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EPA REGION VIII  
HEARING CLERK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION VIII

IN THE MATTER OF:

ANACONDA SMELTER SUPERFUND SITE;  
COMMUNITY SOILS OPERABLE UNIT;  
TERESSA ANN TERRACE, ELKHORN  
APARTMENTS, AND CEDAR PARK HOMES  
TIME-CRITICAL REMOVAL ACTION

Site No. 18  
Operable Unit 06

ATLANTIC RICHFIELD COMPANY,  
a Delaware Corporation;

RESPONDENT.

PROCEEDING UNDER SECTION 106(a)  
OF THE COMPREHENSIVE  
ENVIRONMENTAL RESPONSE,  
COMPENSATION, AND LIABILITY ACT  
OF 1980 AS AMENDED,  
42 U.S.C. SECTION 9606(a)

EPA Docket No.

CERCLA-VIII-91-26

ADMINISTRATIVE ORDER ON CONSENT

FOR

TIME CRITICAL REMOVAL ACTION

TABLE OF CONTENTS

I. Introduction.....	4
II. Jurisdiction.....	4
III. Parties Bound.....	4
IV. Definitions.....	5
V. Statement of Purpose.....	6
VI. EPA's Findings of Fact.....	7

VII.	Conclusions of Law and Determinations.....	9
VIII.	Notice to State.....	10
IX.	Work to Be Performed.....	10
X.	Modification of Work.....	14
XI.	Quality Assurance.....	16
XII.	Administrative Record.....	18
XIII.	Progress Reports and Meetings.....	19
XIV.	Access, Sampling, and Availability of Information...	20
XV.	Project Coordinators.....	23
XVI.	Other Applicable Laws.....	25
XVII.	Record Preservation.....	25
XVIII.	Dispute Resolution.....	26
XIX.	Stipulated Penalties.....	27
XX.	Force Majeure.....	30
XXI.	Reimbursement of Oversight Costs.....	32
XXII.	Reservation of Rights.....	33
XXIII.	Disclaimers.....	34
XXIV.	Other Claims.....	34
XXV.	Financial Assurance, Insurance, and Indemnification.....	35
XXVI.	Effective Date and Subsequent Modification.....	36
XXVII.	Contribution Protection.....	37
XXVIII.	Termination and Satisfaction.....	37
XXIX.	Covenant Not to Sue.....	37
XXX.	Signatories and Counterparts.....	38



LIST OF EXHIBITS

Exhibit 1 -- Work Plan and Schedule

Exhibit 2 -- ARARs

Exhibit 3 -- Example of Disclaimer

Exhibit 4 -- Access Agreement

Exhibit 5 -- Guidance List

## **I. INTRODUCTION**

1. This Administrative Order on Consent ("Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the Atlantic Richfield Company ("ARCO" or "Respondent"). This Order concerns the performance of a time-critical removal action ("TCRA") by Respondent and reimbursement of oversight costs incurred by the United States in connection with the time-critical removal action at the Anaconda Community Soils operable unit located in Deer Lodge County in southwestern Montana.

## **II. JURISDICTION**

2. This Order is issued under the authority vested in the President of the United States by section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (1986) ("CERCLA"), 42 U.S.C. § 9606(a) (1982). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12,580, 52 Fed. Reg. 2,923 (1987), and further delegated to Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-C. This authority has been further delegated to the Director of the Hazardous Waste Management Division, EPA Region VIII. This Order is issued without trial or final adjudication on any issue of law or fact.

3. Respondent agrees to undertake all actions required by this Order. In any action by EPA, or the United States to enforce the terms of this Order, Respondent consents to and agrees not to contest any Findings of Fact, Conclusions of Law and Determinations deemed necessary by the Court to establish the authority or jurisdiction of EPA to issue or enforce this Order or its terms, and agrees not to contest the validity of this Order. The activities taken pursuant to this Order, if conducted consistent with this Order, shall be deemed consistent with the NCP.

## **III. PARTIES BOUND**

4. This Order shall be binding upon Respondent and its agents, successors, and assigns, and upon EPA, only as provided in this Order. No change in the ownership or corporate or other legal status of Respondent or of the facility or site shall alter Respondent's responsibilities under this Order.

5. During the period in which this Order is in effect, Respondent shall provide a copy of this Order to any subsequent owners or successors before any change in majority ownership or control of Respondent occurs, or property rights relating to property within the site are transferred. Respondent shall

provide a copy of this Order to all contractors and laboratories retained to conduct any work under this Order, within fourteen (14) days after the effective date of this Order or at least fourteen (14) days before retaining their services, whichever is later. Notwithstanding the terms of any contract between Respondent and its contractors, Respondent is responsible for compliance with this Order and for ensuring that its subsidiaries, employees, contractors, and attorneys have full notice of the requirements of this Order and comply with this Order. Failure of a contractor to comply with the terms of this Order shall not be a defense by Respondent in any action to enforce this Order, including assessment of stipulated penalties. Nothing in this paragraph shall bar Respondent from entering into an agreement pursuant to section 107(e) of CERCLA, 42 U.S.C. § 9607(e), with any contractor or laboratory to insure, hold harmless, or indemnify Respondent. EPA is not bound by the terms of any such agreements.

