) ("Where the ground water flows naturally into the surface water, the ground-water remediation should be designed so that the receiving surface-water body will be able to meet any ambient water-quality standards [such as State WQSs or FWQC] that may be ARARs for the surface water.")

<sup>20</sup> These provisions establish standards for gross particulate matter emissions to air. Montana standards are found at ARM § 17.8.220 and require particulate matter deposition not exceed  $10 \text{ g/m}^2$ , averaged over a 30-day period.

<sup>21</sup> These provisions establish standards for lead emissions to air. Montana standards are found at ARM § 17.8.222 and require airborne lead concentrations not exceed  $1.5 \text{ } \mu\text{g/m}^3$ , maximum arithmetic mean averaged over a calendar quarter.

<sup>22</sup> These provisions establish standards for PM-10 emissions to air. Montana standards are found at ARM § 17.8.223 and require airborne PM-10 concentrations not exceed 150 micrograms per cubic meter ( $\mu\text{g/m}^3$ ), averaged over a 24-hour period.

<sup>23</sup> These provisions require construction sites or demolition projects take reasonable precautions to control emissions of airborne particulate matter. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes.

<sup>24</sup> Each operator shall employ fugitive dust control measures as an integral part of site preparation... and reclamation operations in accordance with MCA § 82-4-231(10)(m), which states "stabilize and protect all surface areas, including spoil piles, to effectively control air pollution" and applicable federal and state air quality standards. Air monitoring equipment must be installed and monitoring must be conducted in accordance with the air monitoring plan required under ARM §17.24.311, a relevant and appropriate standard.

**Table H-2  
Location-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
<b>Federal</b>			
<b>National Historic Preservation Act</b>	<b>16 USC § 470</b> 36 CFR Part 800 40 CFR 6.301 (b)	Requires Federal Agencies to take into account the effect of any Federally-assisted undertaking or licensing on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places.	Applicable
<b>Archeological and Historic Preservation Act</b>	<b>16 USC § 469</b> 40 CFR 6.301(c)	Establishes procedures to provide for preservation of historical and archeological data which might be destroyed through alteration of terrain as a result of a Federal construction project or a Federally licenses activity or program.	Applicable
<b>Protection of Wetlands Order</b>	<b>33 USC § 1344</b>  40 CFR Part 6 Appendix A, Exec. Order 11,990	Avoid adverse impacts associated with the destruction or loss of wetlands and avoid support of new construction in wetlands if a practicable alternative exists.  Prohibits discharge of dredged or fill material into waters of the United States	Applicable <sup>1</sup>  Relevant and Appropriate
<b>Historic Sites, Buildings and Antiquities</b>	<b>16 USC §§ 461-467</b> 40 CFR 6.301(a)	Requires Federal agencies to consider the existence and location of landmarks on the National Registry of Natural Landmarks to avoid undesirable impacts on such landmarks.	Applicable
<b>Fish and Wildlife Coordination Act</b>	<b>16 USC 49, §§ 2901-2912</b> 40 CFR 6.302(g)	Requires consultation when Federal department or agency proposes or authorizes any modification of any stream or other water body to assure adequate protection of fish and wildlife resources.	Applicable
<b>Floodplain Management Order</b>	40 CFR Part 6 Appendix A, Exec. Order 11,990	Requires Federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid the adverse impacts associated with direct and indirect development of a floodplain to the extent possible.	Relevant and Appropriate

**Table H-2  
Location-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

<b>Standard, Requirement Criteria, or Limitation</b>	<b>Citation</b>	<b>Description</b>	<b>Applicable/Relevant and Appropriate?</b>
<b>Endangered Species Act</b>	<b>16 USC §§ 1531-1543 40 CFR 6.302(h) 50 CFR Part 402</b>	Activities may not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify a critical habitat.	Applicable <sup>2</sup>
<b>Bald Eagle Protection Act</b>	<b>16 USC § 668, et seq.</b>	Requires continued consultation with the USFWS during remedial design and remedial construction to ensure that any cleanup of the site does not unnecessarily adversely affect the bald or golden eagle.	Applicable
<b>Migratory Bird Treaty Act</b>	<b>16 USC § 703, et seq.</b>	Establishes a federal responsibility for the protection of the international migratory bird resource and requires continued consultation with the USFWS during remedial design and remedial construction to ensure that the cleanup of the site does not unnecessarily impact migratory birds.	Applicable
<b>Hazardous Waste and Solid Waste Requirements</b>	40 CFR Section 241.202-1	Location standards and restrictions for hazardous waste TSD facilities.	Relevant and Appropriate
	40 CFR Section 258.13	TSD facility setbacks from faults	
	40 CFR Section 258.14	TSD facility exclusions from seismic impact zones	
	40 CFR Section 264.18	Location standards and restrictions for hazardous waste TSD facilities.	
<b>State of Montana</b>			
<b>Floodplain and Floodway Management Act</b>	MCA 76-5-401	Lists the uses permissible in a floodway which do not require structures other than portable structures, fill, or permanent storage of materials or equipment.	Relevant and Appropriate
	MCA 76-5-402	Lists the permissible uses within floodplains but outside of floodway.	Relevant and Appropriate

