

**ADMINISTRATIVE RECORD**

John C. Cruden  
Deputy Assistant Attorney General  
Environment and Natural Resources Division  
Matthew W. Morrison  
Trial Attorney  
Environmental Enforcement Section  
U.S. Department of Justice  
Ben Franklin Station  
P.O. Box 7611  
Washington, D.C. 20044  
(202) 514-3932

William W. Mercer  
United States Attorney  
District of Montana  
Kris McLean  
Assistant United States Attorney  
District of Montana  
105 East Pine, 2<sup>nd</sup> Floor  
Missoula, Montana 59802  
(406) 542-8851

Mary Capdeville  
Special Assistant Attorney General  
Montana Dept. of Environmental Quality  
Metcalf Building; P.O. Box 20091  
Helena, Montana 59620-0901  
(406) 444-0486

FINAL ENTERED CONSENT DECREE  
AUGUST 14 (separate order) 13 entry date

**LODGED**

MAR 25 2002

Clerk, U.S. District Court  
District of Montana

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PATRICK B. DEFFY CLERK

BY W. W. MERCER

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**ORIGINAL**

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MONTANA  
BUTTE DIVISION

UNITED STATES OF AMERICA  
AND THE STATE OF MONTANA,  
Plaintiffs,

v.

ATLANTIC RICHFIELD COMPANY,  
ASARCO, AR MONTANA  
CORPORATION, MONTANA  
RESOURCES, MONTANA RESOURCES  
INCORPORATED, AND DENNIS  
WASHINGTON,  
Defendants.

CIVIL ACTION NO.

CV 02-35-Bu-RFC

4400401



**498352**

**CONSENT DECREE**  
**FOR THE BUTTE MINE FLOODING SITE**

ENVIRONMENTAL  
PROTECTION AGENCY

AUG 22 2002

MONTANA OFFICE

## TABLE OF CONTENTS

I. <u>BACKGROUND</u> .....	1
II. <u>JURISDICTION</u> .....	8
III. <u>PARTIES BOUND</u> .....	8
IV. <u>DEFINITIONS</u> .....	9
V. <u>GENERAL PROVISIONS</u> .....	21
VI. <u>PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS</u> .....	25
VII. <u>REMEDY REVIEW</u> .....	34
VIII. <u>QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS</u> .....	35
IX. <u>ACCESS AND INSTITUTIONAL CONTROLS</u> .....	37
X. <u>REPORTING REQUIREMENTS</u> .....	42
XI. <u>EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS</u> .....	44
XII. <u>PROJECT COORDINATORS</u> .....	46
XIII. <u>ASSURANCE OF ABILITY TO COMPLETE WORK</u> .....	48
XIV. <u>CERTIFICATION OF COMPLETION</u> .....	52
XV. <u>EMERGENCY RESPONSE</u> .....	55
XVI. <u>REIMBURSEMENT OF RESPONSE COSTS</u> .....	56
XVII. <u>INDEMNIFICATION AND INSURANCE</u> .....	62
XVIII. <u>FORCE MAJEURE</u> .....	66
XIX. <u>DISPUTE RESOLUTION</u> .....	68
XX. <u>STIPULATED PENALTIES</u> .....	73
XXI. <u>COVENANTS BY UNITED STATES AND STATE</u> .....	79
XXII. <u>COVENANTS BY SETTLING DEFENDANTS AND SETTLING FEDERAL AGENCIES</u> ..	92
XXIII. <u>EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION</u> .....	97
XXIV. <u>ACCESS TO INFORMATION</u> .....	99
XXV. <u>RETENTION OF RECORDS</u> .....	101
XXVI. <u>NOTICES AND SUBMISSIONS</u> .....	103
XXVII. <u>AGREEMENT ON POOL COSTS FOR FUTURE NEGOTIATIONS</u> .....	106
XXVIII. <u>RETENTION OF JURISDICTION</u> .....	109
XXIX. <u>APPENDICES</u> .....	109
XXX. <u>EFFECTIVE DATE</u> .....	110
XXXI. <u>COMMUNITY RELATIONS</u> .....	110
XXXII. <u>MODIFICATION</u> .....	110
XXXIII. <u>LODGING AND OPPORTUNITY FOR PUBLIC COMMENT</u> .....	111
XXXIV. <u>SIGNATORIES/SERVICE</u> .....	112



## I. BACKGROUND

A. In 1989, the United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint in the matter of 89-39-BU-PGH (the "Federal Action") pursuant to Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. § 9607 against the Atlantic Richfield Company ("ARCO").

B. In the Federal Action complaint, which was subsequently amended on October 14, 1992 and October 31, 1994, the United States sought recovery of past response costs and declaratory judgment of liability for future response costs paid at or in connection with the Original Portion of the Silver Bow Creek / Butte Area National Priorities List (NPL) Site, the Milltown Reservoir Sediments NPL Site (now referred to as the "Milltown Reservoir/Clark Fork River NPL Site"), and the Anaconda Smelter NPL Site. The Silver Bow Creek / Butte Area NPL Site was amended to include areas in and around Butte, Montana, as described in Paragraph L, below. For purposes of this Consent Decree, the entire Silver Bow Creek / Butte Area NPL Site is herein referred to as the SBCB Site. The Federal Action complaint did not include claims relating to the Butte Portion of the SBCB Site, which includes the Butte Mine Flooding Operable Unit and the Butte Active Mine Area Operable Unit.

C. In a prior Consent Decree entered in the Federal Action, known as the Streamside Tailings Operable Unit and Federal and Tribal Natural Resource Damages Consent Decree ("Streamside Tailings Consent Decree"), the Court ordered that claims which may be asserted for the related Butte Portion of the SBCB Site, but which are not included in the Federal Action, be subject to negotiations for resolution of CERCLA claims.

D. Accordingly, the United States, on behalf of the Administrator of EPA, is filing with this Consent Decree a new action, pursuant to Sections 106 and 107 of CERCLA, against ARCO, and five other defendants -- Montana Resources, Montana Resources, Incorporated; Dennis Washington; AR Montana Corporation; and ASARCO (collectively the "MR Group"). The claims asserted by the United States include claims for, *inter alia*: (1) reimbursement of Past Response Costs paid by EPA and the Department of Justice for response actions at the Butte Mine Flooding Operable Unit and a related removal action at the Travona Shaft / West Camp Operable Unit, which is part of the Butte Mine Flooding Operable Unit (collectively the "Mine Flooding Site"), together with accrued interest; (2) a declaratory judgment regarding liability for Future Response Costs paid at the Mine Flooding Site; and (3) the performance of certain response actions at the Mine Flooding Site consistent with CERCLA's implementing regulations, which are contained in the National Contingency Plan (NCP) at 40 C.F.R. Part 300.

E. The State of Montana (the "State"), acting by and through the Montana Department of Environmental Quality ("DEQ"), has joined in the United States' complaint as a co-plaintiff, alleging claims under CERCLA and the Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA), §§ 75-10-701, MCA, et seq. relating to the Mine Flooding Site.

F. For the Mine Flooding Site, EPA has named ARCO and the MR Group (collectively, the "Settling Defendants") and others as potentially responsible parties pursuant to section 107 of CERCLA, 42 U.S.C. § 9607, by notice letters issued pursuant to section 120 of CERCLA, 42 U.S.C. § 9620, by other letters, and by orders issued pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

G. In the Federal Action, ARCO filed counterclaims against the United States, seeking cost recovery, contribution, contractual indemnity, equitable indemnification, recoupment, and declaratory

relief. The Settling Defendants could assert similar counterclaims against the United States for the Mine Flooding Site.

H. This Consent Decree addresses only the area within the Butte Portion of the SBCB Site that comprises the Mine Flooding Site. The Butte Active Mine Area Operable Unit is being addressed administratively by EPA, with the concurrence of DEQ, in the Response Decision Document signed by EPA and DEQ on March 28, 2001 and April 2, 2001, respectively. The Response Decision Document is attached to this Consent Decree as Appendix B.

I. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified DEQ on November 16, 1998 of negotiations with potentially responsible parties regarding the implementation of the remedial design and remedial action for the Mine Flooding Site and the decision to defer to DEQ responsibility for the Butte Active Mine Area Operable Unit, and EPA provided the DEQ, on behalf of the State of Montana, with an opportunity to participate in such negotiations and to be a party to this Consent Decree. DEQ has since participated in, and become a signatory to, this Consent Decree.

J. In accordance with Section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the Department of the Interior, the State of Montana, and the Confederated Salish and Kootenai Tribes on August 9, 2001 of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal, State or Tribal trusteeship at the Mine Flooding Site. For various reasons, the State of Montana, the Confederated Salish and Kootenai Tribes, and the U. S. Department of the Interior did not participate in such negotiations as trustees and declined to join this Consent Decree.

K. By entering into this Consent Decree, the Parties do not admit any liability arising out of the transactions or occurrences either that were alleged, or could have been alleged, in the complaint or

counterclaim of the above captioned action, nor do the Settling Defendants admit or acknowledge that the release or threatened release of hazardous substances at or from the Mine Flooding Site within SBCB Site constitutes an imminent or substantial endangerment to the public health or welfare or the environment.

L. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the original Silver Bow Creek (SBCO) Site on the NPL, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 8, 1983, 48 Fed. Reg. 40658. As originally listed, the Silver Bow Creek Superfund Site began at the headwaters of the Silver Bow Creek, and was characterized as being 28 stream miles long. The Silver Bow Creek Superfund Site was later extended to include the Clark Fork River to the Milltown Reservoir through administrative action taken by EPA. The original Silver Bow Creek Superfund Site was amended on July 22, 1987, 52 Fed. Reg. 27627, to include large areas in and around Butte, and is now known as the Silver Bow Creek/Butte Area Superfund Site. This addition is known as the Butte Portion of the SBCB and includes the area later designated the Mine Flooding Operable Unit and other areas comprising the Mine Flooding Site. In February 1990, the Clark Fork River portion of the Silver Bow Creek/Butte Area Superfund Site was transferred to the Milltown Reservoir Sediments Superfund Site. The Mine Flooding Site remains a part of the SBCB Site.

M. In response to a release or a substantial threat of a release of hazardous substances at or from Butte portion of the SBCB Site, EPA commenced initial sampling in 1987 and initially designated Operable Units for this area. That designation included the Travona Shaft / West Camp Removal Operable Unit, which considers immediate risks from contaminated ground water in the bedrock aquifer; and the Butte Mine Flooding Remedial Operable Unit, which considers all other risks from contaminated ground water in the bedrock aquifer. As noted above, the Travona Shaft/West Camp Removal Operable Unit is related to the Butte Mine Flooding Operable Unit and is included in the Mine Flooding Site. The Travona Shaft / West Camp Removal Operable Unit is also referred to in administrative records and prior

administrative orders as the Travona Camp / West Camp System, and part of the Butte Mine Flooding Operable Unit.

N. In 1988, an Engineering Evaluation/Cost Analysis (EE/CA) was performed to evaluate site conditions and examined possible removal response actions to address rising ground water contamination in the Travona Shaft/West Camp Removal OU. An Action Memorandum selecting a removal action for the Travona Shaft/West Camp OU was issued by EPA in July, 1989. The Action Memorandum was implemented pursuant to Administrative Orders CERCLA-VIII-89-18 and CERCLA-VIII-89-19.

O. In 1990, a Remedial Investigation and Feasibility Study ("RI/FS") for the Mine Flooding Site was initiated pursuant to 40 C.F.R. § 300.430. Most activities of the RI/FS were performed by ARCO and the MR Group pursuant to Administrative Order on Consent Docket No. CERCLA-VIII-90-09. Other RI/FS activities were performed by EPA and DEQ. The RI/FS was completed in 1993.

P. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for remedial action for the Mine Flooding Site on January 27, 1994, in a major local newspaper of general circulation. DEQ concurred on the proposed plan. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the Regional Administrator based the selection of the response action.

Q. The September 29, 1994 Record of Decision for the Mine Flooding Site embodies the decision by EPA on the remedial action to be implemented at the Mine Flooding Site, and is attached as Appendix A. The Mine Flooding 1994 Record of Decision incorporates the ongoing requirements of the Travona Shaft / West Camp Removal Action. The requirements of the 1994 Record of Decision have

been modified in a March, 2002 Explanation of Significant Differences, which is included in Appendix A. DEQ had a reasonable opportunity to review and comment on the 1994 Record of Decision and gave its concurrence on behalf of the State of Montana. The 1994 Record of Decision includes EPA's explanation of differences between the final plan and the proposed plan as well as a responsiveness summary to the public comments. Notice of the final plan was published in accordance with Section 117(b) of CERCLA. Initial attempts at reaching settlement for performance of the Mine Flooding 1994 Record of Decision and related claims pursuant to Section 122 of CERCLA were unsuccessful.

R. Pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606, EPA, with the concurrence of the State, issued to the Settling Defendants a Unilateral Administrative Order, Docket No. CERCLA-VIII-96-19 dated October 23, 1996, for implementation of remedial design, remedial action, and operation and maintenance for the Mine Flooding Site, in accordance with the September 29, 1994 Record of Decision ("ROD"). The Settling Defendants performed, and EPA approved, work pursuant to the Order which is ongoing.

S. Based on the information presently available to EPA, EPA believes that the prior response actions have been properly conducted by the Settling Defendants, and that the Work will be properly and promptly conducted by the Settling Defendants if the Work is conducted in accordance with the requirements of this Consent Decree and its appendices.

T. Solely for the purposes of Section 113(j) of CERCLA, the Remedial Action selected by the Mine Flooding Site ROD and subsequent Explanation of Significant Differences, the response actions performed to date by the Settling Defendants, and the Work to be performed by the Settling Defendants shall constitute a response action taken or ordered by the President.

U. On November 16, 1998 the United States, the State of Montana, and ARCO lodged the Streamside Tailings Consent Decree pertaining to the Streamside Tailings Operable Unit, which



comprises another part of the Silver Bow Creek/Butte Area Superfund Site. The Streamside Tailings Consent Decree, which was entered by this Court on April 19, 1999, resolved certain claims of the United States and the State pertaining to the Streamside Tailings Operable Unit and other areas within the Clark Fork Basin Superfund Sites. The Streamside Tailings Consent Decree also established a framework for ARCO and the United States to resolve the remaining claims of the United States relating to unsettled portions of the Clark Fork Basin Sites. These previously unsettled portions include the Mine Flooding Site, which is the site addressed by this Consent Decree. As agreed to by the parties to the Streamside Tailings Consent Decree, this Consent Decree addresses (1) the Past Response Costs directly associated with the Mine Flooding Site, (2) Past Response Costs that EPA has allocated to the Mine Flooding Site from SBCB Site general accounts and Clark Fork Basin general accounts, (3) Future Response Costs, including allocated costs, to be paid by EPA (which include funds transferred to the State through a Cooperative Agreement) at the Mine Flooding Site, (4) Interim Response Costs incurred by EPA (which, again, include funds transferred to the State through a Cooperative Agreement) prior to the Effective Date of this Consent Decree, and (5) Work to be performed at the Mine Flooding Site. This Consent Decree also addresses the State's claims for Future Response Costs paid at the Mine Flooding Site, and requires, inter alia, the Settling Defendants to directly reimburse the State for certain future costs that the State incurs at the Site that are not reimbursed by EPA pursuant to a cooperative agreement.

V. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Mine Flooding Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, in the public interest, and consistent with the goals of CERCLA.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

## II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over the Parties. Solely for the purposes of this Consent Decree and the underlying complaint, the Parties waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. The Parties shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

## III. PARTIES BOUND

2. This Consent Decree applies to and is binding upon the United States and the State, and upon the Settling Defendants, as defined below, and their successors and assigns. Any change in ownership or corporate status of the Settling Defendants including, but not limited to, any transfer of assets or real or personal property, shall in no way alter the Settling Defendants' responsibilities under this Consent Decree.

3. The Settling Defendants shall provide a copy of this Consent Decree to each contractor hired to perform the Work (as defined below) required by this Consent Decree and to each person representing the Settling Defendants with respect to the Mine Flooding Site or the Work and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. The Settling Defendants or their contractors shall provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. The Settling Defendants shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, each contractor and

subcontractor shall be deemed to be in a contractual relationship with the Settling Defendants within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

#### IV. DEFINITIONS

4. Unless otherwise expressly provided herein, terms used in this Consent Decree 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 Consent Decree or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

“ARAR” shall mean an applicable or relevant and appropriate requirement, criteria, standard, or limitation of federal or state law within the meaning of Section 121(d)(2) of CERCLA, 42 U.S.C. § 9621(d)(2), as identified in Appendix 1 of the ROD and the Explanation of Significant Differences.

“ARCO” shall mean the Defendant, Atlantic Richfield Company, its divisions and subsidiaries, including ARCO Environmental Remediation L.L.C. (AERL), and any predecessors in interest. It shall also mean any successors in interest to the extent that any such successor’s liability at the Mine Flooding Site derives from the liability of the Atlantic Richfield Company, and its divisions, subsidiaries including AERL, and any predecessors in interest.

“ASARCO” shall mean the Defendant, Asarco, Incorporated, its divisions and subsidiaries, and any predecessors in interest. It shall also mean any successors in interest to the extent that any such successor’s liability at the Mine Flooding Site derives from the liability of Asarco, Incorporated, and any predecessors in interest.

“Butte Active Mine Area Operable Unit” shall mean, for purposes of this Consent Decree, the geographic area circumscribed by operating permits 0030, 0030A, 0041, and 00108 issued by the State of

Montana under the Montana Metal Mine Reclamation Act, as further described in the Response Decision Document.

"CECRA" shall mean the Montana Comprehensive Environmental Cleanup and Responsibility Act, as amended, MCA §§ 75-10-701 et seq.

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

"Certification of Completion" shall mean EPA's certification, in consultation with the State, pursuant to Section 122(f)(3) of CERCLA, 42 U.S.C. § 9622(f)(3), that the Remedial Action and any modifications thereto have been completed at the Mine Flooding Site in accordance with the requirements of CERCLA, the NCP and the ROD and any modifications thereto, including that Performance Standards for the Mine Flooding Site have been attained.

"CFRSSI LAP" shall mean the Clark Fork River Superfund Site Investigations Laboratory Analytical Protocol (ARCO/PTI, April 1992), as subsequently amended as of the Effective Date of this Consent Decree.

"CFRSSI QAPP" shall mean the Clark Fork River Superfund Site Investigations Quality Assurance Project Plan (ARCO/PTI, May 1992), as subsequently amended as of the Effective Date of this Consent Decree.

"Consent Decree" shall mean this Consent Decree and all appendices attached hereto (listed in Section XXIX). In the event of conflict between this Consent Decree and any appendix, this Consent Decree shall control.

"Cost Documentation" shall mean a cost package for EPA's costs which consists of applicable:

(a) payroll information, consisting of the SCORE\$ or its current replacement report or an equivalent cost summary and all time sheets; (b) indirect cost information, consisting of an overall and an employee by employee SCORE\$ or its current replacement report or equivalent cost summary; (c) travel information, consisting of a SCORE\$ or its current replacement report or an equivalent cost summary, travel authorizations and travel vouchers or equivalent electronic summary information; (d) EPA contractor (including Contract Laboratory Program contracts) information, consisting of site and/or Operable Unit (as this term is defined below) specific vouchers, any existing progress reports, Treasury schedules, tasking documents for contractors not required to provide progress reports, Annual Allocation Reports, and the SCORE\$ or its current replacement report or an equivalent cost summary; (e) EPA Interagency Agreements ("IAGs") information, consisting of SCORE\$ or its current replacement reports or an equivalent cost summary, IAGs and any amendments thereto, invoices or the equivalent, proof of payment documents, and any existing progress reports, (f) EPA Cooperative Agreements information, consisting of SCORE\$ reports or an equivalent cost summary, cooperative agreements and any amendments thereto, drawdown documentation, State quarterly progress reports; (g) prejudgment interest information, consisting of an interest cost report showing methodologies and calculations; and (h) Operable Unit allocated cost information, consisting of a narrative of allocation methodologies and spreadsheets implementing such methodologies. Because the State has incurred costs and may continue to incur costs under cooperative agreements with EPA, which relate to or are allocated to the Mine Flooding Site, Cost Documentation for these expenditures, if requested by the Settling Defendants, shall include (a) State contractor invoices, (b) any existing contractor progress reports, and (c) form 661 SBAS information (if not included in the State quarterly progress reports) or its equivalent.

"Day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, State of Montana, or Federal holiday, the period shall run until the close of business of the next working day.

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

"DOJ" shall mean the United States Department of Justice and any successor department or agencies.

"Effective Date" shall mean 60 days from the date that this District Court enters the Consent Decree, unless an appeal of the entry and judgment is filed during the 60-day period; if an appeal is taken, the Effective Date shall mean the date on which the District Court's judgment is affirmed.

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

"Explanation of Significant Differences" shall mean the EPA Explanation of Significant Differences for the Mine Flooding Site signed in March of 2002 by the Regional Administrator, EPA Region VIII, and concurred in by DEQ on behalf of the State. The Explanation of Significant Differences is Attached as part of Appendix A.

"Federal Action" shall mean United States v. Atlantic Richfield Company, No. CV 89-039-BU-PGH (D. Mont.).



**"Federal Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States, and the State via cooperative agreement expenditures, pay after the Effective Date of this Consent Decree in reviewing or developing plans, reports and other items pursuant to this Consent Decree, verifying the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs paid pursuant to Sections VII, IX, XV, and Paragraph 83 of Section XXI; and including allocable Clark Fork General and SBCB Site-wide costs. Future Response Costs shall also include all Interim Response Costs and up to \$200,000 in Interest on the Past Response Costs that has accrued pursuant to 42 U.S.C. § 9607(a) during the period from March 31, 2000 to the Effective Date of this Consent Decree. Section XVI of this Consent Decree requires Settling Defendants to reimburse EPA for all of its Future Response Costs relating to the Mine Flooding Site, including Federal Future Response Costs paid by EPA to the State under a cooperative agreement. Future Response Costs shall not include Oversight Costs, as that term is defined in this Consent Decree, paid either by EPA directly or through a cooperative agreement with the State.**

**"Hazardous Substance" shall mean a hazardous substance within the meaning of Section 101(14) of CERCLA or a hazardous or deleterious substance within the meaning of Section 75-10-701(8), MCA.**

**"Interest" on federal claims shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of Title 26 of the U.S. Code, compounded on October 1 of each year, in accordance with 42**

**“Interim Response Costs” shall mean all costs, including direct and indirect costs, and Butte-portion SBCB Site-wide costs and Clark Fork General costs allocated to the Mine Flooding Site that are (a) paid by the United States after March 31, 2000 and through the Effective Date of this Consent Decree, or (b) incurred prior to the Effective Date of this Consent Decree but paid after that date.**

**"Mine Flooding Site" shall mean the Butte Mine Flooding Operable Unit, the surface boundaries of which are depicted in Figure 1 of the ROD and which are further defined in the Response Decision Document, and which consists of: (a) the waters within the Berkeley Pit; (b) the underground mine workings hydraulically connected to the Berkeley Pit; (c) the alluvial aquifer near Berkeley Pit which drains into Berkeley Pit; (d) the bedrock aquifers, including the bedrock aquifer water in and near the Continental Pit, within the boundaries shown in Appendices A and B; (e) other contributing sources of inflow to the Berkeley Pit / East Camp system, including surface runoff, leach pad, stormwater that enters the Berkeley Pit from the Butte Priority Soils Operable Unit, tailings slurry circuit overflows, and Horseshoe Bend surface water flows; (f) the Travona / West Camp groundwater system, except if that groundwater discharge becomes part of the Butte Priority Soils Operable Unit response actions upon approval by EPA, in consultation with the State; and (g) the surface area designated for the potential development of a sludge repository, as that area is described in the Explanation of Significant Differences.**

**“MR Group” shall mean Defendants Dennis Washington, Montana Resources, Montana Resources, Inc., AR Montana Corporation and Asarco Incorporated.**

**"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.**

**"Operable Unit" shall mean an area, geographic or otherwise, for which there is a response action, whether removal or remedial, that is subject to a separate administrative record and response selection decision.**

**"Operation and Maintenance" or "O & M" shall mean all activities required to maintain the effectiveness of Remedial Action as required under an approved Operation and Maintenance Plan.**

**"Oversight Costs" shall mean, for purposes of this Consent Decree only, those response costs incurred by EPA or the State (either as the lead agency or support agency) in monitoring and supervising Settling Defendants' performance of the Work pursuant to the requirements of this Consent Decree, including costs incurred in reviewing plans, reports and other documents submitted pursuant to this Consent Decree, as well as costs incurred in overseeing implementation of the Work, and also including allocable Clark Fork General and Silver Bow Creek / Butte Area (Butte portion) Site-wide costs; however, Oversight Costs do not include:**

**(1) the costs of direct action by EPA and/or the State to respond to a release, threat of release, or danger at the Mine Flooding Site;**

**(2) the costs of litigation or other enforcement activities relating to the Mine Flooding Site;**

**(3) the costs of determining the need for, or taking direct response actions by, EPA and/or the State pursuant to Sections VII (Remedy Review), XV (Emergency Response), and Section XXI**

(Covenants by United States and State) of this Consent Decree, except that the following costs shall be included in the definition of Oversight Costs:

- (a) the costs incurred by EPA and the State in conducting the five-year reviews set forth in Section VII (Remedy Review);
  - (b) the costs incurred by EPA and the State in overseeing additional response actions that may be required pursuant to the five-year reviews; and
  - (c) the costs incurred by EPA and the State in overseeing any additional response actions pursuant to Paragraph 14 of Section VI (Performance of the Work by Settling Defendants) and Paragraphs 82(a)(vi) and 82(b)(vi) of Section XXI (Covenants Not to Sue by United States and State); and
- (4) the cost of enforcing the terms of this Consent Decree, including all costs incurred in connection with Dispute Resolution pursuant to Section XIX (Dispute Resolution).
- "Paragraph" shall mean a portion of this Consent Decree identified by an arabic numeral or an upper or lower case letter.
- "Parties" shall mean the United States, the State, ARCO, Dennis Washington in his individual capacity, Montana Resources, Montana Resources Incorporated, AR Montana Corporation, and ASARCO.
- "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that EPA paid at or in connection with the Mine Flooding Site through March 31, 2000, plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through

such date; and allocable Clark Fork General and SBCO Site-wide costs plus Interest on such costs through March 31, 2000.

"Performance Standards" shall mean the cleanup standards and other measures of achievement of the goals of the Remedial Action, set forth in Section 11, page 49, in the "Decision Summary" portion of the ROD including Appendix 1 and 2 (ARARs including waived ground water standards for the bedrock aquifer), Exhibits 2 (Butte Mine Flooding Operable Unit Monitoring Plan), 3 (Performance Standards for Remedial Design / Remedial Action at the Mine Flooding Operable Unit), and 5 (Waterfowl Mitigation Plan) appended to the SOW, and the cleanup standards described in the Explanation of Significant Differences.

"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).

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Mine Flooding Site signed on September 29, 1994, by the Regional Administrator, EPA Region VIII, and concurred on by DEQ on behalf of the State, and all attachments and amendments thereto, including the Explanation of Significant Differences. The 1994 Record of Decision is attached as part of Appendix A.

"Remedial Action" shall mean those activities, except for Operation and Maintenance, undertaken or to be undertaken by Settling Defendants to implement the ROD, pursuant to the SOW, the final Remedial Design and Remedial Action Work Plans and other plans approved by EPA in consultation with the State.

**"Remedial Action Work Plans" shall mean the documents developed pursuant to the SOW and Paragraphs 13 and 14 of this Consent Decree and approved by EPA in consultation with the State, and any amendments thereto.**

**"Remedial Design" shall mean those activities to be undertaken by the Settling Defendants to develop the final plans and specifications for the Remedial Action pursuant to Remedial Design Work Plans described in the SOW or otherwise required under this Consent Decree.**

**"Remedial Design Work Plans" shall mean the documents developed pursuant to the SOW and Paragraphs 12 and 14 of this Consent Decree and approved by EPA in consultation with the State, and any amendments thereto.**

**"Response Decision Document" shall mean the document deferring to State authority under certain conditions at the Butte Active Mine Area Operable Unit signed by EPA and DEQ on March 28 and April 2, 2001 respectively. The Response Decision Document is Appendix B.**

**"Rocker Consent Decree" shall mean the consent decree entered by the District Court of Montana in the Federal Action on November 7, 2000.**

**"Section" shall mean a portion of this Consent Decree identified by a roman numeral.**

**"Settling Defendants" shall mean ARCO, ASARCO, Dennis Washington in his individual capacity, Montana Resources, Montana Resources Incorporated, and AR Montana Corporation.**



“Settling Federal Agencies” shall mean the Department of Justice, the Department of Interior, the Bureau of Mines, the Bureau of Land Management, the United States Geological Survey, the United States Department of Treasury, the United States Department of Commerce, the United States Department of Agriculture, the United States Department of Agriculture Forest Service, the General Service Administration, the National Aeronautics and Space Administration, the United States Department of Defense, the Environmental Protection Agency, the United States Department of Health and Human Services, the United States Public Health Service, the Atomic Energy Commission, the Defense Minerals Exploration Administration, the Defense Minerals Administration, the Office of Minerals Exploration, and the Defense Minerals Procurement Agencies, and any predecessor and successor departments, agencies, bureaus, or services.

“Site Record” shall mean the files presently maintained either in EPA’s Montana Office records center or in the Montana Department of Environmental Quality records center, which is designated as the repository for documents related to a particular Operable Unit that are neither privileged nor confidential, and are not contained within the administrative record for that Operable Unit.

"State" shall mean the State of Montana, including all of its departments, agencies, and instrumentalities.

“State Action” shall mean *State of Montana v. Atlantic Richfield Company*, No. CV-83-317-HLN-PGH (D. Mont.).

“State Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the State pays after the Effective Date of this Consent Decree in

reviewing or developing plans, reports and other items pursuant to this Consent Decree, verifying the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, and the costs incurred pursuant to Sections VII, IX, XV, and Paragraph 83 of Section XXI. Such costs are State Future Response Costs if they are not reimbursed by EPA via cooperative agreement expenditures. Pursuant to the terms of the EPA-DEQ Mine Flooding Site Superfund Memorandum of Agreement, EPA shall endeavor to assure adequate federal funding to the State for all of these activities. Section XV of this Consent Decree requires Settling Defendants to reimburse EPA for all of its Future Response Costs and to reimburse the State for State Future Response Costs relating to the Mine Flooding Site. State Future Response Costs shall not include Oversight Costs, as that term is defined in this Consent Decree.

“Statement of Work” or “SOW” is the description of activities and schedules developed to implement the ROD. The SOW is attached to this Consent Decree as Appendix C.

“Streamside Tailings Consent Decree” shall mean the consent decree entered by the District Court of Montana in the Federal Action and in the State Action

"Supervising Contractors" shall mean the principal contractors or Settling Defendant employees retained or utilized by Settling Defendants and approved by EPA, in consultation with the State, to supervise and direct the implementation of the Work under this Consent Decree.

"United States" shall mean the United States of America, including all of its departments, agencies, and instrumentalities.

"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), 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 or deleterious substance" under Section 75-10-701(8), MCA.

"Work" shall mean all activities the Settling Defendants are required to perform under this Consent Decree, except those required by Section XXV (Retention of Records). "Work" does not include remedial design and remedial action activities already performed by the Settling Defendants as of the date of this Consent Decree.

#### **V. GENERAL PROVISIONS**

5. **Objectives of the Parties.** The objectives of the Parties in entering into this Consent Decree are to protect public health or welfare or the environment at the Mine Flooding Site by the past and future design and implementation of response actions at the Mine Flooding Site by the Settling Defendants, to reimburse past and future response costs of the United States and the State for the Mine Flooding Site, to resolve the claims of the United States and the State against the Settling Defendants as provided in this Consent Decree, and to resolve the claims of the Settling Defendants which could have been asserted against the United States with regard to the Mine Flooding Site.

6. **Commitments by the Settling Defendants**

a. The Settling Defendants have completed some remedial design and remedial construction for the Mine Flooding Site, in accordance with the ROD. The Settling Defendants

are also required to perform additional Remedial Design, Remedial Action, and Operation and Maintenance (O & M) activities for the Mine Flooding Site, as set forth in the updated Statement of Work (Appendix C). The Settling Defendants shall finance and perform the Work in accordance with this Consent Decree, the ROD, and all work plans and other plans, standards, specifications, and schedules set forth herein or developed by the Settling Defendants and approved by EPA, in consultation with the State, pursuant to this Consent Decree. The Settling Defendants shall also reimburse the United States and the State for Past Response Costs, Oversight Costs, and Future Response Costs for the Mine Flooding Site as provided in this Consent Decree.

b. The obligations of Settling Defendants to finance and perform the Work and to pay amounts owed the United States and the State under this Consent Decree are joint and several. In the event of the insolvency or other failure of any one or more Settling Defendants to implement the requirements of this Consent Decree, the remaining Settling Defendants shall complete all such requirements.

7. Compliance With Applicable Law. All activities undertaken by the Settling Defendants pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. The Settling Defendants must also comply with all ARARs as set forth in the ROD and any amendments or modifications thereto, including the Explanation of Significant Differences, and the Statement of Work attached as Appendix C to this Consent Decree. The activities conducted pursuant to this Consent Decree, if approved by EPA, shall be considered to be consistent with the NCP.

**8. Permits**

a. As provided in Section 121(e) of CERCLA and Section 300.400(e) of the NCP, no permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the Clark Fork Basin Superfund Sites). Where any portion of the Work that is not on-site requires a federal or state permit or approval, the Settling Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. The Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure) of this Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit required for the Work.

c. This Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

**9. Notice to Successors-in-Title**

a. The Settling Defendants currently maintain surface ownership of real property within the Mine Flooding Site. Any Settling Defendant with such surface ownership of real property within the Mine Flooding Site shall file a notice with the Recorder's Office, Silver Bow County, State of Montana, to all successors-in-title that the Berkeley Pit and other related surface areas covered by the ROD are part of the Mine Flooding Site, that EPA selected a remedy for the Site on September 29, 1994, and that the Settling Defendants have entered into a Consent Decree requiring implementation of Work associated with the selected remedy. A copy of the notice to be filed has been approved by EPA. The Settling Defendants shall file a

copy of the EPA-approved notice within thirty (30) days of the Effective Date of this Consent Decree. The Settling Defendants shall provide EPA and the State with a copy of the recorded notice(s) within ten (10) days of recording such notice(s).

b. At least twenty-one (21) days prior to the conveyance by any Settling Defendant of its interest in any property located within the Mine Flooding Site including, but not limited to, fee interests, leasehold interests, and mortgage interests, that Settling Defendant shall give the grantee written notice of (i) this Consent Decree, (ii) any instrument by which an interest in real property has been conveyed that confers a right of access to the Mine Flooding Site (hereinafter referred to as "access easements") pursuant to Section IX (Access and Institutional Controls), and/or (iii) any instrument by which an interest in real property has been conveyed that confers a right to enforce restrictions on the use of such property (hereinafter referred to as "deed restrictions") pursuant to Section IX (Access and Institutional Controls). At least twenty-one (21) days prior to such conveyance, the Settling Defendant proposing any conveyance within the scope of this Paragraph shall also give written notice to EPA, the State, and the other Settling Defendants of the proposed conveyance, including the name and address of the grantee, and the date on which notice of this Consent Decree, access easements, and/or restrictive easements are given to the grantee.

c. In the event of any such conveyance, the Settling Defendants' obligations under this Consent Decree, including, but not limited to, the obligation to provide or secure access and institutional controls, as well as to abide by such institutional controls, pursuant to Section IX (Access and Institutional Controls) of this Consent Decree, shall continue to be met by the Settling Defendants. In no event shall the conveyance release or otherwise affect the liability of the Settling Defendants to comply with all provisions of this Consent Decree, absent



the prior written consent of EPA in consultation with the State. If the United States and the State approve, the grantee may perform some or all of the Work under this Consent Decree.

## **VI. PERFORMANCE OF THE WORK BY THE SETTLING DEFENDANTS**

### **10. Selection of Supervising Contractors.**

a. All aspects of the Work to be performed by the Settling Defendants pursuant to Sections VI (Performance of the Work by Settling Defendants), VII (Remedy Review), VIII (Quality Assurance, Sampling and Data Analysis), and XV (Emergency Response) of this Consent Decree shall be under the direction and supervision of the Supervising Contractors, the selection of which shall be subject to disapproval by EPA after a reasonable opportunity for review and comment by the State. Prior to the lodging of this Consent Decree, the Settling Defendants provided EPA with information sufficient to demonstrate the qualifications of each Settling Defendant employee and contractor which may direct or supervise the Work as one of the Supervising Contractors, and EPA approved those individuals to serve as Supervising Contractors. If, at any time after lodging of the Consent Decree, the Settling Defendants propose to change a Supervising Contractor, the Settling Defendants shall notify EPA and the State in writing of the name, title, and qualifications of each contractor or Settling Defendant employee proposed as one of the Supervising Contractors and must obtain an authorization to proceed from EPA, after a reasonable opportunity for review and comment by the State, before the new Supervising Contractor performs, directs, or supervises any Work under this Consent Decree.

b. If EPA disapproves a proposed Supervising Contractor, EPA will notify the Settling Defendants in writing. The Settling Defendants shall submit to EPA and the State a list

of contractors or Settling Defendant employees, including the qualifications of each contractor or Settling Defendant employee, that would be acceptable to them within thirty (30) days of receipt of EPA's disapproval of the contractor previously proposed. EPA will provide written notice of the names of any contractor(s) and Settling Defendants' employee(s) that it disapproves and an authorization to proceed with respect to any of the other contractors or Settling Defendants' employees. Settling Defendants may select any contractor or Settling Defendant employee from that list that is not disapproved and shall notify EPA and the State of the name of the contractor or Settling Defendant employee selected within twenty-one (21) days of EPA's authorization to proceed.

c. If EPA fails to provide written notice of its authorization to proceed or disapproval as provided in this Paragraph and this failure prevents Settling Defendants from meeting one or more deadlines in a plan approved by the EPA pursuant to this Consent Decree, Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure).

#### **11. Statement of Work**

Attached to this Consent Decree as Appendix C is the Statement of Work (SOW) for the Mine Flooding ROD implementation. The Statement of Work describes the various plans, activities, and requirements that must be accomplished for implementation of the ROD. The SOW describes those activities which are already completed and those activities which have yet to be completed. All previously completed plans, reports, and requirements under the SOW are incorporated herein by reference and are enforceable under this Consent Decree.

**12. Remedial Design.**

**a. Settling Defendants shall continue to design activities under previously approved Remedial Design Work Plans (RD Work Plans), in accordance with instructions previously given. The Final Design Report for the Horseshoe Bend Treatment Plant is approved by EPA in consultation with DEQ and is referenced in the SOW. Settling Defendants shall submit to EPA and the State RD Work Plans for the design of the future aspects of the Remedial Action at the Site in accordance with the SOW within the time frames specified in the SOW. The RD Work Plans shall provide for design of the remedy set forth in the ROD, in accordance with the SOW and for achievement of the Performance Standards and other requirements set forth in the ROD, this Consent Decree and/or the SOW. RD Work Plans previously approved by EPA shall be incorporated into and become enforceable under this Consent Decree upon the Effective Date of this Consent Decree. Future RD Work Plans shall be incorporated into and become enforceable under this Consent Decree upon approval by EPA, in consultation with the State. The Settling Defendants shall conduct all field design activities in accordance with the previously-approved Mine Flooding Operable Unit Health and Safety Plan and amendments thereto, which conforms to applicable Occupational Safety and Health Administration (OSHA), EPA, and State requirements, including, but not limited to, 29 C.F.R. Sec. 1910.120.**

**b. The RD Work Plans shall include plans and schedules for implementation of all remedial design tasks identified in the SOW. In addition, the RD Work Plans shall include a schedule for completion of the Remedial Action Work Plans, or as otherwise required by the SOW.**

c. Upon approval of the RD Work Plans by EPA, after a reasonable opportunity for review and comment by the State, Settling Defendants shall implement the RD Work Plans. The Settling Defendants shall submit to EPA and the State all plans, submittals and other deliverables required under all approved RD Work Plans in accordance with the approved schedule and SOW for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions).

d. The pre-final/final design submittals shall include, at a minimum, the following: (1) final plans and specifications; (2) Operation and Maintenance Plan; (3) Construction Quality Assurance Project Plan (CQAPP); (4) Field Sampling Plan (directed at measuring progress towards meeting Performance Standards); and (5) Contingency Plan. The CQAPP, which shall detail the approach to quality assurance during construction activities at the Site, shall specify a quality assurance official ("QA Official"), independent of the Supervising Contractor, to conduct a quality assurance program during the construction phase of the project.