#### IV. DEFINITIONS

6. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or such regulations. For purposes of this Order, the following terms shall have the meanings set forth below.

**"Contractor"** means any person, including the contractors, subcontractors, consultants, or agents, retained or hired by Respondent to undertake any work under this Order.

**"Day"** means calendar day, unless otherwise specified. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business on the next working day. Time will be computed in accordance with Rule 6 of the Federal Rules of Civil Procedure, unless otherwise specified.

**"Deliverable"** means any written product, including, but not limited to, plans, reports, memoranda, data, or other documents that Respondent must submit to EPA under the terms of this Order.

**"The Fund" or "Superfund"** means the Hazardous Substances Superfund described in section 221 of CERCLA, 42 U.S.C. § 9631.

**"NCP"** means the National Oil and Hazardous Substances Pollution Contingency Plan promulgated under section 105 of CERCLA, 42 U.S.C. § 9605, and codified at 40 C.F.R. Part 300, including, but not limited to, any amendments thereto.



**"Order"** means this Order, the exhibits attached to this Order, and all documents or modifications to documents incorporated into this Order according to the procedures set forth herein. If there is a conflict between this Order and any documents incorporated into this Order, the terms of the Order shall control.

**"Respondent"** shall mean the Atlantic Richfield Company ("ARCO").

**"Site"** means the Anaconda Smelter Superfund Site; Community Soils Operable Unit #06, including the Teresa Ann Terrace, Elkhorn Apartments, and Cedar Park Homes residential areas, the areal extent of contamination and associated ground and surface water contamination, and all suitable areas in very close proximity to the contamination necessary for implementation of the removal action. The Site includes the disposal area to be located in the Red Sands area.

**"Work"** means all tasks Respondent is required to perform under this Order.

**"Work Plan"** means the detailed Work Plan, attached as Exhibit 1, implementing the requirements of this Order and incorporated herein by reference. The Work Plan includes the Work Plan itself, the sampling and analysis plan, the Schedule, and any other plans or modifications thereto described in the Work Plan, or approved by EPA, pursuant to this Order.

#### **V. STATEMENT OF PURPOSE**

7. The purposes of this Order are: (a) for the Respondent to conduct in accordance with the Work Plan, with EPA oversight, a time-critical removal action consistent with EPA's Action Memorandum, including ARARs (See Exhibit 2), CERCLA and the NCP to protect public health and welfare and the environment; and, (b) to reimburse the United States for oversight costs incurred by the government with respect to the activities relating to this Order.

8. The activities conducted under this Order are subject to approval by EPA and shall be conducted in compliance with CERCLA, the NCP, all currently applicable EPA guidance, and any amendments to CERCLA or the NCP. If amendments to CERCLA, the NCP, or EPA guidance materially affect the rights or obligations of Respondent with respect to the Work, EPA or Respondent may seek amendments to the Order and Work Plan pursuant to paragraphs 117 and 119 of this Order.



## VI. EPA'S FINDINGS OF FACT

EPA has made the following findings of fact:

### Site Description and History

9. Respondent ARCO is a corporation currently organized under the laws of the State of Delaware with its corporate headquarters in Los Angeles, California.

10. ARCO is the current owner of most of the Anaconda Smelter Superfund Site, which was listed on the CERCLA National Priorities List (NPL) pursuant to section 105 of CERCLA, 42 U.S.C. § 9605, on September 8, 1983, 48 Fed. Reg. 40658.

11. Predecessors in interest to the Respondent owned and operated the Anaconda Smelter Superfund Site.

12. During the operation of the Anaconda Smelter Hill Complex and associated properties, large quantities of ore beneficiation and processing wastes, including tailings, slag, and flue dust of various compositions, were stored or disposed of, and are still located on and around the Site.

13. The Anaconda Smelter Site, which is listed on the NPL, includes, but is not limited to, the actual site of the Anaconda Copper Smelter and associated real property and buildings (this area is commonly called the Smelter Hill Complex), the Old Works, and Anaconda Tailings Ponds, the Opportunity Tailings Ponds, the Slag Pile at the Flue Dust Storage Facility southeast of the smelter facilities, the Arbiter Works, several smaller waste impoundments, and soils in the area contaminated by arsenic and various metals as a result of past emissions from the smelters.

### Release or Threatened Release

14. In or around 1884, large copper concentrating and smelting operations commenced at the site of the Old Works smelters located on the north side of Warm Springs Creek near Anaconda, Montana, and continued there until approximately 1901. Activities at the Old Works smelters and related facilities resulted in large volumes of waste materials being stored or disposed of in and around the Site and resulted in areal contamination.

15. In or around 1902, ore beneficiation and processing operations began at the New Works (also called the Anaconda Smelter, the Washoe Smelter, the Washoe Reduction Works, and the Anaconda Reduction Works) in the Smelter Hill area of the Anaconda Smelter Site located east of Anaconda and south of Warm Springs Creek. Smelting and other ore beneficiation and processing operations were carried on in various structures in

this area of the Site until this facility ceased operations in approximately 1980. Large volumes of waste from operations of the smelter remain at the Anaconda Smelter Site.