**Table H-2  
Location-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Floodplain and Floodway Management Act (continued)	MCA 76-5-403	Lists certain uses which are prohibited in a designated floodway, including: any change that will cause water to be diverted from the established floodway, cause erosion, obstruct the natural flow of water, or reduce the carrying capacity of the floodway, or the concentration or permanent storage of an object subject to floatation or movement during flood-level periods.	Relevant and Appropriate <sup>3</sup>
Floodplain Management Regulations	ARM 36.15.216	The factors to consider in determining whether a permit should be issued to establish or alter an artificial obstruction or nonconforming use in the floodplain or floodway are provided in this section.	Relevant and Appropriate (substantive provisions only) <sup>4</sup>
	ARM 36.15.601	Open space uses allowed in the floodway without a permit.	Relevant and Appropriate
	ARM 36.15.602	Permitted uses allowed in floodway requiring a permit.	Relevant and Appropriate (substantive provisions only) <sup>6</sup>
	ARM 36.15.603	Proposed diversions or changes in place of diversions must be evaluated to determine whether they may significantly affect flood flows and, therefore, require a permit.	Relevant and Appropriate (substantive provisions only)
	ARM 36.15.604	Prohibits new artificial obstructions or nonconforming uses that will increase the upstream elevation of the base flood 0.5 of a foot or significantly increased flood velocities.  Identifies artificial obstructions and nonconforming uses that are prohibited within the designated floodway except as allowed by permit and includes "a structure or excavation that will cause water to be diverted from the established floodway, cause erosion, obstruct the natural flow of water, or reduce the carrying capacity of the floodway..." Solid waste disposal and storage of toxic, flammable, hazardous or explosive materials are also prohibited.	Relevant and Appropriate
ARM 36.15.605			

**Table H-2  
Location-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Floodplain Management Regulations (continued)	ARM 36.15.606	Identifies flood control works that are allowed within designated floodways pursuant to permit and certain conditions including: flood control levies and flood walls, riprap, channelization projects, and dams.	Relevant and Appropriate <sup>6</sup>
	ARM 36.15.701	Describes allowed uses in the flood fringe.	Relevant and Appropriate
	ARM 36.15.703	Prohibited uses within the flood fringe including solid and hazardous waste disposal and storage of toxic, flammable, or explosive materials.	Relevant and Appropriate
	ARM 36.15.801	Allowed uses where the floodway is not designated or where no flood elevations are available.	Relevant and Appropriate
<b>Natural Streambed and Land Preservation Standards</b>	<b>MCA 87-5-501, 502, 503 &amp; 504</b>	Fish and wildlife resources are to be protected and no construction project or hydraulic project shall adversely affect game or fish habitat.	Applicable

<sup>1</sup> No adverse impacts anticipated due to scope of the removal action and the fact that no destruction or loss of wetlands will result from the removal action.

<sup>2</sup> No "Threatened/Endangered Species or Critical Habitat" have been identified that would be affected by the removal action.

<sup>3</sup> Substantive portions are relevant and appropriate to the diversion channels to be constructed as part of the removal action. In this remote location, a "designated floodplain" has not been identified. In the absence of a designated floodplain, the standards discussed in this section are identified as relevant and appropriate. The lead agency can determine, based on its determination of the areas likely to be affected by a base flood, where the identified requirements and restrictions should be applied.

<sup>4</sup> No planned artificial obstruction or nonconforming use that will pose any of the hazards listed during a flood event.

<sup>5</sup> Due to limited scope of the removal action, there are none of the listed uses planned within the floodway.

<sup>6</sup> Substantive portions are relevant and appropriate to the diversion channels to be constructed as part of the removal action, provided Galena Creek has been designated a floodway or in those areas identified by the lead agency as a floodway.

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

<b>Standard, Requirement Criteria, or Limitation</b>	<b>Citation</b>	<b>Description</b>	<b>Applicable/Relevant and Appropriate?</b>
<b>Federal</b>			
<b>Clean Water Act</b>	<b>33 USC § 1342</b>		
NPDES	40 CFR Part 122	Requires permits for the discharge of pollutants from any point source into waters of the United States.	<b>Not Applicable -</b>
<b>Surface Mining Control and Reclamation Act</b>	<b>30 USC §§ 1201-1328 30 CFR Part 816</b>	Permanent program performance standards for surface mining activities.	<b>Not Applicable</b>
<b>Hazardous Materials Transportation Act HAZMAT Transportation Regulations</b>	<b>49 USC §§ 5101-5127 49 CFR Parts 10, 171-177</b>	Regulates transportation of hazardous materials.	<b>Not Applicable – No "Offsite Transportation" Planned</b>
<b>Resource Conservation and Recovery Act</b>	<b>42 USC § 6901-6987</b>		
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	40 CFR Part 264	Establish minimum national standards which define the acceptable management of hazardous waste for owners and operators of facilities which treat, store, or dispose of hazardous waste.	<b>Not Applicable – Bevill Amendment <sup>1</sup></b>
Land Disposal Restrictions	40 CFR Part 268	Establish provisions restricting certain hazardous wastes from land disposal.	
<b>State of Montana</b>			
<b>Montana Solid Waste Management Act</b>	<b>MCA 75-10-201, et seq.</b>		
Solid Waste Management Regulations	ARM 17.50.505 ARM 17.50.506	Establishes standards for solid waste management facilities  Establishes design criteria for landfills.	<b>Applicable</b>