### 13. Remedial Action.

a. Settling Defendants shall continue to construct and implement activities under previously approved Remedial Action Work Plans (RA Work Plans), in accordance with instructions previously given. Settling Defendants shall submit to EPA and the State Remedial Action Work Plans ("RA Work Plans") for the construction and implementation of the future aspects of the Remedial Action at the Site in accordance with the SOW within the schedule specified in the SOW. The RA Work Plans shall provide for construction and implementation of the remedy set forth in the ROD and achievement of the Performance Standards, in

accordance with this Consent Decree, the ROD, the SOW, and the design plans and specifications developed in accordance with the RD Work Plans and approved by EPA in consultation with the State. Upon its approval by EPA, the RA Work Plans shall be incorporated into and become enforceable under this Consent Decree. The Settling Defendants shall also comply with the previously-approved Health and Safety Plan, and any amendments thereto, in conducting all remedial action activities.

b. The RA Work Plans shall conform with the requirements of the SOW, and shall include, as appropriate, the following: (1) the schedule for completion of the Remedial Action; (2) method for selection of the contractor; (3) schedule for developing and submitting other required Remedial Action plans; (4) methodology for implementation of the Construction Quality Assurance Plan; (5) a groundwater monitoring plan; (6) methods for satisfying permitting requirements; (7) methodology for implementation of the approved Operation and Maintenance Plans; (8) methodology for implementation of the Contingency Plan; (9) tentative formulation of the Remedial Action Project Team; (10) construction quality control plan (by constructor); and (11) procedures and plans for the decontamination of equipment and the disposal of contaminated materials. The RA Work Plans also shall include a schedule for implementation of all Remedial Action tasks identified in the final design submittal and shall identify the initial formulation of the Settling Defendants' Remedial Action Project Team (including, but not limited to, the Supervising Contractor).

c. Upon approval of the RA Work Plans by EPA after a reasonable opportunity for review and comment by the State, or upon the Effective Date of this Consent Decree for those RA Plans previously approved, Settling Defendants shall implement the activities required under the RA Work Plans. The Settling Defendants shall submit to EPA and the State

all plans, submittals, or other deliverables required under the approved RA Work Plans in accordance with the approved schedule set forth in the Remedial Action Work Plans for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Unless otherwise directed by EPA after consultation with the State, Settling Defendants shall not commence physical Remedial Action activities at the Site prior to approval of the Remedial Action Work Plans. Notwithstanding the preceding sentence, and for purposes of this Paragraph only, the following physical actions may be undertaken by the Settling Defendants without further approval by EPA: surveying, preparation of a staging area and building site; procurement and storage of construction-related materials; implementation of the BMFOU Monitoring Plan pursuant to the SOW; and implementation of the Waterfowl Mitigation Plan pursuant to the SOW.

d. The Settling Defendants shall continue to implement the Remedial Action and O&M until the Performance Standards are achieved and for so long thereafter as is otherwise required under this Consent Decree and/or the SOW.

e. Treated water shall be discharged to the Silver Bow Creek drainage or used for other water supply purposes. Following commencement of treatment plant operations, treated water not used for water supply purposes at that time or water supply purposes at any time thereafter shall be discharged to Silver Bow Creek. Settling Defendants shall notify EPA and DEQ prior to filing an application for a change in appropriation rights or an application for a permit pursuant to the Montana Water Use Act (Title 85, MCA) pertaining to Mine Flooding Site water, and if requested, meet with EPA and DEQ following such filing to discuss the proposed change or permit application.

14. Additional Response Actions.

a. If EPA, in consultation with the State, determines that additional response actions or modifications to the Work specified in the SOW are necessary to achieve and maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy set forth in the ROD, EPA shall require that Settling Defendants modify the appropriate plan to reflect such additional response actions or modifications. Provided, however, that such additional response actions may only be required pursuant to this Paragraph to the extent that they are consistent with the scope of the remedy selected in the ROD.

b. For the purposes of this Consent Decree, the "scope of the remedy selected in the ROD" means the protection of groundwater resources and surface water resources at and near the Mine Flooding Site through remedial measures which include: (1) control of water inflow to the Berkeley Pit through diversion of surface water; (2) treatment of surface water collected by control of inflow to the Berkeley Pit to standards prior to discharge; (3) maintaining the water level in the bedrock system at 5410 feet as described in the ROD; (4) prevention of the release of additional contaminants into the alluvial aquifer and the Silver Bow Creek drainage basin as determined by analysis of monitoring information described in the SOW; (5) comprehensive monitoring to insure discharges to the alluvial groundwater system and Silver Bow Creek drainage basin do not occur; (6) treatment of Berkeley Pit water to standards, as required by the ROD and as clarified by the SOW, through the design, construction, and operation of treatment systems; (7) appropriate disposal of sludge material from treatment processes; (8) treatment to standards of West Camp water, unless such water is addressed through EPA-approved systems as part of the Butte Priority Soils Operable Unit; (9) institutional controls and public education; and (10) appropriate O&M for all of the above

activities. The “scope of the remedy selected in the ROD” does not include the collection or treatment of groundwater within the Mine Flooding Site except as described above in (6) and (8) of this definition.

c. If any Settling Defendant objects to any additional response actions or modifications determined by EPA to be necessary pursuant to this Paragraph, it may seek dispute resolution pursuant to Section XIX (Dispute Resolution) and Paragraph 67 (record review). The SOW and/or related work plans shall be modified in accordance with final resolution of the dispute.

d. Settling Defendants shall implement any work required by any modifications incorporated into the SOW and/or related work plans in accordance with this Paragraph.

e. Nothing in this Paragraph shall be construed to limit EPA's and the State's authority to require performance of further response actions as otherwise provided in this Consent Decree.

15. Settling Defendants acknowledge and agree that nothing in this Consent Decree, or the ROD or the remedial design or remedial action work plans previously approved, the SOW, or the remedial design, remedial action, or O&M work plans to be developed constitutes a warranty or representation of any kind by the United States or the State that compliance with the work requirements set forth in the SOW or work plans will achieve the Performance Standards.



16. Settling Defendants shall, prior to any off-site shipment of Waste Material that is generated by the Work to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator and the State Project Coordinator of such shipment of Waste Material. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 100 cubic yards or 1,000 gallons. Nothing in this Paragraph is intended to, nor shall, relieve the Settling Defendants of their obligations to comply with waste shipment notification and reporting requirements under state or federal law.

a. Settling Defendants shall include in the written notification the following information, where available: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Settling Defendants shall notify EPA, the State, and the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by Settling Defendants following the award of the contract for any such necessary action. Settling Defendants shall provide the information required by Paragraph 16(a) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

## VII. REMEDY REVIEW

17. Periodic Review. Settling Defendants shall conduct any studies and investigations as requested by EPA, in order to permit EPA, in consultation with the State, to conduct reviews of whether the Remedial Action performed at the Mine Flooding Site is protective of human health and the environment at least every five years as required by Section 121(c) of CERCLA and any applicable regulations. EPA shall conduct its reviews consistent with Section 121(c) of CERCLA, 42 U.S.C. Sec. 9621(c), and all applicable regulations and guidance.

18. EPA Selection of Further Response Actions. If EPA, in consultation with the State, determines, at any time, that the Remedial Action is not protective of human health and the environment, EPA may select further response actions for the Mine Flooding Site in accordance with the requirements of CERCLA and the NCP.

19. Opportunity To Comment. Settling Defendants and, if required by Sections 113(k)(2) or 117 of CERCLA, the public, shall be provided with an opportunity to comment on any further response actions proposed by EPA, in consultation with the State, 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.

20. Settling Defendants' Obligation To Perform Further Response Actions. In addition to requirements for further response actions contained in this Consent Decree, if EPA, in consultation with the State, selects further response actions for the Mine Flooding Site, Settling Defendants shall undertake such further response actions to the extent that the reopener conditions in Paragraph 79 or Paragraph 80 (United States' and the State's Pre-certification and

Post-certification Reservations) are satisfied. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution) to dispute (1) EPA's determination that the reopener conditions of Paragraph 79 or Paragraph 80 of Section XXI (Covenants Not To Sue by United States and State) are satisfied, (2) EPA's determination that the Remedial Action is not protective of human health and the environment, or (3) EPA's selection of the further response actions. Disputes pertaining to the whether the Remedial Action is protective or to EPA's selection of further response actions shall be resolved pursuant to Paragraph 67 (record review).

21. Submissions of Plans. If Settling Defendants are required to perform further response actions pursuant to Paragraph 20, they shall submit to EPA for approval, in consultation with the State, a schedule and plan for such work. After approval of the schedule and plan by EPA, following a reasonable opportunity for comment by the State, Settling Defendants shall implement the plan in accordance with the provisions of this Consent Decree.

#### VIII. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

22. Settling Defendants shall use applicable portions of the approved quality assurance, quality control, and chain of custody procedures for all samples in accordance with the CFRSSI QAPP and any amendments made thereto during the course of the implementation of this Consent Decree. If relevant to the proceeding, the Parties agree that validated sampling data generated in accordance with the QAPP(s) and reviewed and approved by EPA in consultation with the State shall be admissible as evidence, without objection, in any proceeding under this Consent Decree. Settling Defendants shall ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all

laboratories utilized by Settling Defendants in implementing this Consent Decree. In addition, Settling Defendants shall ensure that such laboratories shall analyze all samples submitted by EPA and the State pursuant to the QAPP for quality assurance monitoring. Settling Defendants shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Consent Decree perform all analyses according to accepted EPA methods. Accepted EPA methods consist of those methods which are documented in the CFRSSI LAP, and any amendments made thereto during the course of the implementation of this Consent Decree. Settling Defendants shall ensure that all laboratories they utilize for analysis of samples taken pursuant to this Consent Decree participate in an EPA or EPA-equivalent QA/QC program. Settling Defendants shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Consent Decree will be conducted in accordance with the procedures set forth in the QAPP. In any State contract relating to monitoring activities performed by MBMG under this Consent Decree, the State shall include the above-stated requirements applicable to monitoring activities to be performed by MBMG.

23. Upon request, Settling Defendants shall allow split or duplicate samples to be taken by EPA and the State or their authorized representatives. Settling Defendants shall notify EPA and the State not less than ten (10) days in advance of any sample collection activity unless shorter notice is agreed to by EPA and the State. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deem necessary. Upon request, EPA shall allow Settling Defendants to take split or duplicate samples of any samples they take as part of EPA's oversight of Settling Defendants' implementation of the Work.

24. Settling Defendants shall submit to both EPA and the State one paper copy and an electronic copy of the results of all sampling and/or tests or other data obtained or generated

by or on behalf of Settling Defendants with respect to the Mine Flooding Site and/or the implementation of this Consent Decree in the next quarterly report, unless EPA after consultation with the State agrees otherwise or unless otherwise provided for in the SOW or resulting RD or RA Work Plans. In any State contract relating to monitoring activities performed by MBMG under this Consent Decree, the State shall include a requirement for MBMG to submit to EPA and the State and each of the Settling Defendants a paper copy and an electronic copy of the results of all sampling and/or tests or other data obtained or generated by MBMG with respect to the Mine Flooding Site within sixty (60) days of the date of generating or obtaining such data, unless EPA, after consultation with the State, decides otherwise or unless otherwise provided for in the SOW or resulting RD or RA Work Plans.

25. Notwithstanding any provision of this Consent Decree, the United States and the State hereby retain all of their information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, CECRA, and any other applicable federal and state statutes or regulations.

#### IX. ACCESS AND INSTITUTIONAL CONTROLS

26. If any Settling Defendant owns, or has the legal ability to control access on any part of the Mine Flooding Site, or any other property where access and/or water use restrictions are needed to implement this Consent Decree, that Settling Defendant shall, with respect to those properties:

- a. commencing on the date of lodging of this Consent Decree, provide the United States, the State, the other Settling Defendants, and their representatives and contractors, access at all reasonable times to the Mine

Flooding Site property and any other property to which access is required for the implementation of this Consent Decree, for the purpose of conducting any activity related to this Consent Decree including, but not limited to, the following activities:

- (1) Monitoring the Work;
- (2) Verifying any data or information submitted to the United States or the State;
- (3) Conducting investigations relating to contamination at or near the Mine Flooding Site;
- (4) Obtaining samples;
- (5) Assessing the need for, planning, or implementing additional response actions at or near the Mine Flooding Site;
- (6) Implementing the Work pursuant to the conditions set forth in Paragraph 83 of this Consent Decree;
- (7) Assessing Settling Defendants' compliance with this Consent Decree; and
- (8) Determining whether the Mine Flooding Site or other property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted, by or pursuant to this Consent Decree.

Prior to obtaining access to the Mine Flooding Site, the United States, the State, and Settling Defendants shall consider any health and safety limitations previously identified by the other Settling Defendants for the Mine Flooding Site.

b. commencing on the date of lodging of this Consent Decree, refrain from using the Mine Flooding Site, or such other property, in any manner that would interfere with or adversely affect the implementation, integrity, or protectiveness of the remedial measures to be performed pursuant to this Consent Decree. Such restrictions include, but are not limited to, utilization of the ground water for potable domestic use, utilization of the Butte Active Mine Area Operable Unit for residential use, interference with or destruction of monitoring wells or equipment, and interference or destruction of any treatment plant facilities. Notwithstanding the foregoing, all mining activities regulated under State-issued permits within the Butte Active Mine Area Operable Unit, including, without limitation, reclamation, the recovery of ore from the 550-million ton ore body, the crushing and concentration of up to 70,000 tons of ore per day, and a leaching operation of approximately 350 acres shall not be considered uses that interfere with or adversely affect the integrity or protectiveness of the remedial measures to be implemented pursuant to this Consent Decree. In addition, the importation of water as needed for mining activities from a source outside of the Butte Active Mine Area Operable Unit shall not be considered a use that interferes with or adversely affects the

integrity or protectiveness of the remedial measures to be implemented pursuant to this Consent Decree.

27. If any part of the Mine Flooding Site, or any other property where access and/or land/water use restrictions are needed to implement this Consent Decree, is owned or controlled by persons other than Settling Defendants, Settling Defendants shall use best efforts to secure from such persons:

a. an agreement to provide access thereto for Settling Defendants, as well as for the United States on behalf of EPA, and the State, as well as their representatives and contractors, for the purpose of conducting any activity related to this Consent Decree including, but not limited to, those activities listed in Paragraph 26(a) of this Consent Decree; and

b. an agreement, enforceable by Settling Defendants, the State, and the United States, to abide by the obligations and restrictions established by Paragraph 26(b) of this Consent Decree, or that are otherwise necessary to implement, ensure non-interference with, or ensure the protectiveness of the remedial measures to be performed pursuant to this Consent Decree.

Settling Defendants have funded and shall continue to cooperate with Butte Silver Bow County (the "County") in any proceeding (i) to adopt a controlled ground water area before the State Department of Natural Resources, in accordance with the ROD, and (ii) to enforce appropriate zoning requirements for the Mine Flooding Site, subject to agreement by Butte Silver Bow County. In addition, Settling Defendants shall fund any monitoring and enforcement of the water well use restrictions for the Mine Flooding Site that are established by the State of



Montana Department of Natural Resources. Settling Defendants shall also fund Butte Silver Bow County for public education and related activities, as described in the SOW.

28. For purposes of Paragraph 27 of this Consent Decree, "best efforts" includes the payment of reasonable sums of money in consideration of access, access agreements, land/water use restrictions, and/or deed restrictions. For the Mine Flooding Site, "reasonable sums" shall be determined by considering, among other factors, the potentially responsible party status of the current owners and the degree of general cooperation shown by these parties. The United States may, as it deems appropriate, assist Settling Defendants in obtaining access or water use restrictions, either in the form of contractual agreements or in the form of deed restrictions running with the land. Settling Defendants shall reimburse the United States in accordance with the procedures in Section XVI (Reimbursement of Response Costs), for all costs incurred by the United States in obtaining such access and/or water use restrictions.

29. If EPA, in consultation with the State, determines that additional land/water use restrictions in the form of state or local laws, regulations, ordinances or other governmental controls are needed to implement the remedy selected in the ROD, ensure the integrity and protectiveness thereof, or ensure non-interference therewith, Settling Defendants shall cooperate with EPA's and the State's efforts to secure such governmental controls.

30. Notwithstanding any provision of this Consent Decree, the United States and the State retain all of their access authorities and rights, as well as all of their rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable federal and state statute or regulations.

## **X. REPORTING REQUIREMENTS**

31. The SOW requires the Settling Defendants to submit monthly discharge monitoring reports and progress reports during construction in accordance with the SOW and Paragraph 35 of this Consent Decree. In addition to these SOW requirements and any other requirement of this Consent Decree, Settling Defendants shall submit to both EPA and the State one paper copy and one electronic copy of written quarterly Operations & Maintenance reports following construction completion that: (a) describe the actions which have been taken toward achieving compliance with this Consent Decree during the previous quarter; (b) include a summary of all results of sampling and tests and all other data received or generated by Settling Defendants or their contractors or agents in the previous quarter; (c) identify all work plans, plans and other deliverables required by this Consent Decree completed and submitted during the previous quarter; (d) describe all actions, including, but not limited to, data collection and implementation, of any work plans that may be required under this Consent Decree, which are scheduled for the next quarter and provide other information relating to the progress of the Work; (e) include information regarding unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (f) include any modifications to the RA or RD Work Plans or other work plans or schedules that Settling Defendants have proposed to EPA or that have been approved by EPA; and (g) describe all activities undertaken in support of the Community Relations Plan during the previous quarter and those to be undertaken in the next quarter. Unless EPA agrees to an alternative schedule, Settling Defendants shall submit these progress reports to EPA and the State by the tenth day of every quarter following the lodging of this Consent Decree until EPA notifies Settling Defendants pursuant to Paragraph 48(a) of

Section XIV (Certification of Completion of the Work). If requested by EPA or the State, Settling Defendants shall also provide briefings for EPA and the State to discuss the progress of the Work.

32. Settling Defendants shall notify EPA and the State of any change in the schedule described in the progress report for the performance of any activity, including, but not limited to, data collection and implementation of the RD Work Plans, RA Work Plans, and O & M Plans or other work plans, no later than seven (7) days prior to the performance of the activity, unless such advance notice is impracticable, in which case notice shall be given as soon as possible, but in all instances prior to the performance of the activity.

33. Upon the occurrence of any event during performance of the Work that Settling Defendants are required to report pursuant to Section 103 of CERCLA or Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA), Settling Defendants shall within 24 hours of the onset of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response Section, Region VIII, United States Environmental Protection Agency. Settling Defendants shall also orally notify the State Project Coordinator within 24 hours of the onset of such an event. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

34. Within twenty (20) days of the onset of such an event, Settling Defendants shall furnish to EPA and the State a written report, signed by Settling Defendants' Project Coordinator, setting forth the events which occurred and the measures taken, and to be taken, in

response thereto. Within thirty (30) days of the conclusion of such an event, Settling Defendants shall submit a report setting forth all actions taken in response thereto.

35. Unless otherwise specifically stated, Settling Defendants shall submit to both EPA and the State one paper copy and one electronic copy of any plan, report, and data required by this Consent Decree.

36. All reports and other documents submitted by Settling Defendants to EPA and the State which purport to document Settling Defendants' compliance with the terms of this Consent Decree shall be signed by an authorized representative of the Settling Defendants.

#### **XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS**

37. After review of any plan, report or other item which is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by the State, shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Settling Defendants modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Settling Defendants at least one notice of deficiency and an opportunity to cure within twenty-one (21) days, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects and the deficiencies in the submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

38. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 37(a), (b), or (c), Settling Defendants shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA subject only to its right to invoke the Dispute Resolution procedures set forth in Section XIX (Dispute Resolution) with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 37(c) and the submission has a material defect, EPA retains its right to seek stipulated penalties, as provided in Section XX (Stipulated Penalties).

39. a. Upon receipt of a notice of disapproval pursuant to Paragraph 37(d), Settling Defendants shall, within twenty-one (21) days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XX, shall accrue during the 21-day period (or other EPA-specified period) but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 37 and 38.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 37(d), Settling Defendants shall proceed, at the direction of EPA, in consultation with the State, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Settling Defendants of any liability for stipulated penalties under Section XX (Stipulated Penalties).

40. In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require Settling Defendants to correct the deficiencies, in

accordance with the preceding Paragraphs. EPA also retains the right to modify or develop the plan, report or other item, after consultation with the State. Settling Defendants shall implement any such plan, report, or other item as modified or developed by EPA, subject only to its right to invoke the procedures set forth in Section XIX (Dispute Resolution).

41. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Settling Defendants shall be deemed to have failed to submit such plan, report, or item timely and adequately unless Settling Defendants invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution) and EPA's action is overturned pursuant to that Section. The provisions of Section XIX (Dispute Resolution) and Section XX (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XX.

42. All plans, reports, and other items required to be submitted to EPA under this Consent Decree shall, upon approval or modification by EPA, be enforceable under this Consent Decree. In the event EPA approves or modifies a portion of a plan, report, or other item required to be submitted to EPA under this Consent Decree, the approved or modified portion shall be enforceable under this Consent Decree.

## **XII. PROJECT COORDINATORS**

43. Settling Defendants, EPA, and the State have already designated their respective Project Coordinators for the Mine Flooding Site, the names and addresses of which are noted in Section XXVI of this Consent Decree (Notices and Submissions). Within twenty (20) days of

lodging this Consent Decree, Settling Defendants, EPA, and the State will notify each other, in writing, of the names, addresses and telephone numbers of their respective designated Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to the other Parties at least five (5) working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. Any successor to one of Settling Defendants' initially designated Project Coordinators shall be subject to disapproval by EPA, in consultation with the State, and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. Settling Defendants' Project Coordinators shall not be attorneys. They may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities.

44. EPA and the State may designate representatives, including, but not limited to, EPA and State employees, and federal and State contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and an On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. In addition, EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent with the National Contingency Plan, to halt any Work required by this Consent Decree and to take any necessary response action when s/he determines that conditions at the Mine Flooding Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

### **XIII. ASSURANCE OF ABILITY TO COMPLETE WORK**

45. a. Settling Defendants have established and shall maintain financial assurance in the amount of \$78 million for the purpose of assuring financial ability to construct, operate and maintain a wastewater treatment plant for the Horseshoe Bend flow, a contingent water treatment system for the West Camp flow, and a final treatment plant which has the ability to maintain water levels in the Berkeley Pit/East Camp System below the 5,410 foot elevation, and to perform other work described in the SOW. Such financial assurance is based on the assumptions that the initiation of construction of the Horseshoe Bend plant will occur in 2002 and that treatment of the Berkeley Pit/East Camp water will commence in 2018. Prior to the date of lodging this Consent Decree, the Settling Defendants provided the United States and the State with a financial assurance that meets these requirements and the requirements of 40 C.F.R. § 264.143(f) through a guarantee by BP Corporation North America Inc., a corporate affiliate of ARCO. This initial demonstration of the financial tests was based upon audited financial statements for calendar year 2000. As soon as audited financial statements for calendar year 2001 are available in April of 2002, the Chief Financial Officer of BP Corporation North America Inc. shall submit a letter that further demonstrates and supports this guarantee. This submittal shall be subject to review and approval by EPA and the State, and the lack of approval from EPA and the State shall be a basis for withdrawal from the Consent Decree by the State or the United States prior to the entry of the Consent Decree.

b. Settling Defendants shall submit statements signed by a responsible corporate official conveying the information required for the selected or current method of financial assurance on an annual basis, with the first submission due on May 1, 2003. This annual update may also include a request from the Settling Defendants to reduce the amount of



financial assurance set forth in Subparagraph 45(a), above, due to completed work. Upon approval of the reduced amount by EPA and the State, the Settling Defendants may reduce the amount of the financial assurance. Settling Defendants may also request a change in the form of financial assurance, provided that the new proposed amount and form of assurance meet the requirements of this Paragraph. Upon approval of the new form by EPA and the State, Settling Defendants may change the form of financial assurance. The Settling Defendants' resubmitted financial security shall be in one of the following forms:

(i) A surety bond guaranteeing performance of all Work described in Subparagraph 45(a), or for the reduced amount as approved under this Subparagraph 45(b); or

(ii) One or more irrevocable letters of credit equaling the total estimated cost of all Work described in Subparagraph 45(a), or equaling the reduced amount as approved under this Subparagraph 45(b);

(iii) A trust fund equaling the total estimated cost of all Work described in Subparagraph 45(a), or equaling the reduced amount as approved under this Subparagraph 45(b);

(iv) A guarantee to perform all of the Work described in Subparagraph 45(a) by a parent or affiliate corporation that meets the requirements of 40 C.F.R. § 264.143(f), and has a net worth of at least \$20 billion.

c. Any corporate guarantee provided pursuant to Subparagraph 45(b)(iv) shall be in substantial compliance with 40 C.F.R. § 264.151(h) and shall contain the following language:

Nothing contained in this guarantee shall prevent any consolidation or merger of the guarantor with or into any other corporation (whether or not affiliated with the guarantor), or successive consolidations or mergers in which the guarantor, or its successor or successors shall be a party or parties, or shall prevent any sale or conveyance of all or substantially all of the property of the guarantor to any other corporation (whether or not affiliated with the guarantor); provided, however, that the guarantor hereby covenants and agrees that upon any such consolidation, merger, sale, or conveyance, or upon any other consolidation, merger, sale or conveyance that leaves the guarantor unable to meet the requirements of 40 C.F.R. § 264.143(f) or with a net worth of less than \$20 billion, the business entity resulting from such consolidation or merger, or the business entity which shall have acquired such property or assets (or in the event of sales or conveyances of assets to more than one business entity, the business entity acquiring the largest share of such property or assets) shall expressly assume all obligations and covenants to be performed by the guarantor under this guarantee, including the obligation to continue to meet the requirements of 40 C.F.R. § 264.143(f) and a required net worth of at least \$20 billion.

In the case of any such consolidation or merger, and upon the assumption by the successor business entity of all obligations and covenants to be performed by the guarantor, such successor business entity shall succeed to and be substituted for the guarantor with the same effect as if it had been named herein as the guarantor. In the event of such sale or conveyance, upon the assumption by the

business entity acquiring such assets of all obligations and covenants to be performed by the guarantor, then the guarantor, or any successor business entity which shall theretofore have become the guarantor in the manner described in this Section, shall be discharged from all obligations and covenants under this guarantee and may be dissolved and liquidated, provided that the successor business entity meets the standards in 40 C.F.R. § 264.143(f) and has a net worth of at least \$20 billion.

The guarantor, or any successor to the guarantor, shall provide written notice to the United States and the State of any transaction in which another party is to become a successor to the guarantor, within 30 days following the closing of any such transaction. Concurrent with such notice, the guarantor or successor shall provide successor's name, state of organization, and registered address, the name of a responsible corporate official within the successor, and a copy of any documents or agreements necessary to evidence the assumption of the guarantee. Within 90 days after the closing of any such transaction, the successor entity shall provide the information demonstrating that the successor meets the requirements of 40 C.F.R. § 264.143(f) and has a net worth of at least \$20 billion.

46. a. In the event that EPA, after a reasonable opportunity for review and comment by the State, determines at any time that the financial assurances provided pursuant to this Section no longer satisfy the requirements of Paragraph 45, Settling Defendants shall, within thirty (30) days of receipt of notice of EPA's determination, obtain and present to EPA

and the State alternate financial assurance in compliance with Subparagraph 45(b) of this Consent Decree.

b. Any dispute concerning the Settling Defendants' demonstration of financial ability to complete the Work shall be subject to dispute resolution and judicial review pursuant to Paragraph 68 of this Consent Decree.

c. Settling Defendants' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Consent Decree.

#### **XIV. CERTIFICATION OF COMPLETION**

##### **47. Completion of the Remedial Action**

a. Within ninety (90) days after Settling Defendants conclude that the Remedial Action has been fully performed and the Performance Standards have been attained for a period of one year at full operation following the "shakedown period of operation" for the "Horseshoe Bend Water Treatment Plant" as those terms are described in the SOW, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA, and the State. If, after the pre-certification inspection, Settling Defendants still believe that the Remedial Action has been fully performed and the Performance Standards have been attained, they shall submit a written report requesting certification to EPA for approval, with a copy to the State, pursuant to Section XI (EPA Approval of Plans and Other Submissions) within thirty (30) days of the inspection. In the report, a registered professional engineer and Settling Defendants' Project Coordinators shall state that the Remedial Action has been completed in accordance with the requirements of this Consent Decree. The written report

shall include as-built drawings signed and stamped by a professional engineer, and a description of how the Performance Standards were met. The report shall contain the following statement, signed by a responsible corporate official of each Settling Defendant or Settling Defendants' Project Coordinators:

To the best of my knowledge, after thorough investigation, 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 submitting false information.

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that the Remedial Action or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Remedial Action and achieve the Performance Standards. Provided, however, that EPA may only require Settling Defendants to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the remedy selected in the ROD," as that term is defined in Paragraph 14(b). EPA will set forth in the notice a schedule for performance of such activities consistent with this Consent Decree or require Settling Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions) with a copy to the State. Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to their right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action has been performed in accordance with this Consent Decree and that the Performance Standards have been achieved, EPA will so certify in writing to Settling Defendants. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XXI (Covenants by United States and State). Certification of Completion of the Remedial Action shall not affect Settling Defendants' remaining obligations under this Consent Decree.

48. Completion of the Work

a. Within ninety (90) days after Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA and the State. If, after the pre-certification inspection, Settling Defendants still believe that the Work has been fully performed, Settling Defendants shall submit a written report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of each Settling Defendant or Settling Defendants' Project Coordinators:

To the best of my knowledge, after thorough investigation, 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 submitting false information.

If, after review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance

with this Consent Decree, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Work. Provided, however, that EPA may only require Settling Defendants to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the remedy selected in the ROD," as that term is defined in Paragraph 14(b). EPA will set forth in the notice a schedule for performance of such activities consistent with this Consent Decree or require Settling Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to their right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion of Work by Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Consent Decree, EPA will so notify Settling Defendants in writing.

#### **XV. EMERGENCY RESPONSE**

49. In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material at or from the Mine Flooding Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Defendants shall, subject to Paragraph 50, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify EPA's Project Coordinator, or, if the Project Coordinator is

unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, Settling Defendants shall notify the EPA Emergency Response Unit, Region VIII. Settling Defendants shall take such actions in consultation with EPA's Project Coordinator or other available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents required under this Consent Decree. Settling Defendants shall, in addition, immediately notify the State Project Coordinator. In the event that Settling Defendants fail to take appropriate response action as required by this Section, and EPA or, as appropriate, the State, takes such action instead, Settling Defendants shall reimburse EPA and the State all costs of the response action not inconsistent with the NCP pursuant to Section XVI (Reimbursement of Response Costs).

50. Nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States or the State (a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Mine Flooding Site, or (b) subject to Section XXI (Covenants by the United States) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Mine Flooding Site.

#### **XVI. REIMBURSEMENT OF RESPONSE COSTS**

51. **Past Response Costs.** Within sixty (60) days of the Effective Date of this Consent Decree, Settling Defendants shall pay \$3,150,000 to the EPA Hazardous Substance Superfund, in reimbursement of Past Response Costs, by FedWire Electronic Funds Transfer



("EFT" or wire transfer) to DOJ account in accordance with current electronic funds transfer procedures, referencing U.S.A.O. file number 2002v00027, the EPA Region and Site/Spill ID # 08-22, and DOJ case number 90-11-2-430. Payment shall be made in accordance with instructions provided to Settling Defendants by the Financial Litigation Unit of the United States Attorney's Office for the District of Montana following lodging of this Consent Decree. Any payments received by DOJ after 4:00 P.M. (Eastern Time) will be credited on the next business day. Settling Defendants shall send notice that such payment has been made to the United States as specified in Section XXVII (Notices and Submissions) and to Cost Recovery Coordinator, US EPA Montana Office, 10 West 15<sup>th</sup> Street, Suite 3200, Helena, Montana 59624 and to Director of Financial Management Programs, US EPA Region 8, 999 18<sup>th</sup> Street, Denver, Colorado 80202.

52. Future Response Costs.

a. Settling Defendants shall reimburse the EPA Hazardous Substance Superfund for all Federal Future Response Costs which are not inconsistent with the National Contingency Plan. In the year following the Effective Date of this Consent Decree and in other years where Federal Future Response Costs are paid, the United States will exercise best efforts to send Settling Defendants an annual bill, including Cost Documentation, requiring payment of EPA's Future Response Costs. Any failure by the United States to provide such annual billing and/or complete Cost Documentation, however, shall not relieve Settling Defendants of any obligation under this Consent Decree. Settling Defendants shall make all payments within sixty (60) days of Settling Defendants' receipt of each bill requiring payment, except as otherwise provided in Paragraph 54. Settling Defendants shall make all payments required by this Paragraph in the form of a certified or cashier's check or checks made payable to "EPA Hazardous Substance

Superfund" and referencing the EPA Region and Site/Spill ID # 08-22, the DOJ case number 90-11-2-430, and the name and address of the party making payment. Settling Defendants shall send the check to the address given in the periodic billing, and shall send copies of the check to the United States as specified in Section XXVII (Notices and Submissions), to Cost Recovery Coordinator, US EPA Montana Office, 10 West 15<sup>th</sup> Street, Suite 3200, Helena, Montana 59624, and to Director of Financial Management Programs, US EPA Region 8, 999 18<sup>th</sup> Street, Denver, Colorado 80202.

b. Settling Defendants shall reimburse the State for all independently incurred State Future Response Costs which are not inconsistent with the National Contingency Plan. In the year following the Effective Date of this Consent Decree and in other years where State Future Response Costs are paid, the State will exercise best efforts to send Settling Defendants an annual bill, including Cost Documentation, requiring payment of the State's Future Response Costs. Any failure by the State to provide such annual billing and/or complete Cost Documentation, however, shall not relieve Settling Defendants of any obligation under this Consent Decree. Settling Defendants shall make all payments within sixty (60) days of Settling Defendants' receipt of each bill requiring payment, except as otherwise provided in Paragraph 54. All payments to the State of Montana under this Section shall be paid by certified or cashier's check(s) made payable to "State of Montana, Department of Environmental Quality, Environmental Quality Protection Fund." The Settling Defendants shall send the certified check(s) to the Centralized Services Division at the following address: Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901. The check shall be designated as a contribution to the Environmental Quality Protection Fund, contain a citation to § 75-10-704(4)(a), MCA (2001), and contain a notation identifying the Mine

Flooding Operable Unit by name. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the State of Montana as provided in Paragraph XXVII (Notices and Submissions).

53. Oversight Costs. Within 60 days of the Effective Date of this Consent Decree, Settling Defendants shall pay to the EPA Hazardous Substance Superfund \$5,723,000 in full satisfaction and settlement of its obligation to pay Oversight Costs for the Mine Flooding Site. Such payment shall be made by FedWire Electronic Funds Transfer (“EFT”) to a DOJ account in accordance with the procedures in Paragraph 51. Settling Defendants shall send notice that such payment has been made to the United States as specified in Section XXVII (Notices and Submissions) and Cost Recovery Coordinator, US EPA Montana Office, 10 West 15<sup>th</sup> Street, Suite 3200, Helena, Montana 59624 and to Director of Financial Management Programs, US EPA Region 8, 999 18th Street, Denver, Colorado 80202; and to the State. Amounts paid by Settling Defendants under this Paragraph 53 shall be deposited into the Mine Flooding Site Special Account and shall be retained and used to conduct or finance response actions at or in connection with the Mine Flooding Site or transferred by EPA to the EPA Hazardous Substance Superfund. Oversight Costs the United States or the State may incur for the Mine Flooding Site in excess of the amount paid by the Settling Defendants pursuant to this Paragraph shall not be recoverable from Settling Defendants except as the United States and the State may incur additional Oversight Costs based on its reserved rights to take additional actions pursuant to Section XXI (Covenants by United States and State).

54. Settling Defendants may contest payment of any Federal and State Future Response Costs under Paragraph 52 solely on the basis that: (1) the United States or the State has made an accounting error; (2) the United States or the State is seeking reimbursement of

Oversight Costs inconsistent with this Consent Decree; (3) a cost item demanded for reimbursement represents costs that are inconsistent with the NCP; or (4) EPA or the State has failed to provide complete Cost Documentation as required by Paragraph 52. The failure of the United States or the State to provide complete Cost Documentation shall not relieve Settling Defendants of any obligation under this Consent Decree, but it may provide the basis for Settling Defendants to seek, through the dispute resolution provisions of Section XIX (Dispute Resolution), a reduction in Settling Defendants' obligation to reimburse EPA or the State for those costs which Settling Defendants claim are not fully supported by Cost Documentation, as defined herein. Any objection made under this Paragraph shall be made in writing within sixty (60) days of receipt of the bill and must be sent to the United States or the State. Any such objection shall specifically identify the contested Federal and State Future Response Costs and the basis for objection. In the event of an objection, Settling Defendants shall within the 60-day period pay all uncontested Federal and State Future Response Costs to the United States or the State in the manner described in Paragraph 52 and shall initiate the dispute resolution procedures in Section XIX (Dispute Resolution). Any such payment made by Settling Defendants shall be credited by the United States or the State only to the payment of the uncontested costs. If the United States or the State prevails in the dispute, within thirty (30) days of the resolution of the dispute, Settling Defendants shall pay the sums due (with accrued Interest) to the United States or the State, in the manner described in Paragraph 52. If Settling Defendants prevail concerning any aspect of the contested costs, Settling Defendants shall pay that portion of the costs (plus associated accrued Interest) for which it did not prevail to the United States or the State, in the manner described in Paragraph 52. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XIX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding

Settling Defendants' obligation to reimburse the United States and the State for their respective Future Response Costs.

55. In the event that the payments required by Paragraphs 51 (Past Response Costs) and 53 (Oversight Costs) are not made within sixty (60) days of the Effective Date of this Consent Decree, or the payments required by Paragraph 52 (Future Response Costs) are not made within sixty (60) days of Settling Defendants' receipt of the bill, Settling Defendants shall pay Interest on the unpaid balance. The Interest to be paid on Past Response Costs and Oversight Costs under this Paragraph shall begin to accrue sixty (60) days after the Effective Date of this Consent Decree. The Interest on Future Response Costs shall begin to accrue 60 days after receipt by Settling Defendants of the bill submitted by EPA for such costs or as provided by State statute for State costs. Interest shall continue to accrue through the date of Settling Defendants' payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States or the State by virtue of Settling Defendants' failure to make timely payments under this Section. Settling Defendants shall make all payments required by this Paragraph in the manner described in Paragraph 52.

56. As soon as reasonably practicable after the date of entry of this Consent Decree, the United States, on behalf of the Settling Federal Agencies, shall pay to the EPA Hazardous Substance Superfund \$100,000 in compromise and settlement of Past Response Costs and Federal Future Response Costs and the claims identified in Paragraphs 85 and 91. If the payment to the EPA Hazardous Substances Superfund required by this Paragraph is not made as soon as reasonably practicable, the Chief, Legal Enforcement Program, EPA Region 8, may raise any issues relating to payment to the appropriate DOJ Assistant Section Chief for the

Environmental Defense Section. In the event that payments required by this Paragraph are not made within 60 days of the date of entry of this Consent Decree, Interest on the unpaid balance shall be paid at the rate established pursuant to Section 107(a) of CERCLA, 42 U.S.C. Section 9607(a), commencing on the date of entry of this Consent Decree and accruing through the date of the payment. The Parties acknowledge that the payment obligations of the Settling Federal Agencies under this Consent Decree can only be paid from appropriated funds legally available for such purpose. Nothing in this Consent Decree shall be interpreted or construed as a commitment or requirement that any Settling Federal Agency obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. Section 1341, or any other applicable provision of law.

#### **XVII. INDEMNIFICATION AND INSURANCE**

57. a. The United States and the State do not assume any liability by entering into this agreement or by virtue of any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA or state law. Settling Defendants shall indemnify, save and hold harmless the United States and the State, and their officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Settling Defendants, their respective officers, directors, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under their control, in carrying out activities pursuant to this Consent Decree, including, but not limited to, any claims arising from any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA or state law. Further, Settling Defendants agree to pay the United States and the State all costs they incur, 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 or the State based on negligent or other wrongful acts or omissions of Settling Defendants, their respective officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities relating to the Mine Flooding Site pursuant to this Consent Decree. Neither the United States nor the State shall be held out as a party to any contract entered into by or on behalf of Settling Defendants in carrying out activities pursuant to this Consent Decree. Neither Settling Defendants nor any such contractor shall be considered an agent of the United States or the State.

b. The United States or the State shall give Settling Defendants notice of any claim for which the United States or the State plans to seek indemnification pursuant to Paragraph 57, and shall consult with Settling Defendants prior to settling such claim.

58. Settling Defendants waive all claims against the United States and the State for damages or reimbursement or for set-off of any payments made or to be made to the United States or the State arising from or on account of any contract, agreement, or arrangement between Settling Defendants, individually or collectively, and any person for past performance or response activities at the Mine Flooding Site or performance of activities required under this Consent Decree, including, but not limited to, claims on account of construction delays. In addition, Settling Defendants shall indemnify and hold harmless the United States and the State with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Settling Defendants and any person for performance of any activities relating to the Mine Flooding Site under this Consent Decree, including, but not limited to, claims on account of construction delays.