16. ARCO has owned and operated the Smelter Hill Complex, and various other properties in and around Anaconda, as shut down facilities.

17. Since ARCO's predecessors in interest began operating smelters at the Anaconda Smelter Site until cessation of smelting operations on or about September 29, 1980, its predecessors in interest produced large quantities of a variety of waste products during smelting and associated operations. Operation of the smelter smokestack resulted in particulate emissions containing arsenic, lead, cadmium, copper, and zinc. Some of the solid waste products of the operation, including process tailings, slag, slime and flue dust, contained arsenic, lead, cadmium, copper, and zinc, and other heavy metal elements.

18. Generation and airborne transport of smokestack particulate and fugitive dust emissions during smelter operations resulted in contamination of soils and household dust by arsenic, lead, cadmium, copper and zinc, in the neighborhoods of Teressa Ann Terrace, Elkhorn Apartments, Cedar Park Homes, and other areas surrounding the smelter. In addition, contaminated fill material from the Old Works and the New Works facilities may have been used as fill material around homes in the Teressa Ann Terrace, Elkhorn Apartments, and Cedar Park Homes neighborhoods of Anaconda.

19. On September 28, 1988, ARCO and EPA entered into an Administrative Order on Consent to conduct an Environmental Engineering/Cost Analysis study ("EE/CA") and investigation for the Old Works and Community Soils operable units of the Anaconda Smelter Superfund Site. This resulted in soil sampling conducted in 1988 and 1989, in the areas of Teressa Ann Terrace, Elkhorn Apartments and Cedar Park Homes, and within Benny Goodman Park.

20. Results of the 1988 - 1989 sampling indicated that the neighborhoods were not built upon former tailings ponds, but did indicate the presence of elevated metals at or near the surface.

21. In 1990, ARCO and EPA entered into an Administrative Order on Consent to conduct separate Old Works and Community Soils investigations, and to conduct additional sampling in the yards, gardens, and common areas of Teressa Ann Terrace, Elkhorn Apartments, and Cedar Park Homes neighborhoods.

22. Data results from the sampling events confirmed that a number of yards and common areas contained elevated metal concentrations at or near the surface. To date, arsenic values ranged from 5 to 1570 parts per million.

## Endangerment

23. Arsenic is a human carcinogen and cadmium is a probable human carcinogen. Arsenic and cadmium can be acutely and chronically poisonous and can be fatal if ingested or inhaled in sufficient quantities by humans, livestock, and wildlife. Arsenic and cadmium compounds are absorbed into the body primarily through inhalation or ingestion. Lead is a probable human carcinogen, and is a cumulative poison which can cause neurologic, kidney, and blood cell damage in humans. Some lead compounds are also animal carcinogens, adversely affecting the lungs and kidneys. Some copper and zinc compounds are toxic at elevated levels to a number of animal species, including humans. Copper and zinc are particularly toxic to fish. Severe illness and/or death can result from excessive exposure of humans, livestock, and wildlife to toxic levels of arsenic, cadmium, copper, lead, or zinc.

24. Actual and potential routes of migration or exposure of humans and animals to hazardous substances, pollutants, or contaminants which are present at the Site include direct human or animal contact with waters, soils, and sediment containing such substances; human inhalation of contaminated fugitive dust from wind transport of waste and soil particles containing such substances; migration of such substances to ground water and subsequent use of the aquifer; migration of such substances to surface water and subsequent use of the surface water by humans or animals; uptake of contaminants in the food chain; and various pathways to plant and animal life at or near the Site.

## VII. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the preceding Findings of Fact and the Administrative Record for the Site, EPA has made the following Conclusions of Law and Determinations:

25. The Site is a "facility", in whole or in part, as defined in section 101(9) of CERCLA, 42 U.S.C. § 9601(9);

26. Substances found at the Site are "hazardous substances" as defined in section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

27. The presence of hazardous substances at the Site described in Section VI of this Order constitutes an actual and/or threatened "release" as defined in section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

28. Respondent is a "person" as defined in section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

29. Respondent is a liable party under sections 104, 107, and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607, and 9622.



30. The actions required by this Order are necessary to protect the public health or welfare or the environment, are in the public interest, are consistent with CERCLA and the NCP, and will expedite effective remedial action and minimize litigation. The removal action will also contribute to the efficient performance of the long-term remedial actions contemplated for the Site, to the extent practicable.

31. EPA has determined that soil concentrations of arsenic at the residential locations specified within the Teresa Ann Terrace, Elkhorn Apartments, and Cedar Park Homes Residential time-critical removal action justify this residential removal action.

#### **VIII. NOTICE TO STATE**

32. By providing a copy of this Order to the State of Montana ("State"), EPA has notified the State that this Order is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the removal response action required by this Order.

#### **IX. WORK TO BE PERFORMED**

33. Respondent agrees to perform the Work set forth in Exhibit 1, which is incorporated herein by reference as an enforceable part of this Order. Respondent agrees to conduct activities and submit deliverables as provided by this Order and approved by EPA. All Work is to be conducted in accordance with the Schedule set forth in the Work Plan attached hereto as Exhibit 1 of this Order, the standards, specifications, and other requirements of this Order, Exhibit 2, and the Work Plan or any Work Plan amendment, as approved or modified pursuant to Section X or as ordered, approved, or modified by EPA pursuant to paragraph 46. The Work under this Order shall attain the ARARs identified in Exhibit 2 "to the extent practicable considering the exigencies of the situation," as determined by EPA, in accordance with the NCP.