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Solid Waste Management Regulations (continued)	ARM 17.50.523	Solid waste must be transported in such a manner as to prevent its discharge, dumping, spilling or leaking from the transport vehicles.	Applicable
	ARM 17.50.530	Establishes closure requirements for landfills.	Applicable <sup>2</sup>
	ARM 17.50.531	Establishes post-closure care requirements for Class II landfills.	Applicable <sup>3</sup>
	ARM 17.50.706	Establishes location and number of monitoring wells and landfill sites.	
	ARM 17.50.707	Establishes monitoring well construction requirements.	Applicable
	ARM 17.50.722	Establishes monitoring well abandonment requirements.	
	ARM 17.50.724	Establishes monitoring well network maintenance requirements.	

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
<p><b>Montana Strip and Underground Mine Reclamation Act</b></p>	<p><b>MCA 82-4-231</b></p>	<p>Operations shall reclaim and revegetate the land affected by his operation rapidly, completely, and effectively. The operator must prepare and carry out a method of operation plan to grade, backfill, topsoil, reduce highways, stabilize subsidence, control water, and reclaim the land. In so doing, all measures must be taken to eliminate damage from soil erosion, subsidence, land slides, water pollution, and hazards dangerous to life and property.</p>	<p>Relevant and Appropriate <sup>4</sup></p>
	<p><b>MCA 82-4-233</b></p>	<p>Requires that after the operation has been backfilled, graded, topsoiled and approved, the vegetative cover must be capable of feeding and withstanding grazing pressure from wildlife and livestock, regenerate under natural conditions prevailing at the site, and prevent soil erosion.</p>	
	<p><b>MCA 82-4-336</b></p>	<p>Requires disturbed areas be reclaimed to utility and stability comparable to adjacent areas.</p>	<p>Relevant and Appropriate</p>
<p><b>Backfilling and Grading Requirements</b></p>	<p>ARM 17.24.501</p>	<p>These sections give general backfilling and grading requirements.</p>	<p>Relevant and Appropriate</p>
	<p>ARM 17.24.504</p>	<p>Provides that permanent impoundments may be retained under certain circumstances.</p>	<p>Relevant and Appropriate</p>
	<p>ARM 17.24.505</p>	<p>Provides requirements for burial and treatment of exposed waste materials.</p>	<p>Relevant and Appropriate</p>
	<p>ARM 17.24.519</p>	<p>The operator may be required to monitor settling of regraded areas.</p>	<p>Relevant and Appropriate <sup>6</sup></p>
	<p>ARM 17.24.520</p>	<p>Spoil materials may be disposed of on-site in accordance with the requirements of this section. This section contains specific requirements for siting, surface runoff, construction of underdrains, and revegetation.</p>	<p>Relevant and Appropriate <sup>6</sup></p>

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
<b>Montana Strip and Underground Mine Reclamation Act (continued)</b>	<b>MCA 82-4-231, 233 &amp; 336</b>		
Hydrology Requirements	<p>ARM 17.24.631</p> <p>ARM 17.24.633</p> <p>ARM 17.24.634</p> <p>ARM 17.24.635-637</p> <p>ARM 17.24.638</p>	<p>In accordance with this section, reclamation operations must be planned and conducted to minimize disturbance to the prevailing hydrologic balance and to prevent material damage to the prevailing hydrologic balance. Changes in water quality and quantity must be minimized and reclamation practices that will prevent or minimize water pollution should be emphasized. Proper pollution control and minimization practices include but are not limited to stabilizing disturbed areas, diverting runoff, regulating channel velocity of water, achieving quickly germinating and growing stands of temporary vegetation, and lining drainage channels.</p> <p>Specifies that "all surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted must be treated..." Sediment control must be maintained until the disturbed area has been restored and revegetation requirements have been met.</p> <p>Specifies requirements for constructed and reclaimed areas of drainage basins, including channel engineering, contours, dynamic equilibrium with the hydraulic system, provide for floods, provide for long-term relative stability of the landscape, and establish or restore diversity of aquatic habitats and riparian vegetation.</p> <p>Set forth requirements for temporary and permanent diversions.</p> <p>Sediment control measures shall be designed using the best technology currently available to prevent additional sediment to streamflows, meet the more stringent of federal or state effluent limitation, and minimize erosion.</p>	<p>Relevant and Appropriate <sup>7</sup></p> <p>Relevant and Appropriate <sup>8</sup></p> <p>Relevant and Appropriate</p> <p>Relevant and Appropriate</p> <p>Relevant and Appropriate</p>