59. a. Prior to the lodging of this Consent Decree, Settling Defendants provided the United States and the State with information that satisfied the United States and the State as to Settling Defendants' financial resources and their collective ability to provide the equivalent of comprehensive general liability insurance and automobile insurance with limits of two million dollars, combined single limit.

b. If, prior to the first anniversary of EPA's Certification of Completion of Remedial Action pursuant to Paragraph 47 of Section XIV ( Completion of the Remedial Action), any material change occurs in the financial resources of any Settling Defendant such that Settling Defendants may no longer be able to assure their ability to provide the equivalent of comprehensive general liability insurance and automobile insurance with limits of two million dollars, combined single limit, Settling Defendants shall promptly notify the United States and the State in accordance with Paragraph 120 of Section XXVII (Notices and Submissions). Upon receipt of such notice, EPA may, in its sole and unreviewable discretion, after reasonable opportunity for review by the State, require Settling Defendants to obtain that insurance.

c. If, prior to the first anniversary of EPA's Certification of Completion of Remedial Action pursuant to Paragraph 47 of Section XIV ( Completion of the Remedial Action), the United States or the State obtains information regarding any material change in the financial resources of Settling Defendants that leads the United States, in consultation with the State, to believe that Settling Defendants may no longer have the financial ability to provide the equivalent of comprehensive general liability insurance and automobile insurance with limits of two million dollars, combined single limit, the United States shall so notify Settling Defendants in accordance with Paragraph 120 of Section XXVII (Notices and Submissions). Settling



Defendants shall have sixty (60) days after receiving any such written notice to respond and provide corrected or supplemental information or otherwise assure the United States and the State that Settling Defendants have the ability to provide the equivalent of comprehensive general liability insurance and automobile insurance with limits of two million dollars, combined single limit.

d. If Settling Defendants do not satisfactorily resolve the United States' concerns that a material change has occurred in the financial resources of Settling Defendants such that Settling Defendants may no longer have the financial ability to provide the equivalent of comprehensive general liability and automobile insurance with limits of two million dollars, combined single limit, EPA, in consultation with the State and in its sole and unreviewable discretion, may require Settling Defendants to obtain such insurance which names the United States and the State as additional beneficiaries and/or additional insureds.

e. In addition, for the duration of the Consent Decree, Settling Defendants shall also satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of workers' compensation insurance for all persons performing activities required of Settling Defendants by this Consent Decree. Until EPA issues its notice of completion of remedial action pursuant to Subparagraph 47(a), Settling Defendants shall provide to EPA and the State certificates of such insurance and, if requested, a copy of each insurance policy. Settling Defendants shall resubmit such certificates and copies of policies each year on or before January 30<sup>th</sup>. If Settling Defendants demonstrate by evidence satisfactory to EPA and the State that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Defendants need provide only

that portion of the insurance described above which is not maintained by the contractor or subcontractor.

#### **XVIII. FORCE MAJEURE**

60. "Force Majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Settling Defendants, of any entity controlled by Settling Defendants, or of Settling Defendants' contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Defendants' best efforts to fulfill the obligation. The requirement that Settling Defendants exercise "best efforts to fulfill the obligation" under this Paragraph includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the Work or a failure to attain the Performance Standards. A "Force Majeure" event may, however, include a labor strike or work stoppage directly related to remedial construction activities at the Mine Flooding Site.

61. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Settling Defendants shall notify orally EPA's Project Coordinator or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Hazardous Waste Management Division, EPA Region 8, and shall also notify orally the State Project Coordinator, within seven (7) days of when Settling Defendants first knew that the event might cause a delay. Within twelve (12) days thereafter,

Settling Defendants shall provide in writing to EPA and the State 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; Settling Defendants' rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of Settling Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. Settling Defendants shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Settling Defendants 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. Settling Defendants shall be deemed to know of any circumstance of which Settling Defendants, any entity controlled by any Settling Defendant, or Settling Defendants' contractors knew or should have known.

62. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. If EPA, after a reasonable opportunity to review and comment by the State agrees that the delay or anticipated delay is attributable to a force majeure event, EPA will notify Settling Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event. 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, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Settling Defendants in writing of its decision.

63. If Settling Defendants elect to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution), it shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Settling Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts to fulfill the obligation were exercised to avoid and mitigate the effects of the delay, and that Settling Defendants complied with the requirements of Paragraphs 61 and 62, above. If Settling Defendants carry this burden, the delay at issue shall be deemed not to be a violation by Settling Defendants of the affected obligation of this Consent Decree identified to EPA and the Court.

#### **XIX. DISPUTE RESOLUTION**

64. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes between the United States and Settling Defendants arising under or with respect to this Consent Decree. The procedures set forth in this Section shall not apply to actions by the United States or the State to enforce obligations of Settling Defendants that have not been disputed in accordance with this Section. EPA's decisions under these procedures, except for EPA's final administrative decision under Paragraph 67(b), will be made in consultation with the State.

65. Any dispute which arises under or with respect to this Consent Decree shall in the first instance be the subject of informal negotiations between the parties to the dispute. The period for informal negotiations shall not exceed 20 days from the time the dispute arises, unless it is modified by written agreement of the parties to the dispute. The dispute shall be considered to have arisen when one party to the dispute sends the other party to the dispute a written Notice of Dispute.

66. a. In the event that the parties to the dispute cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA shall be considered binding unless, within thirty (30) days after the conclusion of the informal negotiation period, one or more of Settling Defendants invokes the formal dispute resolution procedures of this Section by serving on the United States and the State a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by Settling Defendants. The Statement of Position shall specify Settling Defendants' position as to whether formal dispute resolution should proceed under Paragraph 67 or Paragraph 68.

b. Within thirty (30) days after receipt of Settling Defendants' Statement of Position, EPA will serve on Settling Defendants EPA's Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 67 or Paragraph 68. Within thirty (30) days after receipt of EPA's Statement of Position, Settling Defendants may submit a further statement of position in reply.

c. If there is disagreement between EPA and Settling Defendants as to whether dispute resolution should proceed under Paragraph 67 or Paragraph 68, the parties to the dispute shall follow the procedures set forth in the Paragraph determined by EPA to be applicable. If Settling Defendants ultimately appeal to the Court to resolve the dispute, the Court shall determine which Paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 67 and 68.

67. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and any other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the adequacy of any response action includes, without limitation: (1) the adequacy or appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by Settling Defendants regarding the validity of the ROD's provisions.

a. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the parties to the dispute.

b. The Assistant Regional Administrator for Enforcement Compliance and Environmental Justice, EPA Region 8, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 67(a). This decision shall be

binding upon Settling Defendants, subject only to the right to seek judicial review pursuant to Paragraph 67(c) and (d).

c. Any administrative decision made by EPA pursuant to Paragraph 67(b) shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by Settling Defendants with the Court and served on the Parties within twenty (20) days of receipt of EPA's decision. The motion shall include a description of the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States may file a response to Settling Defendants' motion within 30 days of receipt of that motion.

d. In proceedings on any dispute governed by this Paragraph, Settling Defendants shall have the burden of demonstrating that the decision of the Assistant Regional Administrator for Enforcement and Environmental Justice, EPA Region 8, is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Paragraph 67(a).

68. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Settling Defendants' Statement of Position submitted pursuant to Paragraph 66, the Assistant Regional Administrator for Enforcement Compliance and Environmental Justice, EPA Region 8, will issue a final decision resolving the dispute. The Assistant Regional Administrator's decision shall be binding on Settling Defendant unless,

within twenty (20) days of receipt of the decision, Settling Defendant files with the Court and serves on the parties a motion for judicial review of the decision setting forth the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States may file a response to Settling Defendants' motion within 30 days of receipt of the motion.

b. Notwithstanding Section I (Background) of this Consent Decree, judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

69. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of Settling Defendants under this Consent Decree, not directly in dispute, unless EPA agrees or the Court orders otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 71. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that Settling Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XX (Stipulated Penalties). Stipulated penalties shall not be assessed by the United States nor paid by Settling Defendants to the extent that Settling Defendants prevail on the disputed issue.



## **XX. STIPULATED PENALTIES**

70. Settling Defendants shall be liable for stipulated penalties in the amounts set forth in Paragraph 71 to the United States for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XVIII (Force Majeure). "Compliance" by Settling Defendants shall include completion of the activities under this Consent Decree or any work plan or other plan approved under this Consent Decree identified below in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans or other documents approved by EPA pursuant to the applicable administrative orders or this Consent Decree and within the specified time schedules established by and approved under this Consent Decree.

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

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$4,000	1st through 14th day
\$5,500	15th through 30th day
\$7,500	31st day and beyond

b. Failure to comply with any of the requirements in Section VI (Performance of the Work by Settling Defendants) (except for the performance standards contained in Attachment 1 to Exhibit 3 of the SOW and the Waterfowl Mitigation Plan requirements contained in Exhibit 5 of the SOW, the violations of which are addressed in Subparagraphs 71(e) and 71(f), below),

Section VII (Remedy Review), Section IX (Access and Institutional Controls), Section XIII (Assurance of Ability to Complete the Work), Section XV (Emergency Response), and Section XVI (Reimbursement of Response Costs).

c. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Subparagraph d:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$2,000	1st through 14th day
\$3,500	15th through 30th day
\$5,000	31st day and beyond

d. Failure to comply with any of the requirements in Section VIII (Quality Assurance, Sampling, and Data Analysis), Section X (Reporting Requirements), Section XI (EPA Approval of Plans and Other Submissions), Section XII (Project Coordinators), Section XIV (Certification of Completion), Section XVII (Indemnification and Insurance), Section XXIV (Access to Information), Section XXV (Retention of Records), Section XVI (Notices and Submissions), and Section XXXI (Community Relations).

e. The following stipulated penalties shall accrue per violation per day for any violation of the performance standards contained in Attachment 1 to Exhibit 3 of the SOW:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	5th through 14th day

\$2,000	15th through 30th day
\$3,000	31st day and beyond

Stipulated penalties shall not accrue during the first four consecutive days of violations of any of the performance standards contained in Attachment 1 to Exhibit 3 of the SOW; provided, however, that neither the United States nor the State waive their respective rights at any time to enforce these performance standards and/or to seek civil penalties under Section 109 of CERCLA, 42 U.S.C. § 9609, for any violation of these performance standards.

f. The following stipulated penalties shall accrue per violation per day for any violation of the Waterfowl Mitigation Plan requirements contained in Exhibit 5 of the SOW:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th day
\$2,000	15th through 30th day
\$3,000	31st day and beyond

g. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 83 of Section XXI (Covenants Not to Sue by United States and State), Settling Defendants shall be liable for a stipulated penalty in the amount of \$900,000; provided, however, that this stipulated penalty shall not exceed 30% of the present value of the Work to be taken over, based on EPA's cost estimates and a discount rate of 5%.

h. 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; provided, however, that stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XI (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the twenty-first (21<sup>st</sup>) day after EPA's receipt of such submission until five days after the date that EPA notifies Settling Defendants of any deficiency; (2) with respect to a decision by the Assistant Regional Administrator for Enforcement Compliance and Environmental Justice, EPA Region 8, under Paragraph 67(b) or 68(a) of Section XIX (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Settling Defendants' reply to EPA's Statement of Position is received until five days after the date that the Assistant Regional Administrator issues a final decision regarding such dispute; or (3) with respect to judicial review by this Court or the Court of Appeals of any dispute under Section XIX (Dispute Resolution), during the period, if any, beginning on the 31st day after the Court's receipt of the final submission regarding the dispute until five days after the date that the Court issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree. Any violation of the compliance milestones set forth in Paragraph 12 (Remedial Design), however, shall not also constitute a separate violation of the compliance milestones set forth in Paragraph 13 (Remedial Action).

72. Following EPA's determination, in consultation with the State, that Settling Defendants have failed to comply with a requirement of this Consent Decree, EPA may give Settling Defendants written notification of the same and describe the noncompliance. EPA and the State may send Settling Defendants a written demand for the payment of the penalties.

Stipulated penalties shall accrue as provided in Paragraph 71 regardless of whether EPA has notified Settling Defendants of a violation.

73. All penalties accruing under this Section shall be due and payable to the United States within thirty (30) days of Settling Defendants' receipt from EPA of a demand for payment of the stipulated penalties, unless Settling Defendants invoke the Dispute Resolution procedures under Section XIX (Dispute Resolution). All payments to the United States under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to the following addresses:

Regular Mail: Mellon Bank, Attn: Superfund Accounting, Lockbox 360859, Pittsburgh, PA 15251-6859; or

Federal Express, Airborne, Etc.: Mellon Bank, 3 Mellon Bank Center, Room #153-2713, Pittsburgh, PA 15259 REF: Lockbox 360859

Each such payment shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID # 08-22, the DOJ Case Number 90-11-2-430, and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the United States as provided in Section XXVII (Notices and Submissions), and to Cost Recovery Coordinator, US EPA Montana Office, 10 West 15<sup>th</sup> Street, Suite 3200, Helena, Montana 59624 and to Director of Financial Management Programs, US EPA Region 8, 999 18<sup>th</sup> Street, Denver, Colorado 80202.

74. The payment of stipulated penalties shall not alter in any way Settling Defendants' obligation to complete the performance of the Work required under this Consent Decree.

75. Penalties shall continue to accrue as provided in Paragraph 71 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to this Court, Settling Defendants shall pay accrued stipulated penalties determined to be owing to EPA within fifteen (15) days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United States prevails in whole or in part, Settling Defendants shall pay all accrued stipulated penalties determined by the Court to be owed to EPA within sixty (60) days of receipt of the Court's decision or order, except as provided in Subparagraph c, below; and

c. If the District Court's decision is appealed by any Party, Interest shall accrue on the stipulated penalties determined by the District Court to be owing to the United States. Within fifteen (15) days of receipt of the final appellate court decision, Settling Defendants shall pay all accrued stipulated penalties and Interest determined to be owed by Settling Defendants to the United States.

76. a. If Settling Defendants fail to pay stipulated penalties when due, the United States may institute proceedings to collect the penalties, as well as Interest and the cost of enforcing the requirements of this Consent Decree, including attorney's fees. Settling

Defendants shall pay Interest on the unpaid balance of any stipulated penalty, which shall begin to accrue on the date of demand made pursuant to Paragraph 73.

b. Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of the United States or the State to seek any other remedies or sanctions available by virtue of Settling Defendants' violation of this Consent Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA; provided, however, that the United States shall not seek civil penalties pursuant to Section 122(l) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Consent Decree.

77. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree.

#### **XXI. COVENANTS BY UNITED STATES AND STATE**

78. a. United States' Covenant. In consideration of the actions that will be performed and the payments that will be made by Settling Defendants under the terms of this Consent Decree, and except as specifically provided in Paragraphs 79, 80, and 82 of this Section, the United States covenants not to sue or to take administrative action against Settling Defendants, any of the Settling Defendants' parent or affiliate corporations providing the financial assurances required under Section XIII of this Consent Decree, the subsidiaries of such parent or affiliate corporations, their respective officers, directors and employees, to the extent that the liability of such parent or affiliate companies, subsidiaries, officers, directors, and employees arises solely from their status as parent or affiliate companies, subsidiaries,

officers, directors, and employees, pursuant to Sections 106, 107(a), and 113(f) of CERCLA and Sections 3004(u) and (v), 3008 and 7003 of RCRA relating to the Mine Flooding Site. Except with respect to future liability, these covenants shall take effect upon the receipt by EPA of the payments required by Paragraph 51 of Section XVI (Reimbursement of Past Response Costs). With respect to future liability, these covenants shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 47(b) of Section XIV (Certification of Completion of the Remedial Action). These covenants are conditioned upon the satisfactory performance by Settling Defendants of their obligations under this Consent Decree. These covenants extend only to Settling Defendants, the Settling Defendants' parent or affiliate corporations providing the financial assurances required under Section XIII of this Consent Decree, the subsidiaries of such parent or affiliate corporations, and their respective officers, directors, and employees, and do not extend to any other person.

b. In consideration of the payments that will be made by the Settling Federal Agencies under the terms of this Consent Decree, and except as specifically provided in Paragraphs 79, 80, and 82 of this Section, EPA covenants not to take administrative action against the Settling Federal Agencies pursuant to Sections 106 and 107(a) and 113(f) of CERCLA and Sections 3004(u) and (v), 3008, and 7003 of RCRA relating to the Mine Flooding Site. Except with respect to future liability, these covenants shall take effect upon the receipt by EPA of the payments required by Paragraph 51 of Section XVI (Reimbursement of Response Costs). With respect to future liability, these covenants shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 47(b) of Section XIV (Certification of Completion of the Remedial Action). These covenants are conditioned upon the satisfactory performance by Settling Federal Agencies of their obligations under this



Consent Decree. These covenants extend only to the Settling Federal Agencies and do not extend to any other person.

c. State's Covenant. In consideration of the actions that will be performed and the payments that will be made by the Settling Defendants under the terms of this Consent Decree, and except as specifically provided in Paragraphs 79, 80, and 82 of this Section, the State covenants not to sue or to take administrative action against Settling Defendants, the Settling Defendants' parent or affiliate corporations providing the financial assurances required under Section XIII of this Consent Decree, the subsidiaries of such parent or affiliate corporations, their respective officers, directors and employees, to the extent that the liability of such parent or affiliate companies, subsidiaries, officers, directors, and employees arises solely from their status as parent or affiliate companies, subsidiaries, officers, directors, and employees, pursuant to Sections 106, 107(a), and 113(f) of CERCLA, Sections 3004(u) and (v), 3008 and 7002 of RCRA, and Sections 711, 715, and 722 of CECRA, relating to the Mine Flooding Site. Except with respect to future liability, the covenants shall take effect upon the receipt by EPA of the payments required by Paragraph 51 of Section XVI (Reimbursement of Past Response Costs). With respect to future liability, these covenants shall take effect upon Certification of Completion of Remedial Action pursuant to Paragraph 47(b) of Section XIV (Certification of Completion of the Remedial Action). The covenants are conditioned upon the satisfactory performance by Settling Defendants of their obligations under this Consent Decree. These covenants, as described in this Subparagraph, extend only to Settling Defendants, the Settling Defendants' parent or affiliate corporations providing the financial assurances required under Section XIII of this Consent Decree, the subsidiaries of such parent or affiliate

corporations, their respective officers, directors, and employees, and do not extend to any other person.

d. United States' and the State's Mutual Covenants. In consideration of the payments that will be made by the Settling Federal Agencies under the terms of this Consent Decree, and except as specifically provided in Paragraphs 79, 80, and 82 of this Section, and to the extent such authority exists, the State and the United States mutually covenant not to sue or take administrative action against each other pursuant to Sections 106, 107(a) and 113(f) of CERCLA and Sections 3004(u) and (v), 3008, 7002, and 7003 of RCRA, and Sections 711, 715, and 722 of CECRA, relating to the Mine Flooding Site. Except with respect to future liability, these covenants shall take effect upon the receipt by EPA of the payments required by Paragraph 56 of Section XVI (Reimbursement of Response Costs). With respect to future liability, these covenants shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 47(b) of Section XIV (Certification of Completion of Remedial Action). These covenants extend only to the State and the United States and do not extend to any other person.

79 . a. United States' Pre-certification Reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants, and EPA reserves the right to issue an administrative order seeking to compel Settling Federal Agencies:

- (i) to perform further response actions relating to the Mine Flooding Site; or

- (ii) to reimburse the United States for additional costs of response relating to the Mine Flooding Site

if, prior to Certification of Completion of the Remedial Action:

- A. conditions at the Mine Flooding Site, previously unknown to EPA, are discovered, or
- B. information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

b. State's Pre-certification Reservations. Notwithstanding any other provision of this Consent Decree, the State reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants:

- (i) to perform further response actions relating to the Mine Flooding Site; or
- (ii) to reimburse the State for additional costs of response relating to the Mine Flooding Site

if, prior to Certification of Completion of the Remedial Action:

- A. conditions at the Mine Flooding Site, previously unknown to the State, are discovered, or
- B. information, previously unknown to the State, is received, in whole or in part,

and these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

80. a. United States' Post-certification Reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants, and EPA reserves the right to issue an administrative order seeking to compel the Settling Federal Agencies:

- (i) to perform further response actions relating to the Mine Flooding Site; or
- (ii) to reimburse the United States for additional costs of response relating to the Mine Flooding Site

if, subsequent to Certification of Completion of the Remedial Action:

- (A) conditions at the Mine Flooding Site, previously unknown to EPA, are discovered, or

- (B) information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

b. State's Post-certification Reservations. Notwithstanding any other provision of this Consent Decree, the State reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants:

- (i) to perform further response actions relating to the Mine Flooding Site; or
- (ii) to reimburse the State for additional costs of response relating to the Mine Flooding Site

if, subsequent to Certification of Completion of the Remedial Action:

- (A) conditions at the Mine Flooding Site, previously unknown to the State, are discovered, or
- (B) information, previously unknown to the State, is received, in whole or in part,

and these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

81. a. Information and Conditions Known to EPA. For purposes of Paragraph 79(a) (United States' Pre-Certification Reservations), the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date of lodging of this Consent Decree that are described or contained in: (1) the 1994 Record of Decision for the Mine Flooding Site; (2) the administrative record supporting the 1994 Record of Decision; (4) the Mine Flooding Site Record; (4) and the Butte Priority Soils Site Record; (5) the mine permit files maintained by DEQ or its predecessor agency under the Montana Metal Mines Reclamation Act pertaining to (A) the Response Decision Document (Appendix B to this Consent Decree), (B) sources of contamination, (C) groundwater, and (D) water treatment, in the permitted mine area within the Butte Active Mine Area Operable Unit; and (6) any other records relating to the Mine Flooding Site or Butte Priority Soils Operable Unit maintained by EPA and its employees. For purposes of Paragraph 80(a) (United States' Post-Certification Reservations), the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of EPA's acceptance of Settling Defendants' Certification of Completion of the Remedial Action and described or contained in: (1) the 1994 Record of Decision for the Mine Flooding Site; (2) the administrative record supporting the 1994 Record of Decision; (3) the Mine Flooding Site Record; (4) and the Butte Priority Soils Site Record; (5) any other records relating to the Mine Flooding Site or Butte Priority Soils Operable Unit maintained by EPA and its employees; (6) the mine permit files maintained by DEQ or its predecessor agency under the Montana Metal Mines

Reclamation Act pertaining to (A) the Response Decision Document, (B) sources of contamination, (C) groundwater, and (D) water treatment, in the permitted mine area within the Butte Active Mine Area Operable Unit; and (7) any other information received or discovered by EPA pursuant to the requirements of this Consent Decree. For purposes of Paragraphs 79(a) and 80(a), the fact that the Remedial Action has failed shall not constitute, in and of itself, an unknown condition or new information, unless the failure of the Remedial Action results from an unknown condition or new information.

b. Information and Conditions Known to the State. For purposes of Paragraph 79(b) (State's Pre-Certification Reservations), the information and the conditions known to the State shall include only that information and those conditions known to the State as of the date of lodging of this Consent Decree that are described or contained in: (1) the 1994 Record of Decision for the Mine Flooding Site; (2) the administrative record supporting the 1994 Record of Decision; (4) the Mine Flooding Site Record; (4) and the Butte Priority Soils Site Record; (5) the mine permit files maintained by DEQ or its predecessor agency under the Montana Metal Mines Reclamation Act pertaining to (A) the Response Decision Document, (B) sources of contamination, (C) groundwater, (D) water treatment, and (E) mine reclamation, in the permitted mine area within the Butte Active Mine Area Operable Unit; and (6) any other records relating to the Mine Flooding Site or Butte Priority Soils Operable Unit maintained by the State and its employees. For purposes of Paragraph 80(b) (State's Post-Certification Reservations), the information and the conditions known to the State shall include only that information and those conditions known to the State as of EPA's acceptance of Settling Defendants' Certification of Completion of the Remedial Action and described or contained in: (1) the 1994 Record of Decision for the Mine Flooding Site; (2) the administrative record

supporting the 1994 Record of Decision; (3) the Mine Flooding Site Record; (4) and the Butte Priority Soils Site Record; (5) any other records relating to the Mine Flooding Site or Butte Priority Soils Operable Unit maintained by the State and its employees; (6) the mine permit files maintained by DEQ or its predecessor agency under the Montana Metal Mines Reclamation Act pertaining to (A) the Response Decision Document, (B) sources of contamination, (C) groundwater, (D) water treatment, and (E) mine reclamation, in the permitted mine area within the Butte Active Mine Area Operable Unit; and (7) any other information received or discovered by the State pursuant to the requirements of this Consent Decree. For purposes of Paragraphs 79(b) and 80(b), the fact that the Remedial Action has failed shall not constitute, in and of itself, an unknown condition or new information, unless the failure of the Remedial Action results from an unknown condition or new information.

82. a. United States' General Reservations of Rights. The covenants set forth in Paragraph 78 do not pertain to any matters other than those expressly specified in Paragraph 78. The United States reserves, and this Consent Decree is without prejudice to, all rights against Settling Defendants and Settling Federal Agencies with respect to all other matters, including but not limited to, the following:

(i) claims to enforce this Consent Decree based on a failure by Settling Defendants or the Settling Federal Agencies to meet a requirement of this Consent Decree;

(ii) liability for response costs and injunctive relief under CERCLA Sections 106 and 107 arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Mine Flooding Site, other than as provided in the ROD or the Work;



(iii) liability for response costs and injunctive relief under CERCLA Sections 106 and 107 for future acts of disposal of Waste Material at the Mine Flooding Site by Settling Defendants, other than as provided in the ROD, the Work, or otherwise ordered by EPA;

(iv) criminal liability;

(v) liability for violations of federal or state law by Settling Defendants which occur during or after implementation of the Remedial Action;

(vi) liability, prior to Certification of Completion of the Remedial Action, for additional response actions that EPA determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Paragraph 14 (Additional Response Actions) because they are outside the scope of the remedial action. The rights reserved under this Subparagraph 82(a)(vi) shall be exercised only in a separate administrative or judicial proceeding, and the costs incurred by EPA for these response actions shall not be considered Future Response Costs recoverable under this Consent Decree; and

(vii) liability for damages for injury to, destruction of, or loss of natural resources and for the costs of any natural resource damage assessments at the Mine Flooding Site against the MR Group, and liability for the natural resource damages claims against ARCO that are reserved in Paragraph 77 of the Streamside Tailings Consent Decree.

b. State's General Reservations of Rights. The covenants set forth in Paragraph 78 do not pertain to any matters other than those expressly specified in Paragraph 78.

The State reserves, and this Consent Decree is without prejudice to, all rights against Settling Defendants with respect to all other matters, including but not limited to, the following:

(i) claims to enforce this Consent Decree based on a failure by Settling Defendants to meet a requirement of this Consent Decree;

(ii) liability for response costs and injunctive relief under CERCLA Sections 106 and 107, or parallel provisions of state law, arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Mine Flooding Site, other than as provided in the ROD or the Work;

(iii) liability for response costs and injunctive relief under CERCLA Section 106 and 107, or parallel provisions of state law, for future acts of disposal of Waste Material at the Site by Settling Defendants, other than as provided in the ROD, the Work, or otherwise ordered by EPA;

(iv) criminal liability;

(v) liability for violations of federal or state law by Settling Defendants which occur during or after implementation of the Remedial Action; and

(vi) liability, prior to Certification of Completion of the Remedial Action, for additional response actions that the State determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Paragraph 14 (Additional Response Actions) because they are outside the scope of the remedial action. The rights reserved under this Subparagraph 82(a)(vi) shall be exercised only in a separate administrative

or judicial proceeding, and the costs incurred by the State for these response actions shall not be considered Future Response Costs recoverable under this Consent Decree;

(vii) liability for damages for injury to, destruction of, or loss of, natural resources and for the costs of assessing and litigating any claims for such natural resource damages at the Mine Flooding Site against the MR Group; and

(viii) liability for damages for injury to, destruction of, or loss of, natural resources and for the costs of assessing and litigating any claims for such natural resource damages at the Mine Flooding Site against ARCO to the extent that such claims were reserved in the Montana v. ARCO consent decree, which was entered by this Court in State of Montana v. Atlantic Richfield Company, Case No. 83-317-HLN-PGH, on April 19, 1999, or in the Streamside Tailings Consent Decree.

83. Work Takeover In the event EPA, in consultation with the State, determines that Settling Defendants have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are 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 portions of the Work as EPA determines necessary. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution), Paragraph 67, to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs paid by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Settling Defendants shall pay pursuant to Section XVI (Reimbursement of Response Costs).

84. Notwithstanding any other provision of this Consent Decree, the United States and the State retain all authority and reserve all rights to take any and all response actions authorized by law.

**XXII. COVENANTS BY SETTLING DEFENDANTS  
AND SETTLING FEDERAL AGENCIES**

85. a. Settling Defendants' Covenant Not to Sue the United States Subject to the reservations in Paragraph 87, Settling Defendants hereby covenant not to sue and agree not to assert any past, present, or future claims or causes of action against the United States, its agencies, instrumentalities, officials, employees, agents, and contractors relating to the Mine Flooding Site, as defined herein, including:

(i) any direct or indirect claim related to the Mine Flooding Site for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Sections 106(b)(2), 107, 111, 112, 113 or any other provision of law;

(ii) any claims under CERCLA Sections 107 or 113, 42 U.S.C. §§ 9607 and 9613, under RCRA Sections 3004(u) and (v), 3008 and 7002, or under CECRA, including Sections 711, 715, 719, 722, and 724, MCA 75-10-711, 75-10-715, 75-10-719, 75-10-722, 75-10-724, and any other theory of recovery or provision of law related to the Mine Flooding Site; or

(iii) any claims arising out of response activities at the Mine Flooding Site, including claims based on EPA's selection of response actions, oversight of response activities or approval of plans for such activities.

b. Settling Defendants' Covenant Not to Sue the State. Subject to the reservations in Paragraph 87, Settling Defendants hereby covenant not to sue and agree not to assert any past, present, or future claims or causes of action against the State, its agencies, instrumentalities, officials, employees, agents, and contractors relating to the Mine Flooding Site, as defined herein, including:

(i) any direct or indirect claim related to the Mine Flooding Site for reimbursement from the Environmental Quality Protection Fund (established pursuant to MCA 75-10-704), the Orphan Share Account (established pursuant to MCA 75-10-743), or any other provision of law;

(ii) any claims under CERCLA Sections 107 or 113, 42 U.S.C. Sections 9607 and 9613, under RCRA Sections 3004(u) and (v), 3008 and 7002, and under CECRA Sections 711, 715, 719, 722, and 724, MCA 75-10-711, 75-10-715, 75-10-719, 75-10-722, 75-10-724, and any other theory of recovery or provision of law related to the Mine Flooding Site; or

(iii) any claims arising out of response activities at the Mine Flooding Site, including claims based on selection of response actions, oversight of response actions, or approval of plans for such actions.

86. Settling Federal Agencies' Covenant Not to Sue. Settling Federal Agencies hereby agree not to assert any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Service Code, 26 U.S.C. § 9507) through CERCLA Sections 106(b)(2), 107, 111, 112, 113, or any other provision of law with respect to the Mine Flooding Site including reimbursement from the State Environmental

Quality Protection Fund and the State Orphan Share Account. This covenant does not preclude demand for reimbursement from the Superfund of costs incurred by a Settling Federal Agency in the performance of its duties (other than pursuant to this Consent Decree) as a lead or support agency under the National Contingency Plan (40 C.F.R. Part 300).

87. Settling Defendants' Reservation of Rights. Settling Defendants reserve, and this Consent Decree is without prejudice to:

a. claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, and claims against the State under Chapter 9 of Title 2 of Montana Code Annotated for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States or the State while acting within the scope of his office or employment under circumstances where the United States or the State, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, any such claim shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a federal employee as that term is defined in 28 U.S.C. § 2671, or an employee, as that term is defined in 2-9-101, MCA; nor shall any such claim include a claim based on EPA's selection of response actions, or the oversight or approval of Settling Defendants' plans or activities. The foregoing applies only to claims which are brought pursuant to any Federal or State statute other than CERCLA or CECRA and for which the waiver of sovereign immunity is found in a statute other than CERCLA or CECRA.

b. Contribution and other claims and counterclaims against the Settling Federal Agencies in the event that any claim is asserted by the United States or the State against Settling Defendants under Paragraph 79 (United States' and State's Pre-Certification Reservations), Paragraph 80 (United States' and State's Post-Certification Reservations), Paragraph 82 (United States' and State's General Reservation of Rights) or Paragraph 84 (United States' and State's Reservation of Response Authority), but only for contribution and other claims and counterclaims arising from the same matters, transactions, or occurrences that are raised in or directly related to the United States' or the State's claims against Settling Defendants;

c. except as otherwise expressly provided by this Consent Decree, the Streamside Tailings Consent Decree, or the Rocker Consent Decree, contribution and other claims and counterclaims raised by Settling Defendants in the Federal action against the United States for response costs at operable units other than the Mine Flooding Site;

d. any claims or counterclaims by Settling Defendants other than ARCO against the State which are not expressly released or limited in this Consent Decree. For ARCO, any claims or counterclaims by ARCO against the State which are (i) expressly reserved in Paragraph 24 of the Consent Decree entered in the State Action on April 19, 1999, (ii) not released in the Streamside Tailings Consent Decree, and (iii) not expressly released or limited in this Consent Decree.

e. for Settling Defendants other than ARCO, except as otherwise expressly provided in this Consent Decree, all of their defenses to the claims reserved by the United States and the State in this Consent Decree. For ARCO, except as otherwise expressly provided

by this Consent Decree or released or limited in the consent decree previously entered by this Court pertaining to the State Action, the Streamside Tailings Consent Decree, or the Rocker Consent Decree, all of its defenses to the claims reserved by the United States and the State in this Consent Decree.

88. Nothing in this Consent Decree shall be deemed to constitute 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).

89. Settling Defendants agree not to assert any claims and to waive all CERCLA, CECRA, and RCRA claims or causes of action that they may have for all matters relating to the Mine Flooding Site, including for contribution, against any person where the person's liability to Settling Defendants or Settling Federal Agencies with respect to the Mine Flooding Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Mine Flooding Site, or having accepted for transport for disposal or treatment of hazardous substances at the Mine Flooding Site, if:

a. the materials contributed by such person to the Mine Flooding Site containing hazardous substances (i) did not exceed the greater of (A) 0.002% of the total volume of waste at the Mine Flooding Site or (B) 110 gallons of liquid materials or 200 pounds of solid materials; or (ii) consist of ongoing or approved stormwater diversions.

b. This waiver shall not apply to any claim or cause of action against any person meeting the above criteria if EPA has determined that the materials contributed to the Mine Flooding Site by such person contributed or could contribute significantly to the costs of response at the Site, or if EPA has named such parties as potentially responsible parties for the



Mine Flooding Site pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607. This waiver shall be void to the extent that the United States or the State institutes a new action, or issues a new administrative order to Settling Defendants, pursuant to Paragraph 82 (General Reservation of Rights) of this Consent Decree. This waiver also shall not apply with respect to any defense, claim, or cause of action that Settling Defendants or the Settling Federal Agencies may have against any person if such person asserts a claim or cause of action relating to the Mine Flooding Site against Settling Defendants or the Settling Federal Agencies.

### **XXIII. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION**

90. Except as provided in Paragraph 89, nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Decree. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this Consent Decree may have under applicable law. Except as provided in Paragraph 89, each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the matters addressed in this Consent Decree against any person not a Party hereto.

91. The Parties agree, and by entering this Consent Decree this Court finds, that Settling Defendants and the Settling Federal Agencies are entitled, as of the Effective Date of this Consent Decree, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2), for matters addressed in this Consent Decree. The Parties also agree, and by entering this Consent Decree this Court finds, that Settling

Defendants are entitled, as of the Effective Date of this Consent Decree, to protection from contribution actions or claims as provided by CECRA Section 719(1), MCA 75-10-719(1), for matters addressed in this Consent Decree. For purposes of this Paragraph, the “matters addressed” in this Consent Decree include all Past and Future Response Costs and Work, as defined herein, as well as all response actions taken and to be taken, including, without limitation, remedial investigation, feasibility study, remedial design and remedial action work undertaken by Settling Defendants at the Mine Flooding Site prior to the entry of the Decree. The Parties agree that the contribution protection set forth in this Paragraph is intended to provide the broadest protection afforded by CERCLA and CECRA for matters addressed in this Consent Decree.

92. Settling Defendants agree that with respect to any suit or claim for contribution brought by them for matters related to this Consent Decree they will notify the United States and the State in writing no later than sixty (60) days prior to the initiation of such suit or claim.

93. Settling Defendants also agree that, with respect to any suit or claim for contribution brought against them for matters related to this Consent Decree, they will notify in writing the United States and the State within ten (10) days of service of the complaint on them. In addition, Settling Defendants shall notify the United States and the State within ten (10) days of service or receipt of any Motion for Summary Judgment and within ten (10) days of receipt of any order from a court setting a case for trial.

94. a. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, recovery of response costs, or other appropriate relief relating to the Mine Flooding Site, or other claims reserved in Paragraph 82, Settling

Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the Federal Action or in the State Action; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XXI (Covenants Not to Sue by United States and State).

b. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, recovery of response costs, or other appropriate relief relating to the Mine Flooding Site, or other claims reserved in Paragraph 82, neither the United States nor the State shall use any provision of this Consent Decree to assert and maintain any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by Settling Defendants in the subsequent proceeding were or should have been brought in the Federal Action or in the State Action; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XXII (Covenants by Settling Defendants and Settling Federal Agencies).

#### XXIV. ACCESS TO INFORMATION

95. Subject to the assertion of privilege claims in accordance with Paragraph 96, Settling Defendants shall provide to EPA and the State, upon request, copies of all documents and information within its possession or control or that of its contractors or agents relating to the Mine Flooding Site or to the implementation of this Consent Decree, including, but not

limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, and correspondence; provided, however, that Settling Defendants shall not be required to re-produce any documents already provided to the United States. In response to reasonable requests by EPA, in consultation with the State, Settling Defendants shall cooperate in making available to EPA and the State, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work, subject to their right to counsel or any other right under State and Federal law.

96. a. Settling Defendants may assert business confidentiality claims covering part or all of the documents or information submitted to the United States, EPA, or the State under this Consent Decree 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 the United States, EPA, or the State, if EPA has notified Settling Defendants that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to Settling Defendants.

b. Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by state or federal law. If Settling Defendants assert such a privilege in lieu of providing documents over which it asserts a privilege, and if Settling Defendants have not previously provided a privilege log to the United States for the documents subject to the request, Settling

Defendants shall provide the United States and/or EPA, and the State, 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 Settling Defendants.

However, no documents, reports or other information Settling Defendants are required to create or generate by this Consent Decree shall be withheld on the grounds that they are privileged.

97. 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 non-privileged documents or information evidencing conditions relating to the Mine Flooding Site.

98. Nothing in this Section shall require Settling Defendants to produce any documents, records, or other information that Settling Defendants have previously produced to the United States, although Settling Defendants shall cooperate with the United States to identify the approximate date(s) such previous production or other information to assist the United States in locating previously produced documents.

## **XXV. RETENTION OF RECORDS**

99. Until 5 years after Settling Defendants' receipt of EPA's notification pursuant to Paragraph 47(b) of Section XIV (Certification of Completion of the Remedial Action), Settling Defendants shall preserve and retain all records and documents now in its possession or control or which come into its possession or control that relate to the Mine Flooding Site Work or liability of any person for response actions conducted and to be conducted at the Mine Flooding

Site, regardless of any corporate retention policy to the contrary. Settling Defendants shall also instruct their contractors and agents to preserve all documents and records relating to the performance of the Work at the Mine Flooding Site.

100. At the conclusion of this document retention period, Settling Defendants shall notify the United States and the State at least ninety (90) days prior to the destruction of any such records or documents. Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by state or federal law. If a Settling Defendant asserts such a privilege, it shall provide the United States and the State 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 the Settling Defendant. However, no final documents, reports or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on the grounds that they are privileged.

101. Settling Defendants each hereby certify that, to the best of their knowledge and belief, after thorough inquiry, they have not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to their potential liability or the potential liability of any other Settling Defendant regarding the Mine Flooding Site since the notification of potential liability by the United State or the State, and that they have fully complied with any and all EPA requests for information pursuant to Section 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.

102. The United States acknowledges that each Settling Federal Agency (1) is subject to all applicable Federal record retention laws, regulations, and policies; and (2) has fully complied with any and all EPA and State requests for information pursuant to Section 104(e) and 122(e) of CERCLA 42 U.S.C. Section 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. Section 6927.

#### **XXVI. NOTICES AND SUBMISSIONS**

103. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one Party to or upon another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Except as otherwise specifically provided, written notice as specified herein shall constitute complete satisfaction of any written notice requirement of this Consent Decree with respect to the United States, EPA, or the State, the Settling Federal Agencies, and Settling Defendants, respectively.