34. All Work under this Order shall be under the direction and supervision of qualified personnel. In conducting all such activities, whether directly or through the retention and direction of contractors, Respondent shall ensure the employment of sound scientific, engineering, and construction practices.

35. On or before the effective date of this Order and before the Work begins, Respondent shall notify EPA in writing of the names and qualifications of: (1) the primary engineering and consulting firms ("consultants") and the title and qualifications of the principal person in charge of the Work for each consultant; and, (2) the names of the laboratories which Respondent may use in carrying out the Work. The qualifications



of the consultants, the principal persons in charge for each consultant, and the laboratories shall be subject to EPA's review for verification that such persons meet minimum technical background and experience requirements. By executing this Order, and based upon the information provided by Respondent, EPA has determined that Respondent is qualified to perform properly and promptly the actions set forth in this Order.

36. During the course of the Work, Respondent shall notify EPA in writing seven (7) days in advance of any changes or additions in the consultants or principal person in charge of the Work for each consultant, by providing the name, title, and qualifications of the proposed replacement, unless prior notification of the change is impracticable due to the circumstances (i.e., death or termination) in which case Respondent shall notify the EPA Project Coordinator within ten (10) days of the change. EPA shall have the same right to approve such changes and additions to the consultant and principal person in charge as it has hereunder regarding EPA's initial review of qualifications. If EPA disapproves of the qualifications of the proposed replacement(s) or additions for the consultants or principal persons in charge, EPA shall provide written notice of the disapproval and the reason therefore to Respondent within seven (7) days. Respondent shall notify EPA of the identity and qualifications of an alternative replacement within fourteen (14) days of receipt of the written notice. If EPA subsequently disapproves of the replacement(s), EPA shall provide written notice to Respondent including the reasons for the disapproval, and EPA reserves the right to terminate the Order, conduct all or part of the removal action, and seek reimbursement of costs from Respondent.

37. While awaiting EPA approval for any deliverable, Respondent shall proceed with the other tasks and activities that may be conducted independently of such deliverable as described in the Work Plan in accordance with the Schedule set forth in Exhibit 1 of this Order.

38. EPA reserves the right to stop Respondent from proceeding further, either temporarily or permanently, with any task, activity or deliverable required under this Order at any point during the removal action.

39. EPA reserves the right to comment on, modify, and direct changes for all deliverables as described in this paragraph. When EPA comments on or directs changes to deliverables, the following procedures shall apply:

- a. Respondent must fully correct all deficiencies and incorporate and integrate all information and comments, as directed by EPA, within fourteen (14) days of receipt of EPA

comments, unless otherwise specified in the Schedule set forth in Exhibit 1.

b. Respondent may request, and EPA shall grant within seven days of receipt of EPA's comments, a meeting to discuss any comments or directions from EPA. If EPA agrees that its comments or directions are incorrect or should be modified, Respondent may resubmit the deliverable in accordance with EPA's decision. EPA shall document any such decision by sending a letter stating which comments are incorrect or should be modified, within three (3) days of the meeting.

c. At the time any revised deliverable is submitted, Respondent shall submit a redlined version of the document and a cover letter describing how each substantive EPA comment was addressed, and a description of any additional substantive changes or additions in the resubmittal along with a justification for those changes or additions. The cover letter shall also include a certification that no substantive changes other than those identified in the cover letter, or in a red-lined draft, were made. Failure to address EPA comments or directions as described in this paragraph, or failure to identify additional substantive changes or additions is a violation of this Order.

d. If Respondent disagrees with the substantive changes required by EPA, Respondent may include a disclaimer in a separate cover letter identifying the portion(s) of such documents with which the Respondent disagrees and the reasons for the disagreement. Whenever and to whomever the document is disseminated, EPA agrees to include such cover letter with the deliverable. Such cover letter shall be included in the Administrative Record for the Site pursuant to Section XII. An example of such disclaimer is attached to this Order as Exhibit 3.

40. If Respondent fails to comply with paragraph 38, or if EPA determines that additional changes or additions were included in a resubmittal without identification, EPA retains the right to seek stipulated penalties, as described in paragraph 86, or statutory penalties; perform its own studies; or complete the deliverable or any portion thereof and seek reimbursement from Respondent for its costs. To the extent that EPA conducts or takes over some of the Work, Respondent shall incorporate and integrate information supplied by EPA into any appropriate deliverables.

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

42. No later than five (5) days prior to any (if any) off-site shipment of hazardous substances and/or hazardous wastes from the Site for disposal, Respondent shall provide written notification of such shipment to the appropriate state environmental official in the receiving state and to the EPA Project Coordinator.

a. This notification shall be in writing, and shall include the following information: (1) the name and location of the facility to which the hazardous substances or wastes are to be shipped; (2) the type and quantity of the hazardous substances or wastes to be shipped; (3) the expected schedule for the shipment; and (4) the method of transportation. Respondent shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances or wastes to another facility in another state.

b. The identity of the receiving facility will be determined by Respondent. Respondent shall provide all relevant information, including the information noted above, as soon as practical after a decision is reached, but in no event later than specified in paragraph 41.