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Hydrology Requirements (continued)	ARM 17.24.640	Provides that discharge from sedimentation ponds, permanent and temporary impoundments, and diversions shall be controlled by energy dissipaters, riprap channels, and other devices, where necessary, to reduce erosion, prevent deepening or enlargement of stream channels, and to minimize disturbance.	Relevant and Appropriate
	ARM 17.24.641	Sets forth methods for prevention of drainage from acid- and toxic-forming spoils into ground and surface waters.	Relevant and Appropriate
	ARM 17.24.645-646	Provides for groundwater protection, groundwater recharge protection, and surface and groundwater monitoring.	Relevant and Appropriate, Outside Scope <sup>9</sup>
	ARM 17.24.649	Prohibits the discharge, diversion, or infiltration of surface and groundwater into existing underground mine workings.	Relevant and Appropriate <sup>10</sup>
	ARM 17.24.651	Requires that no land within 100 feet of a perennial stream or intermittent stream or a stream with a biological community will be disturbed unless the original stream function will be restored and the water quantity and quality and other environmental resources will not be adversely affected.	Relevant and Appropriate

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Top Soiling, Revegetation, and Protection of Wildlife and Air Resource Regulations	ARM 17.24.703	Provides requirements for use of materials other than, or along with, soil for surfacing of spoil.	Relevant and Appropriate
	ARM 17.24.711	Vegetative cover requirements.	Relevant and Appropriate <sup>11</sup>
	ARM 17.24.713	Timing of seed application.	Relevant and Appropriate
	ARM 17.24.714	Pursuant to this section, as soon as practicable, a mulchy or cover crop of small grains, grasses or legumes or both must be used on all regraded and resoiled areas to control erosion, promote germination of seeds and increase the moisture retention of the soil until adequate permanent cover is established.	Relevant and Appropriate
	ARM 17.24.716	Establish the required method of revegetation and provides that introduced species may be substituted for native species as part of an approved plan.	Relevant and Appropriate
	ARM 17.24.717	Whenever tree species are necessary, trees adapted for local site conditions and climate shall be used.	Relevant and Appropriate
	ARM 17.24.718	Soil amendments must be used as necessary to aid in the establishment of permanent vegetative cover. Irrigation, management, fencing, or other measures may also be used after review and approval by the department.	Relevant and Appropriate
	ARM 17.24.721	In accordance with this section, rills and gullies may need to be filled, graded or otherwise stabilized and the area reseeded.	Relevant and Appropriate
	ARM 17.24.723	Monitoring of vegetation, soils, and wildlife.	Relevant and Appropriate <sup>12</sup>
ARM 17.24.724	Success of revegetation shall be evaluated.	Relevant and Appropriate	

**Table H-3  
Action-Specific ARARs  
Block P Mine Complex  
Monarch, Montana**

Standard, Requirement Criteria, or Limitation	Citation	Description	Applicable/Relevant and Appropriate?
Top Soiling, Revegetation, and Protection of Wildlife and Air Resource Regulations (continued)	ARM 17.24.726	Sets means of measuring productivity.	Relevant and Appropriate
	ARM 17.24.731	The revegetated area must furnish palatable forage in comparable quantity and quality during the same grazing period as the reference areas.	Relevant and Appropriate
	ARM 17.24.751	Pursuant to this section, required site activities must be conducted so as to avoid or minimize impacts to important fish and wildlife species, including critical habitat and any threatened or endangered species identified at the site.	Relevant and Appropriate <sup>13</sup>

<sup>1</sup> The mining waste on this site is considered is exempt from RCRA, per Bevill Amendment. However, 40 CFR Part 264.310 (a), (b), and (5), relating to closure, caps, and run-on/run-off controls will be incorporated into the removal action, along with State of Montana Solid Waste Management Act and Regulations, which provide more specific guidelines. The presentation of RCRA Subtitle C requirements in this section assumes that there will be solid wastes placed in "waste management areas" (i.e., the repository) as a result of this removal action. Because of the similarity of the proposed mine waste repository to the RCRA "waste management unit," certain discrete portions of the RCRA Subtitle C implementing regulations will be relevant and appropriate for the Block P Mine Complex removal action. RCRA Subtitle C and implementing regulations are designated as applicable for any hazardous wastes that are actively "generated" as part of this removal action or that were "placed" or "disposed" after 1980. All federal RCRA Subtitle C requirements set forth below are incorporated by reference as State of Montana requirements as provided for under ARM 17.53.105 unless mentioned otherwise below.

<sup>2</sup> ARM 17.50.530(1)(a) and (b) are applicable portions of this regulation, while the remainder of the citation is merely administrative. ARM 17.50.530(1)(a) - "Owners or operators of all Class II landfill units must install a final cover system that is designed to minimize infiltration and erosion. The final cover system must be designed and constructed to: (i) minimize infiltration through the closed unit by the use of an infiltration layer that contains a minimum 18 inches of earthen material and have a permeability less than or equal to the permeability of any bottom liner, barrier layer, or natural subsoils present, or a permeability no greater than  $1 \times 10^{-5}$  cm/sec, whichever is less; (ii) minimize erosion of the final cover by the use of a seed bed layer that contains a minimum of 6 inches of earthen material that is capable of sustaining native plant growth and protecting the infiltration layer from frost effects and rooting damage; and (iii) revegetate the final cover with native plant growth within 1 year of placement of the final cover. The department may approve alternative revegetation plant species or an extension in the time requirement for revegetation." ARM 17.50.530(1)(b) - The department may approve an alternative final cover design that includes: (i) an infiltration layer

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that achieves reduction in infiltration at least equivalent to the infiltration layer specified in (1) (a) (i) and (ii) above; and (ii) an erosion layer that provides protection from wind and water erosion equivalent to the erosion layer specified in (1) (a) (ii) and (iii) above."