**As to the United States:**

Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Washington, D.C. 20044-7611  
Re: DJ #90-11-2-430  
and  
Director, Montana Office  
U.S. Environmental Protection Agency  
Region 8 Montana Office  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, Montana 59624

As to the Settling Federal Agencies:

Mike Zevenbergen, Trial Attorney  
Environmental Defense Section  
c/o NOAA Damage Assessment  
7600 Sand Point Way, NE  
Seattle, Washington 98115

As to EPA:

Russ Forba  
EPA Project Coordinator  
U.S. Environmental Protection Agency  
Region 8 Montana Office  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, Montana 59624

D. Henry Elsen, Attorney  
U.S. Environmental Protection Agency  
Region 8 Montana Office  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, Montana 59624

As to the State or DEQ:

Daryl Reed  
State Project Officer  
Mine Flooding CERCLA Site  
Department of Environmental Quality  
Remediation Division  
P.O. Box 200901  
Helena, Montana 59620-0901

Mary Capdeville  
CERCLA Site Attorney  
Mine Flooding CERCLA Site  
Department of Environmental Quality  
Legal Unit (Remediation)  
P.O. Box 200901  
Helena, Montana 59620-0901



**As to Settling Defendants:**

**Barry C. Duff  
Project Coordinator  
Atlantic Richfield Company  
307 E. Park Avenue  
Anaconda, Montana 59711**

**David Bell, Esq.  
Atlantic Richfield Company  
801 Warrenville Road, Suite 800  
Lisle, Illinois 60532**

**Stephen F. Walsh, President  
Montana Resources  
600 Shields Avenue  
Butte, Montana 59701**

**Greg L. Stricker, Vice President  
Montana Resources, Inc.  
101 International Way  
Missoula, Montana 59808**

**Larry Simkins  
On Behalf of Dennis R. Washington  
P.O. Box 16630  
Missoula, Montana 59808-6630**

**Rebecca L. Summerville, Esq.  
On Behalf of Dennis R. Washington  
Datsopoulos, MacDonald & Lind, P.C.  
201 West Main  
Central Square Building  
Missoula, Montana 59802**

**Kevin McCaffrey, Esq.  
ASARCO, Incorporated  
156 West 56<sup>th</sup> Street  
Suite 1902  
New York, New York 10019**

Kevin McCaffrey, Esq.  
AR Montana Corporation  
156 West 56<sup>th</sup> Street  
Suite 1902  
New York, New York 10019

**XXVII. AGREEMENT ON POOL COSTS FOR FUTURE NEGOTIATIONS**

104. This Consent Decree represents the conclusion of negotiations described in Paragraph 31(b) of the Streamside Tailings Consent Decree, which was entered by the District Court of Montana in the Federal Action and in State of Montana v. Atlantic Richfield Company, CV 83-317-HLN-PGH on April 19, 1999.

105. Paragraph 31 of the Streamside Tailings Consent Decree also requires ARCO and the United States to conduct additional consent decree negotiations for other operable units and matters in the Original and Butte Portions of the Silver Bow Creek/Butte Area National Priorities List (NPL) Site,. These matters include, as appropriate, the amount of allocated Silver Bow Creek/Butte Area (Butte portion) site-wide costs (Paragraphs 31(e) through 31(f) of the Streamside Tailings Consent Decree). For purposes of Paragraphs 31(b) and 31(e) through 31(f) of the Streamside Tailings Consent Decree, the United States and ARCO agree that \$3,016,018.23 represents the past response costs paid by EPA through March, 1998, including interest, for the Butte portion of the SBCB Site-wide costs. In future negotiations conducted pursuant to Paragraphs 31(c) through 31(f) of the Streamside Tailings Consent Decree, the United States and ARCO further agree that this \$3,016,018.23 in past response costs paid by EPA through March, 1998, in addition to the Clark Fork General costs allocated to the Silver Bow Creek/Butte Area (Butte Portion) accounts as described in Paragraph 106 of the Rocker Operable Unit Consent Decree, shall be allocated as follows: 62.50049% to Operable Unit 8

(Butte Priority Soils), which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 10.58385% to Operable Unit 10 (Butte Residential Soils) which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 3.43335% to Operable Unit H (Stormwater TCRA) which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 0.33120% to Operable Unit I (Railroad TCRA), which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 0% to Operable Unit J (Butte Residential Removal), which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; and 0% to Operable Unit 13 (Butte Westside Soils), which will be addressed in the negotiations described in Paragraph 31(f) of the Streamside Tailings Consent Decree.

106. For purposes of Paragraphs 31(b) through 31(f) of the Streamside Tailings Consent Decree, the United States and ARCO agree that \$624,083.67 represents the past costs paid by EPA for the period 4/1/98 through March 31, 2000, including interest, for Clark Fork General Costs. In future negotiations conducted pursuant to Paragraphs 31(c) through 31(f) of the Streamside Tailings Consent Decree, the United States and ARCO further agree that 34.99209% of these costs shall be allocated to the Anaconda Smelter site account, 25.99500% to the Milltown Reservoir site account, 11.15324% to the Silver Bow Creek / Butte Area (Original Portion) site account, and 27.85967% to the Silver Bow Creek / Butte Area (Butte Portion) site account.

107. For purposes of Paragraphs 31(b) through 31(f) of the Streamside Tailings Consent Decree, the United States and ARCO agree that \$97,412.26 represents the past response costs paid by EPA for the period 4/1/98 through March 31, 2000, including interest,

for the Butte portion of the SBCB Site-wide costs. In future negotiations conducted pursuant to Paragraphs 31(c) through 31(f) of the Streamside Tailings Consent Decree, the United States and ARCO further agree that this \$97,412.26, in addition to the Clark Fork General costs allocated to the Silver Bow Creek / Butte Area (Butte Portion) as described in Paragraph 106 of this Consent Decree, shall be allocated as follows: 48.12468% to Operable Unit 8 (Butte Priority Soils), which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 4.51558% to Operable Unit 10 (Butte Residential Soils) which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 0.13596% to Operable Unit 13 (Butte West Side Soils), which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree; 15.02453% to Operable Unit H (Stormwater TCRA); 17.74581% to Operable Unit I (Railroad TCRA) of the Streamside Tailings Consent Decree; and 0.14959% to Operable Unit J (Butte Residential Removal), which will be addressed in the negotiations described in Paragraph 31(e) of the Streamside Tailings Consent Decree.

108. In the course of the future consent decree negotiations pursuant to Section VII of the Streamside Tailings Consent Decree, including modifications to that Section, Settling Defendants shall not challenge the amount of costs claimed by the United States and set forth in Paragraphs 105 through 107 on any basis, including inconsistency with the National Contingency Plan, adequacy of documentation, or accounting error. The dollar amounts stated in Paragraphs 105 through 107 are sum total amounts of individual costs identified and specifically negotiated in the negotiations relating to this Consent Decree and shall not be altered by EPA in future negotiations.

109. With the exception of the Interim Response Costs and Oversight Costs, this Consent Decree does not settle the United State's claim for Clark Fork General or Silver Bow Creek/Butte Area (Butte portion) Site Wide response costs paid by EPA after March 31, 2000.

110. The amounts and allocation percentages agreed to by the United States and Settling Defendants in this Section are for settlement purposes only, and nothing in Section XXVII may be used by any Party as evidence in any litigation between the United States and Settling Defendants.

#### **XXVIII. RETENTION OF JURISDICTION**

111. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Parties for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XIX (Dispute Resolution) hereof.

#### **XXIX. APPENDICES**

112. The following appendices are attached to and incorporated into this Consent Decree:

"Appendix A" is the 1994 Record of Decision and the 2002 Explanation of Significant Differences.

“Appendix B” is the Response Decision Document.

“Appendix C” is the Statement of Work.

### **XXX. EFFECTIVE DATE**

The Effective Date of this Consent Decree shall be 60 days from the date that this District Court enters the Consent Decree, unless an appeal of the entry and judgment is filed during the 60-day period; if an appeal is taken, the Effective Date shall mean the date on which the District Court’s judgment is affirmed.

### **XXXI. COMMUNITY RELATIONS**

113. Settling Defendants shall propose to EPA, in consultation with the State, Settling Defendants’ participation in any amendment to the community relations plan developed by EPA for the Mine Flooding Site. EPA, in consultation with the State, will determine the appropriate role for Settling Defendants under the Plan. Settling Defendants shall also cooperate with EPA and the State in providing information regarding the Work to the public. As requested by EPA and the State, Settling Defendants shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA or the State to explain activities at or relating to the Mine Flooding Site.

### **XXXII. MODIFICATION**

114. Schedules specified in this Consent Decree for completion of the Work may be modified by agreement of EPA, in consultation with the State, and Settling Defendants. All such modifications shall be made in writing.

115. Except as provided in Paragraph 14 ("Additional Response Actions"), no material modifications shall be made to the plans and documents required under this Consent Decree without written notification to and written approval of the United States, Settling Defendants, and the Court. Prior to providing its approval to any modification, the United States will provide the State with a reasonable opportunity to review and comment on the proposed modification. Modifications to a plan or document that do not materially alter that document may be made by written agreement between EPA, after providing the State with a reasonable opportunity to review and comment on the proposed modification, and Settling Defendants.

116. Nothing in this Consent Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Consent Decree.

#### **XXXIII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT**

117. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment in accordance with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. § 50.7. The United States and the State reserve their rights to withdraw or withhold their consent if (a) the comments regarding this Consent Decree, or (b) the review by the United States and the State of BP Corporation North America Inc.'s supplemental demonstration of financial assurance required by Paragraph 45(a), disclose facts or considerations which indicate that this Consent Decree is inappropriate, improper, or inadequate. Settling Defendants consent to the entry of this Consent Decree without further notice.

118. If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any Party and the terms of this Consent Decree may not be used as evidence in any litigation between the Parties.

119. Upon entry of this Consent Decree, EPA will terminate Administrative Order on Consent Docket Nos. CERCLA-VIII-90-09 and CERCLA VIII-89-19 and Unilateral Administrative Order Docket No. CERCLA-VIII- 96-19.

#### **XXXIV. SIGNATORIES / SERVICE**

120. The undersigned representatives of Settling Defendants, the Environment and Natural Resources Division of the United States Department of Justice, the United States Environmental Protection Agency, and the Montana Department of Environmental Quality each certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such Party to this document.

121. Each Party hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree unless the United States or the State has notified Settling Defendants in writing that it no longer supports entry of this Consent Decree.

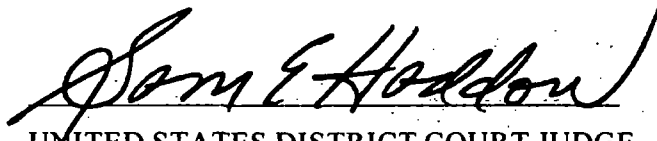
122. Settling Defendants shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of that Party with respect to all matters arising under or relating to this Consent Decree. Settling Defendants hereby agree to accept service in that manner and to waive the



formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons.

123. Upon the Court's approval of this Consent Decree, the Decree shall be entered as a final judgment under Fed. R. Civ. P. 54(b), and shall serve to satisfy the settlement negotiation requirements contained in paragraph 31(b) of the Streamside Tailings Consent Decree with respect to the Mine Flooding Site. The Court expressly determines that there is no just reason for delay in entering this judgment.

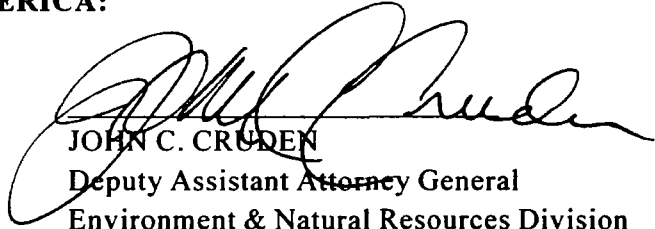
SO ORDERED THIS 22 DAY OF August, 2002.

  
UNITED STATES DISTRICT COURT JUDGE


THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Mine Flooding Site in the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR THE UNITED STATES OF AMERICA:**

Date: 3.21.02

  
JOHN C. CRUDEN  
Deputy Assistant Attorney General  
Environment & Natural Resources Division  
U.S. Department of Justice  
Washington, D.C. 20530

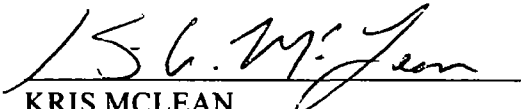
Date: 3/13/02

  
MATTHEW W. MORRISON  
Trial Attorney  
Environmental Enforcement Section  
Environment & Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Washington, D.C. 20044-7611

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

\_\_\_\_\_  
MICHAEL J. ZEVENBERGEN  
Environmental Defense Section  
c/o NOAA Damage Assessment  
7600 Sand Point Way, NE  
Seattle, Washington 98115

Date: 3.25.02

  
KRIS MCLEAN  
Assistant United States Attorney  
District of Montana  
105 East Pine, 2<sup>nd</sup> Floor  
Missoula, Montana 59802

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Mine Flooding Site in the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR THE UNITED STATES OF AMERICA:**

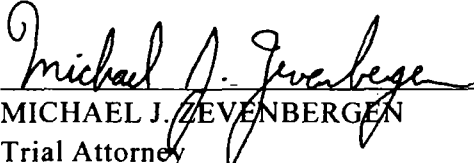
Date: \_\_\_\_\_

\_\_\_\_\_  
JOHN C. CRUDEN  
Deputy Assistant Attorney General  
Environment & Natural Resources Division  
U.S. Department of Justice  
Washington, D.C. 20530

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

\_\_\_\_\_  
MATTHEW W. MORRISON  
Trial Attorney  
Environmental Enforcement Section  
Environment & Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Washington, D.C. 20044-7611

Date: March 22, 2002

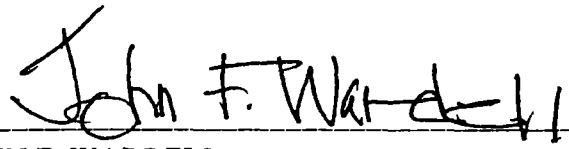
  
\_\_\_\_\_  
MICHAEL J. ZEVENBERGEN  
Trial Attorney  
Environmental Defense Section  
Environment & Natural Resources Division  
U.S. Department of Justice  
c/o NOAA Damage Assessment  
7600 Sand Point Way, NE  
Seattle, Washington 98115

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

\_\_\_\_\_  
KRIS MCLEAN  
Assistant United States Attorney  
District of Montana  
105 East Pine, 2<sup>nd</sup> Floor  
Missoula, Montana 59802

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America  
v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable  
Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

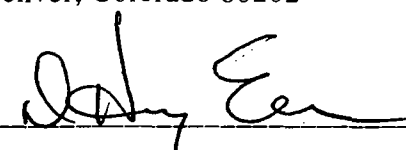
Date: 3/14/02

  
\_\_\_\_\_  
JOHN F. WARDELL  
US EPA Region 8 Montana Office Director  
U.S. Environmental Protection Agency  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, MT 59626-0096

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

\_\_\_\_\_  
CAROL RUSHIN, Assistant Regional Administrator  
Enforcement, Compliance, and Environmental Justice  
U.S. Environmental Protection Agency, Region 8  
999 18<sup>th</sup> Street  
Denver, Colorado 80202

Date: 3/14/02

  
\_\_\_\_\_  
D. HENRY ELSSEN, Attorney  
Legal Enforcement Program  
U.S. Environmental Protection Agency  
Region 8 Montana Office  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, MT 59624

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

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

\_\_\_\_\_  
JOHN F. WARDELL  
US EPA Region 8 Montana Office Director  
U.S. Environmental Protection Agency  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, MT 59626-0096

Date: 3/12/02

Carol Rushin  
CAROL RUSHIN, Assistant Regional Administrator  
Enforcement, Compliance, and Environmental Justice  
U.S. Environmental Protection Agency, Region 8  
999 18<sup>th</sup> Street  
Denver, Colorado 80202

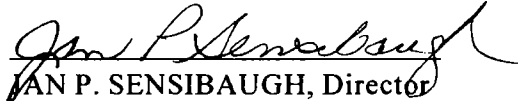
Date: \_\_\_\_\_

\_\_\_\_\_  
D. HENRY ELSEN, Attorney  
Legal Enforcement Program  
U.S. Environmental Protection Agency  
Region 8 Montana Office  
10 West 15<sup>th</sup> Street, Suite 3200  
Helena, MT 59624


THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR THE STATE OF MONTANA:**

Date: 3-20-02

  
JAN P. SENSIBAUGH, Director  
Montana Dept. of Environmental Quality  
Metcalf Building  
P.O. Box 20091  
Helena, Montana 59620-0901

Date: 3-20-02

  
MARY CAPDEVILLE  
Special Assistant Attorney General  
Montana Dept. of Environmental Quality  
Metcalf Building  
P.O. Box 20091  
Helena, Montana 59620-0901

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR THE ATLANTIC RICHFIELD COMPANY:**

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

Sandy Stash  
Vice President and General Manager  
Atlantic Richfield Company  
First Security Bank Building  
307 East Park Avenue, Suite 400  
Anaconda, Montana 59711

Date: 3/22/02 D. - 1 Bell

David Bell, Esq.  
Atlantic Richfield Company  
801 Warrenville Road, Suite 800  
Lisle, Illinois 60532

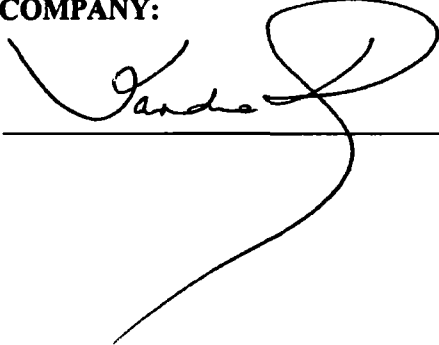
Date: 3/22/02 Stephen H. Foster

Steven Foster, Esq.  
Holland and Hart  
P.O. Box 639  
401 North 31<sup>st</sup> Street, Suite 1500  
Billings, Montana 59711

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR THE ATLANTIC RICHFIELD COMPANY:**

Date: 3/15/02

  
\_\_\_\_\_

Sandy Stash  
Vice President and General Manager  
Atlantic Richfield Company  
First Security Bank Building  
307 East Park Avenue, Suite 400  
Anaconda, Montana 59711

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

\_\_\_\_\_

David Bell, Esq.  
Atlantic Richfield Company  
801 Warrenville Road, Suite 800  
Lisle, Illinois 60532

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

\_\_\_\_\_

Steven Foster, Esq.  
Holland and Hart  
P.O. Box 639  
401 North 31<sup>st</sup> Street, Suite 1500  
Billings, Montana 59711



FROM :DATSOPOULOS MACDONALD&LINL


FAX NO. :4065499832

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.


**FOR ASARCO:**

Date: 3/19/02

  
Genaro Larrea Mota-Velasco, President  
ASARCO Incorporated  
2575 East Camelback Road, Suite 500  
Phoenix, Arizona 85016

**FOR AR MONTANA CORPORATION:**

Date: 3/19/02

  
Kevin McCaffrey  
AR Montana Corporation  
2575 East Camelback Road, Suite 500  
Phoenix, Arizona 85016

**FOR MONTANA RESOURCES:**

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

\_\_\_\_\_  
Stephen F. Walsh, President  
Montana Resources  
600 Shields Avenue  
Butte, Montana 59701

**FOR MONTANA RESOURCES, INC:**

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

\_\_\_\_\_  
Greg L. Stricker, Vice President  
Montana Resources, Inc.  
101 International Way  
Missoula, Montana 59808

FROM : DATSOPoulos MACDONALD&amp;L1

FAX NO. : 4065499832

Mar. 19 2002 10:51AM P2

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Butte Mine Flooding Operable Unit of the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR ASARCO:**

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

\_\_\_\_\_  
Genaro Larrea Mota-Velasco, President  
ASARCO Incorporated  
2575 East Camelback Road, Suite 500  
Phoenix, Arizona 85016

**FOR AR MONTANA CORPORATION:**Date: 3/19/02

\_\_\_\_\_  
Kevin McCaffrey  
AR Montana Corporation  
2575 East Camelback Road, Suite 500  
Phoenix, Arizona 85016

**FOR MONTANA RESOURCES:**

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

\_\_\_\_\_  
Stephen F. Walsh, President  
Montana Resources  
600 Shields Avenue  
Butte, Montana 59701

**FOR MONTANA RESOURCES, INC:**

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

\_\_\_\_\_  
Greg L. Stricker, Vice President  
Montana Resources, Inc.  
101 International Way  
Missoula, Montana 59808

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Stephen F. Walsh, President  
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**FOR MONTANA RESOURCES, INC:**

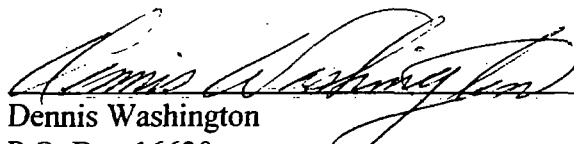
Date: 3/19/02

\_\_\_\_\_  
*Greg L. Stricker*  
Greg L. Stricker, Vice President  
Montana Resources, Inc.  
101 International Way  
Missoula, Montana 59808

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**FOR DENNIS WASHINGTON:**

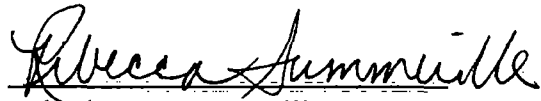
Date: 3/19/02

  
Dennis Washington  
P.O. Box 16630  
Missoula, Montana 59808-6630

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America v. Atlantic Richfield Company, Civ. No. \_\_\_\_\_ relating to the Mine Flooding Site in the Silver Bow Creek/Butte Area (Butte Portion) Superfund Site.

**FOR THE MR GROUP:**

Date: 3/25/02



Rebecca L. Summerville, Esq.  
Datsopoulos, MacDonald & Lind, P.C.  
201 West Main  
Central Square Building  
Missoula, Montana 59802

Appendix A - the 1994 Record of Decision and the 2002 Explanation of Significant Differences - are found at 4400900/436306 and 4400901/493279 respectively.

Appendix B - the Response Decision Document for the Butte Active Mine Area Operable Unit (the Deferral Document) - is located at 4400811/489207.

**APPENDIX C TO CONSENT DECREE  
STATEMENT OF WORK FOR THE SILVER BOW CREEK/BUTTE  
AREA NPL SITE, MINE FLOODING OPERABLE UNIT  
REMEDIAL DESIGN/REMEDIAL ACTION**

**INTRODUCTION**

This Statement of Work (SOW) describes the status of Remedial Design (RD) and Remedial Action (RA) for cleanup of the Silver Bow Creek/Butte Area NPL Site – Butte Mine Flooding Operable Unit (BMFOU) and Mine Flooding Site in Butte, Montana and sets forth the remaining requirements for implementation of the RD and RA, including Operation and Maintenance (O&M). This Statement of Work modifies and supercedes Appendix B to the Unilateral Order for Remedial Design Remedial Action, CERCLA VIII-96-19. By entry of the Mine Flooding Consent Decree, the referenced Order is terminated.

The remedial action must fulfill the requirements set forth in the Record of Decision for the OU, issued on September 29, 1994 by the United States Environmental Protection Agency (EPA) and the State of Montana. As noted below, certain tasks which are part of the remedy are complete, conditionally transferred to another operable unit, or are no longer required, as described in the Explanation of Significant Differences (ESD) dated March, 2002. For the remaining components of the remedy, as described below, work plans for RD and RA shall be prepared which set forth plans and schedules for the actual implementation of the remedy. This SOW includes the requirements for the work plans, which will detail the necessary deliverables and technical requirements for remedial design, remedial action, and operation and maintenance for BMFOU. In addition, the schedule and approach to RD and RA are included in the SOW to provide the Settling Defendants with requirements in preparing the deliverables.

The work plans shall be drafted by the Settling Defendants and submitted to EPA and MDEQ for review and approval. The Settling Defendants shall submit the work plans and related supporting plans and reports to EPA and MDEQ within the time frames listed in Exhibit 1 or Section V of this SOW.

This SOW provides: (1) a description of the remedial action as set forth in the 1994 Record of Decision, as modified by the 2002 ESD, with a summary status description of remedial activities at the time of lodging of the Consent Decree; (2) a description of the remaining components of the remedial design and remedial action including the specific plans, reports, and activities that must be conducted; (3) a description of the relationship of the SOW to the work plans and Consent Decree; (4) a partial schedule for completion of the work (Exhibit 1); (5) the approved BMFOU Monitoring Plan (Exhibit 2); and (6) performance standards (Exhibit 3 and Attachment 1 thereto). Other attachments to this SOW are: Exhibit 4 - Petition to Establish a Controlled Groundwater Area for the BMFOU; Exhibit 5 - Waterfowl Mitigation Plan; Exhibit 6 - Final Design Report for the HSB Water Treatment Plant; and Exhibit 7 – Memorandum of Understanding for Public Education and Involvement.



## **I. THE REMEDIAL ACTION**

This portion of the SOW describes the remaining selected response action presented in the 1994 Record of Decision and 2002 ESD for the BMFOU, and provides a summary description of the "Status" of those actions which were completed prior to lodging of this Consent Decree. The 1994 Record of Decision and 2002 ESD (collectively referred to in the remainder of this document as the 94 ReDe/ESD) establish the following elements of the remedy:

### **A. INFLOW CONTROL**

#### **1. HORSESHOE BEND FLOW**

Control of the Horseshoe Bend (HSB) surface water flow to the Berkeley Pit is required. Surface flows, on a short-term emergency basis, may be discharged to the Berkeley Pit. Control of contaminated groundwater in the Horseshoe Bend drainage area is also required.

#### **STATUS:**

The HSB inflow control element of the 94ReDe/ESD was implemented pursuant to EPA approved plans on April 15, 1996 and was terminated, with the approval of EPA in consultation with the State, on June 30, 2000 with the suspension of active mine operations. Control of the HSB flow will resume upon completion of construction of the HSB treatment plant or resumption of mining per the schedules outlined in this SOW. The main contribution to the contaminated alluvial water discharge to the Berkeley Pit in the HSB area has been seepage from the HSB discharge channel. With the control of the HSB discharge to the Berkeley Pit after the HSB water treatment plant comes online, or this flow is incorporated into the mining circuit, the requirement for control of the discharge of contaminated alluvial groundwater from the HSB area to the Berkeley Pit will be met.

#### **2. UPGRADIENT DIVERSIONS**

The 94ReDe/ESD requires the upgradient diversions of Upper Silver Bow and Yankee Doodle Creek and the East, West, and North drainages presently entering Yankee Doodle Tailings Pond (i.e. the Bull Run Diversion).

#### **STATUS:**

Montana Resources is seeking MDEQ approval for wet closure of a portion of the Yankee Doodle Tailings Pond. In the event MDEQ approves a wet closure, which utilizes all or a portion of these flows, only diversions of these streams not utilized by the wet closure will be required as allowed by the ESD. Approval of the wet closure and oversight of all actions related to implementation of closure and reclamation of the Yankee Doodle Tailings Pond will be conducted pursuant to the State mining permit. In the event MDEQ does not approve wet closure or a portion of the flow is not used in the wet closure, the technical feasibility of such upgradient diversions shall be reviewed by EPA, in consultation with MDEQ. A report reviewing the feasibility of the upgradient diversion was prepared by the Settling Defendants and has been submitted to EPA and MDEQ. If required, Settling Defendants shall prepare a

Remedial Action Work Plan for the upgradient diversion which includes a detailed description of construction method and schedule for EPA approval, in consultation with MDEQ.

## **B. WATER TREATMENT**

1. Treatment of surface water (e.g., Horseshoe Bend) in the Horseshoe Bend drainage area during active mining shall be accomplished by integrating the flow into the mining process or by treatment in a plant of sufficient capacity to handle the HSB inflow to the Berkeley Pit, in accordance with approved plans.

2. Upon suspension of mining<sup>1</sup> or upon mine closure and regardless of water levels in the East Camp System, contaminated Horseshoe Bend area inflows shall be captured and treated. Treatment shall be a hydroxide precipitation/aeration followed (if necessary) by filtration and/or reverse osmosis or other applicable technologies, as appropriate, as a polishing treatment to meet standards for discharge to surface waters or equivalent for the prescribed beneficial use. EPA and MDEQ will consider alternate inflow control and treatment measures if such measures are equally effective. If alternate inflow measures are used, a quantity of flow equal to the HSB inflow to the Berkeley Pit shall be treated.

3. If inflow control cannot be accomplished through integration of inflows into the mining process, or otherwise upon suspension of mining or mine closure, design and construction for a treatment facility shall begin immediately and be completed on a schedule approved by EPA, in consultation with MDEQ. In the event that integration of inflow into the mining process cannot be accomplished, this inflow may be discharged, on a short-term and temporary basis, to the Berkeley Pit.

4. During the shakedown period of operation for the HSB Water Treatment Plant and the HSB Water Treatment Plant Upgrade, Horseshoe Bend surface water inflows to the Berkeley Pit and treated water that does not meet interim standards for discharge may be routed to the Berkeley Pit. After the shakedown period(s), a maximum of 5% of the total HSB flow (measured on a calendar year basis) is allowed to be discharged to the pit. The Plan for Shakedown Operations is a component of the Final Design Report for the HSB Water Treatment Plant. (Exhibit 6).

5. During the shakedown period of operations for the HSB Water Treatment Plant and HSB Water Treatment Plant Upgrade, data shall be collected and actions implemented, as described by the Plan for Shakedown Period of Operations, to assess compliance with the Final Standards for cadmium, uranium, combined radium 226/228, gross alpha particle, and beta/photon emitters identified in Attachment 1 to Exhibit 3 of this SOW. In the event compliance with these listed Final Standards are not achieved at the conclusion of the two-year shakedown period, one or more of the following options will be considered and implemented

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<sup>1</sup> For the purposes of 94 ReDe/ESD, suspension of mining is defined as: "when the mill operation is shut down (i.e., no concentrate production) for at least a six (6) month period with minable reserves left that could be mined at a profit when economic factors become more favorable."

upon EPA approval, in consultation with MDEQ, to optimize the existing design and achieve compliance with Final Standards: (i) protectiveness evaluation, including development of site-specific criteria following a protocol approved by EPA, in consultation with the MDEQ; (ii) flow augmentation of the treated discharge using a then available source of water supply; (iii) minor modifications to the existing unit process equipment or facilities to achieve compliance; or (iv) another option approved by EPA, in consultation with MDEQ, as described by Settling Defendants in a Technical Memorandum that is submitted to the agencies at least sixty (60) days prior to the conclusion of the shakedown period. In the event compliance with these listed Final Standards are not achieved following implementation of any such options, unless a performance standard is subsequently modified by EPA, in consultation with MDEQ, EPA and MDEQ may require modification of the approved design pursuant to Paragraph 14 (Additional Response Actions) of the Consent Decree to achieve compliance with Final Standards.

6. At the conclusion of the shakedown period of operations for the HSB Water Treatment Plant, EPA, in consultation with MDEQ will consider modification of the monitoring requirements for Uranium, combination Radium 226/228, Gross Alpha particle and Beta/photon emitters based upon influent or effluent monitoring data collected during the shakedown period, which may include: (i) elimination of the monitoring requirements if these listed contaminants are not present in measurable quantities; or (ii) modification of said monitoring requirements if such contaminants are not present in concentrations greater than Final Standards, as measured in the influent monitoring.

#### **STATUS:**

A Preliminary Design for this element of the 94 ReDe/ESD remedy (the element is hereafter referred to as the Horseshoe Bend or HSB Water Treatment Plant) was approved in October 2000. As Exhibit 6 to the SOW, EPA and MDEQ have approved the Final Design Report for the HSB Water Treatment Plant (Exhibit 6) for treatment of Horseshoe Bend area inflows. Construction of the HSB Water Treatment Plant of sufficient capacity to handle HSB inflow to the Berkeley Pit shall begin in June 2002 and startup of the plant is expected by August 30, 2003. Provided, however, that in the event that on or before June 1, 2002, Montana Resources demonstrates to EPA's satisfaction, in consultation with MDEQ, a commitment to resume mining operations and the Settling Defendants collectively request postponement of construction of the HSB Water Treatment Plant, commencement of construction of the HSB Water Treatment Plant will be postponed. Such commitment shall require startup of the Montana Resources concentrator on or before June 30, 2002, and integration of 95% of the HSB flow into the mining and milling process within 90 days thereafter (on or before September 28, 2002). If construction of the HSB Water Treatment Plant is postponed and the Settling Defendants are not able to control 95% of the HSB flow prior to September 28, 2002, or if mining is suspended, Settling Defendants shall provide a work plan and schedule for construction of the HSB Water Treatment Plant within (90) days thereafter for approval by EPA, in consultation with MDEQ. The construction and operation of the HSB Water Treatment Plant does not preclude resumption of mining or resource recovery by other means by the active mine area permittee.

7. It is anticipated that the approved HSB Water Treatment Plant has been designed with enough capacity to treat the total combined flows of the Horseshoe Bend, Berkeley Pit, and

Continental Pit. As the Critical Water Level (CWL) for the East Camp System is approached, as that level is described in the 1994 Record of Decision, the Settling Defendants will review the HSB Water Treatment Plant design and operation to assess the adequacy of the Plant as a treatment facility for the combined HSB inflow, Berkeley Pit and Continental Pit waters to maintain levels in the East Camp System below the CWLs, as required as part of the remedy selected in the 94 ReDe/ESD. EPA, in consultation with DEQ, will review and approve this evaluation; and, if necessary, require additional measures to ensure the maintenance of the CWL and/or treatment of the water in accordance with Performance Standards Construction of treatment plant additional measures, if any are required by EPA in consultation with MDEQ, shall be completed 2 years prior to when the CWL in the East Camp System is approached, which is currently anticipated to occur in 2018 (MR 2001).

### **C. SLUDGE DISPOSAL**

1. Any sludge(s) generated by a treatment process shall be disposed of in an onsite disposal facility or in the Berkeley Pit in compliance with pertinent requirements and as approved by EPA in consultation with MDEQ. Sludge disposal must be in accordance with ARARs or appropriate waivers.

2. If the volume of sludge disposal to the Berkeley Pit is greater than 5% of the inflow volume of water for treatment at the HSB Water Treatment Plant (measured on a calendar year basis), an equivalent volume of Berkeley Pit/East Camp water shall be pumped and treated to offset the volume that is displaced by the sludge. During the shakedown periods of operation for the HSB Water Treatment Plant and the HSB Water Treatment Plant Upgrade sludge disposal to the Berkeley Pit in volume greater than 5% of the inflow will be allowed. Sludge disposal during shakedown is described in the Plan for Shakedown Operations which has been approved by EPA and MDEQ as a component of the Final Design Report for the HSB Water Treatment Plant. A separate RAWP, including a shakedown plan, must be approved by EPA, in consultation with MDEQ, for the future Plant Upgrade, if required. An area which was formerly part of the State mine permit area is now part of the Mine Flooding Site for sludge disposal, if necessary. This area will either be used for sludge disposal in accordance with an EPA approved design, or reclaimed consistent with state mining law reclamation requirements in accordance with an EPA approved design plan. All such EPA review and approvals will be done in consultation with MDEQ.

### **STATUS:**

As a component of the approved final remedial design for the HSB Water Treatment Plant (Exhibit 6), disposal of sludge from the HSB Water Treatment Plant to the Berkeley Pit shall commence with startup of the treatment plant. As part of the review to be completed for the HSB Water Treatment Plant Upgrade (as the CWL for the East Camp System is approached), the cost-effectiveness, geochemical impacts and legal requirements for sludge disposal options shall be reviewed, including continued disposal of sludge to the Berkeley Pit or construction of an on-site repository. If a repository is not constructed, the designated area (approximately 194 acres) shall be reclaimed under a plan for reclamation to be approved at that time by EPA. The plan shall include a detailed description of reclamation methods and schedule for implementation for EPA approval, in consultation with the MDEQ.

#### **D. MONITORING PROGRAM**

A comprehensive monitoring program is required to track the CWLs (elevation), water quality and rate of inflow to the Berkeley Pit from the East, West and Outer Camps. Data generated from this program since issuance of the ROD has been and will be used to ensure that treatment facilities are in place and operating prior to the time when the waters approach the established CWLs. Monitoring data are also used to ensure the protectiveness of the CWLs and assess the water quality changes in the system. Yearly updates, in the form of a written report, are to be prepared that incorporate the new data with existing data. This report will include, at a minimum, the data gathered from the previous twelve months, and significant changes in water quality. Settling Defendants shall annually provide an updated prediction of the time when the CWL for the East Camp System will be approached.

#### **STATUS:**

The BMFOU Monitoring Plan (the "Monitoring Plan") required by the SOW has been approved by EPA and MDEQ, and is included as Exhibit 2 to the SOW. Based upon data collected since the ROD, revised water quality sampling and water level measurement frequency is approved, as described in the Plan. The Monitoring Plan shall be implemented by the Montana Bureau of Mines and Geology ("MBMG") under EPA and MDEQ oversight with funding provided by the Settling Defendants under this Consent Decree, except where specifically noted. MBMG shall produce and distribute yearly updates in a format approved by EPA and MDEQ, and upload all related data to the Clark Fork River Data Management System.

Certain monitoring activities for the mine area (e.g., Yankee Doodle Tailings Pond) which were formerly part of the approved monitoring program are no longer required under this Scope of Work. The original BMFOU monitoring program required monitoring to aid in the evaluation of the tailings pond dam safety for the purpose of establishing the suitability of the pond in treating HSB water. This evaluation concluded that the pond dam was safe for treating HSB water and recommended ongoing monitoring to ensure dam safety. Because future operation of the tailings pond is specifically tied to the operation of the mine for the purpose of tailings disposal, all monitoring of the pond for dam safety purposes will be conducted pursuant to the State mining permit.

#### **E. WATER LEVELS**

1. Water levels in the East Camp System and the West Camp System shall not be allowed to rise above the established CWLs of 5,410 and 5,435 feet (USGS datum), respectively. In addition, water levels in the East Camp shall be kept below West Camp water levels. These levels and requirements are established to prevent existing hydraulic gradients from changing and thus to prevent releases of contaminated water from the East Camp System into the alluvial aquifer or Silver Bow Creek drainage. The point of compliance for determining water levels for the Berkeley Pit/East Camp CWL shall be determined from the highest water level elevations from the following compliance points: Bedrock Wells A, C, D1, D2, G, Belmont #2 and J; and the Anselmo, Pilot Butte, Lexington, Kelley, Granite Mountain, Continental Pit (or the associated Sarsfield shaft) and Steward Mines). As there is the potential for collapse/failure of existing shafts and monitoring wells and thus their loss as monitoring locations for points of

compliance, EPA, in consultation with MDEQ and MBMG, will evaluate and direct alternative existing shafts as replacement points of compliance as necessary. As water levels approach the CWL at any compliance point, EPA, in consultation with the State, will evaluate the potential impacts of the water level as it is related to the release of contaminated water to the alluvial aquifer or Silver Bow Creek drainage. On the basis of this evaluation EPA, in consultation with the State, will notify the Settling Defendants to begin the HSB Treatment Plant Upgrade evaluation per the schedule shown in Exhibit 1.

2. Compliance monitoring water level data for the Continental Pit shall be collected at the lift station (i.e., in the Continental Pit itself) or the Sarsfield Shaft.

3. The monitoring program and annual update-reports, described in paragraph E.1. above, shall track the rate of inflow and predict when the CWL for the East Camp System may be reached. Settling Defendants' obligation to prepare the annual update report summarizing the results of the Inflow Model shall continue until treatment of the Berkeley Pit waters begins. Under current projections, the 5,410 level for the Berkeley Pit/East Camp may be reached in 2018 (MR 2001). Four (4) years prior to the date when elevations in the East Camp System are predicted to reach the 5,410 level, the Settling Defendants will review the HSB Water Treatment Plant design and operation to assess the adequacy of the facility to treat the combined HSB inflow, Berkeley Pit, Continental Pit, and West Camp, if necessary, to maintain water levels in the East Camp System below the CWL, as required as part of the remedy selected in the ROD and ESD. Construction of all required upgrades, if any, to the HSB Water Treatment Plant shall be completed two (2) years prior to the projected date on which water in the East Camp System would reach the CWL. Pumping and treating of the Berkeley Pit water in the HSB Water Treatment Plant shall begin thereafter, as directed by EPA to maintain the CWL. This final treatment plant shall be capable of maintaining the water level in the East Camp System below the 5,410-foot elevation.

### **STATUS**

The Monitoring Plan required by the SOW has been approved by EPA and MDEQ, and is included as Exhibit 2 to the SOW. The Monitoring Plan shall be implemented by the Montana Bureau of Mines and Geology ("MBMG") under EPA and MDEQ oversight with funding provided by the Settling Defendants under this Consent Decree. MBMG shall produce and distribute draft annual reports by April 15<sup>th</sup> of each year in a format approved by EPA and MDEQ. MBMG will be responsible for the transfer of all related data to the Clark Fork River Data Management System.

MBMG shall produce and distribute to EPA, MDEQ, and the Settling Defendants copies (hard copy and electronic) of the monthly monitoring data and analysis collected the prior month, no later than the 15<sup>th</sup> day of the following month in a format approved by EPA and MDEQ. MBMG shall produce and distribute to EPA, MDEQ, and the Settling Defendants copies (hard copy and electronic) of the annual monitoring data and analysis collected for the prior year, no later than 45 days after the end of the monitoring year in a format approved by EPA and MDEQ. MBMG shall produce and distribute to EPA, DEQ, and the Settling Defendants copies (hard copy and electronic) of the annual monitoring data and analysis collected for the five year review period, no later than 45 days after the end of the five year

review period in a format approved by EPA and MDEQ. MBMG shall be responsible for transferring and assuring the upload of all related data to the Clark Fork River Data Management System. The Settling Defendants will not be subject to Stipulated Penalties under the Consent Decree for the failure of MBMG to perform the above duties.

The monitoring and reporting requirements for Settling Defendants are set forth in the Consent Decree and the SOW, and include the preparation and submittal of monthly Discharge Monitoring Reports and construction updates, and quarterly O&M reports following construction completion. Reports prepared by MBMG described above will be referenced, as applicable, by the Settling Defendants in satisfaction of their reporting requirements under the Consent Decree and the SOW; provided, however, the MBMG reports are intended to be stand-alone reports, and Settling Defendants are not required to include the MBMG reports as part of deliverables produced by Settling Defendants.

#### **F. WEST CAMP**

Actions were implemented to control the water level of the West Camp System in 1989 by pumping and treating Travona shaft water (Travona Shaft Expedited Response Action). The action taken to control the West Camp water is still appropriate; it is, therefore, integrated and incorporated into this remedy for the BMFOU. The water level in the West Camp shall continue to be maintained below the CWL of 5,435 (USGS datum) feet.