43. In the event that comments or other key documents produced by EPA and identified in the Work Plan are submitted by EPA to Respondent later than indicated or estimated in the Work Plan and Schedule attached hereto as Exhibit 1, or in any plans or schedules which are included herein or are part of any additional work, and this shortens the period allowed for Respondent to comply with a deadline, the compliance deadlines for Respondent which are dependent upon receipt of such comments or documents shall be extended by one day for each day that EPA's comments or documents are late. If the late receipt of EPA comments or documents results in Respondent's inability to comply with a deadline due to inclement weather conditions which substantially and adversely affect the specific activity to be performed, EPA and Respondent agree to conduct good faith negotiations for a Schedule extension. If EPA and Respondent cannot agree to a change in the Schedule set forth in Exhibit 1 within thirty (30) days of EPA's receipt of a change request, the dispute shall be subject to the dispute resolution procedures of Section XVIII of this Order.

44. EPA shall use its best efforts to complete and deliver reports described in paragraph 43 to Respondent within the time periods projected for completion. These projected time periods are estimates and are not binding upon EPA. EPA shall notify Respondent as early as possible if EPA intends to complete and deliver the reports before the dates projected in the Work Plan.



## **X. MODIFICATION OF WORK**

45. If, at any time before termination of this Order, Respondent identifies a need for additional data, activities, or modification of the Work Plan or the Sampling and Analysis Plan (SAP) Respondent shall submit a memorandum documenting the need for additional data, activities, or modification to the EPA Project Coordinators within twenty-one (21) days of such identification. EPA, in its discretion, will determine whether the additional data, activities, or modification will be collected or performed by Respondent under this Order. Pursuant to paragraph 47 of the Order, any such changes shall be documented as an amendment to the Order, including, if necessary, an amendment to the Schedule in Exhibit 1. Respondent shall not be precluded from conducting additional data collection activities provided that: (1) Respondent obtains its own access to undertake the Work, if it does not own or operate the property; (2) such additional data collection activities do not delay the completion of any removal action task; and, (3) the results of the additional data collection activities are not incorporated into any deliverable without EPA's express written approval.

46. In the event of unanticipated or changed circumstances at the Site, Respondent shall notify the EPA Project Coordinator by telephone within twenty-four (24) hours of discovery of the unanticipated or changed circumstances. If the unanticipated or changed circumstances pose an immediate threat to human health or the environment, Respondent shall notify EPA immediately. If EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Work, EPA may modify or amend, or direct Respondent to modify or amend, the Work Plan accordingly or take other actions authorized by CERCLA or the NCP. Under such circumstances, Respondent shall perform the Work as modified or amended. In addition, the EPA Project Coordinator shall have the authority, consistent with the NCP, to halt any work required by this Order and to take any action authorized by CERCLA or the NCP.

### **EPA Request for Additional Work.**

47. EPA may determine that Work in addition to tasks defined in the approved Work Plan may be necessary to accomplish the objectives of this removal action as set forth in Section V of this Order ("Additional Work"). Any such Additional Work falling within the scope of this Section X shall be limited to work within the scope of this time-critical removal action related to the removal of arsenic-contaminated soils above action levels specified in the Work Plan from residential areas within Teressa Anne Terrace, Elkhorn Apartments, and Cedar Park Homes in accordance with the procedures and requirements of the Work Plan. If Additional Work at the Site beyond that provided for in the



Work Plan, but within the scope of Additional Work set forth in this paragraph, is determined by EPA to be necessary to address a threat to human health or the environment, EPA and the Respondent shall develop a Supplemental Statement of Work, or a Work Plan, describing the Additional Work. EPA shall submit the Supplemental Statement of Work to Respondent and request in writing that Respondent perform the Additional Work and specify the basis and reasons for EPA's determination that Additional Work is necessary. No later than thirty (30) days prior to submittal of the Supplemental Statement of Work to Respondent, EPA shall provide the opportunity, with reasonable notice, for a scoping meeting with Respondent to discuss the form and substance of the Supplemental Statement of Work.

48. Respondent shall respond in writing to EPA's request for Additional Work and provide any comments it has on the Supplemental Statement of Work and SAP to EPA within thirty (30) days of receipt of the Supplemental Statement of Work. After review of the comments, if EPA and Respondent agree on the Supplemental Statement of Work or Work Plan and SAP, and EPA approves the Supplemental Statement of Work or Supplemental Work Plan and SAP, the Supplemental Statement of Work or Supplemental Work Plan and SAP, shall be incorporated into this Order as an enforceable part through an amendment under paragraph 47 of the Order.

49. If EPA and Respondent cannot agree on the Supplemental Statement of Work or Work Plan and SAP, EPA shall respond in writing to Respondent's comments. If EPA and Respondent cannot agree on the Supplemental Statement of Work or Supplemental Work Plan and SAP within thirty (30) days of Respondent's receipt of EPA's response, the dispute shall be subject to the dispute resolution process described in Section XVIII.