<sup>3</sup> ARM 17.50.531(1)(a)(i) pertaining to maintaining the cover is applicable and ARM 17.50.531(1)(a)(iii) applies if the removal action includes post-removal ground water monitoring via installed wells.

<sup>4</sup> Portions are relevant and appropriate. MCA 82-4-231 and MCA 82-4-233 are provisions specific to coal and uranium mining reclamation, not metal mining reclamation, and as such, only certain provisions are relevant and appropriate for this removal action.

<sup>5</sup> This provision requires mining operators to monitor settlement of disturbed areas to determine if future/planned mine reclamation practices need to be altered. Given that the scope of the removal action is to consolidate and cap mine wastes and the other substantive provisions of the State of Montana Solid Waste Management Act and Montana Strip and Underground Mine Reclamation Act call for specific monitoring of the cap and repository until properly revegetated, the intent of this provision will be met by implementing the removal action in accordance with other ARARs. Existing underground workings under the waste rock may cause settlement.

<sup>6</sup> Only portions are relevant and appropriate. This provision regulates the mining operator disposing of spoil materials within permitted areas of an active mine site, which has boundaries that are different from the defined site boundaries for the Block P Mine Complex. The planned removal action will simply consolidate and cap existing waste piles into the selected repository location, which will meet the intent of ARM 17.24.520(3), which describes the siting criteria, construction requirements, and revegetation efforts that must be undertaken to comply with the substantive requirements.

<sup>7</sup> Portions are relevant and appropriate, however, ARM 17.24.631(4), which outlines treatment as a last resort for controlling water pollution as follows, "If pollution can be controlled only by treatment, the permittee shall operate and maintain the necessary water treatment facilities for as long as treatment is required. The department may specify which practices, used to minimize water pollution, may be used on a permanent basis." is outside the scope of the removal action, which is designed only to control the source and consolidate mine wastes, thereby reducing loading and leaching into surface waters.

<sup>8</sup> There is no planned treatment of runoff or storm-water. Nevertheless, best management practices for mitigating the sediment from storm-water and runoff will be employed as part of the removal action to meet the intent of this regulation.

<sup>9</sup> This regulation is intended for use by mining operators to limit ground water impacts during mining and requires operators to use a monitoring well network and sampling around an operating mine to maintain an understanding of the impacts of the ongoing mining operation to ground water and surface water. As such, this requirement is outside the scope of this source control removal action. It could, however, be used to guide any future ground water and adit discharge water monitoring efforts at the site if EPA deems that appropriate for continued remediation efforts.

<sup>10</sup> There is no planned discharge as part of the removal action. However, run-off/stormwater controls will be needed.

<sup>11</sup> Substantive portions are relevant and appropriate. Portions related to agricultural and ranching land-use applications are not applicable to this removal action.

<sup>12</sup> Substantive portions are relevant and appropriate. This regulation is intended for permitted mining operators and monitoring the efficacy of post-remediation efforts at the site. This removal action will apply these substantive requirements to meet the intent of this regulation.

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<sup>13</sup> Portions are relevant and appropriate. ARM 17.24.751(2)(e) - Consult with appropriate state and federal fish and wildlife and land management agencies to ensure that reclamation will provide for habitat needs of various wildlife species in accordance with the approved postmining land use. Pursuant to MCA 82-4-231(10)(j) and MCA 82-4-232(9), special attention must be given to inanimate elements such as rock outcrops, boulders, rubble, dead trees, etc., that may have existed on the surface prior to mining, and to plant species with proven nutritional and cover value for fish and wildlife. Plant groupings and water sources must be distributed to fulfill the requirements of fish and wildlife.

## **Appendix C**

### **Statement of Work Removal Action Block P Mine & Related Mines Barker Hughesville Mining District Site Monarch, Montana May 31, 2011**

#### **I. Background**

The Barker-Hughesville Mining District Site (Site) is located in west-central Montana, in the Little Belt Mountains, east of the town of Monarch. The historic mining operations resulted in deposits of waste rock, mill tailings and uncontrolled acid mine drainage from mine workings in the Dry Fork Belt Creek watershed. Galena Creek is one of the most heavily impacted tributaries to the Dry Fork Belt Creek within the Site. Hazardous substances present in the waste and acid mine drainage, including arsenic, copper, cadmium, lead and zinc, are being released into the environment. Water quality sampling in Galena Creek shows that these metals are present at levels above aquatic life standards and/or maximum contaminant levels for drinking water, and pH levels were found present between 2.8 and 3.8 standard units in locations near the Block P Mine complex.