#### **STATUS:**

The point of compliance for determining water levels for West Camp System CWL shall be Well BMF 96-1 located at the West Camp Pump Station. At the time of lodging of the Consent Decree, an automated water level transmitter is present at this location and shall be maintained under the approved Monitoring Plan. Groundwater withdrawals from the West Camp System Pump Station (located off Centennial Avenue) maintains the West Camp System below the CWL. A backup pump system shall be maintained at the Travona Shaft. The Well BMF 96-1-D location data will be calibrated against water levels in the Travona Shaft. An O&M Manual, including the method of calibration, covering both pump stations has been provided and approved by EPA and MDEQ, and shall be implemented by the Settling Defendants.

Bedrock groundwater from the West Camp System is currently being treated at the Butte publicly owned treatment works (Butte Metro Plant). An alternative treatment system is anticipated for treatment of this flow. Potential alternative treatments include, but are not limited to, integration of West Camp flows with Lower Area One (LAO) groundwater flows and treatment provided at the LAO treatment facility, pumping of West Camp flow to the HSB Water Treatment Plant, or an independent treatment facility. As described in the ESD associated with the BMFOU ROD, this treatment will be regulated pursuant to the orders and consent decrees associated with the Butte Priority Soils Operable Unit response actions, if this flow is treated in the LAO facility. EPA, in consultation with MDEQ, will further review options for treatment of the West Camp System groundwater as part of investigations under the BPSOU. If the water is not treated as part of the Butte Priority Soils Operable Unit response actions, it will continue to be addressed as part of the BMFOU remedial action. Within 90 days after receipt of EPA's

notice to Settling Defendants that treatment of the West Camp System groundwater will not be determined as part of the BPSOU, Settling Defendants' shall submit a draft Design and Remedial Action Work Plan to EPA and the MDEQ for approval by EPA, in consultation with the MDEQ, and shall implement any approved action.

#### **G. WATER FOWL MITIGATION**

In compliance with the ARAR requirements of the Migratory Bird Treat Act, 42 U.S.C. § 703 et seq., a plan addressing bird mortality on Berkeley Pit water is required, due to the potential for impacts to birds from use of the Pit waters. A water fowl mitigation plan was developed by MR and implemented after issuance of the 1994 Record of Decision.

##### **STATUS:**

An updated water fowl mitigation plan is attached as Exhibit 5. Settling Defendants shall implement this Plan. The Settling Defendants' substantial compliance with the requirements of the approved Plan is intended to provide a reliable observation and documentation of the presence of waterfowl on, or in the vicinity of, the Berkeley Pit which results in the prompt notification of appropriate personnel so that subsequent actions can be taken.

Mortality to waterfowl which arises as a consequence of contact or ingestion with waters within the Berkeley Pit is not in and of itself a violation of the Plan or the consent decree.

#### **H. INSTITUTIONAL CONTROLS**

Institutional controls, including controls on groundwater use, shall be implemented to ensure that there is no inappropriate use of contaminated bedrock groundwater which threatens human health and the environment. Other institutional controls are described in the Consent Decree.

##### **STATUS:**

A Petition to Establish a Controlled Groundwater Area for the BMFOU Bedrock Groundwater is included as Exhibit 4 to the SOW. Butte-Silver Bow ("BSB"), through its Water Quality District (WQD), is a qualified petitioner under State law and has submitted the Petition to the Department of Natural Resources and Conservation (DNRC) to establish a controlled groundwater area for the bedrock groundwater system. The Settling Defendants may participate in the administrative hearing before DNRC to support approval of the Petition. The Settling Defendants shall fund implementation of any monitoring and enforcement of the water well restrictions for the Mine flooding site which are established by the DNRC. Other institutional control requirements are described in the Consent Decree.

## **II. PUBLIC INFORMATION AND EDUCATION**

The 94 ReDeESD requires ongoing public education and information efforts to ensure that the public receives accurate and timely information regarding the Mine Flooding OU, including the CWL and treatment evaluations.



## **STATUS:**

The Settling Defendants have funded education and information efforts through Butte Silver Bow County. The Settling Defendants will continue to fund these efforts, as described in the SOW and the Consent Decree.

## **III. APPROACH TO RD/RA**

This remedial action is unique in two ways. First, components of the 94 ReDe/ESD implemented for several years in the future. Second, actions have been implemented to successfully integrate portions of the remedial action into the active mining operation. While mining is currently suspended, the 94 ReDe/ESD that the Horseshoe Bend water may in the future again be integrated into the active mining operation.

## **IV. KEY PERSONNEL**

The Work Plans for the various components of the remedy shall document the responsibilities and authority of all key persons and organizations working on the project. They shall also include descriptions of the qualifications of key personnel and/or organizations involved in the remedial design development and remedial action implementation for each component of the remedy, including the Project Coordinator, the Supervising Contractors and the Independent Quality Assurance Team (IQAT). The degree of description will necessarily be dictated by the scope and complexity of the component. EPA and MDEQ recognize the lengthy time frame for the implementation of this project which will necessitate changes in personnel over time. The Settling Defendants shall notify EPA and MDEQ upon such personnel changes as required by the Consent Decree.

The Work Plans shall include the name, title, and qualifications of the Project Coordinator proposed to be used in carrying out the overall coordination and management of all activities required under this action. The Project Coordinator shall have sufficient experience and training to ensure that the project can proceed according to schedule.

The qualifications for a Supervising Contractor, if not previously approved, shall be submitted to EPA 10 days prior to the pre-construction meeting. The Independent Quality Assurance Team (IQAT) is used to provide confidence to the Settling Defendants that the selected remedy is constructed to meet project requirements. The IQAT implements the Construction Quality Assurance Plan by selectively testing and inspecting the work of a Supervising Contractor. The IQAT is required to be "independent" and autonomous from a Supervising Contractor, and may come from within the ranks of the Settling Defendants' organization, or through a separate contractual relationship with a private consulting entity. EPA approval will be based on the requirement for independence between the IQAT and a Supervising Contractor.

## V. REMEDIAL ACTION WORK PLANS

### A. GENERAL

The ongoing remedial action activities for the BMFOU are divided into seven components. These components are defined as the following:

1. Monitoring Program
2. Public Education and Involvement
3. Horseshoe Bend (HSB) Inflow Control
4. HSB Water Treatment Plant Upgrade/Sludge Repository
5. West Camp System
6. Waterfowl Mitigation
7. Institutional Controls

These components are described briefly below:

1. Monitoring Program - The BMFOU monitoring program is designed to monitor water quality and levels throughout the area. Water levels in the system will also be used to trigger implementation of certain components of the remedy. The monitoring consists of surface water monitoring, groundwater level and quality monitoring (alluvial and bedrock systems). The approved Monitoring Plan is included as Exhibit 2. All required monitoring actions shall be completed by MBMG with funding provided by the Settling Defendants under this Consent Decree as Oversight Costs and overseen by EPA and MDEQ, except as specifically noted.

Discharge monitoring is required of the Settling Defendants, as described in Exhibit 6 and the Consent Decree.

2. Public Education and Involvement - The remedy for the BMFOU is staged over many years with various components triggered by information generated through the monitoring program. Since 1996, a program to keep the public informed and involved has been instituted by Butte Silver Bow Government with funding from the Settling Defendants. This program and funding shall continue at least until completion of construction of all required upgrades to the HSB Water Treatment Plant, if any, and the facilities are operational, which is currently estimated to occur in 2016 (two years before the CWL is reached in 2018), (MR 2001). A lump sum payment for funding of this program shall be provided to BSB pursuant to the terms of the Memorandum of Understanding with BSB for Public Education and Involvement included as Exhibit 7 to this SOW. An evaluation will be completed by the Berkeley Pit Public Education Advisory Committee one year after the shakedown period following the upgrades to the HSB Water Treatment Plant. A decision will then be made by this committee whether to continue the public education program, subject to EPA approval. The Settling Defendants' provision of lump sum funding under the MOU (Exhibit 7) satisfies the funding obligation for this task under the Consent Decree.

#### 3. HSB Inflow Control

- a. Integration of HSB Flow into Mine Operations.

Construction of the Horseshoe Bend Inflow Control component described as part of the 94 ReDe/ESD remedy was completed and pumping of HSB water to Yankee Doodle Tailings Pond was initiated on April 15, 1996. At that time, the treated water was integrated into the mining circuit. This procedure ceased in June 2000 with suspension of mine operations. In the event that by June 1, 2002 MR demonstrates to EPA's satisfaction, in consultation with MDEQ, a commitment to resume mining operations and start the concentrator by June 30, 2002, and the Settling Defendants collectively request postponement of construction of the HSB Water Treatment Plant, commencement of construction of the HSB Water Treatment Plant will be postponed. During this period, the HSB flows will be integrated into the mining and milling process until such time as there is (a) subsequent suspension of mining, or (b) inability of the mining operations to integrate HSB flows into the mining process. The Settling Defendants will have 90 days from the beginning of the startup of the concentrator (or until September 28, 2002) to integrate the 95% of the HSB flow into the mining and milling process. HSB water may be discharged to the Berkeley Pit during this startup period. If the Settling Defendants are unable to integrate 95% of the HSB flow into the process during this 90 day startup period from June 30, 2002, the construction schedule for the HSB Water Treatment Plant is triggered as required by the 94 ReDe/ESD and this SOW. If mining is suspended, HSB inflow is allowed to report to the Berkeley Pit until the HSB Water Treatment Plant is constructed as required by the 94 ReDe/ESD and this SOW.

b. HSB Water Treatment Plant.

With the suspension of mine operation, a preliminary treatment plant design was developed to treat water. This preliminary design was approved by EPA in October 2000. The Final Design Package for the HSB Water Treatment Plant, including sludge disposal in the Berkeley Pit, has been approved by EPA, in consultation with MDEQ.

If mine operations resume as described in 3(a) above, implementation of the approved Final Design shall be deferred as shown in Exhibit 1. If mine operations do not resume as described in 3(a) above, construction of the HSB plant shall proceed as described in Section 1 herein (see Section 1 Scope of Remedial Action, Water Treatment – Status).

4. HSB Water Treatment Plant Upgrade/Sludge Repository - This component of the remedy shall address the design, construction, and operation and maintenance of the final treatment and sludge disposal facilities (processing HSB, Continental Pit, Berkeley Pit and West Camp waters, if necessary) that is needed when the critical water level is approached in the Berkeley Pit/East Camp.

Four (4) years prior to the date when elevations in the Berkeley Pit/East Camp are predicted to reach the 5,410 level, Settling Defendants will review the HSB Water Treatment Plant design and operation to assess the adequacy of the facility to treat the combined HSB inflow, Berkeley Pit, Continental Pit, and West Camp waters, if necessary to maintain water levels in the East and West Camp Systems below the respective CWLs. The review requires the preparation of a Technical Memorandum with recommendations for improvements, and, if improvements to the existing facilities are required by EPA, in consultation with MDEQ, the submittal of a Final Design Report for the final treatment plant. At that time sludge disposal options must also be reviewed to identify regulatory requirements, geochemical impacts and a

cost-effective final management solution for the increased sludge volume generated by the increased inflow to the treatment plant. The sludge repository review requires the preparation of a Technical Memorandum and the submittal of a Final Design Report for the sludge repository, if necessary. If a sludge repository is not required for BMFOU remedial action, reclamation of the land area preserved as a future repository location shall follow upon a schedule and in a manner approved by EPA. The schedule for submittal of the Technical Memorandum, the Final Design Report and construction for both the treatment plant upgrade and the sludge disposal facilities shall be approved by EPA, in consultation with MDEQ. Construction of treatment plant and disposal facilities, if any are required by EPA, in consultation with MDEQ, shall be completed 2 years prior to when the critical water level in the East Camp System is approached, which is currently anticipated to occur in 2018 (MR 2001).

5. West Camp System - As noted above, West Camp water is being treated in the Metro Treatment Plant. An independent treatment facility has also already been designed to treat this water. Further review of treatment of this water shall be completed as part of the investigations completed for the Butte Priority Soils Operable Unit. The contingent transfer of this component of the 1994 Record of Decision remedy is described in the 2002 ESD to the 1994 Record of Decision. If the West Camp water is not treated as part of BPSOU response actions or approvals, it will be treated at another treatment facility (including potentially the HSB Water Treatment Plant) as part of the BMFOU remedial action. The schedule for submittal of RD deliverables in that event is included in Exhibit 1.

6. Waterfowl Mitigation - The Settling Defendants are required to implement the approved Waterfowl Mitigation Plan included as Exhibit 5 to this SOW. This plan includes provisions for evaluating the effects of sludge disposal in the Berkeley Pit as it relates to waterfowl mitigation and in-situ alternatives for reducing the toxicity of Berkeley Pit water to waterfowl.

7. Institutional Controls Program Because of the long-term nature of this project and the necessity to restrict inappropriate use of contaminated bedrock in this OU an IC program is required by the 94 ReDe/ESD. The BSB Water Quality District has filed a petition with the DNRC for approval of a controlled groundwater area under State law in the form attached as Exhibit 4 to this SOW. As required by the Consent Decree, Settling Defendants shall fund implementation of any monitoring and enforcement of water well restrictions which are established by DNRC.

## **B. ACTION ITEMS**

As noted above, the HSB Water Treatment Plant and West Camp System Component Remedial Designs are deemed "complete and approved" by EPA, in consultation with MDEQ. The HSB Water Treatment Plant and the HSB Water Treatment Plant Upgrade/Sludge Repository component require the following actions.

The plans and actions discussed in the following sections shall be completed or executed according to the schedule found in Exhibit 1 and in accord with the performance standards in Exhibit 3 other performance standards as defined in the Consent Decree.

The work plans described below shall include discussion of all of the deliverables and activities identified below. The work plans shall describe clear plans for producing the deliverables and performing the tasks in an acceptable manner.

All of the related plans described in Section V (CFR Health and Safety Plan, CFR Laboratory Analytical Protocol, CFR Quality Assurance Project Plan, Data Management/Data Validation Plan, Operation and Maintenance Plan, and Construction Quality Assurance Plan and Sampling and Analysis Plan) shall be clearly referenced in the Work Plans, attached to the deliverables as appendices or, if appropriate, included in the work plan schedule as a deliverable in later reports.

A comprehensive schedule of all site activities, consistent with Exhibit 1, shall be prepared by the Settling Defendants as part of the Work Plan submittals. The schedules shall reflect important BMFOU activity dates, deliverable due dates and other necessary items to display the time requirements of all components of this project. Critical path elements shall be highlighted. The schedule shall be based on the overall planning schedule given in Exhibit 1.

## **VI. TECHNICAL MEMORANDUM REQUIREMENTS FOR HSB WATER TREATMENT PLANT UPGRADE/SLUDGE REPOSITORY**

Settling Defendants shall prepare a Technical Memorandums to assess the adequacy of the then-existing HSB Water Treatment Plant to handle the combined flows of the Berkeley Pit, Continental Pit and West Camp waters, if necessary. The Technical Memorandums shall contain, at a minimum, the following key components:

1. Sludge
  - a. Perform analysis to assess whether the volume of sludge disposal into the Berkeley Pit will exceed the 5% threshold and if it does, what amount of additional water from the Berkeley would need to be treated to maintain the pool level, consistent with the 94 ReDe/ESD requirements.
  - b. Perform analysis to assess the impact of sludge disposal to the Berkeley Pit and to assess the consequences of continued sludge disposal to the Pit.
  - c. Assess cost effectiveness of alternative sludge disposal options, including development and use of the designated sludge repository location onsite.
2. Facility Sizing
  - a. Perform analysis to confirm components of the water treatment facility are adequate for the combined HSB, Continental and Berkeley (and other water that may potentially be treated).

3.     Treatability Studies

- a.     Treatability Studies will be performed to assess compliance with Interim and Final Discharge Standards for discharges from the recommended final treatment facility to State waters.

4.     Recommendations for Facility Upgrades and/or Modifications

- a.     Preliminary Design Package for repository construction and operation, if recommended; or
- b.     Reclamation Plan for repository site.
- c.     Preliminary Design Package for treatment facility modifications, if any.
- d.     Plan for Shakedown Period of Operations, which shall describe monitoring and other activities to be conducted for two (2) years of operation following construction completion to optimize treatment plant operations. A revised (final) O&M Manual for routine operations will be updated and implemented after successful completion of the shakedown periods.

5.     Schedule for Implementation of Upgrade

- a.     Settling Defendants shall propose a schedule for completion of Remedial Action Activities for EPA approval.

The proposed schedule shall ensure that construction of all improvements related to the HSB Water Treatment Plant Upgrade / Sludge Repository shall be complete and the facilities operational at least two (2) years before the CWL is predicted to be reached in the East Camp System, consistent with this Consent Decree.

**VII. REMEDIAL ACTION WORK PLAN REQUIREMENTS FOR  
HSB WATER TREATMENT PLANT and HSB WATER  
TREATMENT PLANT UPGRADE/SLUDGE REPOSITORY**

A Remedial Action Work Plan is required for the HSB Water Treatment Plant. A Remedial Action Work Plan is also required for the HSB Water Treatment Plant Upgrade/Sludge Repository action components (if required), and other actions that may be required by EPA, in consultation with MDEQ under this Consent Decree and SOW. The Remedial Action shall be based on the Remedial Design to achieve cleanup results specified in the 94 ReDe/ESD and the Consent Decree.

The RA Work Plan shall provide one document that encompasses all aspects of the remedial action, from selection of the construction management team through final acceptance of all parts of the action by EPA and MDEQ. It shall incorporate the Final Design Report and

associated plans as well as addressing any tasks necessary for completion of the remedial action that were not included in the FDR. The RA Work Plan shall include a complete, updated schedule of remedial action activities through final inspection. The critical path will be identified on the schedule.

The RA Work Plan shall describe the Settling Defendants' plan for implementation of the Remedial Action within the terms and conditions of the Consent Decree and this SOW, and as set forth in the final design submittal. It shall contain at a minimum the following:

1. Description of the work and field operations.
2. Schedule of Remedial Action Activities.
3. Identification of the Supervising Contractor(s).
4. A clear and concise description of the roles, relationships, and assignment of responsibilities among the Settling Defendants and the Project Coordinators, Independent Quality Assurance Team, and Supervising Contractor(s).
5. Procedures to include EPA and MDEQ in the review of construction changes that may impact the implementation of the work described in the Work Plan.
6. Strategies for implementing the following plans, which are prepared prior to remedial action and described in Section V of this SOW:
  - a. Operation and Maintenance Plan (which was approved as part of FDR (Exhibit 6), shall be revised for the HSB Water Treatment Plant Upgrade, if necessary.
  - b. Field Sampling Plan, if necessary.
  - c. Construction Quality Assurance Plan (CQAD), including experience and qualifications of the IQAT described in Section III of this SOW.
7. A Health and Safety Plan for field construction (submitted as part of FDR).
8. Mitigation plans for the protection of human health and the environment, including dust control, air monitoring, waterfowl protection (ongoing implementation of Exhibit 5 requirements) and any other environmental considerations associated with the final design.
9. Requirements for Remedial Action Completion in accordance with Section VI of this SOW, and final storage of all records consistent with the requirements of the Consent Decree.

10. During construction and continuing through submittal of a Remedial Action Completion Report, Settling Defendants shall submit written reports monthly describing progress on construction. Following construction completion, Settling Defendants shall then thereafter submit quarterly O&M reports, as provided by the Consent Decree and this SOW.

## **VIII. OTHER PLANS**

In addition to the remedial design and remedial action work plans, several implementation plans for components of the ROD shall be prepared by the Settling Defendants. Several ancillary plans shall be submitted as part of the remedial design or remedial action work plans, or subsequent required reports. These ancillary plans and the time frame for their submission are described below:

### **1. Site Health and Safety Manual**

The Settling Defendants shall prepare a site-specific health and safety manual (HSM) for protecting the health and safety of individuals who will be involved in operation and maintenance activities. The HSM shall also address, as necessary, protection of the surrounding communities surrounding all phases of remedial action implementation. Included in the HSM shall be the actions to be taken during a site emergency, including a telephone notification list of key individuals. This emergency response section of the manual shall provide for notification/coordination with appropriate Butte/Silver Bow Government officials during Site emergencies. A draft HSM shall conform with applicable federal and State laws, including but not limited to 29 CFR §1910.12. The site-specific HSM may reference Upper Clark Fork Basin Health and Safety Plans previously developed by the Settling Defendants.

### **2. Sampling and Analysis Plan**

The Settling Defendants shall prepare Sampling and Analysis Plans (SAPs) for all components of the remedy which require sampling or monitoring and appropriately reference the EPA-approved CFR Quality Assurance Project Plan (QAPP) and a Data Management/Data Validation Plan (DM/DVP), as may be amended, as required by the Consent Decree. The SAP will describe the procedures to be used by the Settling Defendants to keep EPA and MDEQ informed of environmental sample results and data problems or needs in a timely fashion and shall be consistent with Consent Decree requirements. SAPs and all other field documents must be reviewed and approved by EPA and MDEQ prior to initiation of any field work described as RD/RA work. Draft SAPs shall be submitted and/or appropriately referenced as part of any draft Work Plan. After EPA and State review, comment and approval, a final SAP shall be, included as part of the final Work Plan for the appropriate RD/RA component.

### **3. Operation and Maintenance Manual**

The Settling Defendants shall prepare an operation and maintenance manual (O&M Manual) for the following components of the ROD: HSB Water Treatment Plant; HSB Water Treatment Plant Upgrade/Sludge Repository; and the West Camp Pump Station. Section 3.5.2 of



OSWER Directive 9355.0-4A contains a list of basic elements of an O&M Manual that shall be followed, with additional site-specific elements.

An O&M manual for the West Camp Pump Station has been prepared by the Settling Defendants and approved by EPA in consultation with the State. A draft O&M Manual for the HSB Water Treatment Plant shall be submitted for agency review and approval prior to startup of the HSB Water Treatment Plant. Within 60 days following the conclusion of the shakedown period of operations (2 years following startup), the Final O&M Manual shall be submitted for EPA approval. A draft O&M Manual for the HSB Water Treatment Plant Upgrade shall be submitted for agency review and approval prior to startup of any required modification (upgrade) of the HSB Water Treatment Plant. Within 60 days following the conclusion of the shakedown period of operations (2 years following startup), the Final O&M Manual shall be submitted for EPA approval.

#### 4. Construction Quality Assurance Plan

As required by the approved schedule, the Settling Defendants shall develop and implement a Construction Quality Assurance (CQA) Plan for the following components of the remedy: HSB Water Treatment Plant (submitted as part of FDR); HSB Water Treatment Plant Upgrade/Sludge Repository; and the West Camp. These CQAs are to ensure that the completed remedial measures will meet or exceed all design criteria, plans, and specifications. The CQA plan must be submitted to and reviewed by the EPA and MDEQ prior to the start of construction. Upon approval of the CQA plan, the Settling Defendants shall construct and implement the remedial measures in accordance with the reviewed design, project schedule, CQA plan, and O&M Manual. The CQA plan shall include, at a minimum, an explanation of the construction authorities and construction inspection activities as discussed below:

- a. Responsibilities and authorities of all organizations and key personnel involved in the design and construction of the site remediation.
- b. The qualifications of the quality assurance personnel to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities.
- c. The observations and tests that shall be used to monitor construction, and the frequency of performance of these activities. These shall be included for construction of treatment plants and sludge repositories.
- d. The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures as addressed in the plans and specifications.
- e. Description of the reporting requirements for quality assurance activities including such items as daily summary reports, schedule

of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation.

The draft CQA plan shall be submitted under the schedule approved by EPA. The final CQA plan shall be submitted thirty (30) days after receipt of EPA and MDEQ comments on the draft CQA plan. These plans are subject to approval of EPA, in consultation with MDEQ. Updates to the CQA Plan will be prepared by Settling Defendants and submitted to EPA, if required to address remedial actions required by EPA, in consultation with MDEQ, in review and approval of the HSB Water Treatment Plant Upgrade Technical Memorandum.

## **IX. ADDITIONAL STUDIES/PLANS/REPORTS**

If EPA in consultation with MDEQ determine that additional studies, plans or reports are necessary the Settling Defendants shall submit any required documents and implement any such plans within the time frames dictated in the letters requesting such studies, plans or reports. The Settling Defendants may request an amendment to the SOW or other work products to EPA and MDEQ. Any amendment submitted must be approved by EPA in consultation with MDEQ before work described by the amendment may be initiated.

Remedial Design deliverables that may be required by EPA under Paragraph 14 (Additional Response Actions) or Section VII (Remedy Review) of the Consent Decree shall contain the following elements.

### **Remedial Design Work Plan (If Required)**

The Remedial Design for the HSB Water Treatment Plant is complete and included as Exhibit 6 to this SOW. The Settling Defendants are required to prepare a Technical Memorandum for the HSB Water Treatment Plant Upgrade / Sludge Repository, meeting the requirements described above, to address any remaining Remedial Design components of the remedy selected in the ROD. The following general requirements for preparation of Remedial Design Work Plans shall be followed for remedial design activities in addition to the SOW deliverables listed above, if any, which are identified and required pursuant to the terms of the Consent Decree.

Remedial Design is a process which begins with the preparation of the Remedial Design (RD) Work Plan. The RD Work Plan shall set forth plans and schedules for those activities to be undertaken by the Settling Defendants to develop the final plans, drawings, specifications, general provisions, and special requirements necessary to implement this component of the ROD remedy. The final products of Remedial Design shall be technical packages that contain or address all the elements necessary to accomplish Remedial Action. These include technical elements plus design support activities and access requirements, O&M, and institutional controls.

An RD Work Plan shall discuss standard remedial design operations to effectively accomplish remedial action. The standard RD operations include: project planning, field data acquisition and sample analysis, treatability studies, data evaluation, design support activities,

preliminary design, pre final/final design, preparation of an O&M Manual, and project completion and closeout.

A Remedial Design Work Plan, encompassing all aspects of RD for a remedy component as explained above, shall be developed by the Settling Defendants and approved or modified by EPA in consultation with MDEQ. The RD Work Plan shall set forth the schedule and task-specific methods by which the Settling Defendants will accomplish each task required by this SOW, the ROD, and the Consent Decree. In addition to addressing the elements listed in Section II of this SOW, the RD Work Plan shall contain the following elements:

1. Proposed composition of the design team.
2. A Health and Safety Plan for design activities which conforms to the applicable Occupational Safety and Health Administration, and EPA and State requirements, including but not limited to 29 CFR §1910.120.
3. Requirements for additional field data collection, if necessary.
4. A Sampling and Analysis Plan for field data collection and analysis, if necessary.
5. Any proposed treatability studies, if necessary.
6. A Proposed Schedule for completion of remedial design and remedial action with dates for intermediate deliverables. The remedial design portion of the schedule shall be detailed and include milestones for any necessary treatability studies, pilot-scale program, repository design, and other controlling elements of the design. The remedial action portion of the schedule may be general and shall be updated in the Remedial Action work Plan.
7. Performance Standards Analysis. The Settling Defendants must meet all substantive requirements of Applicable or Relevant and Appropriate Requirements (ARARs). ARARs must be met or waived for onsite and offsite activities (including permitting for offsite actions only).

Upon receipt of EPA and MDEQ final approval of a Remedial Design Work Plan, the Settling Defendants shall implement the RD Work Plan in accordance with its schedule. The purpose of the design review is to permit EPA and MDEQ to assess the design's feasibility to achieve the Remedial Action goals in accordance with the ROD and Consent Decree. Design submittals shall occur in three stages, described below.

1. Preliminary Design Report

The Settling Defendants shall submit a Preliminary Design Report (PDR) which begins with initial design and ends with the completion of the proposed treatability studies and conceptual design. The primary objective of this report will be to present the technical requirements of the overall remedial action, so that they may be reviewed to determine if the

final design will be consistent with the ROD and the Consent Decree. Supporting data and documentation shall be provided with, or in the case of completed work, referenced in the Preliminary Design Report to define the overall feasibility of the project. The design criteria, conceptual designs, supporting documentation and discussion of stabilization processes and repository design shall be presented for early feedback from the reviewing agencies. Presentation of this material at a technical meeting is encouraged. A follow-up technical meeting may be required to discuss and resolve any questions or problems that reviewers find with the preliminary design.

Consistent with the approved schedule Settling Defendants shall submit the Preliminary Design Report (PDR), which shall consist of the following general elements:

- a. Design criteria. The PDR shall describe the design criteria and constraints, the key design parameters, and design concepts for all treatment plants and for any sludge repositories. The designer shall document that the design meets the technical requirements of the ROD including compliance with all ARARs, acceptance of environmental protection measures and technologies, feasibility of all components of the selected remedy, and meets standard professional engineering practices.
- b. Results of any treatability studies and additional field sampling.
- c. Preliminary plans, drawings, and sketches.
- d. Outline of required specifications.

## 2. Draft Final Design Report

The Settling Defendants shall prepare a Draft Final Design Report (DFDR). The DFDR shall comply with all requirements of the Consent Decree. The DFDR shall contain construction plans and specifications reflecting 100 percent completion of design. The DFDR shall present the design rationale and calculations. The DFDR shall include, but not be limited to:

- a. A Performance Standards Report detailing design compliance with Performance Standards, and addressing all issues and comments which arose during the design process. It shall clearly address any modifications of the design as a result of incorporation of comments furnished during the preliminary and intermediate design submittal review. The analysis shall include a detailed description of how the plans and specifications for this operable unit will meet the contaminant-, location-, and action-specific ARARs, and all other specified cleanup criteria and requirements.
- b. Discussion of the design strategy and design basis, including efforts used to minimize environmental and human health impacts.

- c. Discussion of potential environmental impacts and mitigative measures needed during construction.
- d. Detailed drawings of the proposed design.
- e. Technical specifications of the proposed design.
- f. Geotechnical and hydrologic reports or design memoranda.
- g. Operation and Maintenance Plan/Manual.
- h. Sampling and Analysis Plan.
- i. Construction Quality Assurance Plan (related to Construction and O&M).
- j. Site-Specific Health and Safety Manual.
- k. Proposed Construction schedule, including, the critical path elements of the schedule.
- l. Laboratory and field results will be included as appendices.

EPA, in consultation with MDEQ, shall review and provide comments or approve the submittal.

### 3. Final Design Report

The Settling Defendants shall submit a Final Design Report (FDR) consisting of the final design plans and specifications at 100% completion, approved ancillary plans as noted above, and the final performance standards as revised in accordance with the Consent Decree and Exhibit 3 of this SOW. The Settling Defendants shall correlate and crosscheck the bid form, specifications, plans, and drawings. The final design report and associated documents shall be of the quality necessary to include in a package for contractors who will be submitting bids for the construction activities. Reproducible drawings and specifications shall be submitted to EPA and the MDEQ as part of the design package for project files. The FDR is subject to the approval of EPA in consultation with the MDEQ.

## **X. REMEDIAL ACTION IMPLEMENTATION AND COMPLETION**

### **A. PRECONSTRUCTION INSPECTION AND MEETING**

The Settling Defendants shall conduct a pre-construction inspection and meeting with contractors, EPA and MDEQ officials to discuss any appropriate modifications to the construction quality assurance plan to ensure that site-specific considerations are addressed, and conduct a site walk-around to verify that the design criteria, plans and specifications are understood, and to review material and equipment storage locations.

## **B. MONITORING**

Monitoring of remedial actions will be conducted throughout the lifetime of the remedy to assure treatment effectiveness. An appropriate monitoring plan shall be included in the draft and final QA plan. The O&M Manual shall also contain or incorporate monitoring plans.

## **C. PRECERTIFICATION CONSTRUCTION COMPLETION CONFERENCE AND INSPECTION**

The Settling Defendants shall hold a pre-final remedial action completion conference upon preliminary completion of the remedial action construction activities. The conference agenda will include at least: project status, cleanup and demobilization activities, review of project successes and failures, O&M initiation and schedule, and other items as necessary. At this time, the EPA and MDEQ will conduct a pre-final inspection of the construction site. This inspection will be conducted to assure the Settling Defendants compliance with all project plans and to assure cleanup consistency with the ROD. If outstanding construction items remain, such items will be identified and documented, and a compliance schedule will be established. The Settling Defendants shall produce a pre-final inspection report to document the inspection, outstanding items, and a compliance schedule, 10 days after the conference is held.

## **D. FINAL INSPECTION**

Upon completion of any outstanding construction items the Settling Defendants shall notify the EPA and MDEQ for the purposes of conducting a final inspection. The Settling Defendants shall demonstrate during the final inspection that all problems identified in the prefinal inspection report have been resolved. If any problem is unresolved or a new discrepancy is noted, this inspection shall be considered a pre-final inspection and another final inspection will be conducted.

## **E. CONSTRUCTION COMPLETION REPORT**

At the completion of construction of the HSB Water Treatment Plant, and after a final inspection has been conducted, the Settling Defendants shall submit a remedial action completion report. This report shall contain, at a minimum:

1. Notification that the project was conducted consistent with design specifications and a detailed accounting of any deviations from the design;
2. A narrative description of the work performed, including modifications reviewed by EPA and MDEQ;
3. As built drawings showing the final construction area configuration as well as details of the structures, facilities, and appurtenances installed as part of the construction activities;
4. The actual construction schedule;

5. A listing of criteria used to judge the success of remedial measures and a detailed report documenting compliance with all Performance Standards;
6. An evaluation of the success of remedial measures as judged against the evaluation criteria;
7. Quality control inspection reports, test results, and quality assurance reports;
8. Sampling results;
9. Pre-final inspection report(s); and
10. Narrative, detailed descriptions of significant activities conducted on the Site during construction.

This report shall comply with all requirements of the Consent Decree. In the event additional facilities for sludge management, or improvements to the HSB Water Treatment Plant are required as part of the HSB Water Treatment Plant Upgrade / Sludge Repository, a report satisfying the above-stated requirements shall be prepared and submitted to EPA for approval.

#### **F. REMEDIAL ACTION COMPLETION REPORT**

Within 90 days after Settling Defendants conclude that the construction of the HSB Water Treatment Plant is complete and that performance standards have been attained for a period of one year at full operation following the shakedown period of operation for the HSB Water Treatment Plant, Settling Defendants shall comply with the requirements of paragraph 47a of the Consent Decree and submit a Remedial Action Completion Report and request for Certification. EPA's and DEQ's response obligations to this report are described in paragraph 47.a. and 47.b. of the Consent Decree.

#### **G. OPERATION AND MAINTENANCE**

The Settling Defendants shall operate and maintain the remedy in accordance with the approved, detailed O&M Manual, as described above. Post-closure care and monitoring of any sludge repository shall commence upon acceptance of the Certification of Completion of Remedial Action. In addition to the monthly discharge monitoring reports that are required under Attachment 1 to Exhibit 3 of this SOW, the Settling Defendants shall submit annual reports summarizing effluent monitoring results and a recap of maintenance activities during the preceding year.

#### **H. FIVE-YEAR REVIEW REPORTS**

In accordance with Section 121(c) of CERCLA, and as set forth in the ROD Declaration, a review of the remedial actions implemented at the Site will be conducted at least once every 5 years. To facilitate these reviews, every five (5) years, or earlier, as deemed necessary by EPA, in consultation with the State, the Settling Defendants shall prepare a draft Five-Year Review Report. These reports shall include, but shall not be limited to, the following elements:

1. Overall assessment of the performance of the remedy, including attainment of Performance Standards;
2. Performance of any sludge repository (if required), with a discussion of any major maintenance undertaken, and other factors necessary to evaluate performance;
3. Sampling and analysis of surface and ground water to determine whether contaminant concentrations remain at levels appropriate to protect human health and the environment, subject to the waiver groundwater ARARs for the bedrock aquifer set forth in the ROD;
4. A discussion of any remedy modifications made during the previous review period and the necessity for those modifications;
5. A review of long-term O&M activities, and recommendations for modifications to maximize remedy effectiveness (if necessary);
6. An assessment of whether the overall remedy is achieving the objectives of the Site cleanup as presented in the Work Plan, the ROD, the Remedial Design and other controlling documents.

If the EPA, in consultation with the MDEQ, determines that the remedy does not sufficiently protect human health or the environment, the EPA and the MDEQ shall require the Settling Defendants to take appropriate action, as described in the Consent Decree.

#### **I. SCHEDULE**

The schedule attached as Exhibit 1 represents the order of occurrence of various milestones in the remedial design and remedial action process. The dates and activities are mandatory and represent the maximum time allowable for the Settling Defendants to submit the requisite plans, reports, surveys, etc. necessary for the EPA and MDEQ to oversee this remedial design and remedial action.

#### **J. EPA APPROVAL**

EPA "Approval" of a Project Coordinator, a Supervising Contractor, the Independent Quality Assurance Team, plans, specifications, processes, and other submittals within the context of the Consent Decree is administrative in nature to allow the Settling Defendants to proceed to the next step. It does not imply any warranty of performance that the remedy, when constructed, will meet performance standards or will function properly and be accepted.



**EXHIBIT 1**  
**MINE FLOODING REMEDIAL DESIGN/REMEDIAL ACTION**  
**SCHEDULE**

<p><b>I. Monitoring Program</b></p> <p style="padding-left: 40px;">A. Implement Waterfowl Mitigation Plan (Exhibit 5)</p> <p style="padding-left: 40px;">B. Implement Water Quality and Water Level Monitoring Program (the "BMFOU Monitoring Plan") (Exhibit 2)</p>	<p>Ongoing; Mitigation Plan was approved prior to the Effective Date of this Decree</p>
<p><b>II. Public Education and Involvement</b></p> <p style="padding-left: 40px;">A. Participate as requested in public information dissemination and semi-annual updates</p>	<p>Ongoing; the approved activity and level of funding for BSB implementation was approved prior to the Effective Date of the Consent Decree (Exhibit 7)</p>
<p><b>III. Horseshoe Bend Water Treatment Plant</b></p> <p style="padding-left: 40px;">A. HSB Water Treatment Plant</p> <p style="padding-left: 80px;">1. Submit Draft Remedial Action Work Plan (DRAWP)</p> <p style="padding-left: 80px;">2. Submit Final Remedial Action Work Plan (FRAWP)</p> <p style="padding-left: 80px;">3. Implement Final Remedial Action Work Plan (FRAWP)</p>	<p>30 days after Approval of Final Design Report</p> <p>30 days after DRAWP comments are received</p> <p>Per approved schedule in FRAWP subject to these trigger events:</p> <p style="padding-left: 40px;">a. If mine commits to resume operations by June 1, 2002 in accordance with the SOW, then implementation of FRAWP will be postponed. If postponed June 1, 2002, commencement of construction shall begin within ninety (90) days following:</p> <p style="padding-left: 80px;">i. A subsequent suspension of mining operations; or</p> <p style="padding-left: 80px;">ii. The failure to startup the concentrator on or before June 30, 2002 and to integrate 95% of the HSB flows into the mining process on or before September 28, 2002.</p> <p>In the event of (i) above, Settling Defendants shall submit a construction work plan and schedule</p>

<p>4. Preconstruction meeting and inspection</p> <p>5. Precertification RA completion conference</p> <p>6. Inspection Report</p> <p>7. Construction Completion Report</p>	<p>to EPA and DEQ within 90 days following subsequent suspension of mining operations for EPA approval in consultation with the MDEQ.</p> <p>In the event of (ii) above, Settling Defendants shall submit a construction work plan and schedule to EPA and the MDEQ within 90 days following September 28, 2002, for EPA approval in consultation with DEQ.</p> <p>b. If there is not a commitment to resume mining operations by June 2002, the FRAWP will be implemented without further delay, as described by schedule herein.</p> <p>Within 30 days of Final RA Work Plan approval, as weather permits</p> <p>At preliminary completion of RA construction</p> <p>30 days after precertification RA completion conference</p> <p>60 days after final inspection</p>
<p>8. Remedial Action Completion Report</p>	<p>Within 90 days after Settling Defendants conclude that the HSB Water Treatment Plant is fully completed and that the relevant performance standards have been attained for a period of one year following the shakedown period of operation.</p>
<p>IV. HSB Water Treatment Plant Upgrade/Sludge Repository</p> <p>A. Submit Technical Memorandum assessing adequacy of HSB Water Treatment Plant as final treatment plant, and review of sludge disposal options with recommendations for remedial action, including repository site reclamation, if site is not utilized for sludge disposal</p> <p>B. Submit Draft Design and Remedial Action Work Plan(DDRAWP)</p> <p>C. Submit Final Design and Remedial Action Work Plan (FDRAWP)</p>	<p>Four (4) years before the water level in the East Camp is predicted to reach the 5,410 CWL elevation.</p> <p>Per approved schedule in Agency review and approval of Technical Memorandum</p> <p>90 days after DDRAWP approval</p>

D. Implement Final Design and Remedial Action Work Plan (FDRAWP)	Per approved schedule in FDRAWP
E. Preconstruction meeting and inspection	Within 30 days of Final RA Work Plan approval
F. Precertification RA completion conference	At preliminary completion of RA construction but no later than 2 years prior to the time predicted to reach the 5,410 CWL; the schedule for final reclamation of the repository site shall be approved by EPA, in consultation with MDEQ.
G. Inspection Report	30 days after precertification RA completion conference
H. RA Completion Report	60 days after final inspection
V. Upgradient Diversion	
A. Evaluation Report	90 days after disapproval of wet closure plans by DEQ or determination by DEQ that a portion of the flow will not be used by wet closure
B. Submit Draft Design and Remedial Action Work Plan (DDRAWP) – and Performance Standard Compliance Analysis	Per approved schedule in Evaluation Report
C. Submit Final Remedial Action Work Plan	Per approved schedule in DDRAWP
D. Implement FDRAWP	Per approved schedule of FDRAWP
E. Construction Completion and Operation and Maintenance	Upon completion and inspection of required activities.
VI. West Camp Treatment	
A. Submit Draft Design and Remedial Action Work Plan (DDRAWP) and Performance Standard Compliance Analysis	90 days after notice to Settling Defendants by EPA that West Camp water is no longer part of the BPSOU.
B. Submit Final Design and Remedial Action Work Plan (FDRAWP)	Per approved schedule in the DDRAWP
C. Implement FDRAWP	Per approved schedule in the FDRAWP
D. Construction Completion and Operation and Maintenance Plan	Upon completion and inspection of any required activities
VII. Five Year Review Report	Every 5 years from Effective Date of the Consent Decree for each remedial action component or more frequently if deemed necessary

**EXHIBIT 2  
BUTTE MINE FLOODING OPERABLE UNIT  
MONITORING PLAN**

**EAST CAMP**

**Alluvial Aquifer**

**1 Alluvial Water Quality**

Water quality samples will be collected from the following nineteen (19) alluvial East Camp wells:

Annual - AMC-5,, AMC-12, LP-8, LP-9, LP-17, GS-41S, GS-41D, GS-44S, GS-44D, GS-46S, and GS-46D

Semi-Annual – AMC- 6, AMC-8, AMC-10, LP-10, LP-12, LP-13, LP-14, LP-15, and LP-16.