50. Respondent hereby agrees to perform any Additional Work within the scope of paragraph 47 that is determined, pursuant to the process described in this Section, to be necessary. The Additional Work shall be completed according to the standards, specifications, and Schedule set forth or approved by the EPA in the written Supplemental Statement of Work or Supplemental Work Plan and SAP. Any failure by Respondent to perform Additional Work within the scope of paragraph 47 shall be deemed to be a violation of this Order and is subject to stipulated penalties as described in Section XIX. Any failure by Respondent to perform Additional Work outside the scope of the Site removal action shall not constitute a violation of this Order. If Respondent does not perform the Additional Work, EPA reserves the right to conduct the activities described in the Supplemental Statement of Work or Supplemental Work Plan and SAP and/or pursue other actions authorized by CERCLA.

## **XI. QUALITY ASSURANCE**

51. Respondent shall assure that Work performed, samples taken, and analyses conducted conform to the requirements of this Order and the Anaconda Smelter Remedial Investigation/Feasibility Study Laboratory Analytical Protocol (PTI, 1991b) ("LAP"), Anaconda Smelter Remedial Investigation/Feasibility Study Data Management/Data Validation Plan (PTI, 1990b) ("DM/DVP"), and the Anaconda Smelter Quality Assurance Project Plan (US EPA, 1988) ("QAPP"). Respondent will assure that its field personnel are properly trained in the use of field equipment and chain-of-custody procedures.

52. Respondent has submitted the 1991 Community Soils TCRA SAP, the Anaconda DM/DVP, and the Anaconda LAP, which EPA has already approved. The SAPs document standard operating procedures, sampling locations, and descriptions of how the proposed sampling will meet the objectives of the planned investigations and otherwise comply with the Work Plan requirements. Each SAP submitted to EPA shall contain a detailed schedule, identifying start and completion dates of all significant field and laboratory activities, and dates for delivery of draft and final deliverables to EPA. The deadlines set forth in the SAP are expressed as specific dates. However, all enforceable deadlines pursuant to this Order are contained in the attached Schedule which is incorporated into this Order as an enforceable part thereof.

53. To provide quality assurance and maintain quality control, Respondent shall:

a. Use a laboratory which has a documented quality assurance program that complies with EPA guidance;

b. Ensure that such laboratory performs analyses according to EPA-approved methods or methods deemed satisfactory by EPA (if a non-approved method is proposed, Respondent shall submit all protocols to be used for analyses to EPA for approval at least thirty (30) days before beginning analyses);

c. Ensure that EPA personnel or authorized representatives are allowed access to such laboratory and personnel; and

54. In the event that Respondent fails to use the quality assurance/quality control ("QA/QC") practices and procedures as outlined in the approved documents listed in paragraphs 51 and 52, EPA reserves the right to conduct the Work or any portion thereof pursuant to its authority under CERCLA, to seek reimbursement from Respondent, and/or to seek any other appropriate relief. EPA does not intend to exercise these rights

for an isolated, unintentional failure to meet QA/QC practices or procedures.

55. As provided herein, EPA and Respondent, in any proceeding to enforce this Order, or in any other enforcement action taken by EPA, stipulate to authenticity and accuracy and hereby waive any evidentiary or other objection as to the authenticity and accuracy or reference in risk assessments, EE/CA reports, or response design reports, of any final data generated by Respondent in performance of the time-critical removal action under this Order, or by EPA in the performance of oversight of the time-critical removal action under this Order at the Site conducted after the effective date of this Order. For purposes of this Section, the term "final data generated" shall be interpreted to mean only analytical data that has been verified by EPA; or by Respondent and approved by EPA, as being in compliance with the QA/QC requirements of the QAPP, LAP, DM/DVP and SAP(s), in effect at the time the samples were collected. Compliance with appropriate criteria shall be demonstrated by an evaluation report.

56. For purposes of this Section, stipulations and waivers of objection pertaining to "authenticity" include, without limitation, waivers of objections and stipulations pertaining to collection and sampling procedures, chemical or physical analyses, chain of custody, field and laboratory QA/QC procedures, and objections based on the failure to offer any sponsoring witnesses, including samplers, chemists, and their assistants, and other persons in the chain of custody.

57. For purposes of this Section, the word "accuracy" means that the data reliably represents concentrations of hazardous substances, pollutants, and contaminants in the medium sampled at the time and point of sampling.