The Respondent has conducted site investigations of surface water quality, ground water quality, waste rock dumps, underground workings and related discharges in support of the Engineering Evaluation/Cost Analysis (EE/CA) that was completed in March 2010. The EE/CA for the Block P Mine Complex was provided to the public for review and comment in March through April 2010. Additional investigations of the proposed waste repository locations were initiated to further evaluate the hydrologic, geotechnical and access conditions. The recommended Removal Action includes relocating the waste rock to an on-site repository.

#### **II. Objective**

The current scope of this Removal Action includes several mines in the Galena Creek basin including the Block P Mine, Grey Eagle Mine, Edwards Mine, Wright Mine, and the Belt Patent

Mine. The Respondent shall prepare a Work Plan and associated documents for EPA approval and implement the approved Removal Action. The selected action is based on the Administrative Record for the Site and it is designed to prevent the releases from the Block P Mine complex waste rock dumps and reduce the release of hazardous substances from the mine workings. The actions are further described in this Statement of Work (SOW).

### **III. Removal Action Scope**

The Block P Mine Complex for purposes of this SOW is defined to include the following specific mining properties, associated waste dumps and impacted land, and land in the vicinity within the Site necessary to perform the work. Waste volumes referenced below are estimates and not limitations on the potential volume of material to be removed. Specific mines include:

**Barker (Block P) Mine:** The Barker (Block P) mine consists of a large waste rock pile (frequently referred to as the Block P mine dump), mining-era buildings and related structures, and an uncontrolled mine adit (the Block P mine adit). These features are located along the west side of the upper end of Galena Creek. The volume of the waste rock dump is estimated to be 236,000 cubic yards. In addition, the Block P mine adit discharges to Galena Creek via overland flow. The extent of subsurface flow from the mine workings and release to shallow ground water has not been defined. Galena Creek is constrained by the waste dump and waste rock from the Block P mine is present in the adjacent channel.

**Grey Eagle Mine:** The Grey Eagle mine consists of an uncontrolled mine adit (the Grey Eagle adit) located on the east side of the Galena Creek valley, approximately across the valley from the Barker (Block P) mine adit. The Grey Eagle adit maintains a nearly continuous base flow, but depending on the actual flow rate, the adit discharge flows parallel to Galena Creek for approximately 100 feet before either re-infiltrating or entering Queen of the Hills Creek just upstream of its confluence with Galena Creek.

**Wright and Edwards Mine(s):** The mine complex consists of two discrete waste rock dump areas that are located on both sides of small intermittent creek that is a tributary to Silver Creek

on the west side of Galena Creek. The waste rock piles are generally located upslope from the Block P mine dump on the steep slopes of the drainage. The EE/CA investigation provided an estimated volume of the waste rocks at 16,000 cubic yards. There is also at least one open adit located on the Edwards mine, but there is no evidence that it discharges at the surface. Previous reports reference a second collapsed adit feature, but this has not been observed in the field by Doe Run. The Wright mine complex waste rock piles are located on the slopes above the Edwards mine just below the crest of the ridgeline that forms the western boundary of the Galena Creek valley. The workings of the Block P, Edwards, and Wright mines are believed to be interconnected underground. The discrete waste rock piles are assumed to be associated with collapsed adits; however, the adits are not seen from the surface.

**Belt Patent Mine:** The Belt Patent mine is located along the east bank of Galena Creek just downstream of the Barker (Block P) mine dump. There is a pile of unvegetated materials resembling weathered waste rock located in the floodplain of Galena Creek. Previous investigations state that this property includes 750 cubic yards of tailings-like materials, 65 cubic yards of waste rock, and a collapsed adit.

**Adit Drainage:** Acid mine drainage controls associated with adit discharges were evaluated to a limited extent during the investigations supporting the EE/CA. These included consideration for surface run-off flow diversions, backfilling shafts and other measures to minimize surface and ground water inflow into the mine workings. Historical mine mapping and field reconnaissance were used for preliminary concepts to reduce flows into the mine workings. Additional acid mine drainage investigations will take place in the future to help support the site-wide Record of Decision (ROD).

## **V. Work to Be Performed**

### **A. Pre-Construction Planning Documents (Task 1)**

Doe Run started the following planning related documents and activities under the terms of a modification to the Statement of Work for the Administrative Settlement Agreement and Order on Consent for Engineering Evaluation/Cost Analysis (AOC for EE/CA) (CERCLA Docket No.

08-2008-0007). These deliverables shall be completed under the terms of this SOW and associated Administrative Settlement Agreement and Order on Consent for Removal Action (AOC for NTCRA).