Every 2 years - AMC-15

4 New Alluvial Wells- Semi-annual for 2 years – annually thereafter

Ground water samples collected from alluvial wells in the East Camp will be analyzed for the following parameters:

1. Dissolved metals – Al, As, Co, Cd, Cu, Fe, Mn, Mo, Ra, U and Zn;
2. Ca, Mg, Na, K;
3. SO<sub>4</sub>, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, Hardness, Alkalinity, and TDS; and
4. Field Parameters – pH, Temperature, Specific Conductance.

**2 Alluvial Water Levels**

As shown in Table 1, water levels will be monitored in the following thirty-four (34) alluvial East Camp wells:

Quarterly - AMC-5, AMW-8, AMC-10, AMC-12, AMC-13, AMC-15, LP-1, LP-2, LP-3, LP-4, LP-5, LP-6, LP-7, LP-9, LP-17, MR97-1, MR97-2, MR97-3, MR97-4;

Monthly - LP-8, LP-10, LP-12, LP-13, LP-15, LP-16; and

Continuously - AMC-6, AMC-8, LP-14, GS-41S, GS-41D, GS-44S, GS-44D, GS-46S, GS-46D.

4 New Alluvial Wells – Monthly for 2 years – quarterly thereafter

**Bedrock Aquifer**

**3 Bedrock Water Quality**

Water quality samples will be collected from the following eleven (11) East Camp Bedrock Wells:

Annually - D-1, D-2, G, J, CHESTER STEEL PARK, PARROT PARK;

Semi-Annually - A, B, C; and

Every 2 Years - E, F.

Samples from these wells will be analyzed for the following parameters:

1. Dissolved metals – Al, As, Co, Cd, Cu, Fe, Mn, Mo, Ra, U and Zn;
2. Ca, Mg, Na, K;
3. SO<sub>4</sub>, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, Hardness, Alkalinity, and TDS; and
4. Field Parameters – pH, Temperature, Specific Conductance.

Ground water samples will also be collected from the following three (3) mine shafts and two (2) mine pits lakes:

Annually - Kelly, Steward, Anselmo; and

Semi-Annually - Berkeley Pit Lake (3 depths), Continental Pit Lake.

Ground water from these five (5) bedrock sites will be analyzed for the following parameters:

1. Dissolved metals – Al, As, Co, Cd, Cu, Ra, U and Zn;
2. Hardness, and TDS; and
3. Field Parameters – pH, Temperature, Specific Conductance.

#### **4 Bedrock Water Levels**

Water levels will be measured in the following sixteen (16) wells:

Annually - E, F;

Quarterly - D-1, D-2, DDH-1, DDH-2, DDH-8, CHESTER STEEL, HEBGEN, BELMONT # 1, PARROT, J;

Monthly - B; and

Continuously - A, C, G.

Water levels will be measured in the following mine shafts and mine pit lakes:

Quarterly - Belmont Replacement Well # 2, Granite Mountain, Pilot Butte, Lexington; and

Monthly - Anselmo, Berkeley Pit, Continental Pit, Steward, Kelley.

### **WEST CAMP**

#### **5 Water Quality**

Water quality samples will be collected annually from West Camp bedrock well BMF96-4 and will be analyzed for the following parameters:

1. Dissolved metals – Al, As, Co, Cd, Cu, Fe, Mn, Mo, Ra, U and Zn;
2. Ca, Mg, Na, K;
3. SO<sub>4</sub>, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, Hardness, Alkalinity, and TDS; and
4. Field Parameters – pH, Temperature, Specific Conductance.

Ground water samples will also be collected from the following three (3) mine shafts:

Annually - Emma, Ophir, Travona.

These ground water samples will be analyzed for the following parameters:

1. Dissolved metals – Al, As, Co, Cd, Cu, Ra, U and Zn;
2. Hardness, and TDS; and
3. Field Parameters – pH, Temperature, Specific Conductance.

Ground water samples will be collected quarterly from the discharge of extraction well, WCP-1, on the schedule established in the authorized discharge permit issued by Butte Silver Bow County. The industrial waste permit became effective October 26, 1998 and will expire October 26, 2003. The discharge water must be analyzed quarterly for the following:

1. Total Recoverable Al, As, Cd, Cu, Pb, Hg, Mo, Ni, Se, Ag; and
2. Cyanide.

In conjunction with sampling WCP-1, personnel at the Butte-Silver Bow County Sewage Treatment Plant will collect a 24-hour composite sample of the treatment plant effluent. This composite sample will be delivered to the laboratory with the WCP-1 sample, and analyzed for total recoverable arsenic.

In the event that water extracted from West Camp is treated in a facility other than the Butte Metro Sanitary Sewer, then the monitoring requirements of the alternative treatment facility will prevail.

All monitoring data associated with the West Camp flow will be submitted to the EPA and MDEQ BMFOU project managers regardless of the specific treatment alternative or operable unit under which a response action is taken.

## **6 Water Levels**

As shown in Table 1, water levels will be monitored in the following five (5) monitoring wells and three (3) mine shafts:

Quarterly - Emma Shaft, Ophir Shaft, Travona Shaft, BMF96-2, BMF96-3; and  
Continuously - BMF96-1S, BMF96-1D, BMF96-4.

In addition, the real-time water level in the West Camp, as measured at BMF96-1D, is available through a dial up telephone line. The automated system will also notify the operator of system upsets and anomalous water levels.

## **OUTER CAMP**

### **7 Water Quality**

Water quality samples will be collected from one (1) wells and two (2) shafts and one (1) surface water flow on the following basis:

Annually - Orphan Girl Shaft;  
Semi-Annually - Green Lake Seep; and  
Every 2 Years - Marget Ann, Tech Well

These samples will be analyzed for the following parameters:

1. Dissolved metals – Al, As, Cd, Co, Cu, Fe, Mn, Mo, Ra, U and Zn;
2. Ca, Mg, Na, K;
3. SO<sub>4</sub>, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, Hardness, Alkalinity, and TDS; and
4. Field Parameters – pH, Temperature, Specific Conductance.

## **8 Water Levels**

As shown in Table 1, water levels will be monitored in the following two (2) monitoring wells and two (2) mine shafts and one (1) surface water flow:

Monthly - Orphan Girl Shaft;

Quarterly - Marget Ann Shaft, Well S-4, Tech Well; and

Semi-Annually - Green Lake Seep.

## **SURFACE WATER**

### **9 Stream Water Quality Monitoring**

Water quality samples will be collected at stations SS-04 (USGS Station 12323240) and SS-07 (USGS Station 12323250) 6-8 times per year as part of the Clark Fork Basin long-term monitoring program carried out by the United States Geological Survey through a cooperative program with MBMG.

### **10 Stream Flow Monitoring**

Stream flow monitoring will consist of automatically measuring and recording stage on a regular basis (i.e. 15 minutes or continuously) at Stations SS-04 (USGS 12323240) and SS-07 (USGS 12323250). Periodic stream gaging at these two sites will be used to make stage shifts and update the existing rating tables. The rating tables are used to convert stage to flow. Stream flow monitoring will be carried out by the United States Geological Survey as part of their ongoing program on the Upper Clark Fork.

### **11 Horseshoe Bend Stream Flow Monitoring**

If the Horseshoe Bend Stream is flowing to the Berkeley Pit, surface water stage and flow at Horseshoe Bend will be measured and continuously recorded with a flume or weir and data recorder.

### **12 Horseshoe Bend Stream Water Quality Monitoring**

If the Horseshoe Bend Stream is flowing to the Berkeley Pit, the water will be sampled monthly and analyzed for the following:

1. Dissolved metals – Al, As, Co, Cd, Cu, Fe, Mn, Mo, Ra, U and Zn;
2. Ca, Mg, Na, K;
3. SO<sub>4</sub>, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, Hardness, Alkalinity, and TDS; and

4. Field Parameters – pH, Temperature, Specific Conductance.

## **PROGRAM MANAGEMENT AND REPORTING**

### **13 Quality Assurance/Quality Control**

The Clark Fork River Superfund Site Investigations Laboratory Analytical Protocol (ARCO/PTI, May 1992), as subsequently amended and the Clark Fork River Superfund Site Investigations Quality Assurance Project Plan (ARCO/PTI, May 1992), as subsequently amended shall be followed in completion of actions required under this monitoring plan.

Chemical analysis will follow CLP protocol, and will be performed by a State certified laboratory. Analytical result will be reported using a simplified format (i.e. without full data packages) including data tables with detection limit qualifiers and QC summary table.

### **14 Monitoring Management**

The Montana Bureau of Mines and Geology (MBMG) shall complete the actions required under this Monitoring Plan (but not including monitoring associated with Horseshoe Bend water treatment influent and effluent and monitoring of West Camp water pumped to the LAO, HSB or other treatment facilities) under the oversight of EPA and the State. MBMG shall provide yearly updates, in the form of a written report, that incorporates the new data gathered from the previous twelve months. MBMG shall upload all data into the Clark Fork River Data Management System as it becomes available and is validated pursuant to the requirements of this Monitoring Plan and the Consent Decree. The Settling Defendants shall produce an updated report on the prediction of when the CWL for the Berkeley Pit/East Camp system will be reached on a yearly basis.

Pursuant to the Consent Decree, the Settling Defendants shall provide funding for Monitoring Management activities associated with implementation of the approved Monitoring Plan and other MBMG monitoring and oversight activity associated with implementation of the Work under the Consent Decree. This funding is provided as a component of Oversight Costs to be paid by Settling Defendants under Section XVI (Reimbursement of Response Costs). Monitoring Management activities include: (1) maintenance of monitoring equipment (e.g., Stevens Continuous Recorders, well caps, data loggers, transducers, and protective boxes); (2) routine monitor well maintenance (e.g., treatment for biofouling and limited well redevelopment); (3) collection and analysis of flow data, water and soil samples, in compliance with approved protocols, transport and arrangement for laboratory analysis; (4) oversight of Settling Defendants sampling and monitoring obligations related to the HSB Water Treatment Plant influent and effluent; (5) participation in Community Relations Plan activities, public contact and education, as directed by EPA and MDEQ; (6) oversight activity related to new well installation, repair, maintenance and rehabilitation of existing wells; and (7) reporting of monitoring results as required by the SOW. Monitoring Management excludes installation of new monitoring wells or replacement and



rehabilitation of existing wells, if required. Funding of these activities are the responsibility of the Settling Defendants.

## **15 Program Review**

Every three years, EPA in consultation with the State shall review the monitoring program's completeness. The three-year review will be used to adjust the requirements of the monitoring program as determined by EPA and the State. Based on this review, monitoring locations or analytical parameters may be added or deleted from the program or monitoring frequency may be adjusted.

**TABLE 1. BUTTE MINE FLOODING OU GROUNDWATER MONITORING PROGRAM**

<b>MONITORING LOCATIONS</b>	<b>WATER LEVEL MONITORING</b>	<b>WATER QUALITY MONITORING</b>
<b>EAST CAMP</b>		
<u>EAST CAMP ALLUVIAL AND SHALLOW WELLS</u>		
AMC-5	Q	A
AMC-6	C	SA
AMC-8	C	SA
AMC-10	Q	SA
AMC-12	Q	A
AMC-13	Q	NS
AMC-15	Q	Once every 2 years
AMW-8	Q	NS
LP-1	Q	NS
LP-2	Q	NS
LP-3	Q	NS
LP-4	Q	NS
LP-5	Q	NS
LP-6	Q	NS
LP-7	Q	NS
LP-8	M	A
LP-9	Q	A
LP-10	M	SA
LP-12	M	SA
LP-13	M	SA
LP-14	C	SA
LP-15	M	SA
LP-16	M	SA
LP-17	Q	A
MR97-1	Q	NS
MR97-2	Q	NS
MR97-3	Q	NS
MR97-4	Q	NS
GS-41S	C	A
GS-41D	C	A
GS-44S	C	A
GS-44D	C	A
GS-46S	C	A
GS-46D	C	A
4 new alluvial wells	M 2yrs-Q thereafter	SA 2 yrs- A thereafter

**EAST CAMP BEDROCK WELLS**

A	C	SA
B	M	SA
C	C	SA
D-1	Q	A
D-2	Q	A
DDH-1	Q	NS
DDH-2	Q	NS
DDH-8	Q	NS
E	A	2 YR
F	A	2 YR
G	C	A
J	Q	A
PARROT PARK	Q	A
CHESTER STEEL	Q	A
HEBGEN	Q	NS
BELMONT WELL 1	Q	NS

**EAST CAMP SHAFTS**

ANSELMO	M	A
BELMONT (Replacement Well)	Q	NS
BERKELEY PIT	M	SA 3 DEPTHS
CONTINENTAL PIT	M	
		SA
GRANITE MTN	Q	NS
PILOT BUTTE	Q	NS
LEXINGTON	Q	NS
STEWARD	M	A
KELLEY	M	A
HORSESHOE BEND SURFACE WATER FLOW	C	Monthly Unless Treating

**WEST CAMP****WEST CAMP BEDROCK WELLS**

WCP-1 (Extraction Well)	NS	Q
METRO SEWAGE TREATMENT PLANT EFFLUENT	NS	Q
BMF96-1D	C	NS
BMF96-1S	C	NS
BMF96-2	Q	NS
BMF96-3	Q	NS
BMF96-4	C	A

**WEST CAMP SHAFTS**

TRAVONA	Q	A
EMMA	Q	A
OPHIR	Q	A

**OUTER CAMP**

ORPHAN GIRL	M	A
MARGET ANN	Q	2 YR
WELL S-4	Q	NS
TECH WELL	Q	2 YR
GL SEEP	SA	SA

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**Notes:**

A = Annually

M = Monthly

Q = Quarterly

SA = Semi-Annually

2 YR = Every 2 Years

C = Continuously (Recorded by Analog or Digital Recorder)

NS = Not Sampled

**TABLE 2. SURFACE WATER MONITORING PROGRAM**

<b>MONITORING LOCATIONS</b>	<b>STAGE AND FLOW MONITORING</b>	<b>WATER QUALITY MONITORING</b>
SS-06G*	Continuous	six to eight times per year as designated by USGS
SS-04*	Continuous	six to eight times per year as designated by USGS
METRO SEWAGE TREATMENT PLANT EFFLUENT	NA	As Per BSB Permit so long as West Camp bedrock groundwater is routed to BSB Metro Plant for treatment

Water Quality Parameters

Dissolved and Total Recoverable Metals: Al, As, Cd, Cu, Fe, Mn, Pb, Zn

\*Monitoring and sampling performed by USGS through their cooperative agreement with MBMG

Sulfate, Hardness, Forms of Alkalinity, TDS, TSS

Field Parameters: pH, DO, SC, Temperature

NA = Not Applicable

NS = Not Sampled

**EXHIBIT 3 TO STATEMENT OF WORK  
PERFORMANCE STANDARDS FOR REMEDIAL DESIGN/REMEDIAL  
ACTION AT THE MINE FLOODING OPERABLE UNIT  
OF THE SILVER BOW CREEK (BUTTE AREA) SUPERFUND SITE**

This document identifies the Performance Standards for the Remedial Design/Remedial Action (“RD/RA”) at the Butte Mine Flooding Operable Unit (“OU”) of the Silver Bow Creek (Butte Area) Superfund Site. Performance Standards are defined in the Consent Decree, and consist of “applicable or relevant and appropriate requirements” and engineering requirements as determined by EPA to be necessary for the protection of human health and the environment. The Performance Standards for this action also include Exhibit 2 (Butte Mine Flooding Operable Unit Monitoring Plan), and 5 (Waterfowl Mitigation Plan) appended to the SOW.

Remedial actions taken under Superfund authority must comply with substantive provisions of applicable or relevant and appropriate standards, requirements, criteria, or limitations from State environmental and facility siting laws, and from federal environmental laws (commonly referred to as ARARs) during and at the completion of remedial actions. See section 121(d) of CERCLA, 42 U.S.C. Section 9621(d), and the National Pollution and Hazardous Substances Contingency Plan (the NCP), 40 CFR Part 300 (1990).

Each ARAR or group of related ARARs is identified by a specific statutory or regulatory citation, and a compliance description which addresses how and when compliance with the ARAR will be measured (some ARARs will govern the conduct of the implementation of the remedial action, some will govern the measure of success of the remedial action, and some will do both). Pursuant to the requirements of the National Contingency Plan, ARAR standards are frozen and set at the time of the Record of Decision, unless subsequently modified because they are no longer protective. Accordingly, citations to ARARs are to older regulatory citations – current citations are given in parenthesis.

**I. ACTION SPECIFIC REQUIREMENTS**

**A. Water level maintenance requirements.**

1. The water level in the East Camp bedrock groundwater system must not exceed 5,410 feet in elevation (USGS Datum) as measured at the monitoring points designated as compliance points by EPA, in consultation with MDEQ.
2. The water level in the West Camp bedrock groundwater system must not exceed 5,435 feet in elevation (USGS datum) as measured in the Travona Shaft (Well 96-1-D); and any other monitoring points designated as compliance points by EPA, in consultation with MDEQ.
3. The elevation of the East Camp bedrock groundwater system must be maintained at a level below that of the West Camp bedrock groundwater water level.

4. Except as specifically permitted by the ROD and this SOW, 95% of the yearly flow presently entering the Berkeley Pit through the Horseshoe Bend channel must be prevented from entering the Pit. An alternate withdrawal of an equal volume of water from the East Camp bedrock groundwater system will be allowed in lieu of this diversion after specific permission for such a withdrawal is granted by EPA, in consultation with MDEQ.

B. Solid Waste Requirements.

1. Federal Solid Waste (applicable) and Federal and State Subtitle C RCRA (Relevant and Appropriate) Requirements.

EPA has determined that the RCRA Subtitle C requirements are not applicable to sludge generated in the treatment of mine waters at the HSB Water Treatment Plant or future upgrade thereto, if any. However, EPA reserves its right to make a more formal determination in this regard at a later date to the relevant and appropriateness of certain RCRA requirements for sludge disposal in an on-site repository if the sludge does not meet characteristic waste tests and land disposal of sludge is required in the future. If any technology currently approved or to be approved produces a characteristic waste, certain RCRA Subtitle C regulations (or the corresponding State hazardous waste regulations) may be relevant and appropriate, and, if this is found, will be fully utilized. EPA, in consultation with MDEQ, approves disposal of sludges in the Berkeley Pit that are generated by the HSB Water Treatment Plant, subject to re-evaluation as described in the SOW. In considering options for future land disposal, if required, the agencies may determine whether certain of the applicable solid waste requirements or the relevant and appropriate RCRA Subtitle C regulations may be waived on the basis that such disposal will attain a standard of performance that is equivalent to that required under the otherwise applicable standard or requirement through use of another method or approach, as provided in 40 CFR § 300.430 (f)(1)(ii)(C)(4).

At a minimum (i.e., assuming the sludges are not characteristic), any land disposal of sludge shall comply with the following regulations pertaining to the operation of solid waste disposal facilities.

- a. Requirements described at 40 CFR Part 257.3, which preclude negative impacts on floodplains, surface water, and ground water.
- b. Requirements described in 40 CFR Part 258, Subparts B, C, D, E, and F, which describe location restrictions, and ground water monitoring, operating, design, and closure criteria.

- c. RCRA regulations found at 40 CFR §§ 264.116 and .119 (governing notice and deed restrictions), 264.228(a)(2)(i) (addressing de-watering of wastes prior to disposal), and 264.228(a)(2)(iii)(B), (C), and (D) and .251(c), (d), and (f) (regarding run-on and run-off controls), are relevant and appropriate requirements for any waste management units created or retained at the Butte Mine Flooding Operable Unit; and <sup>2</sup>

2. State of Montana Solid Waste Requirements.

Regulations promulgated under the Solid Waste Management Act, §75-10-201 et. seq., MCA, place restrictions and requirements on the ultimate disposition of sludges to be generated by this action:

- a. ARM 16.14.504 (17.50.504) (applicable) restricts those various types of wastes that disposal sites may handle.
- b. ARM 16.14.505 (17.50.505) (applicable) sets forth standards that all solid waste disposal sites must meet.
- c. ARM 16.14.506 (17.50.506) (applicable) sets forth the applicable criteria for design of a landfill repository.
- d. ARM 16.14.510 and .511 (17.50.510 and 511) (applicable) set forth the general and specific operation and maintenance requirements for solid waste management systems.
- e. ARM 16.14.523 (17.50.523) (applicable) specifies that solid waste must be transported in such a manner as to prevent its discharge, dumping, spilling, or leaking from a transport vehicle.
- f. ARM 16.14.530 and .531 (17.50.530 and 531) (applicable) set forth the requirements for closure of a landfill repository and the requirements for post-closure care.

C. Point Source Water Discharges (applicable).

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<sup>2</sup> As noted earlier, federal RCRA regulations are incorporated by reference into applicable State Hazardous Waste Management Act regulations. See ARM 16.44.702 (17.54.702). Use of select RCRA regulations to mining waste is appropriate when discrete units are addressed by a cleanup and site conditions are distinguishable from EPA's generic determination of low toxicity/high volume status for mining waste. See Preamble to the Final NCP, 55 Fed. Reg. 8763 - 8764 (March 8, 1990), CERCLA Compliance with Other Laws Manual, Volume II (August 1989 OSWER Dir. 9234.1-02) p. 6-4; Preamble to Proposed NCP. 53 Fed. Reg. 51447 (Dec. 21, 1988), and guidance entitled "Consideration of RCRA Requirements in Performing CERCLA Responses at Mining Wastes Sites," August 19, 1986 (OSWER).



Clean Water Act, 33 U.S.C. §§ 1251. et seq., categorical standards.

Clean Water Act standards are applicable for all point source discharges of water containing contaminants associated with remedial activities in the Mine Flooding OU. Point source discharges created by the Mine Flooding OU remedial action must meet effluent standards for industrial categories. 40 CFR Part 440 establishes effluent limits for mines that produce copper, lead, zinc, gold or molybdenum. In most cases the State "I" classification discharge standards will be more strict than these industrial category standards but depending on the previous "one-half of the mean instream concentration" requirement, the industrial category discharge standard could be more stringent. The standards at 40 CFR § 440.104<sup>3</sup>, which lists effluent limits for new sources based on the application of the best available demonstrated technology (BADT), must be met.

D. Underground Injection Control (applicable), 40 CFR Part 144.

Treated groundwater may be injected into the same formation from which it was withdrawn for aquifers such as the bedrock aquifer in the Mine Flooding Operable Unit. Injection wells must be designed, constructed, operated, maintained, and capped or closed as provided in these regulations. Construction may begin only after EPA has approved plans for all phases from design through closure. Re-injection of treated water is not approved in the ROD or the SOW.

E. Transportation of Hazardous or Contaminated Waste (Relevant and Appropriate)  
The requirements of 40 CFR Part 263 must be complied with. These regulations govern any on-site transportation of material generated by future Remedial Action. Any off-site transportation would be subject to applicable regulations, including EPA's off-site policy, 40 CFR § 300.440.

F. AIR QUALITY

I. Air Quality Regulations (applicable)  
(Excavation/earth-moving/construction;  
transportation)

- a. ARM 16.8.814 (17.8.214) (applicable). There shall not be any action which contributes to concentrations of hydrogen sulfide in the ambient air which exceed the following standard: hourly average -- 0.05 parts per million, not to be exceeded more than once per year.
- b. ARM 16.8.815 (17.8.222) (applicable). There shall not be any action which contributes to concentrations of lead in the ambient

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<sup>3</sup> This requirement is also incorporated as a state MPDES standard at ARM 16.20.923 (17.30.1207).

air which exceed the following: 90-day average -- 1.5 micrograms per cubic meter of air, 90-day average, not to be exceeded.

- c. Additional air quality regulations under the State of Montana Clean Air Act, §§ 75-2-101 et seq., MCA, are discussed below
- d. ARM 16.8.1302 (17.8.604) (applicable). The following wastes shall not be disposed of by open burning<sup>4</sup>: oil or petroleum products, RCRA hazardous wastes, chemicals, and treated lumber and timbers. Any waste which is moved from the premises where it was generated and any trade waste (material resulting from construction or operation of any business, trade, industry or demolition project) shall be open burned only in accordance with the substantive requirements of 17.8.612 or 611.
- e. ARM 16.8.401(1) 16.8.1307 or .1308 and (2) (17.8.308(1) and (2)) (applicable) and ARM 17.8.304. Reasonable precautions to control emissions of airborne particulate matter must be taken in the production, handling, transportation or storage of any material; or the use of any street, road, or parking lot; or the operation of a construction site or demolition project. Emissions of airborne particulate matter must be controlled so that they do not “exhibit an opacity of twenty percent (20%) or greater averaged over six consecutive minutes.”
- f. ARM 16.8.818 (17.8.220) (applicable) provides an ambient air quality standard for settled particulate matter. Particulate matter concentrations in the ambient air shall not exceed the following 30-day average: 10 grams per square meter.
- g. The Butte area has been designated by EPA as non-attainment for total suspended particulates, as well as PM-10. Requirements associated with this designation are discussed below.
- h. ARM 16.8.1401(4) (17.8.308(4)) (applicable) Any new source of airborne particulate matter that has the potential to emit less than 100 tons per year of particulates shall apply best available control technology (BACT) ; any new source of airborne particulate matter that has the potential to emit more than 100 tons per year of particulates shall apply lowest achievable emission rate (LAER). The BACT and LAER standards are defined in ARM 16.8.1430

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<sup>4</sup> “ ‘Open burning’ means combustion of any material directly in the open air without a receptacle, or in a receptacle other than a furnace, multiple chambered incinerator or wood waste burner ...” ARM 16.8.1301(5) (17.8.601(5)).

(17.8.301). A significant source of the non-attainment for particulates and PM-10 in the Butte area is road dust. Accordingly, special precautions shall be taken in this area to limit dust emissions from remedial activities.

- i. ARM 26.4.761 (17.24.761) (relevant and appropriate). Fugitive dust emissions during remedial action activities must be controlled using any or all of the following techniques: paving, watering, chemically stabilizing, or frequently compacting and scraping roads, promptly removing rock, soil or other dust-forming debris from roads, restricting vehicle speeds, or otherwise stabilizing the surface of areas adjoining roads, restricting unauthorized vehicle travel, minimizing the area of disturbed land, and promptly revegetating regraded lands.

2. Control of Odors

ARM § 16.8.1427 (17.8.315) (applicable). There may be no odor resulting from this RD/RA such that it causes a public nuisance.

3. Monitoring

ARM 16.8.87 (17.8.204) (applicable). Ambient air monitoring must be performed as specified herein.

ARM 16.8.809 (17.8.206) (applicable). Sampling, data collection, recording and data analysis must be performed as specified in this section.

II. CONTAMINANT SPECIFIC REQUIREMENTS.

A. Groundwater Standards.

1. Discussion.

Federal and state groundwater standards are mentioned here simply as a point of reference. There will be no treatment regime followed or required in order for groundwater standards to be met. This is because the ROD precludes any discharge of contaminated groundwater from the East Camp and West Camp Shaft systems into the alluvial or bedrock aquifers. This discharge will be prevented through control of water levels in the East and West-Camps. Any discharge of groundwater will be to surface waters through a point source discharge and must meet all "I" class standards and effluent guidelines. See surface water requirements, below. Also, refer again to the section on action specific categorical discharge standards, above.

2. Time and point of compliance.

For all groundwater standards, the point of compliance is within the alluvial aquifer. Groundwater quality in the bedrock aquifer outside the technical impracticability zone is protected by maintaining a hydraulic gradient of groundwater in the bedrock aquifer toward the Berkeley Pit. Compliance is required during and at the completion of RD/RA.

3. Standards.

- a. Federal.  
Safe Drinking Water Act, MCL and non-zero MCLG standards, 40 CFR Part 141 (relevant and appropriate).
- b. State of Montana.  
Groundwater Pollution Control System, ARM 16.20.1002, 16.20.1003, 16.20.1011, (17.30.1002, ARM 17.30.1003, ARM 17.30.1011)  
(all applicable).

B. Air Standards.

1. Time and point of compliance.

For all contaminant specific air standards, the point of compliance is at the boundary of the Mine Flooding OU. No construction or operation activity shall contribute to the exceedance of these air standards. Compliance is required during and at the completion of RD/RA.

2. Federal Clean Air Act (all applicable).

- a. Lead in ambient air, ARM 16.8.815 under a federally approved State Implementation Plan (SIP), pursuant to the Clean Air Act of Montana, §§ 75-2-101 et. seq., MCA.

The concentration of lead in the ambient air may not exceed 1.5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of air, measured over a 90-day average.

- b. Particulate matter in ambient air (PM-10), ARM 16.8.821 under a federally approved SIP, pursuant to the Clean Air Act of Montana, §§ 75-2-101 et. seq., MCA

The concentration of PM-10 in the ambient air may not exceed:

- 150 micrograms per cubic meter of air, 24 hour average, no more than one expected exceedance per calendar year;

- 50 micrograms per cubic meter of air, annual average.

Ambient air standards under section 109 of the Clean Air Act for carbon monoxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, and ozone may not be exceeded. See ARM 16.8.811 – 16.8.820 and 40 CFR Part 50.

C. Surface Water Standards – Ambient and Point Source Discharges

1. Time and point of compliance.

For all surface water ambient and point source discharge standards, the points of compliance are at any water of the United States receiving a discharge from a point source at the Mine Flooding OU, and any point source at the Mine Flooding OU. As described in the Final HSB Water Treatment Plant Design Package, and approved by EPA, the point of compliance shall be the outfall from the HSB Water Treatment Plant to Silver Bow Creek. Compliance is required during and at the completion of RD/RA, subject to the specific conditions described in Attachment 1 to this Exhibit 3.

If exceedances of the in-stream standards can be demonstrated by the Settling Defendants to be caused by conditions which are unrelated to the BMFOU and unrelated to the operations of the HSB Water Treatment Plant or the HSB Water Treatment Plant Upgrade, these ARARs and Performance Standards will not be considered to be violated.

2. Standards.

The designated uses promulgated by the State of Montana for Silver Bow Creek and the Clark Fork River are the primary standards driving this action and will be applied to all point source discharges from the Mine Flooding Operable Unit.

The State has promulgated regulations under the state Water Quality Act, §§ 75-5-101 et. seq., MCA, to protect, maintain, and improve the quality of surface waters in the state. These performance standards are listed below.

- a. ARM 16.20.607(1)(b) (17.30.607(1)(b))<sup>5</sup> (applicable).  
Silver Bow Creek (mainstem) from the confluence of Blacktail Deer Creek to Warm Springs Creek is classified “I” for water use.

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<sup>5</sup> Unless otherwise specified, all regulatory citations are to the Administrative Rules of Montana in effect on September 27, 1994.

- b. ARM 16.20.623 (17.30.628) (applicable).  
The “I” classification standard provides:

[T]he goal of the state of Montana is to have these waters fully support the following uses: drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

The quoted narrative standards are met when the concentrations of toxic, carcinogenic, or harmful parameters in these waters do not exceed the applicable standards specified in department circular WQB-7 for aquatic life and human health when stream flows equal or exceed the 10-year 7-day low flow, i.e., the minimum consecutive 7-day average flow which may be expected to occur on the average of once every 10 years. Alternatively, for aquatic life standards, site-specific criteria may be developed using procedures given in the Water Quality Standards Handbook (USEPA, Dec. 1983), provided that other routes of exposure to toxic parameters by aquatic life are addressed.

Silver Bow Creek meets or will meet the I classification goal as response actions are implemented. Therefore, point source discharges into these waters must meet the applicable standards for total suspended solids (TSS), Arsenic (As), Cadmium (Cd), Mercury (Hg), Lead (Pb), Copper (Cu), Zinc (Zn), Iron (Fe), Combined Radium 226/228 (RA), Uranium (U), Beta Photon emitters, and Gross alpha particle specified in Circular WQB-7 or the site-specific standards. These standards are applicable to new discharges to the Silver Bow Creek drainage for the HSB Water Treatment Plant, the HSB Water Treatment Plant Upgrade, and other actions under the SOW which result in a point source discharge.

Additional I classification performance standards include the following:

- i. The dissolved oxygen concentration must not be reduced below 3.0 milligrams per liter.
- ii. The hydrogen ion concentration (pH) must be maintained within the range of 6.5 to 9.5.

- iii. There shall be no increase in naturally occurring turbidity, temperature, concentrations of sediment and settleable solids, oils, floating solids, or true color which will or is 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.
- iv. There shall be no discharges of toxic or deleterious substances which lower or are likely to lower the overall water quality of these waters.

c. ARM (change to old number) 17.30.637 (applicable).

There may be no discharges containing substances that will:

- i. Settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines;
- ii. 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;
- iii. Produce odors, colors or other conditions which create a nuisance or render undesirable tastes to fish flesh or make fish inedible;
- iv. Create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life;
- v. Create conditions which produce undesirable aquatic life.

d. ARM (change to old number) 17.30.1203, adopting and incorporating the provisions of 40 C.F.R. Part 125 (applicable).

For any toxic and non-conventional pollutants resulting from this remedial action, treatment must apply the best available technology economically achievable (BAT); for conventional pollutants, application of the best conventional pollutant control technology (BCT) is required. If effluent resulting from this action does not fit a particular industrial category, BCT/BAT technology-based treatment requirements will be determined on a case by case basis using best professional judgment (BPJ). The determination as to the application of these standards has been made during the design phase of this action.

- e. Discharges from the HSB Water Treatment Plant and future HSB Water Treatment Plant Upgrade must be monitored in compliance with (use old numbers) 17.30.1345(12)(f) and 40 C.F.R. § 123.54(i), which incorporates by reference 40 C.F.R. Part 136. Full monitoring and compliance requirements for point source discharges from the HSB Water Treatment Plant and HSB Water Treatment Plant Upgrade are described in Attachment 1 to this Exhibit 3 to the SOW.

### III. LOCATION SPECIFIC REQUIREMENTS.

- A. Time and point of compliance. For all performance standards mentioned below, time of compliance is during and at the conclusion of RD/RA, and point of compliance is wherever within the Mine Flooding OU the impact occurs.
- B. Fish and Wildlife Coordination Act, 16 U.S.C. §§ 1531 - 1566 and 40 CFR § 6.302(g) (applicable).

The U.S. Fish and Wildlife Service and the State of Montana Department of Fish, Wildlife, and Parks must be consulted with to ensure that any modification of any stream or other water body affected provide for adequate protection of fish and wildlife resources. Specific mitigative or other measures to achieve compliance with this standard may be identified during the design phase of this action. Implementation of the required RD/RA will not result in modification of any stream or other water body within the jurisdiction of the Act.

- C. The Endangered Species Act, 16 U.S.C. §§ 1531 -1543, 50 CFR Part 402, and 40 CFR § 6.302(h) (applicable).

The U.S. Fish and Wildlife Service must be consulted with during RD/RA to assure the continued existence of any threatened or endangered species or critical habitat. This consultation was done, and concluded that threatened and endangered species, and potential critical habitat are not likely to be impacted by RD/RA. Further consultation on these issues is not required unless a threatened or endangered species is identified and may be potentially impacted by RA.

- D. The National Historic Preservation Act, 16 U.S.C. § 470, 40 CFR § 6.310(b), 36 CFR Part 800 (applicable).

The State Historic Preservation Officer (SHPO) must be consulted with during RD/RA in order to identify listed or eligible resources, assess whether proposed cleanup actions will impact the resources, and identify appropriate mitigative measures. The 1992 and 1994 Programmatic Agreements must also be considered. Investigations to date have identified no listed or eligible resources in the MFOU that may be impacted by RD/RA, and further consultation with the SHPO during RD is not anticipated.



- E. Archaeological and Historic Preservation Act, 16 U.S.C. § 469, 40 CFR § 6.301(c) (applicable).

Scientific, historical and archaeological data and artifacts which may be destroyed through implementation of this RD/RA must be identified and if eligible, preserved. Investigations to date have identified no eligible resources in the MFOU. If identified in the course of RA, eligible data and artifacts will be preserved.

- F. Historic Sites, Buildings, and Antiquities Act, 36 CFR § 62.6 (d) (applicable).

Undesirable impacts upon natural landmarks must be avoided. The Programmatic Agreements mentioned above as well as information provided by the National Park Service may be used in complying with this performance standard. Historic Sites and Buildings are not located within the MFOU, and further actions to comply with this performance standard are not required.

- G. Migratory Bird Treaty Act, 16 U.S.C. §§ 703 et. seq. (applicable).

The U.S. Fish and Wildlife Service must be consulted during RD/RA to ensure that the cleanup of the site does not unnecessarily impact migratory birds. Specific mitigative measures for compliance with this requirement are set forth in the Waterfowl Mitigation Plan, Exhibit 5 to the SOW.

- H. Bald Eagle Protection Act, 16 U.S.C. §§ 668, et. seq. (applicable).

The U.S. Fish and Wildlife Service must be consulted during RD/RA to ensure that the cleanup of the site does not unnecessarily adversely affect the bald and golden eagle. In the event bald eagles may be impacted by RA activities, specific mitigative measures may be identified for compliance with this requirement.

- I. Resource Conservation Recovery Act, 42 U.S.C. §§ 6901, et. seq., 40 CFR § 264.18(a) and (b) (Relevant and Appropriate).

Any discrete waste units created by the Mine Flooding cleanup, especially those related to sludge disposal, must be designed, constructed, operated, and maintained to avoid washout, if they are within or near a 100 year flood plain. The location for the sludge repository, if required, is not within or near a 100 year floodplain, and complies with this requirement.

J. Solid Waste Management Act. §§ 75-10-201 et. seq., MCA, ARM 16.14.505 (17.50.505) (applicable).

Any facility for the treatment, storage or disposal of solid wastes must:<sup>6</sup>

1. not be located in a 100-year floodplain;
2. be located only in areas which will prevent the pollution of ground and surface waters and public and private water supply systems; and
3. be located to allow for reclamation and reuse of the land.

The location for the sludge repository, if development of a repository is required, is not within a 100 year floodplain. The location is proximate to an industrial area and the prospective land use is consistent with the surrounding area. Thus, these requirements are met. Additional State Waste Management Regulations are identified above in the Action Specific requirements.

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<sup>6</sup> These, requirements apply, inter alia, to the treatment, storage, or disposal of industrial solid waste. See ARM 17.50.502(24).

**ATTACHMENT 1 TO EXHIBIT 3**  
**[Statement of Work to Consent Decree for Mine Flooding OU]**

**Detailed Performance Standards for  
Point Source Discharges from  
HSB Water Treatment Plant and  
HSB Water Treatment Plant Upgrade**

**INTRODUCTION**

The Statement of Work describes the construction of the Horseshoe Bend Treatment (“HSB”) Plant as a component of the remedy selected in the 94 ReDe/ESD, and as described in the Final Design Report Package, Exhibit 6 to this SOW. In advance of reaching the CWL for the East Camp bedrock groundwater system, the HSB Water Treatment System Upgrade is required as a separate component of the remedy to treat an increased volume of water from the Berkeley Pit and other sources.

This Attachment 1 describes Interim and Final Standards for discharges from the HSB Water Treatment Plant and the HSB Water Treatment Plant Upgrade, and any modifications thereto or other point source discharges not otherwise permitted under State law to the Silver Bow Creek drainage from the BMFOU. The Interim and Final Standards for discharges specified in Section I.C.1 herein fully satisfy the requirements of Exhibit 3, Section I.C. Point Source Water Discharges and Section II.C. Surface Water Standards – Ambient and Point Source Discharges. EPA and MDEQ have approved a two year shakedown period for each new or modified point source to the Silver Bow Creek drainage. Thus, EPA and MDEQ approve two separate shakedown periods of operation following construction of: (1) the HSB Water Treatment Plant; and (2) physical modifications to the Plant, if any, which are required as part of the HSB Water Treatment Plant Upgrade.