58. For any data not covered by paragraph 55 relating to the Site, collected at any time by the Respondent or EPA, EPA may determine that such data are usable in the removal action and supporting documents. EPA may determine that such data either (a) meets all QA/QC requirements in effect at the time the data was collected, or (b) the QA/QC requirements in effect at the time the data was collected were not met, but that the data is usable for specific reasons. EPA may identify such data in a written report that shall include a description of the data, the acceptable uses of the data, the limitations on the use of the data, and the reasons why the data is usable. EPA may transmit the report to Respondent with a request that Respondent stipulate to the authenticity and accuracy of the data and waive any evidentiary objections, as described in paragraphs 56 and 57, to the use of the data in the removal action and supporting documents, and in any enforcement proceeding by EPA. Respondent shall respond in detail, in writing, no later than thirty (30)



days following receipt of the report. Respondent shall negotiate in good faith and, if agreement is reached, enter into a written stipulation and waiver as described in paragraph 57. Any such stipulation and waiver shall be entered into the Administrative Record. If the Respondent does not agree to a stipulation and waiver for data which is required for completion of the removal action, Respondent waives its right to object to any effort by EPA to collect or require the collection of new data to replace that which was not stipulated to by the Respondent. EPA may include costs associated with such efforts in the billings described in Section XXI. The Respondent reserves any objections it may have as to the necessity or use of the data not stipulated to by the Respondent.

#### Data Identified by Respondent

59. The Respondent may also submit a report to EPA identifying data that either meets all the QA/QC requirements, or does not fully comply with QA/QC requirements but is still usable for certain specified purposes, describing acceptable uses for the data, describing the reasons why it is still usable, and proposing a written stipulation and waiver of the right to raise evidentiary objections in any future enforcement proceeding by EPA. EPA shall respond in detail, in writing, no later than thirty (30) days following receipt of the report to each issue and data point discussed by the Respondent. EPA and Respondent shall negotiate in good faith and, if agreement is reached, enter into a written stipulation and waiver.

### XII. ADMINISTRATIVE RECORD

60. EPA will include all documents submitted by Respondent relating to the performance of this Order in the Administrative Record file for selection of the response action.

a. Upon EPA request, Respondent shall submit to EPA documents developed during the course of the removal action upon which selection of the response action may be based. Upon EPA request, Respondent shall provide copies of plans, task memoranda (including documentation of field modifications), recommendations for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports. As provided in paragraph 71, Respondent may assert that certain documents, records, and other information are exempt by law from disclosure.

b. The Administrative Record shall also include all internal EPA memoranda as provided under CERCLA, the NCP, and applicable EPA guidance. Notwithstanding the preceding sentence, EPA reserves the right to protect from disclosure to Respondent and the public any documents and



communications protected from disclosure under applicable federal law. A list of confidential documents included in the Administrative Record shall be maintained in the Administrative Record available to the public.

### **XIII. PROGRESS REPORTS AND MEETINGS**

61. During the course of Work under this Order, Respondent shall submit the following reports to EPA.

a. **Daily and Weekly Construction Reports.** During physical on-site conduct of the removal action, Respondent shall prepare weekly reports discussing, at a minimum, the daily activities, field adjustments, change orders, summaries of problems and actions to rectify problems, and other such information as is customary in the industry. The weekly reports shall be compiled and delivered to EPA each Tuesday during the time work is being conducted. EPA, in its discretion, may require daily reports, if deemed necessary.

b. **Monthly Progress Reports.** Respondent shall prepare monthly progress reports during the time work is being conducted containing, at a minimum, the following information:

(1) A description of actions taken to comply with this Order, including plans and actions completed, during the preceding month;

(2) A description of problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays;

(3) Work planned for the next month with schedules relating such Work to the overall project; and

(4) All results of sampling and tests and all other data collected or received by Respondent pursuant to this Order during the preceding month.

Respondent shall submit these monthly reports to EPA on or before the tenth (10th) day of each month during which this Order is in effect.

c. **Final Report.** Respondent shall submit a detailed final report documenting the Work performed under this Order within sixty (60) days of completion of the removal action, prior to operation and maintenance. The Report shall include all validated analytical data not already provided

in the Community Soils EE/CA Data Summary Report and evaluation of volume and chemical characteristics of waste remaining beneath remediated yards.

d. Operation and Maintenance Reports. Respondent shall prepare Operation and Maintenance (O&M) reports, as specified in the Work Plan, for each phase (i.e., the 1991 and 1992 phases).

62. Respondent shall make presentations at and participate in meetings at the request of EPA during the initiation, conduct, and completion of the removal action. Meetings will be scheduled at EPA's discretion. EPA shall provide reasonable notice to Respondent prior to scheduling any such meetings, and Respondent's participation in any such meetings is dependent upon its availability.

63. EPA is responsible for conducting community relations with respect to the Site. Respondent shall cooperate with EPA in providing information regarding implementation of this Order to the public.

#### XIV. ACCESS, SAMPLING, AND AVAILABILITY OF INFORMATION

64. EPA and its authorized representatives may enter and freely move about all property owned or operated by Respondent at the Site, at reasonable times, including, but not limited to, any time during the performance of any Work for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondent's and its contractor's performance of the Work pursuant to this Order unless exempt by law from disclosure; reviewing the progress of Respondent in carrying out the terms of this Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device, or other documentary type equipment; and verifying the data submitted to EPA by Respondent. Except as exempt by law from disclosure, Respondent shall allow EPA and its authorized representatives to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to Work undertaken in carrying out this Order. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under federal law.