The Respondent shall prepare and submit to EPA for review and approval the following:

- A Work Plan
- Mine Waste Repository Plan: secure land, develop engineering designs and specifications
- Construction Quality Assurance/Quality Control Plan
- Health and Safety Plan
- Sampling and Analysis Plan (SAP) & Quality Assurance Project Plan (QAPP)

#### **1. Work Plan**

The Work Plan must have a project description and describe how the Respondent will accomplish the selected removal action and related objectives by describing the specific activities to be performed, the technical approach(s) and equipment to be used to complete the work. Additionally, specific elements of the Work Plan must include:

- Details of the specific tasks and sequencing and schedules;
- Procedures for routine coordination with Federal, State and local agencies including any required road closure plans and permits needed during on-site activities;
- Measures to ensure construction quality control and compliance with the ARARs identified in the Action Memorandum for this Removal;
- Detailed site maps with plan drawings for earth moving/construction activities including proposed areal extent and depth of waste removal, haul routes and road improvement plans, staging areas, borrow sites, water ways and other drainage features;
- Conceptual plans and figures for water management including diversions for surface water in Galena Creek, other creeks, flowing adits and stormwater run-off. Best Management Practices (BMPs), and contingencies for high-flow storm events;
- Soil confirmation sampling (surface and subsurface) and other sampling following removal of mine waste material for metals, pH, and soil properties for re-vegetation;

- Measures consistent with the scope of this Removal Action to reduce the flow of acid mine drainage from the workings associated with the Block P Mine complex;
- Historical structure management – describe an approach that will be used to comply with the National Historic Preservation Act and SHPO requirements; identify removal or stabilization actions as appropriate;
- Site restoration and re-vegetation plans addressing all disturbed areas such as, roads, waste removal areas, repository and borrow sites, Galena Creek channel from the area approximately 50 feet upstream of the Block P mine to approximately 50 feet below the Belt Patent mine;
- Groundwater monitoring well abandonment procedures as required to perform earth moving/construction;
- Seasonal shut-down of on-site operations including securing all waste materials and disturbed land to prevent impacts to the environment and maintain stable conditions;
- Post Removal monitoring and maintenance of the areas involved with this action.

## **2. Mine Waste Repository Plan: Secure Land, Engineering Design and Specifications**

Locations on-site that may be suitable for developing a mine waste repository were evaluated during the development of the EE/CA based on screening criteria for repositories. These potential storage sites were further evaluated to provide additional information prior to selecting the area for a repository. As necessary, prior to initiating engineering design, Doe Run shall obtain additional analysis of the geotechnical, hydrogeologic and related information. The results of this investigation must be summarized in the repository design report. In order to implement the Removal Action, the Respondent must obtain access or title to an appropriate location, to be approved by EPA, for developing a mine waste repository. The mine waste will be relocated to this repository site to create a common location for long-term/permanent storage in an engineered repository. Pending final investigation, specific elements of the repository design and construction requirements will be approved by EPA as part of the design submittal. Requirements identified in the Action

Memorandum for the Site, must be followed. The design and specifications report(s) must include:

- Descriptions of major components of the repository including site investigation and selection, site preparation, sub-grade preparation, constructions materials, waste storage capacities, cap design, drainage controls, road access, restoration, maintenance and ownership;
- Conceptual provisions for expanding the repository for the Block P Mine complex waste to allow placement of the other mine waste from the Barker Hughesville NPL Site;
- Figures and maps with locations, scaled drawings including detail drawings of the storage cell, cap construction, drainage controls, monitoring wells, and borrow site locations;
- Specifications must address all standard engineering provisions for construction including but not limited to materials, materials placement both waste and liners and/or caps, seasonal cover/containment, and all final grading, drainage features and site restoration;
- Construction materials required for the repository including quantities and available source information (i.e., on-site and/or off-site).

### **3. Construction Quality Assurance/Quality Control (QA/QC) Plan**

A QA/QC plan must be submitted with the Repository Design and Specifications. This must include provisions for construction oversight by the Respondent and independent engineering inspections as appropriate during the construction period to ensure specifications are met.

### **4. Health and Safety Plan (HASP)**

A site-specific project health and safety plan was prepared for field investigation and site reconnaissance activities conducted as part of the Block P Mill Site EE/CA project. The health and safety protocols contained in this existing health and safety plan will be reviewed, and revised as necessary, for applicability to the Block P Mine complex

removal work as described in this SOW. The revised Health and Safety plan will be submitted to EPA. A separate HASP or modification of the existing Site HASP must be provided to EPA for review before construction activities begin at the Site. The HASP must address HAZWOPER (29 CFR 1910.120) standards applicable to this site, standard construction safety, communications, potential hazards associated with underground workings and associated subsidence, remote location emergency services and managing public access. **Sampling and Analysis Plan (SAP) & Quality Assurance Project Plan (QAPP)**

The existing SAP and the QAPP for the Site established under the AOC for the EE/CA are considered applicable to any sampling activities required for this work. Modifications to the SAP may be necessary to meet the sampling requirements for this work and those details must include:

- Specific sample/testing locations within each media (including a map).
- Analytical methods if different than those specified in the current Site SAP.