For the duration of each shakedown period, Interim Standards shall apply to discharges to Silver Bow Creek or other waters of the State. At the conclusion of each shakedown period (two years following Completion of Initial Construction, unless such period is extended by EPA in consultation with MDEQ), Final Standards shall be applicable to all discharges to Silver Bow Creek from the point source to which the shakedown period applied.

Flows and waters within the Mine Flooding Site which are neither treated in the HSB treatment plant nor discharged to the Silver Bow Creek drainage shall not be subject to compliance with any Interim or Final Standards, including without limitation: (1) Treated, partially treated or untreated flows of water, including stormwater, from any source which drain toward or otherwise enter the Berkeley Pit; (2) Treated, partially treated or untreated waters used within the State mine permitted area for a water supply purpose (including, without limitation, mining and mining-related activities); (3) Upgradient native waters that do not contact overburden or other mine wastes within the State mine permitted area; and (4) Waters provided to MR or its assignee from sources outside the State mine permitted area.

In the event Settling Defendants propose a use of: (i) untreated waters (other than the waters described in subparagraphs (3) and (4) above) or (ii) partially treated waters, and such use will occur outside the State mining permit area or the reserved sludge repository area, Settling Defendants shall develop appropriate water quality standards, if necessary, at that time for approval by EPA, in consultation with DEQ, if such use is not subject to a MPDES or NPDES permit.

## I. FFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

### A. Definitions.

1. The “30-day (and monthly) average,” is the arithmetic average of all composite samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
2. “Daily Maximum” (“Daily Max.”) is the maximum value allowable in any single composite sample.
3. “Composite samples” shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
  - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
  - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used. When substantial diurnal flow variations do not occur, simple time-composite sampling are allowed;
  - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every “X” gallons of flow); and,
  - d. Continuous collection of sample, with sample collection rate proportional to flow rate.
4. An “instantaneous” measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

5. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of Settling Defendants. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
  6. “Bypass” means the intentional diversion of waste streams or treated waters to the Berkeley Pit from any portion of a treatment facility.
  7. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
  8. “Completion of Initial Construction” means the completion of the initial on-site physical actions required for the construction of all infrastructure improvements for the HSB Water Treatment Plant, the HSB Water Treatment Plant Upgrade and any other new or modified point source.
- B. Description of Discharge Points The authorization to discharge is limited to the controlled discharge to Silver Bow Creek from the HSB Water Treatment Plant. The location of the controlled discharge is described in the Final Design Report (Exhibit 6).
- Discharges at any location not authorized herein are a violation and could subject the Settling Defendants to penalties. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time from first learning of an unauthorized discharge could subject the Settling Defendants to criminal penalties.
- C. Discharge Conditions.
1. Controlled Discharge to Silver Bow Creek
    - a. Interim Standards. The following limitations are effective immediately upon the Completion of Initial Construction of the HSB Water Treatment Plant, the HSB Water Treatment Plant Upgrade or other new or modified point source. These limitations will remain in effect until two years following the Completion of Initial Construction of each such facility, unless extended by EPA, in consultation with MDEQ. During any period when Interim Standards are applicable, Settling Defendants shall also comply

with all requirements of this Attachment 1 to Exhibit 3 of the SOW other than Section I.C.1.b.

Parameter <sup>1</sup>	Average Monthly Limitation - mg/L	Daily Maximum Limitation - mg/L
As <sup>2</sup>	0.010	0.010
Cd <sup>4</sup>	0.011	0.022
Cu	0.0305	0.0516
Fe <sup>3</sup>	1.000	1.500
Pb <sup>2</sup>	0.015	0.015
Hg <sup>3</sup>	0.00091	.0017
Zn	0.388	0.388
pH	6.5 – 9.5	6.5 – 9.5
TSS	20	30

- <sup>1</sup> The standards for copper, and zinc are hardness dependent and these limitations are based on the WQB-7 numeric standard assuming a hardness of 400 mg/l. Hardness shall be measured in the discharge and limitations adjusted for each sample.
- <sup>2</sup> Human health standard from WQB-7 or Federal drinking water standards.
- <sup>3</sup> Acute or Chronic aquatic life standards from WQB-7.
- <sup>4</sup> The interim standard for cadmium are derived from pilot studies and represent a maximum monthly average and daily concentration limit that may occur during shakedown operations as experience is gained with operation of the treatment system.

b. Final Standards. The following limitations shall become effective two years following the Completion of Initial Construction.

Parameter	Average Monthly Limitation – mg/L	Daily Maximum Limitation – mg/L
As <sup>2</sup>	0.01	0.010
Cd	0.0008 <sup>1</sup>	0.005 <sup>2</sup>
Cu <sup>1</sup>	0.0305	0.0516
Fe <sup>3</sup>	1.000	1.500
Pb <sup>2</sup>	0.015	0.015
Hg <sup>3</sup>	0.00091	0.0017
Zn <sup>1</sup>	0.388	0.388
PH	6.5 – 9.5	6.5 – 9.5
TSS	20	30
Ur <sup>2</sup>	0.030	0.030

Comb. Ra 226/228 <sup>2</sup>	5 pCi/L	5 pCi/L
Gross Alpha particle <sup>2</sup>	15 pCi/L	15 pCi/L
Beta/photon emitters <sup>2</sup>	4 mrem/yr	4 mrem/yr

- <sup>1</sup> The standards for cadmium (chronic), copper, and zinc are hardness dependent and these limitations are based on the WQB-7 numeric standard, assuming a hardness of 400 mg/l. Hardness shall be measured in the discharge and limitations adjusted for each sample.
- <sup>2</sup> Human health standard from WQB-7 or Federal drinking water standard.
- <sup>3</sup> Acute or Chronic aquatic life standards from WQB-7.

(i) During the shakedown period of operations for the HSB Water Treatment Plant and HSB Water Treatment Plant Upgrade, data shall be collected and actions implemented, as described by the Plan for Shakedown Period of Operations, to assess compliance with the Final Standards for cadmium, uranium, combined radium 226/228, gross alpha particle, and beta/photon emitters identified in Attachment 1 to Exhibit 3 of this SOW. In the event compliance with these listed Final Standards is not achieved at the conclusion of the two-year shakedown period, one or more of the following options will be considered and implemented upon EPA approval in consultation with DEQ, to optimize the existing design and achieve compliance with these listed Final Standards: (i) performance of a protectiveness analysis, including development of site-specific criteria following a protocol approved by EPA, in consultation with the MDEQ; (ii) flow augmentation of the treated discharge using a then available source of water supply; (iii) minor modification of the existing unit process equipment of facilities to achieve compliance; or (iv) another option approved by EPA, in consultation with MDEQ, as described by Settling Defendants in a Technical Memorandum that is submitted to the agencies at least sixty (60) days prior to the conclusion of the shakedown period. In the event compliance with these listed Final Standards is not achieved following implementation of any such options, unless a performance standard is subsequently modified by EPA, in consultation with MDEQ, EPA and MDEQ may require modification of the approved design pursuant to Paragraph 14 (Additional Response Actions) of the Consent Decree to achieve compliance with Final Standards.

(ii) At the conclusion of the shakedown period of operations for the HSB Water Treatment Plant, EPA, in consultation with MDEQ will consider modification and/or deletion of the final standards for Uranium, combination Radium 226/228, Gross Alpha particle and Beta/photon emitters based upon the effluent or influent monitoring data

collected during the shakedown period which may include  
 (i) elimination of the monitoring requirements if these contaminants are not present in measurable quantities or (ii) modification of said monitoring requirements if such contaminants are not present in concentrations greater than Final Standards as measured in the influent monitoring

- D Monitoring Requirements The following constituents shall be monitored at the frequency and with the type of measurement indicated samples or measurements shall be representative of the volume and nature of the monitored discharge All monitoring and sampling shall use EPA total recoverable methods

1 Discharge 001 - Controlled Discharge

<u>Parameter</u>	<u>Frequency</u>	<u>Sample Type</u>
Aluminum	Daily	24 hr Composite
Arsenic	☐	☐
Cadmium	☐	☐
Chromium	☐	☐
Copper	☐	☐
Iron	☐	☐
Lead	☐	☐
Manganese	☐	☐
Nickel	☐	☐
Silver	☐	☐
Uranium	☐	☐
Zinc	☐	☐
Total Flow mgd (a)	☐	☐
Hardness	☐	☐
pH Units	☐	☐
Temperature °C	☐	☐
Total Suspended Solids	☐	☐
Turbidity	☐	☐
Specific Conductance	☐	☐
Alkalinity	☐	☐
Sulfate	☐	☐

- (a) The rate and duration of discharge shall be reported

- E WET Testing The toxic effect of the effluent collected at the Controlled Discharge to Silver Bow Creek shall be measured annually using procedures consistent with the requirements of 40 CFR Part 122 The test species for the WET Testing shall be *Ceriodaphnia Dubia* and *Pimephales Promelas (fathead minnow)* As determined by the WET testing there shall be no acute toxicity in



the effluent discharged by the HSB Water Treatment Plant or HSB Water Treatment Plant Upgrade and no chronic toxicity in Silver Bow Creek caused by the discharges from the aforementioned treatment plant following complete mixing of the effluent stream and Silver Bow Creek flows. The results of such testing shall be submitted to EPA and MDEQ as part of the reporting required by Paragraph II C of this Attachment 1 to Exhibit 3 of the SOW

- F Radionuclides Initial monitoring for Combined Radium – 226/228 Gross Alpha particle Beta/photon emitters shall be measured on a quarterly basis for one year. Monitoring thereafter shall be prescribed based on the results of the quarterly monitoring.

## II MONITORING RECORDING AND REPORTING REQUIREMENTS

- A Representative Sampling Samples taken in compliance with the monitoring requirements established under Part I shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sampling shall use the EPA total recoverable method.
- B Monitoring Procedures Monitoring must be conducted according to the test procedures approved under 40 CFR Part 136 unless other test procedures have been specified in this Exhibit.
- C Reporting of Monitoring Results Effluent monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1) or equivalent approved form postmarked no later than the 28th day of the month following the completed reporting period. Monitoring data shall also be reported in the Clark Fork Data Management electronic format. Legible copies of these and all other reports required herein shall be signed and certified in accordance with the Signatory Requirements (see Part IV) and submitted to the Director, Montana EPA Office and the Director, Department of Environmental Quality at the following addresses (collectively referred to as the Directors):

original to      United States Environmental Protection Agency  
                         Region 8 Montana Office  
                         10 West 15<sup>th</sup> Street Suite 3200  
                         Helena MT 59626

Attention      Russ Forba  
                         Remedial Project Manager

copy to Montana Department of Environmental Quality  
Phoenix Building  
2209 Phoenix Avenue  
P O Box 200901  
Helena MT 59620

Attention Daryl Reed  
Project Manager

- D Compliance Schedules Any progress report compliance report or noncompliance report on achieving interim and final requirements contained in any Compliance Schedule of this document shall be submitted no later than 14 days following each schedule date
- E Additional Monitoring If Settling Defendants monitors any pollutant more frequently than required by this Exhibit using test procedures approved under 40 CFR Part 136 or as specified in this permit the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR Such increased frequency shall also be indicated
- F Report Contents Reports of monitoring information shall include
- 1 The date exact place and time of sampling or measurements
  - 2 The initials or name(s) of the individual(s) who performed the sampling or measurements
  - 3 The date(s) analyses were performed
  - 4 The time analyses was initiated
  - 5 The initials or name(s) of individual(s) who performed the analyses
  - 6 References and written procedures when available for the analytical techniques or methods used and
  - 7 The results of such analyses including the bench sheets instrument readouts computer disks or tapes etc used to determine these results
- G Retention of Records Settling Defendants shall retain records of all monitoring information including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and copies of all reports required by this Exhibit for a period of at least ten years from the date of the sample measurement or report This period may be extended by request of EPA in consultation with MDEQ at any time Data collected on site copies of

Discharge Monitoring Reports and a copy of this Exhibit must be maintained on site during the duration of activity at the site

H Twenty four Hour Notice of Noncompliance Reporting

- 1 Settling Defendants shall report any noncompliance which may seriously endanger health or the environment as soon as possible but no later than twenty-four (24) hours from the time the Settling Defendants first became aware of the circumstances. The report shall be made to the EPA Region 8 Montana Office at 406-457-5042 and the State of Montana at 406-444-1426
- 2 The following occurrences of noncompliance shall be reported by telephone to the EPA Region VIII Montana Office at 406-457-5042 and the State of Montana at 406-444-1426 by the first workday (8 00 a m - 4 30 p m Mountain Time) following the day Settling Defendants became aware of the circumstances
  - a Any upset which exceeds any effluent limitation in this Exhibit
- 3 Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Attachment is to be reported within 24 hours
- 4 A written submission (by facsimile and copy by US mail) of II H 1 and 2 violations shall also be provided within five days of the time that Settling Defendants become aware of the circumstances. The written submission shall contain
  - a A description of the noncompliance and its cause
  - b The period of noncompliance including exact dates and times
  - c The estimated time noncompliance is expected to continue if it has not been corrected and
  - d Steps taken or planned to reduce eliminate and prevent reoccurrence of the noncompliance
- 5 The EPA Montana Office Director may waive the written report on a case by-case basis if the oral report has been received within 24 hours by the EPA Montana Office Helena Montana by phone
- 6 Reports shall be submitted to the addresses in Part II C Reporting of Monitoring Results

- I     Other Noncompliance Reporting   Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II C are submitted. The reports shall contain the information listed in Part II H 2 and 4.
- J     Inspection and Entry   In addition and subject to the requirements of the Consent Decree, Settling Defendants shall allow the Directors or an authorized representative, including representatives of the State of Montana, upon the presentation of credentials and other documents as may be required by law, to
- 1       Enter upon the Settling Defendants' premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit.
  - 2       Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Attachment.
  - 3       Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Attachment, and
  - 4       Sample or monitor at reasonable times, for the purpose of assuring compliance or as otherwise authorized by this Attachment, any substances or parameters at any location.
- K     Other Requirements   EPA and the DEQ shall be notified in the report submitted under Part II C above if Settling Defendants bypass flows to or from the HSB Water Treatment Plant to the Berkeley Pit. The rate and duration of such bypass events shall be reported.
- L     Annual Report   Settling Defendants shall submit an Annual Report to EPA and MDEQ summarizing system performance and operation maintenance activities during the prior year. The Annual Report shall contain the information required by EPA and the MDEQ as described in the approved O&M Manual for the HSB Water Treatment Plant and HSB Water Treatment Plant Upgrade.

### III   COMPLIANCE RESPONSIBILITIES

- A     Duty to Comply   Settling Defendants must comply with all conditions of this Consent Decree, including Exhibit 3. Any noncompliance constitutes a violation of the Consent Decree and is grounds for enforcement action, except as provided in the Consent Decree or SOW. Settling Defendant shall give the Director advance notice of any planned changes at the facility or of an activity which may result in noncompliance.

- B**     Penalties for Violations of Discharge Conditions Except for Part III G Upset Conditions nothing in this Attachment shall be construed to relieve Settling Defendants of the civil or criminal penalties for noncompliance
- C**     Need to Halt or Reduce Activity not a Defense It shall not be a defense in an enforcement action that it would have been necessary to halt or reduce the activity in order to maintain compliance with the conditions of the Consent Decree including this Attachment
- D**     Duty to Mitigate Settling Defendants shall take all reasonable steps to minimize or prevent any discharge in violation of this Attachment
- E**     Proper Operation and Maintenance Settling Defendants shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used to achieve compliance with the conditions of this Consent Decree including the Attachment Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed only when the operation is necessary to achieve compliance with the conditions of the Consent Decree including the Attachment
- F**     Removed Substances Collected screening grit solids sludges or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner as to prevent any pollutant from entering any waters of the state of creating a health hazard Disposal of such Removed Substances to the Berkeley Pit is approved
- G**     Upset Conditions
- 1       Effect of an upset An upset constitutes an affirmative defense to an action brought for noncompliance with effluent limitations if the requirements of paragraph 2 of this section are met See Upset definition at I A 5
  - 2       Conditions necessary for a demonstration of upset To establish the affirmative defense of upset Settling Defendants shall demonstrate through properly signed contemporaneous operating logs or other relevant evidence that
    - a       An upset occurred and that Settling Defendants can identify the cause(s) of the upset
    - b       The facility was at the time being properly operated

- c Settling Defendants submitted notice to the upset as required under Part II H Twenty-four Hour Notice of Noncompliance Reporting and
- d Settling Defendants complied with any remedial measures required under Part III D Duty to Mitigate
- 3 Burden of proof In any proceeding the party seeking to establish the occurrence of an upset has the burden of proof
- 4 It is the goal of Section III G of this Attachment (Upset Conditions) to reduce to zero the frequency of exceedances of discharge limits due to upset conditions

#### IV GENERAL REQUIREMENTS

- A Signatory Requirements All discharge monitoring reports or information submitted to EPA & DEQ shall be signed and certified
  - 1 All reports required by this Attachment shall be signed by a duly authorized representative of Settling Defendants A person is a duly authorized representative only if
    - a The authorization is made in writing by a person described above and submitted to the Director and
    - b The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager operator of a well or a well field superintendent position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position )
  - 2 Changes to authorization If an authorization under paragraph IV A 1 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility a new authorization satisfying the requirements of paragraph IV A 1 must be submitted to the Director prior to or together with any reports information or applications to be signed by an authorized representative
  - 3 Certification Any person signing a document under this section shall make the following certification
 

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system

designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

- B Availability of Reports Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this Exhibit shall be available for public inspection at the Montana DEQ and the EPA Montana Superfund Office. As required by law, monitoring data shall not be considered confidential.

**EXHIBIT 4**  
**TO MINE FLOODING SITE**  
**STATEMENT OF WORK**



## Attachment to: Petition for A Controlled Groundwater Area of the Butte Mine Flooding Bedrock Operable Unit

### 1.0 Introduction

The petition requests that the Montana Director of the Department of Natural Resources and Conservation (DNRC) designate the land outlined herein as the Butte Mine Flooding Bedrock Groundwater Controlled Area ("BMFBGCA"), pursuant to section 85-2-506(2)(g) MCA. The BMFBGCA described in this petition is generally located within the cities of Butte and Walkerville, Montana in Silver Bow County. The BMFBGCA is within and near the Butte Mine Flooding Operable Unit ("BMFOU") which is part of the Butte Portion of the Silver Bow Creek/Butte Area Site, a federal Superfund site. The USEPA Technical Impracticability (TI) analysis which was prepared as part of the September 29, 1994 Record of Decision (ROD) for the BMFOU supports this petition. The specific boundaries of the BMFBGCA have been drawn to reflect water quality data and other information, in addition to the TI analysis, that has been developed since the ROD. The TI analysis grants a waiver from cleanup for the bedrock groundwater. This is further discussed in Section 1.3.

The BMFBGCA is proposed as an institutional control to supplement the BMFOU remedy. The purpose of the BMFBGCA is to protect human health and/or the environment by preventing the consumption of bedrock groundwater containing elevated concentrations of metals and arsenic through enforcement of the conditions described in Section 7.0. The basis for this petition is that water quality in portions of the bedrock aquifer underlying the BMFBGCA, based upon available information, is not suitable for a specific beneficial use as defined by MCA 85-2-102(2)(a); in the case of the BMFBGCA the concern is domestic use where concentrations of metals and arsenic exceed standards for protection of human health under State law. "Beneficial use", unless otherwise provided, means: (a) a use of water for the benefit of the appropriator, other persons, or the public, including but not limited to agricultural (including stock water), domestic, fish and wildlife, industrial, irrigation, mining, municipal, power, and recreational uses.

### 1.2 Site Description and History

The BMFBGCA occupies a portion of Summit Valley and is within the Butte mining district in the upper Silver Bow Creek (SBC) drainage. The BMFBGCA covers approximately a 6.75 square mile area. There are two distinct hydrologic systems within the BMFBGCA, the East and West Camp Mine systems of the BMFOU (See Figure 1). The West Camp system is located in the west-central portion of the city of Butte and includes the Travona, Ophir, and Emma shafts and associated underground mine workings. The East Camp system is located in the east-northeast portion of the Butte mining district and consists of the Berkeley Pit and related underground mine workings. The two systems are separated hydraulically by bulkheads installed in the mine shaft workings during the late 1950s. However, the integrity of the bulkheads is not known, and they may be subject to deterioration. (4).

Extensive underground and open pit mining activities have been prevalent throughout the BMFBGCA since gold was first discovered in Butte in 1864. Underground mining began in the 1880's and by 1964, several thousand miles of underground workings had been driven into the

bedrock. Estimates of the extent of mine workings range from 3,000 miles for major shafts, levels, and drifts, to 10,000 miles for total workings within the 6.75 square mile area of the BMFBGCA.

When underground mining stopped in 1982, the workings had descended to below 1,500 feet above mean sea level (msl) [United States Geological Survey (USGS) datum]. The surface elevation within the BMFBGCA ranges from about 5,400 feet msl to about 6,200 feet msl. Large-scale open pit (the Berkeley Pit) mining began in 1955 (4).

When mining was discontinued in 1982, the bottom of the pit was at an elevation of 4,265 feet msl. The total depth of the Berkeley Pit from the bottom to the highest point on the rim is 1,780 feet. The Berkeley Pit encompasses approximately 675 acres (1.06 square miles) and has a volume of approximately  $1.18 \times 10^{10}$  cubic feet from the base to the rim at an elevation of 5,543 feet msl (1). The Berkeley Pit would contain just under 89 billion gallons of contaminated water if allowed to fill unregulated to this rim (4).

To facilitate mining activities, the naturally occurring groundwater level was lowered approximately 4,200 feet from pre-mining levels via pumping. With the cessation of active mining in the Berkeley Pit in 1982, the pumping system ceased operating and the underground mines and the Berkeley Pit began to flood. The presence of water in the mine workings during and after mining, in combination with the oxidation of the naturally occurring sulfide minerals has resulted in generation of acidic solutions and the releasing of metals and arsenic into the bedrock aquifer. The ROD remedy permanently manages water levels in the two systems, and the Berkeley Pit will be maintained as a sink for bedrock groundwater. The ROD establishes two Critical Water Levels (CWLs); one for the East Camp System (which includes the Berkeley Pit) and the second for the West Camp System. The CWLs are 5410 and 5435 (USGS division), respectively.

Potentially responsible parties under the oversight of the State of Montana and the USEPA have completed extensive studies of the hydrogeology and water quality characteristic of the hydrologic systems within the BMFBGCA. The results of these investigations and subsequent monitoring provide the analytical data and aquifer information upon which this Petition is supported. The USEPA decision documents and other relevant studies are listed in the Reference section of this Petition.

### **1.3 Technical Impracticability (TI) Waiver**

The USEPA and the Montana Department of Environmental Quality (MDEQ) have determined that the bedrock aquifer in some areas underlying the proposed BMFBGCA is contaminated with respect to concentrations of arsenic, lead, cadmium, zinc and copper at levels exceeding Maximum Contaminant Levels (MCL's) and State WQB-7 groundwater quality. A TI waiver has been granted for bedrock groundwater cleanup requirements because compliance with such requirements is technically impracticable from an engineering perspective. The following explains the basis for this TI waiver.

### *BMFOU/Berkeley Pit Area (East Camp Mine System)*

The USEPA and the MDEQ have designated the bedrock aquifer underlying the BMFOU (East and West Camp Systems) as a TI zone because:

- From a practical standpoint, it is not feasible to use source removal to remediate the groundwater to attain the prescribed Applicable or Relevant and Appropriate Requirements (ARARs). The ARAR's for this issue are USEPA and State WQB-7 water quality standards, as described in the ROD.
- There are approximately three thousand (3,000) miles of interconnecting underground mine workings within the 6.75 square mile TI zone (4). Engineering controls to limit or eliminate water flow into and within the bedrock aquifer by conventional or innovative methods on a site of this size and nature have never been attempted. Final ability to attain ARARs is debatable, and costs calculations place the attempt at 7 to 10-billion dollars (ROD estimate).
- Lowering the groundwater level in the bedrock aquifer via pumping would exacerbate (degrade) the existing water quality by elevating acidity (lowering pH) and increasing concentrations of metals. Further, lowering the groundwater level would perpetuate the problem as pumping only exposes more of the source material to oxidation and therefore creates acid generation (4).
- The selected remedy for the BMFOU, maintaining the Berkeley Pit as a hydraulic sink, will effectively prevent migration of contaminated bedrock groundwater within the TI zone from impacting Silver Bow Creek/Blacktail Creek drainages and the associated alluvial aquifer. Similarly, groundwater controls have been implemented at the Travona Shaft to prevent off-site migration of contaminated bedrock groundwater from the West Camp to the Silver Bow Creek drainage.

### *West Camp System*

- The selected remedy for the BMFOU does not allow water levels to rise in the West Camp System above the established level of 5,435 feet msl. The USEPA and the MDEQ have identified this Critical Water Level for the protection of human health and the environment. This is accomplished by controlling the water level of this system by pumping the water from the Travona Shaft.

The USEPA Record of Decision (ROD) for the BMFOU states that; 'Institutional controls, including controls on groundwater use, shall be implemented to ensure that there is no inappropriate use of contaminated bedrock groundwater which threatens human health and/or the environment.' A primary Institutional Control is the use of Department of Natural Resource Conservation (DNRC) controlled groundwater area regulations. This petition requests that the DNRC issue an order prohibiting the issuance of well permits and the construction of new wells in the BMFBGCA, except as permitted under the conditions of this Petition.

## **2.0 Petitioner Status and Groundwater Use**

Section 85-2-506(2) MCA requires that "Designation or modification of an area of controlled groundwater use may be proposed to the board by . . . petition of a state or local public health

agency for identified public risks . . .” The Butte Silver Bow Water Quality District submits that it is a qualified petitioner under this statute. Arco, who has been identified as a potentially responsible party for the BMFOU, has provided Butte-Silver Bow, through a Memorandum of Understanding, funding to submit and implement this petition. This Memorandum of Understanding ends June 30, 2003. Arco has provided a Draft Allocation and Settlement Agreement to Butte-Silver Bow that contemplates the long term funding for management of all groundwater control areas established in Silver Bow County by the Butte-Silver Bow Water Quality District. However, based upon discussions with EPA and MDEQ, this agreement is not anticipated to be signed until after the issuance of the Record of Decision for the Butte Priority Soils Operable Unit. Therefore the petitioner is requesting that the BMFBGCA be in effect until June 30, 2003 or until the Record of Decision for the Butte Priority Soils Operable Unit is in place, whichever is sooner. After this time the petitioner shall be allowed to amend this petition as necessary with the appropriate review and approval by the DNRC.

The vast majority of bedrock groundwater wells present within the BMFBGCA are monitoring wells that are part of the ongoing and future Superfund activities. There are also private and public wells used for domestic, irrigation, and industrial purposes present within the boundary of the BMFBGCA.

The USEPA, in consultation with MDEQ, have approved a monitoring program for the bedrock aquifer as part of the required remedial action for the BMFOU. These monitoring results have been and will continue to be provided to BSB Water Quality District for purposes of monitoring water quality within the bedrock aquifer encompassed by the BMFBGCA.

### **3.0 Description of BMFBGCA Boundary**

The BMFBGCA includes the land within Silver Bow County, Montana lying in portions of Sections 1, 11, 12, 13, 14, 23, and 24 of Township 3 North, Range 8 West; and portions of Sections 6, 7, 8, 9, 16, 17, 18, 19, 20, and 21 of Township 3 North, Range 7 West. The boundary of the BMFBGCA is shown by the attached Figure 1. This area modifies that which was first identified as the “Area of Potential Contaminated Bedrock Aquifer for the BMFOU”, USEPA, September 1994. Record of Decision, Technical Impracticability Evaluation, Appendix 2, Volume 1. The area represents the potential contaminated bedrock aquifer and encompasses the area of underground mine workings. However, major landmarks (roads) were utilized to assist in the creation of subsequent institutional controls (ICs) that will follow the TI waiver. This BMFBGCA covers both the East and West Camp areas of the Butte Mining District, and is approximately a 6.75 square mile area.

The horizontal extent of the TI zones is defined primarily by the extent of underground mine workings and/or extent of documented influence of mine workings on the bedrock aquifer. The vertical extent of the TI zone is defined by the elevation of the lowest underground mine workings which has been determined to be approximately 1,500 feet msl (11). Additionally, the TI zone represents the outer boundary of the areas within the cone of influence of the historically dewatered east and West Camp hydrologic systems (4).

### **4.0 Groundwater Conditions**

The bedrock aquifer is characterized by considering two main topics: The geology and the hydrogeology of the bedrock aquifer. The study documents listed in the Reference section also



provide site-specific, detailed information concerning the groundwater underlying the BMFBGCA. These studies provide information on hydraulic characteristics of the bedrock aquifer, water quality, and, together with the monitoring information that has been collected since issuance of the ROD, support this Petition.

#### 4.1 Geology of the Bedrock Aquifer

The Butte area is underlain by igneous rocks of the Boulder Batholith, which consists primarily of quartz monzonite intruded by rhyolite and porphyry dikes (11). This bedrock contains disseminated ore vein deposits of copper and other metals, primarily in sulfide form. The area was and continues to be of interest to the mining industry (4).

The bedrock is subdivided into a weathered zone and a competent bedrock zone. Some of the weathered bedrock may contain native ore that has oxidized in place over geologic time and parts may be "incapable" of producing acid rock drainage. Where present, the weathered bedrock is 100 to 200 feet thick and consists of clay interspersed with 1 to 10 inch fragments of monzonite. Frequently, the weathered bedrock functions as a confining layer, limiting water and oxygen movement between the alluvium and the deeper competent bedrock (4).

The competent bedrock consists of unoxidized quartz monzonite and is encountered in the TI zone at depths ranging from 250 to more than 750 feet below the ground surface. This is documented by logs of diamond drill holes (DDHs), mine shafts, and bedrock monitoring wells installed as part of the RI/FS (1)(4).

#### 4.2 Hydrogeology of the Bedrock Aquifer

The flow of water within the TI zone is dependent on the extent of mine workings associated with any portion of the zone. Flow within the zone west of the Berkeley Pit, especially those areas associated with the Kelley Mine workings, which are connected to the Berkeley Pit, is best characterized by a pipe network model (12). Pipe network models are typically used to evaluate water distribution systems for cities and plants. These models use the length and size of pipes and friction factors to relate flow rates to water pressure and friction losses. The application of a network model to the mine workings best simulated experimental data (12). Areas with few workings and/or caving of workings, plus the remainder of the TI zone, have flow best characterized by a fractured media model. Groundwater within the TI zone is primarily stored within fractures. However, the thousands of miles of open and caved underground workings increase the amount of aquifer storage by about 13 percent (4).

Based on geophysical logging data, localized fracture zones within the competent bedrock extend at least as deep as 350 feet below the weathered/competent bedrock interface (13). These fractures contain groundwater, most of which is encountered in the upper 1,000 feet of the bedrock. The yield of water from bedrock well ranges from less than 1 gpm to more than 50-gpm (14). The equivalent fracture porosity of the bedrock aquifer is estimated to be 1-percent (1). Previous investigations at the site calculated fracture porosity for the bedrock in a shallow and highly fractured area of 5 percent (15). This value represents an upper limit for the site (4).

Hydraulic properties of the bedrock aquifer were determined from rising-head and constant discharge tests (see Section 6.4 of RI (1) for complete discussion of bedrock aquifer

characterization). The rising-head test data (seven wells tested) showed that hydraulic conductivity values range from  $7.1 \times 3.46 \times 10^{-4}$  centimeters per second (cm/sec) with an average of  $1.34 \times 10^{-4}$  cm/sec. Aquifer transmissivity, as estimated from constant discharge test data, range from 9.9 gallons per day per foot (gpd/ft) to 99.0 gpd/ft. (4).

## 5.0 Groundwater Quality

A portion of the bedrock groundwater underlying the BMFBGCA is contaminated with respect to exceedence of one or more relevant Federal or State WQB-7 water quality standards (see Appendix A, Table 1). The groundwater present in the bedrock aquifer shows concentrations of arsenic, lead, cadmium, and copper at levels exceeding MCL's and state WQB-7 groundwater quality standards. Although many other metals are found in the bedrock aquifer of the TI zone at elevated levels, compared to background levels, only these four exceed a primary drinking water standard. The exceedences and elevated concentrations are a result of the presence of oxygen, water, and the massive source of sulfidic minerals (i.e., native ore) present in the bedrock, mobilization of which has been enhanced by past mining activities (1).

## 6.0 Existing and Future Wells

There are wells present in the bedrock aquifer underlying the BMFBGCA. The majority of these wells are monitoring wells related to the Superfund sites listed herein. Logs of these bedrock-monitoring wells are available in the various remedial investigation documents along with the water quality analyses. The number of bedrock monitoring wells may be expanded or reduced in the future, as approved by EPA and MDEQ. There are also private and public bedrock wells used for irrigation and industrial purposes present within the BMFBGCA. The need for future domestic or irrigation wells is limited due to the fact that the Butte Water Company serves much of the area within the BMFBGCA.

The issue of existing regulations controlling groundwater use has been mentioned in regards to this Petition. The following are excerpts from the Butte Silver Bow County Municipal Code which point out that not all groundwater use can be controlled through the enforcement of local regulations.

The Butte Silver Bow Municipal Code 13.20.210 subsection (A) states that, 'the owner of any house, building, or other property which is used for human occupancy ...is required to connect to the water main, provided that a water main is located in the right-of-way within a distance of three hundred feet from the owner's property line'. Subsection (B) further states 'except as provided in subsection (D), the occupants of property connected to the water system may not use water provided by well for any purpose other than sprinkling or irrigation'.

Subsection D (1) states 'The mandatory water system service connection provisions of this section shall not apply to any parcel of property which was exclusively served with domestic water provided by a well prior to July 31, 1992'. Subsection D (2), states 'If a well meeting the conditions of subsection (D)(1) fails to operate after July 31, 1992, a replacement well may be installed and the residents of the property may continue to use well for domestic water supply, subject to those provisions set out in subsection (D)(4)'. Subsection D (4) states 'After July 31, 1992, no parcel of property may be disconnected from the water system and served with domestic water provided by a well'.

This section of the Butte Silver Bow Municipal Code provides some control related to groundwater use by property owners within the boundary of the proposed BMFBGCA. The Petition supplements this authority as an institutional control.

## **7.0 Proposed Bedrock Groundwater Controls**

The primary purpose of the BMFBGCA is to ensure that there is no new development of bedrock groundwater wells that would tap into contaminated bedrock groundwater. The following specific protective provisions (MCA 85-2-507 (4)(a)(g)) are proposed.

- (1) Except as provided in (2) below, no new domestic (potable supply), irrigation or commercial bedrock groundwater wells will be permitted within the area designated on the BMFBGCA boundary map (Figure 1, attached). Wells permitted for Industrial purposes may be allowed within the BMFBGCA after review and approval by the Butte-Silver Bow Board of Health and DNRC.
- (2) New bedrock groundwater wells for domestic (potable supply), irrigation or commercial use may be permitted by DNRC within the hatched sub-areas designated on the BMFBGCA boundary map. Based upon available data, these areas may be outside the area of bedrock groundwater influenced by the existing underground mine workings. All applicants seeking a permit from DNRC to appropriate groundwater from a new well within the hatched sub-areas of the BMFBGCA shall check with the Water Quality District office to determine if the proposed location is within an area where new wells may be permitted. Applicants who drill new wells in these sub-areas shall collect a representative sample from the completed well to confirm water quality meets the WQB-7 human health criteria for arsenic, lead, cadmium or copper. In the event water quality does not meet such criteria, the well shall be abandoned at the applicant permittee's expense in accordance with DNRC regulations for well abandonment.
- (3) Existing wells used for irrigation purposes or other beneficial use may be replaced at the well owners expense so long as replacement of the well is otherwise lawful under applicable State law or local ordinance.
- (4) Superfund or other environmental monitoring/treatment wells necessary for environmental cleanup purposes are allowed anywhere within the BMFBGCA. All new bedrock Superfund monitoring wells within the BMFBGCA boundary shall be installed in accordance with the USEPA-approved Standard Operating Procedure (SOP GROUNDWATER GW-3) for monitoring well design and construction.
- (5) All wells included in the approved BMFOU Monitoring Plan and newly identified non-monitoring bedrock groundwater wells within the BMFBGCA boundary will be sampled and analyzed for arsenic, lead, cadmium, copper and zinc. They will be sampled under the schedule approved by EPA and the MDEQ as part of the BMFOU Monitoring Plan. The reported results shall be provided to the BSB Water Quality District. All non-monitoring bedrock wells used as a drinking water supply for human consumption within the BMFBGCA for which monitoring results establish that the WQB-7 groundwater human health standards for arsenic, cadmium, lead, zinc, or copper are exceeded will cease being used for such purposes. The water user will then be provided (by the Settling

Defendants under a consent decree for implementation of BMFOU RD/RA) with an approved drinking water source as determined by the Petitioner.

- (6) The boundaries and provisions of this BMFBGCA may be amended if the bedrock groundwater quality improves with the written approval of the DNRC.
- (7) The grant of a controlled groundwater area does not preempt diversions required for remedial or response actions authorized by the USEPA or remedial or response actions undertaken by the State of Montana, and diversions required for restoration actions undertaken by the State of Montana pursuant to its role as trustee for natural resources.
- (8) The granting of this petition for a controlled groundwater area in no way limits any claim that the State of Montana, as trustee for natural resources, may have for damages to natural resources.
- (9) The granting of this petition for a controlled groundwater area does not constitute an irreversible and irretrievable commitment of the groundwater resource, nor does it serve as a permit for the release of hazardous substances into the groundwater aquifer.
- (10) The controlled groundwater area and groundwater closure is being issued in recognition of existing contaminated conditions and does not relieve any person from liability for contamination of the groundwater.
- (11) A grant of a controlled groundwater area is not an indication of a finding that the groundwater aquifer should not be remediated or restored.



## References

These documents support the discussion presented in this Explanation of Petition:

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**EXHIBIT 5**  
**TO MINE FLOODING SITE**  
**STATEMENT OF WORK**

**EXHIBIT 5 TO MINE FLOODING SITE  
STATEMENT OF WORK**

**BERKELEY PIT MIGRATORY WATERFOWL  
MITIGATION PLAN  
OBSERVATION AND HAZING PROGRAM**

**Prepared by:**

**Atlantic Richfield Company  
and  
Montana Resources**

**February 2002**

## TABLE OF CONTENTS

LIST OF TABLES .....	ii
LIST OF APPENDICES .....	iii
1.0 INTRODUCTION.....	1
1.1. SUMMARY SITE DESCRIPTION.....	1
1.2. WATERFOUL MITIGATION BACKGROUND .....	2
2.0 OBSERVATION AND HAZING PROGRAM.....	5
2.1 PERSONNEL EDUCATION .....	6
2.2 WATERFOWL OBSERVATION .....	6
2.3 HAZING .....	7
2.3.1 Passive Efforts .....	8
2.3.2 Active Efforts.....	8
2.3.3 Capture, Resuscitation and Release of Birds .....	10
3.0 REPORTING AND NOTIFICATION.....	10
4.0 EVALUATION OF METHODS AND SITE CONDITIONS .....	11
4.1 OTHER HAZING METHODS.....	12
4.2 FUTURE EVALUATIONS OF MITIGATION APPROACHES .....	13
4.3 FUTURE IMPACTS ON THE BERKELEY PIT.....	14
4.3.1 Effects of Sludge Disposal in the Berkeley Pit .....	14
4.3.2 Future Evaluations to Reduce the Toxicity of the Berkeley Pit.....	16

## LIST OF TABLES

<u>TABLE 1. RESULTS FROM GEOCHEMICAL MODELING .....</u>	<u>15</u>
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## LIST OF APPENDICES

APPENDIX A	DRAFT AVIAN SURVEY AT THE BERKELEY PIT
APPENDIX B	ORAL TOXICITY OF BERKELEY PIT (BUTTE, MONTANA) WATER TO SNOW GOOSE ( <i>Chen caerulescens</i> ) ENSR, AUGUST 1996)
APPENDIX C	BIRD ACTIVITIES IN THE BERKELEY PIT
APPENDIX D	DESCRIPTION & SPECIFICATIONS OF PHOENIX WAILERS
APPENDIX E	SAMPLE OBSERVATION LOG SHEET

## 1.0 INTRODUCTION

This Waterfowl Mitigation Plan fulfills the requirements of Section 1G of the Statement of Work (SOW) for the Butte Mine Flooding Operable Unit (BMFOU) Remedial Design/Remedial Action (RD/RA). This plan documents the site characteristics and background as it relates to waterfowl mitigation activities, summarizes the results of the observation and hazing program undertaken from 1996 – 2001, and describes the mitigation plan that has been implemented as part of the overall BMFOU SOW.

Waterfowl mitigation, particularly the activities that are expected to minimize incidents of illness or mortality to migrating birds attracted to the Berkeley Pit. The Berkeley Pit (Pit) will continue to have a large area of contaminated water exposed that is potentially harmful to birds, especially waterfowl, as the selected remedy for the BMFOU is implemented. This plan is designed to accomplish three main objectives:

- a) Minimize insofar as is practical the contact of waterfowl with waters of the Berkeley Pit;
- b) Implement observation and hazing programs that are demonstrated and effective at this unique site, and in a manner that is safe for the people responsible for its implementation; and
- c) Re-evaluate the effectiveness of the mitigation program on an on-going basis and modify the program to accommodate changing conditions over time at the site.