#### **B. Removal Action Implementation (Task 2)**

The approved work described in this SOW and in the approved Work Plan and Design Report shall be implemented by the Respondent to complete the Removal Action approved by EPA. Work began at the Site in the fall of 2010 with road improvements and plugging of a shaft at the Block P Mine. It is anticipated that work for this Removal Action will be completed in 2013. As necessary, modifications of the Work Plan or designs may be required and approved by EPA during the implementation of the work. The Respondent must provide all equipment and personnel necessary to perform the work, and the respondent must ensure the equipment is safe to operate and that personnel are appropriately trained for work on the Site. The major component of the removal action, waste rock removal and repository construction, is planned to begin in 2011. However, it is anticipated that the work may require more than one year to be complete due the short period in the year to perform construction activities in the mountains. Therefore, operations shall be discontinued and the site secured as described in the approved plans in advance of winter weather. Generally, it is expected that this will occur by late

November. The following tasks were started or completed in 2010 as a modification to the Statement of Work under the AOC for EE/CA (CERCLA Docket No. 08-2008-0007).

- **Road Improvements:** The preliminary road improvement work required in the fall of 2010 begins at the town site of Barker and continues to the upper level of the Block P mine waste dump. This included improvements to road sub-grade and/or surface and drainage features (road ditches, culverts, under-drains, etc.) as needed to reasonably ensure suitable road conditions for vehicles and truck access to the Site in the spring of 2011. Additional road improvements are expected to be performed to access the repository and specific mine waste deposits. Appropriate coordination with the County and USDA-Forest Service will be performed before such improvements are implemented.
- **Shaft Plug/Seal:** The Block P Mine Shaft plugging/seal was largely completed in October 2010. The remaining work required at the shaft opening is required to improve safe access on the main road above the mine dump to the repository area. This work was performed to improve the safety conditions at the site by eliminating the large opening into the shaft at the surface. Observations will be performed during the 2011 to determine if the plug is reducing the flow from the Block P Mine adit by reducing the amount of influent to the workings from snow melt and other run-off .
- **Building removal and debris management:** Collapsed and near collapsed building material should be removed from the waste dump and staged for final disposal prior to waste removal operations as necessary to safely perform the Removal Action. A written justification for removing any of the structures based on the site conditions, building stability and engineering evaluation shall be provided in the Work Plan, including the decision to remove the Hoist/Shaft house structure.

### **C. Reporting (Task 3)**

The Respondent shall prepare and submit written progress reports to EPA, State, and the USDA-Forest Service during the course of the work on-site, and at completion of the on-site work, a Final Report for review and approval by EPA. Prior to initiation of on-site activities, the Respondent must provide 14 days notice of the date of mobilization. The respective reporting must address the following elements:

- Progress Reports (bi-weekly): summary of construction activities by task, weekly resource use summaries (personnel, equipment and materials/supplies), and quantities of material handled (i.e., mine waste, soil, road-base/gravel, other individually identified materials used on-site), percent completion estimates, and problems/solutions addressed. Also, the progress reports must provide the data obtained from sampling analysis within 21 days of the sampling event unless otherwise agreed to by the EPA OSC or RPM;
- Final Report: summarize the overall work performed at the site addressing the main elements of the Work Plan, and any significant changes from the Work Plan, including locations, waste volumes removed and placed in a repository, volumes remaining in-place (if any), waterway (channel) restoration, site restoration (soil cover, amendments and vegetation placement details), haul route/road final conditions, waste dump and repository final as-built conditions with drawings.

### **D. Post Removal Site Controls (Task 4):**

The Respondent shall perform the work necessary to ensure timely and effective actions to provide for the long-term effectiveness of the response actions. This must include, but is not limited to, maintaining the repository cover, reclaimed waste dump sites and surrounding areas and other features impacted as part of this response action to ensure waste containments systems are effective and impacted lands are successfully restored. The Work Plan must specify the maintenance program details, such as inspections, measures for repairing/preventing excessive erosion, securing areas to prevent public access that may damage reclaimed areas, ensuring vegetation is successfully established within accepted time-frames, monitoring as necessary to evaluate water quality and other actions required to perform this task.

VI. Schedule

The Respondent shall comply with the following schedule for completion of work, as further provided in the AOC:

Work Task	Schedule
Submit Draft Removal Work Plan <sup>1</sup>	June 21, 2011
Submit Draft Design/Specification Report <sup>1</sup>	June 30, 2011
Submit Draft Construction QA/QC Plan	July 14, 2011
Submit Draft Health and Safety Plan	30 days prior to the beginning of work onsite.
Access road work and shaft plugging <sup>1</sup>	September –November 2010
Mobilization, complete road work and BMPs	June/July 2011
Removal Action – onsite work, weather and onsite conditions allowing, begins on or before:	July 2011 June 1, 2012 June 1, 2013
Removal Action - onsite work completion	October 2013
Submit Monthly Progress Reports  For Task 4 - Submit Progress Reports (annually)  Submit Final Report	During field operations, starting June 30, 2011.  Submit annual reports on or before November 15th of each year until the completion of Post Removal Site controls  Within 90 days following completion of the Removal Action (not including post-removal controls.)

1. Initiated under the terms of the Modified SOW for AOC for EE/CA: CERCLA Docket No. 08-2008-0007 with the associated schedule.

All deliverables shall be submitted to EPA and the State initially in draft form, in accordance with the schedule above, and are subject to review, comment, and written approval by EPA. The Respondent shall revise the documents based on comments provided by EPA and submit a revised deliverable to EPA and the State within 30 days of receipt of EPA comments.