### 1.1. SUMMARY SITE DESCRIPTION

The Butte Mine Flooding OU is part of the Silver Bow Creek/Butte Area NPL site and is located in and near the cities of Butte and Walkerville, Montana. It consists of waters within the Berkeley Pit, the underground mine workings hydraulically connected to the Berkeley Pit, the associated alluvial and bedrock aquifers, and other contributing sources of inflow to the Berkeley Pit-East Camp System (including surface runoff, leach pad and tailings slurry circuit overflows) and the Travona/West Camp System (see Record of Decision, Butte Mine

Flooding Operable Unit, Silver Bow Creek/Butte Area NPL Site, Butte, Montana, September 29, 1994 or aka BMFOU ROD). The boundaries of the OU are approximately the Continental Divide to the east, Metro Storm Drain/Silver Bow Creek to the south, Missoula Gulch to the west, and the Yankee Doodle Tailings Pond watershed drainage system to the north.

The primary site feature relevant to waterfowl mitigation is the Berkeley Pit. The Berkeley Pit/East Camp System (the Pit system) is located in the northern and eastern portions of the OU. The Berkeley Pit is the major feature of the OU and is 840 feet deep, encompassing an area of 690 acres and a volume of 30 billion gallons of contaminated water (February 2002 estimates).

The Berkeley Pit is filling with water originating from the surrounding bedrock and alluvial aquifers and also from surface inflows. The water accumulating in the Berkeley Pit and in the bedrock aquifer is acidic and contains high concentrations of metals. The source of the contamination is AMD<sup>1</sup> from the bedrock in the mine workings; waste rock dumps, and leach pads. Presently, because all bedrock groundwater flow in the area is toward the Berkeley Pit, contaminated mine water is being contained in the east and West Camps. Water levels will continue to rise but the water levels in the OU will not be allowed to rise above the CWLs (East Camp – 5,410 feet, West Camp – 5,435 feet (USGS datum)) (see BMFOU ROD).

## 1.2. WATERFOWL MITIGATION BACKGROUND

In July 1955, the Anaconda Copper Mining Company began open pit mining in the Berkeley Pit. In 1963, the Weed Concentrator (now known as the MR Concentrator) became operational. Ore from the Berkeley Pit was processed at this facility, and concentrates were transported to Anaconda, Montana for smelting. The Atlantic Richfield Company purchased the Anaconda Copper Mining Company in 1977 and owned the Pit and associated property until it was sold to Montana Resources Inc. (MRI) in 1985. In 1989, a partnership known as

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<sup>1</sup> AMD (acid mine drainage) results from the oxidation of sulfide minerals such as pyrite exposed to oxygen in air and water forming iron hydroxide, sulfate, and free hydrogen ions.



Montana Resources (MR) was formed between MRI and AR Montana Corporation, a subsidiary of American Smelting and Refining Company (ASARCO). MR was formed to own and operate the property. For the purposes of this document, these parties are collectively referred to as the Settling Defendants.

To allow underground and later open pit mining in the Butte area, groundwater was lowered by pumping. In latter years, the pumping system was located in the Kelley Mine shaft, just west of the Berkeley Pit. In 1982, pumping was discontinued and mining in the Berkeley Pit was discontinued in 1983. As a result, the artificially lowered groundwater level in the area has been rising toward its pre-mining level in the underground mines and the Berkeley Pit. It is currently projected that the CWL of 5,410 feet (USGS datum) for the East Camp/Berkeley Pit System will be reached around the year 2018 (*see* Appendix C BMFOU SOW, page C-6).

As of February 2002, the impoundment is approximately 350 surface acres at elevation 5,215. The water surface elevation varies from approximately 300-900 feet below the surrounding land surface.

From the time that water was first observed in the pit bottom until the fall of 1995, relatively few migratory waterfowl had been reported in and around the pit area. These observations were confirmed in the avian study conducted in 1993 as a part of the BMFOU RI/FS (*see* Appendix A – *Draft Avian Survey at the Berkeley Pit*, Biosystems Analysis, Inc., December 1993). While this study was limited in duration, it was the only quantitative data available at the time.

In mid-November 1995, a flock of lesser snow geese (*Chen caerulescens*) landed in the Berkeley Pit and remained for an unknown period of time. On November 15, 1995, 342 deceased birds were found by a crew from MSE-HKM, Inc., and the Montana Bureau of Mines and Geology during routine collection of water samples.

Necropsy examination of the recovered birds indicated that the cause of death to these snow geese appeared to be contact with and ingestion of the Berkeley Pit water, but was inconclusive regarding the precise mechanism or constituent in the water causing death. The length of stay by these birds on the Berkeley Pit and amount of water ingested by the geese that perished were both unknown. Further study of Berkeley Pit water toxicity to waterfowl was conducted in 1996. The resulting report (see Appendix B, *Oral Toxicity of Berkeley Pit (Butte, Montana) Water to Snow Goose (Chen caerulescens)*, ENSR, 1996) substantiated the necropsy conclusions and also concluded that "...birds exposed to Berkeley Pit water for less than 4-6 hours, should not be at substantial risk".

As a result of this incident, EPA directed the Settling Defendants to develop and implement a waterfowl observation and hazing program to prevent insofar as was practical the reoccurrence of this type of incident. Montana Resources submitted a plan to EPA in March 1996 and voluntarily began implementation while the plan was reviewed by EPA. EPA approved this plan in May 1996. As experience was gained with hazing and observation methods, EPA prepared revisions to the plan in June 1997 and submitted them for consideration by the Settling Defendants. These revisions were incorporated into the *Berkeley Pit Migratory Waterfowl Mitigation Plan, Observation and Hazing Program* (EPA et al, May 1998) and this document was subsequently included under the Unilateral Administrative Order for the BMFOU. Waterfowl observations and hazing have been performed per this plan since 1998.

Results under this program have been effective in achieving the objectives listed in Section 1.O above. The key observations to date are summarized below:

- The number of documented birds observed in and around the pit from 1996-2001 ranged from about 2,300 to over 4,500 annually. This information is summarized in Appendix C. These observations show greater numbers of birds are more likely to frequent the Berkeley Pit area from March through May in the spring and from mid-August through mid-December in the fall.

- Most of the mortalities observed since the implementation of this program have been diver ducks and several mallards. Four snow geese and two Canadian geese have also perished since this program was implemented in 1996.
- The water surface of the Berkeley Pit is normally frozen to a substantial depth through the winter months between November and mid-March. The incidence of freezing is somewhat predictable, based on ambient air temperatures. However, the fall and early winters of 1995-96, 1996-97, and 1997-98 in Western Montana were unusually warm. Consequently, in 1995-96 the surface of the Pit did not freeze until early December; and in 1996-97 and 1997-98 it did not freeze at all, lengthening the exposure opportunity for migrating waterfowl.

## 2.0 OBSERVATION AND HAZING PROGRAM

The goal of the observation and hazing program is to provide a framework of actions to prevent the death of migratory waterfowl caused by ingestion of, or contact with, Berkeley Pit water. This plan has been designed using the census information gained during the 1996 through 2001 migration seasons, as well as advice from other organizations with expertise in hazing waterfowl. The plan is subject to modification as new facts, techniques, and ideas are developed. As previously stated, this program has three objectives to meet the overall goal:

- a) Minimize insofar as is practical the contact of waterfowl with waters of the Berkeley Pit;
- b) Implement an observation and hazing program that is demonstrated and effective at this unique site, and in a manner that is safe for the personnel responsible for its implementation; and
- c) Re-evaluate the effectiveness of the mitigation program as the remedy is implemented and modify the program to accommodate changing conditions over time at the site.

This plan supercedes the *Berkeley Pit Migratory Waterfowl Mitigation Plan, Observation and Hazing Program* issued by EPA in 1998.

The expected outcome of this program will be reliable observation and documentation of the presence of waterfowl on, or in the vicinity of, the Berkeley Pit that provides prompt notification of appropriate personnel so that subsequent actions can be taken. The following activities will be implemented to achieve this outcome.

## **2.1 PERSONNEL EDUCATION**

All personnel involved in implementation of this plan have been informed about the seriousness and possible consequences of migratory waterfowl incidents involving the Berkeley Pit. All personnel responsible for implementing this plan have received training. Special emphasis has been given to personnel that tend to spend a significant portion of their work around the Pit area. These are mainly mine and security personnel, or personnel assigned to supervisory or water treatment functions.

All personnel are currently trained regarding the latest information and new procedures for monitoring and hazing activities. Personnel, particularly new employees, will continue to be trained as procedures and methods are revised over the course of the remediation.

## **2.2 WATERFOWL OBSERVATION**

An observation station has been established on the southern rim of the Pit that allows a complete and unobstructed view of the entire water surface. The observation program is designed to address the times and seasons when waterfowl may be exposed to Berkeley Pit water. Consequently, the intensity of observation and hazing tasks decreases substantially when the Pit freezes over.

When the surface of the Berkeley Pit is not entirely frozen, the observation program is conducted as follows:

- Observation and, if necessary, hazing of any waterfowl in the Berkeley Pit are emphasized at dawn and dusk on a routine daily basis. This is intended to prevent birds from overnighting in the Pit, or if they do overnigh in the Pit, to force them out as soon as possible.
- Personnel inspect the pit surface hourly throughout the daylight hours with high powered binoculars and/or spotting scopes for signs of waterfowl activity during the spring and fall migratory seasons (March 1 to May 31 and August 15 to December 15) when the pit is not covered with ice.
- Personnel will search the pit at least every four hours at night with high-powered searchlights during the spring and fall migratory season if the Pit is not covered with ice.
- Personnel will inspect the pit at least every four hours during daylight hours of the non-migratory season (December 16 to February 28 and June 1 to August 15) if the Pit is not covered with ice.
- Personnel assigned to this task have been notified to immediately alert (by radio or telephone) any site personnel to the presence or suspected presence of migratory waterfowl in or around the Berkeley Pit.

As an early warning preceding the migration seasons, weekly contact will be made with the following organizations to ascertain the abundance of migratory waterfowl:

- Freezeout Lake State Wildlife Management Area (Mark Schlepp 406-467-3234) and Benton Lake National Wildlife Refuge (406-727-7400) from July 15 to August 15, prior to the fall migratory season;
- Bear River National Wildlife Refuge Wildlife Management (801-723-5887) from February 1 to March 1, prior to the spring migration.

In addition, contacts will also be made with the Warm Springs Ponds (Dave Dziak 406-693-7395), Clark Canyon and Canyon Ferry personnel to identify any activity in the local area.

## 2.3 HAZING

All hazing efforts will be conducted by personnel with training in approved hazing techniques. Both passive and active efforts will be implemented. Passive efforts will be in the form of continuous auditory deterrents (i.e., Phoenix Wailers, see Appendix D). Active efforts will only be used if birds are observed on or in the immediate area of the Pit.

### **2.3.1 Passive Efforts**

Passive hazing is the primary method to keep waterfowl from contacting water in the Pit to begin with. Experience from 1996 – 2001 has shown that passive hazing is effective during much of the year. Particularly during periods of heavy migration or more episodic events (such as during a storm), the most effective approach to prevent contact with Pit water is to keep the birds in a flock and in the air if possible.

Passive hazing is accomplished by using three Phoenix Wailers (Wailers) that are located in the Berkeley Pit. One Wailer is placed on the northwest shoreline, another Wailer is installed on the southwest ramp, and the third Wailer is located on the northeast shoreline. Each Wailer is fitted with up to four speakers to maximize effectiveness. Experience to date has demonstrated that the Wailers have an effective radius far in excess of manufacturer's specifications. This is attributed to the shape and composition of the Berkeley Pit, which produces an "amphitheater" effect compared to flat land use where the Wailers have typically been evaluated. The Wailers are programmed to emit electronic sounds such as shotguns, motorboats, helicopters, etc. as well as natural sounds such as eagles, hawks and other natural predators on a random frequency (timed) basis.

### **2.3.2 Active Efforts**

Passive hazing is not always successful and waterfowl may still land on the surface of the Berkeley Pit. Once birds have landed, experience has shown that the best approach is to let them rest for a short period of time and then attempt to haze them off. Based on the 1996 study of acute toxicity (see Appendix B), short-term exposure to Berkeley Pit water is acceptable. Normally, ducks or geese will leave the area under a reasonable amount of pressure. Diver birds, such as loons or grebes, will usually not fly because their defense is to

dive under the surface if pressured or skip along the surface until they are out of perceived danger. In this case, the best strategy is to not pressure these birds as they will usually fly out of the Pit when they feel it is safe. In some cases this may be after sunset as hawks, eagles, or ravens are their natural enemies.

Active hazing uses a combination of methods. The first method uses firearms to haze waterfowl into flight. A locked, steel "magazine" has been placed in the Berkeley Pit observation station; it contains a high-powered rifle with ammunition, a 12-gauge shotgun with shell crackers, high-powered binoculars, and a spotting scope. All personnel involved in implementing the waterfowl mitigation program will have access to the magazine. The rifle and shotgun are fired near the birds to cause flight. Many of the flights of migratory waterfowl will occur at night or during severe weather conditions. A large spotlight is positioned near the observation station and is used to spot birds both in the air and on the pit surface when visibility is poor. Spotlighting, in combination with firearms, have proven to haze most waterfowl from the Pit surface.

Use of firearms as hazing devices over a five-year period has shown that most species of waterfowl respond well (i.e., they fly out of the Pit area). However, a few species of waterfowl, mostly night migrators, (e.g., grebes, ruddy ducks, loons, and rails) do not respond to these hazing via firearms. It has been reported that these species of birds may even be drawn to the defended body of water when startled by hazing in flight (personal conversation, John Burk, Montana Resources and Ron Dorval, Golden Sunlight Mine, Whitehall, MT). Put simply, these species of waterfowl feel more secure on or under the water than flying in the air when being hazed.

Active hazing will employ a houseboat with an out-board motor to haze birds that are unresponsive to observation station hazing methods (i.e., firearms and spotlights). Assigned personnel also use this boat to search the shoreline of the Pit every two weeks from the beginning of the spring migratory season (after "ice out") until the end of the fall migratory season. Because of potential operator safety issues associated with on-the-water hazing,



rescue and recovery, or inspection efforts, this boat will not generally be used at night or when prevailing climatic conditions present an unacceptable risk to personnel involved.

The houseboat is docked at a convenient location at the edge of the Pit shoreline. The boat is removed from the pit for up to a month in July for preventative maintenance (P.M.), and from late December through the end of February for P.M. and to prevent damage to the motor due to freezing water.

### **2.3.3 Capture, Resuscitation and Release of Birds**

In addition to hazing waterfowl on the surface of the Berkeley Pit, the houseboat allows retrieval of birds that are observed to be demonstrating toxicity symptoms, such as being lethargic or unable to fly. If a bird allows itself to be captured, it is probably in an impaired state, ill or otherwise disoriented. Two five-gallon buckets of fresh water are kept on the boat to rinse the bird(s) and provide them with a source of fresh water while being transported to the boat launch area. After the houseboat returns to shore, the bird(s) are transported out of the Pit and, depending on the degree of sickness and prevailing climatic conditions, are either released in Blacktail Creek or taken to a local veterinarian to recover prior to release.

## **3.0 REPORTING AND NOTIFICATION**

Observation and hazing activities will be documented and reported on a routine schedule to the EPA. Berkeley Pit Migratory Waterfowl Mitigation Reports are prepared quarterly. These reports will summarize all activities involving migratory waterfowl in and around the Berkeley Pit. Accompanying these reports will be observation logs filled out by assigned observation personnel. The observation report shall include, but is not limited to: date, time, observer, number of birds observed, species, action taken to haze, and outcome of a action (with a note indicating whether birds had landed on the Pit). A sample of the logs is provided in Appendix E and will also be kept to document the use of the houseboat.



In the event that migratory waterfowl mortality is discovered, a "Special Comments" form (*see* Appendix E) will be filled out identifying the number and species of birds found and any information regarding the circumstances surrounding the death of the birds. Banded birds will be preserved by freezing until turned over to the proper authorities. Additionally, the following people will be immediately notified:

Mr. Russ Forba  
EPA Project Coordinator  
Butte Mine Flooding Operable Unit  
EPA Montana Operations Office  
Federal Building 10 West 15<sup>th</sup> Street, Suite 3200  
Room MO-344  
Helena, Montana 59626-0096  
(406) 457-5042  
(406) 457-5056 Fax

Mr. Richard Branzell  
Special Agent  
U.S. Fish and Wildlife Service  
P.O. Box 7488  
Missoula, MT 59807-7488  
(406) 542-5500

Mr. Daryl Reed  
State Project Officer  
MT Department of Environmental Quality  
Environmental Remediation Division  
Phoenix Building  
P.O. Box 200901  
Helena, MT 59620-0901 (406) 444-1420

#### 4.0 EVALUATION OF METHODS AND SITE CONDITIONS

Since waterfowl mitigation was implemented in 1996, over 22,500 birds have been observed on the Berkeley Pit (*see* Appendix C). Many methods have been evaluated to determine the optimum strategy to meet the overall goal of this program: observation and hazing of waterfowl prevent the death of migratory waterfowl caused by ingestion of, or contact with,

Berkeley Pit water. This plan has been prepared based on the experience gained since program inception and meets the objectives described earlier (*see* Section 2.0). As the program continues, other methods may be evaluated and, if they meet the program objectives, implemented appropriately. The environmental conditions of the Berkeley Pit are also expected to change as the selected remedy is implemented.

This section summarizes the other hazing methods that have been considered to date and describes the approach for evaluating new methods as the program continues over time. In addition, this section describes the process for evaluating changes that occur to the Berkeley Pit relative to the Pit's potential effects on waterfowl.

#### 4.1 OTHER HAZING METHODS

In addition to the active and passive hazing methods that have been utilized, a number of alternate hazing and deterrent methods have been considered. Since hazing activities were implemented in 1996, the use of netting and/or styrofoam balls have been considered as mitigative measures. Both of these alternatives are considered impractical because of the physical size of the body of water and the physical conditions encountered, such as high winds and floating debris on the Pit surface. MR personnel have observed the effects of high winds, which can cause large blocks of ice (10-20 acres) to shift from one edge of the Pit to the other in a matter of a few hours. Hundreds of mine timbers are constantly floating on the Pit surface because the water is in constant contact with old mined workings. This debris is constantly shifting and changing direction.

Other hazing methods, such as netting, visible hazards (e.g., construction barricades), and animal deterrence (e.g., canine harassment) are not practical at this site. The physical size of the Pit, the steep, inaccessible slopes, and the large surface water area make these methods impractical. For example, the ability to secure netting over the entire surface area of exposed water, which will continue to rise over time and thus get larger, is simply infeasible. Likewise, the size of the water body limits the effectiveness of canine hazing; the birds can just land further from a dog and still feel secure.

Another alternative approach that has been evaluated is the use of electronically controlled robots to encourage birds to remain in flight or exit the Pit area. These robots are typically mounted on a floating barge and can be radar or radio controlled. These systems tend to work well on smaller bodies of water that have good access by support equipment. After extensive review, these systems have been determined to be impractical because of the large expanse of water and the adverse conditions mentioned above.

#### 4.2 FUTURE EVALUATIONS OF MITIGATION APPROACHES

The passive and active methods described in Section 2.0 are expected to meet program objectives over time. This plan relies on frequent observations from a prominent location, with appropriate action to follow. Supplementing human observations is passive hazing using Phoenix Wailers to deter birds from coming into the Pit area. Active hazing via firearms, spotlights, and use of the houseboat is expected to effectively address waterfowl that are close to or in the Pit. The recovery and release approach using the houseboat also provides a means to avoid mortality of waterfowl who actually exhibit exposure effects.

As described in the previous section, this plan will continue the established observation and hazing program. Experience has shown that continuous observations and hazing by humans is the most effective method to minimize or eliminate waterfowl mortalities. But this plan also anticipates that future mitigation approaches may be more effective and that the conditions that pose a hazard to waterfowl now will probably decrease as the selected remedy is implemented. Additional measures may be needed if the effectiveness of the existing program decreases.

Although the hazing statistics indicate the plan has worked well in the past, should these present methods not be adequate the following provisions may be considered for inclusion in the observation and hazing program:

- Extended use of the houseboat would be implemented to haze flights of birds from the surface.

- Additional manpower may be assigned to observation or hazing activities to effectively implement the plan, focused on specific waterfowl behavior.
- As an alternative to human observation at the Pit itself, remote cameras could be placed at strategic locations to detect waterfowl in the area.
- Expansion of the observation network beyond the Pit area proper may be effective. Since the program has drawn so much attention from the public, it is not unusual for people who live in the area to call the local law enforcement or local site personnel to alert that migratory flocks are in the vicinity.
- Establish a real-time communication link between observation personnel, other local personnel operating the Horseshoe Bend Treatment Plant (if applicable) and personnel at the Warm Springs Ponds to notify each other and assess waterfowl migration patterns in the local area.

Ongoing assessments of the effectiveness of specific methods or activities are a normal part of the plan implementation. Significant changes to the approach presented in this plan will be reviewed with EPA before implementation if at all possible. The overall effectiveness of the program will be assessed every three years to determine if changes or modifications are needed.

#### **4.3 FUTURE IMPACTS ON THE BERKELEY PIT**

The selected remedy for the BMFOU includes treatment of water inflows to the Berkeley Pit as well as treating Pit water directly to maintain CWLs. The remedy anticipates that the chemical nature of the Berkeley Pit will change over time, reducing the inherent toxicity to waterfowl.

##### **4.3.1 Effects of Sludge Disposal in the Berkeley Pit**

The first stage of the selected remedy is treatment of Horseshoe Bend inflows to the Berkeley Pit. As part of design effort for the Horseshoe Bend Water Treatment Plant (HSBWTP), the Settling Defendants contracted a study to evaluate the long-term impacts of placing sludges from the HSBWTP in the Berkeley Pit. This study was completed by MSE, Inc., one of the

subcontractors for the HSBWTP design. This evaluation considers the chemical and physical effects of discharging sludges from the two stage, lime precipitation plant into the Berkeley Pit. Specific objectives of the computer modeling associated with the evaluation are described below.

- Simulation of the long-term effects of mixing Berkeley Pit water, future ground water flows, and sludge in the Berkeley Pit. This simulation is based on an analysis of the thermodynamic stability of the sludge while in contact with the Berkeley Pit water.
- Simulation of other long-term effects (evaporation, precipitation, and treatment of the Berkeley Pit water) associated with the disposal treatment plant sludge into the Berkeley Pit water.

Future predictions of the bulk Berkeley pit water were simulated yearly, over a 20-year period, starting in 2003, using the current Berkeley Pit water volume and composition. Also, taken into consideration were the current annual inflow rate, and the expected volume of sludge that would be generated. The USGS geochemical model, PHREEQC was used for this analysis.

The results of geochemical modeling of the addition of high-density treatment plant sludge to the Berkeley Pit are shown below. The analytical results shown in Table 1 below are summarized as the anticipated pH of Berkeley Pit water in each year; year 0 can be considered 2003.

**TABLE 1. RESULTS FROM GEOCHEMICAL MODELING**

Year	pH	Year	pH	Year	pH	Year	pH
0	2.50	6	3.14	12	3.25	18	4.32
1	2.70	7	3.16	13	3.38	19	4.34

2	2.87	8	3.17	14	4.27	20	4.36
3	3.09	9	3.19	15	4.28		
4	3.11	10	3.21	16	4.29		
5	3.13	11	3.23	17	4.30		

The results of the modeling show that the addition of the high-density sludge from the HSB water treatment plant to the Berkeley Pit will increase the pH of the water over time. During the first 12 years, the pH of the Berkeley Pit is predicted to increase from 2.50 to 3.25. As shown, the pH will continue to increase from 3.25 to 4.36 between years 12 and 20. The model prediction can be considered the ultimate effect, as the thermodynamic modeling does not take into consideration the physical occurrences that could limit the amount of reaction that takes place.

The benefit of raising the pH of the water in the Berkeley Pit will be lowered toxicity levels of the pit surface, lessening the impact to waterfowl that remain.

#### 4.3.2 Future Evaluations to Reduce the Toxicity of the Berkeley Pit

The MDEQ has requested that an evaluation be completed to assess the possibility of in-situ treatment of Berkeley Pit waters, thereby reducing the toxicity and risk of waterfowl mortality. This can be achieved by raising the pH of the water of the Berkeley Pit surface. This study would assess the end result of placing a neutralizing agent such as lime or cement kiln dust on the water surface. Application methods would need to be identified to effectively distribute any materials over such a large area.

An evaluation of the ability to reduce the surface toxicity of the Berkeley Pit water will be completed by 2013. As shown in Table 1, initial changes to Pit geochemistry (e.g., > 0.5 pH) will take several years. This change in Pit geochemistry will be driven by disposal of the high-density sludge from the Horseshoe Bend Water Treatment Plant; sludge disposal is expected to decrease the toxicity of Pit water over time. Consequently, the evaluation will be

performed after sufficient time and data have been collected to assure that projections regarding future changes in Pit geochemistry are representative of actual conditions observed. This evaluation will review water quality trend data in conjunction with effectiveness and cost projection information on potential toxicity reduction alternatives. The alternatives to be evaluated may range from sludge disposal to addition of neutralizing agents.

However, this evaluation cannot be considered in a vacuum. The efficacy of any method to reduce the toxicity of the Berkeley Pit needs to be placed in the context of the overall goal of this program and the associated objectives (see Section 2.0). In other words, the effectiveness of a plan that would decrease the toxicity of the Berkeley Pit needs to be compared with the effectiveness of the observation and hazing program. It is likely that a modified observation and hazing program may prove to be more effective and less costly than a chemical adjustment to the Berkeley Pit, which could take many years to be effective, if at all. The evaluation for reducing surface toxicity will include an evaluation of the expected effectiveness compared to the demonstrated effectiveness of the existing, and potentially enhanced, observation and hazing program.

# APPENDIX C

## TABLE 1. BIRD ACTIVITIES IN THE BERKELEY PIT

Month	Number Birds Observed	Mortalities Reported
March 1996	207	0
April 1996	716	0
May 1996	1578	1
June 1996	4	1
July 1996	4	0
August 1996	91	0
September 1996	259	1
October 1996	933	2
November 1996	205	3
December 1996	27	0
<b>Total 1996</b>	<b>4024</b>	<b>8</b>
January 1997	0	0
February 1997	0	0
March 1997	1051	6
April 1997	2164	9
May 1997	472	1
June 1997	0	0
July 1997	24	0
August 1997	228	0
September 1997	154	0
November 1997	92	1
December 1997	58	0
<b>Total 1997</b>	<b>4243</b>	<b>17</b>
January 1998	77	0
February 1998	4	0
March 1998	1122	0
April 1998	2002	6
May 1998	415	9
June 1998	23	1
July 1998	3	0
August 1998	67	0
September 1998	421	0
October 1998	92	0
November 1998	135	1
December 1998	148	0
<b>Total 1998</b>	<b>4509</b>	<b>17</b>



TABLE 1. BIRD ACTIVITIES IN THE BERKELEY PIT (continued)

MONTH	Number Birds Observed	Mortalities Reported
January 1999	0	0
February 1999	0	0
March 1999	238	0
April 1999	1269	4
May 1999	697	4
June 1999	46	0
July 1999	0	0
August 1999	0	0
September 1999	27	0
October 1999	27	0
November 1999	26	0
December 1999	0	0
<b>Total 1999</b>	<b>2330</b>	<b>8</b>
January 2000	0	0
February 2000	0	0
March 2000	719	2
April 2000	1055	16
May 2000	1006	0
June 2000	0	0
July 2000	0	0
August 2000	217	1
September 2000	360	1
October 2000	400	4
November 2000	100	0
December 2000	0	0
<b>Total 2000</b>	<b>3857</b>	<b>24</b>
January 2001	0	0
February 2001	0	0
March 2001	0	0
April 2001	816	0
May 2001	800	0
June 2001	435	0
July 2001	350	0
August 2001	0-	0
September 2001	360	0
October 2001	400	0
November 2001	350	0
December 2001	42	1
<b>Total 2001</b>	<b>3553</b>	<b>1</b>
<b>Total 1996-2001</b>	<b>22,516</b>	<b>75</b>

Exhibit 6

Final Design Report, Horseshoe Bend Water Treatment Plant, December 2001

A version of this document, with two appendices not included (Q and R), is found at document #1265017 in the SEMS system.

Appendix M to this document is found at document #1089810 in the SEMS system.

EPA's approval of this document is found in a March 27, 2002 letter, is found at document #1394606 in the SEMS system.

Exhibit 6 is the  
Final ~~Design~~ Report for Treatment  
Plant

EXHIBIT 7  
TO MINE FLOODING SITE  
STATEMENT OF WORK

EXHIBIT 7 TO MINE FLOODING SITE  
STATEMENT OF WORK

MOU No. MT-139

MEMORANDUM OF UNDERSTANDING

This Memorandum Of Understanding ("MOU") is between The City and County of Butte-Silver Bow and ARCO Environmental Remediation, L.L.C.

Table of Contents

<u>Article No.</u>	<u>Title</u>
I	General
II	Performance of the Services
III	Representatives
IV	Taxes
V	Insurance
VI	Indemnities
VII	Reports
VIII	Confidentiality
IX	Miscellaneous
 <u>Exhibit</u>	
A	Description of Services
B	Compensation and Payment
C	Insurance Certificates

MOU No. MT-139

MEMORANDUM OF UNDERSTANDING

This Memorandum Of Understanding ("MOU") is effective as of July 1, 2002 between The City and County of Butte-Silver Bow, a municipal corporation and political subdivision of the State of Montana, ("BSB") and ARCO Environmental Remediation, L.L.C., a Delaware Corporation ("AERL"). BSB and AERL are hereinafter collectively referred to as "The Parties."

The parties agree that, by entering into this MOU, neither party is making any admission of fact or law. This MOU shall not be admissible as evidence as proof of liability or non-liability or the validity or invalidity of any claim or defense in any litigation involving AERL.

RECITALS

WHEREAS, the remedy for the BMFOU is staged over many years with various components triggered by information generated through the monitoring program, a program to keep the public informed and involved has been instituted by BSB with funding from the Settling Defendants; and

WHEREAS, AERL agrees to fund this program as fulfillment of its obligation under the Mine Flooding Consent Decree to inform and educate the citizens of Butte-Silver Bow concerning the Mine Flooding Operable Unit;

NOW, THEREFORE, based on the above premises and the mutual covenants and considerations set forth below, the parties agree as follows:

ARTICLE I - GENERAL

1.1 The following documents are attached to and made a part of this MOU:

Description of Services	Exhibit A
Compensation and Payment	Exhibit B
Insurance Certificate	Exhibit C

1.2 BSB shall supply all personnel and services necessary to perform the work and services described in Exhibit A to this MOU (the "Services"), and BSB shall complete the Services by the dates specified in Exhibit A. BSB shall be compensated as

provided in Exhibit B.

## ARTICLE II - PERFORMANCE OF THE SERVICES BY BSB

2.1 BSB shall obtain all necessary information on conditions and circumstances which may affect its performance of the Services. Any information furnished by AERL is not a representation or warranty by AERL, and AERL is not responsible for the adequacy or completeness of that information. Before undertaking the Services, BSB shall carefully study this MOU, and to the extent practicable, verify all information contained herein. BSB shall at once report in writing to AERL any conflict, error or discrepancy that may be discovered.

2.2 BSB shall employ sufficient qualified personnel and supervision to complete the Services by the completion date specified in this MOU. BSB shall comply with the hiring, verification, record keeping requirements and non-discrimination provisions imposed by the Immigration Reform and Control Act of 1986, insofar as it relates to BSB's employees.

2.3 BSB shall perform the Services in a professional and workmanlike manner in accordance with generally accepted practices for the nature of the Services.

2.4 BSB shall comply with all licenses, permits and authorizations required for the Services by all governmental authorities having jurisdiction over the Services, and shall comply with other applicable laws, rules, regulations or order of any federal, state or local governmental authorities having jurisdiction over the Services, including but not limited to health, safety and environmental protection laws.

2.5 AERL has made available to BSB the Comprehensive Safety/Operations Manual for its Montana Operations, which includes the written safety and health program. AERL will provide or cause to be provided the monitoring reports as stipulated in the Mine Flooding Consent Decree.

2.6 BSB shall initiate, maintain and supervise all necessary safety precautions and programs in connection with the Services.

## ARTICLE III - REPRESENTATIVES

3.1 AERL's Representative for the administration of this MOU is designated in Paragraph 9.8. BSB shall be notified in writing if a new Representative is named. AERL's Representative is the person to whom BSB shall:

- (a) Refer all questions,
- (b) Give all notices, and
- (c) Submit all progress reports and other deliverables, as required.

3.2 BSB's Representative for the administration of this MOU is designated in Paragraph 11.8. BSB's Representative shall have authority to act on BSB's behalf and is the person to whom AERL shall direct all communications. BSB's Representative shall not be changed without prior written approval by AERL.

#### ARTICLE IV - TAXES

4.1 BSB shall pay all taxes and contributions levied on the payroll of its employees engaged in the performance of the Services, and all sales, use, excise, property and other taxes levied upon or applicable to materials or services furnished by BSB.

#### ARTICLE V - INSURANCE

5.1 BSB shall provide and maintain in effect the following types and amounts of insurance with insurance companies satisfactory to AERL through the term of the Berkeley Pit Public Education Committee:

- (a) Workers' Compensation Insurance, including Occupational Disease, in accordance with the laws of the states where the Services are to be performed, and Employers' Liability Insurance.
- (b) Public Entity Liability Insurance insuring the indemnity agreement set forth in this MOU.
- (c) Automobile Liability Insurance covering owned, unowned and hired vehicles used by BSB.

5.2 Prior to executing this MOU, and in all events prior to BSB commencing work, BSB shall furnish Certificates of Insurance evidencing the insurance required hereunder. Such Certificates of Insurance shall be attached to this MOU as Exhibit C. Each certificate shall provide that a minimum of ten (10) days prior written notice shall be given AERL in the event of cancellation or material change in the policies. AERL shall not be responsible for payment of BSB's insurance premiums. Upon request, AERL may examine true copies of the policies.

5.3 BSB shall require all subcontractors to obtain, maintain and keep in force, to the extent possible, similar insurance coverage during the time they are engaged in performing

Services under this MOU.

5.4 BSB shall assume the sole cost, risk and expense for all equipment, supplies, materials and tools belonging to BSB or rented by BSB, and AERL shall not be liable for loss or damage thereto.

5.5 Any coverage provided by BSB's insurance under this MOU is primary insurance and shall not be considered to be contributory insurance with any insurance policies of BSB or AERL.

5.6 Any deductibles in BSB's insurance shall be assumed by BSB.

#### ARTICLE VI - INDEMNITIES

6.1 BSB agrees to and does hereby indemnify, defend and save AERL, its officers, directors, employees, agents, and representatives harmless against and from:

- (a) Any and all claims and liabilities, including cost and expenses, for bodily injury to, or death of, persons (including claims and liabilities for care or loss of services in connection with any bodily injury or death);
- (b) Any and all claims and liabilities, including costs and expenses, for loss or destruction of or damage to the environment or to any property belonging to BSB, AERL, or others that are not assumed by AERL hereunder; and
- (c) Any fines, penalties, or other amounts assessed against BSB or AERL by reason of BSB's failure to comply with all health, safety, and environmental laws and regulations or other governmental orders applicable to the Services,

resulting directly or indirectly from or occurring in the course of BSB's performance or nonperformance of the Services. However, this indemnity shall not extend to claims and liabilities for (i) injury or death to persons, or (ii) loss of or damage to property to the extent that those claims and liabilities result from AERL's sole negligence or willful misconduct, or (iii) pre-existing environmental conditions at the Sites, so long as BSB did not create such conditions.

6.2 The liability of BSB under the provisions of Paragraph 6.1 shall not be limited to or by the insurance coverage required of BSB under Paragraph 5.1, above.



ARTICLE VII - REPORTS

7.1 BSB shall provide annual status reports on the Berkeley Pit Public Education Program as specified in Exhibit A. Reports shall be addressed to AERL's Representative designated in paragraph 9.8.

ARTICLE VIII- CONFIDENTIAL INFORMATION

8.1 BSB acknowledges that it may be necessary for AERL to disclose information which AERL considers confidential in order to accomplish the work under this MOU. It is agreed that AERL shall have no obligation to disclose information except as necessary to the Services and, if any such information is considered confidential, it shall be clearly marked "Confidential Information" and sent by AERL in writing only to BSB's representative (identified in paragraph 3.8) or orally disclosed to BSB's representative and reduced to writing by AERL within thirty days of disclosure. BSB's representative agrees, to the extent permitted by law, that Confidential Information shall remain the property of AERL and such information shall not be used or disclosed to others without the express prior written consent of AERL; provided, however, that the foregoing obligation of nonuse and nondisclosure shall not apply to any portion of the Confidential Information which is or shall have become known to the public through no fault of BSB's representative.

8.2 No information provided to AERL by BSB under this MOU shall impose any obligations of confidentiality or use on AERL.

ARTICLE IX - MISCELLANEOUS

9.1 BSB may not assign this MOU or any part of this MOU without the written consent of AERL.

9.2 No delay or failure on the part of AERL in exercising any rights under this MOU, and no partial or single exercise of those rights, shall constitute a waiver of the right or of any other rights under this MOU.

9.3 In the performance of the Services under this MOU, BSB shall be an independent contractor, and not an employee, representative or agent of AERL.

9.4 AERL and its duly authorized representatives, shall have access, at all times, for a period 16 years or for so long thereafter as there may remain any unresolved questions or disputes regarding any items, to examine and audit any of BSB's books, documents, papers or records relating to this MOU or the

Services. BSB agrees to keep and maintain full, complete and detailed records of all its costs for services provided under this MOU. AERL shall have the right to reproduce the aforesaid items. In the event that any such audit or audits reveal any error or discrepancy of any nature whatever, findings, such error or discrepancy will be promptly corrected.

9.5 BSB represents that it is an equal opportunity employer and that it will comply with the requirements of all applicable laws, regulations and executive orders relating to employment discrimination.

9.6 Neither party shall be liable to the other for consequential damages arising out of or in connection with this MOU.

9.7 BSB shall not, without the prior written consent of AERL, refer to AERL or its affiliates or the Services in any promotional or advertising material.

9.8 Any notice given under this MOU is sufficient if delivered in writing, directed as follows:

TO AERL:                   AERL  
                          307 East Park Avenue, Suite 400  
                          Anaconda, MT 59711  
  
                          Attention: Barry C. Duff  
  AERL Representative

TO BSB:                   The City and County of Butte-Silver Bow  
                          155 West Granite Street  
                          Butte, MT 59701  
  
                          Attention: Jon Sesso  
  Representative

9.9 This MOU constitutes the entire agreement and understanding between the parties. No covenants or representations not contained in this MOU shall be binding upon the parties. This MOU may be amended or modified only by a writing executed by both parties.

9.10 This MOU does not and shall not be construed to create any partnership or agency whatsoever. The provisions of this paragraph shall survive the dissolution or termination of this MOU.

9.11 The invalidity or unenforceability of any provision of this MOU shall not affect the validity or enforceability of any other provision.

9.12 Time is of the essence in this MOU.

9.13 Neither party shall be in default under this MOU to the extent that the performance of its obligations is delayed, hindered or prevented by a cause beyond the reasonable control of the party, including but not limited to acts of God, declared or undeclared war, blockades, hostilities, legal or illegal acts of government, epidemics, quarantines, riots, rebellions and strikes ("Force Majeure"). A party claiming Force Majeure shall promptly notify the other party of the nature and extent of any Force Majeure claimed, and of the steps, if any, the party is taking to overcome any consequent delay.

9.14 BSB agrees that there will be no use or possession of alcohol or illegal drugs by BSB or its employees while on AERL property or while conducting AERL business.

THE CITY AND COUNTY OF  
BUTTE-SILVER BOW

ARCO Environmental Remediation

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

## EXHIBIT A

DESCRIPTION OF SERVICES

Since 1996, the Berkeley Pit Public Education Project has been instituted by BSB to keep the public informed and involved. This project includes information on results from the mine flooding monitoring program, progress on the installation of water diversion measures and the construction of the water treatment facilities, and the publication of *PITWATCH*. BSB shall continue this program through completion of construction of all required upgrades to the HSB Treatment Plant, if any, and until the water treatment facilities are operational, which is currently estimated to occur in 2016 (two years before the Critical Water Level is reached in 2018) or longer as the Berkeley Pit Public Education Committee deems necessary. BSB shall notify AERL of any changes in the scope of services to be provided.

## EXHIBIT B

COMPENSATION AND PAYMENT

AERL will provide total funding under this MOU in the amount of \$170,000 to be paid by June 30, 2002. This a one time only payment for the Berkeley Pit Education Project.

On or before June 30, 2002, BSB shall establish a Berkeley Pit Public Education Project Account ("Project Account). BSB agrees to draw upon funds in the Project Account solely and exclusively for the purposes of paying the charges, expenses, fees and other costs incurred by BSB to undertake and perform the scope of services outlined in Exhibit A.

BSB shall submit an original invoice for the entire amount at least 45 days prior to June 30, 2002. The invoice shall include the date; the amount; the MOU number; and BSB's invoice number, Federal Tax ID number, and remit to address. The invoice shall be submitted to the following address:

ARCO Environmental Remediation  
307 E. Park Street, Suite 400  
Anaconda, MT 59711

Attn: Accounts Payable

EXHIBIT C

INSURANCE CERTIFICATES