65. If the Site or any off-site area needed for conduct of the removal action is owned in whole or in part by parties other than those bound by this Order, Respondent will obtain, or use its best efforts to obtain, written site access agreements from the owner no later than ten (10) days prior to the time such access is needed. Such site access agreements shall be in a form similar to that included as Exhibit 4 to this Order. Such agreements shall provide access for EPA and its authorized

representatives in accordance with paragraph 64 and Respondent and its authorized representatives. Such agreements shall specify that Respondent is not EPA's representative with respect to liability associated with Site activities. Copies of such agreements shall be provided to EPA prior to Respondent's initiation of field activities. Respondent shall not seek to negotiate general releases from tort or other liability unrelated to the Work required by this Order as part of the access agreement; however, Respondent may seek to obtain releases from any liability associated with the actual Work to be performed at the Site for which access is sought.

66. If access agreements are not obtained within the time referenced above, Respondent shall promptly notify EPA of its failure to obtain access. In the event that Respondent cannot obtain access agreements, EPA may, but is not required to, either obtain access for Respondent, perform those affected tasks or activities with EPA contractors, or determine that the Work Plan may be modified to exclude affected tasks, activities, or areas. In the event that EPA performs those tasks or activities that require such access with EPA contractors, Respondent shall perform all other activities not requiring access to that area; Respondent shall reimburse EPA for all costs not inconsistent with the NCP incurred by EPA in performing such activities in accordance with Section XXI of this Order. Respondent additionally shall integrate the results of any such tasks undertaken by EPA into its deliverables. Respondent agrees to indemnify the United States as specified in Section XXV of this Order. Respondent shall reimburse EPA for all costs and attorney fees incurred by the United States to obtain access for Respondent in accordance with Section XXI of this Order.

67. When working on property owned by third parties, Respondent shall provide the opportunity for the third party to request and obtain split samples. Respondent shall submit written evidence in the form of a yes/no checklist on the access agreement with the present landowner to EPA documenting that such an opportunity was provided.

68. All results of sampling, tests, modeling, or other data generated by Respondent, or on Respondent's behalf, during implementation of this Order, and a description of any data validation problems shall be submitted to EPA in the monthly progress report as described in Section XIII of this Order. Upon EPA request, Respondent shall provide raw data in the monthly progress report. EPA will make available to Respondent validated data generated by EPA.

69. Respondent will notify EPA in writing at least seven (7) days prior to mobilizing or conducting significant field events as defined in the Work Plan or SAP. At the verbal or written request of EPA or its authorized representatives,



Respondent shall allow EPA and/or its authorized representatives to collect whatever samples EPA deems necessary, including split or duplicate samples of any samples collected by Respondent in implementing this Order. Respondent shall use its best efforts to ensure that a sufficient quantity of materials is available for EPA's split or duplicate samples. If EPA conducts sampling at the Site in addition to that done by Respondent, EPA shall use best efforts to provide written notice to Respondent at least seven (7) days prior to the sampling; Respondent may request, and EPA shall provide, split or duplicate samples. EPA shall use best efforts to ensure that a sufficient quantity of the materials to be sampled is available on the day of sampling.

70. Except as provided in paragraph 71, Respondent shall provide to EPA, within thirty (30) days of a request, copies of all documents and information within its possession or control, or that of its contractors, relating to activities at the Site undertaken pursuant to the implementation of this Order, including, but not limited to, the following: sampling, analyses, chain-of-custody records, manifests, trucking logs, sample receipts, reports, sample traffic routing, correspondence, personal logs of Respondent's on-site representatives, or other documents or information related to the Work. Except as exempt by law from disclosure and except for inquiries relevant only to ongoing litigation between the Respondent and EPA, Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

71. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Order to the extent permitted by section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). Such claims shall be asserted in the manner described by 40 C.F.R. § 2.203(b) and substantiated at the time the claim is made. Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondent that the documents or information are not confidential under the standards of section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), the public may be given access to such documents or information without further notice to Respondent.

72. Respondent may assert that certain documents, records and other information are exempt by law from disclosure because they are privileged under the attorney-client privilege or any other privilege or doctrine recognized by law. If Respondent asserts such a privilege, it shall provide the EPA 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 or other doctrine asserted by Respondent.

73. 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 for materials or information required to be submitted pursuant to this Order including information required for monthly progress reports as described in paragraph 61.

#### **XV. PROJECT COORDINATORS**

74. EPA and Respondent shall each designate its own Project Coordinator, Alternate Project Coordinator, and Lead Attorney.

a. The EPA Project Coordinator is:

H. Hays Griswold, On-Scene Coordinator, 8HWM-ER  
U.S. Environmental Protection Agency  
Emergency Response Branch  
999 18th Street, Suite 500  
Denver, Colorado 80202-2405  
(303) 294-7162  
FAX # (303) 293-1238

The EPA Alternate Project Coordinator is:

Michael Bishop, Remedial Project Manager, 8MO  
U.S. Environmental Protection Agency  
Montana Operations Office  
Federal Building, Drawer 10096  
301 South Park  
Helena, Montana 59626-0026  
(406) 449-5414  
FAX # (406) 449-5434

The EPA Lead Attorney is:

Andrew J. Lensink, Assistant Regional Counsel, 8RC  
U.S. Environmental Protection Agency  
Office of Regional Counsel  
999 18th Street, Suite 500  
Denver, Colorado 80202-2405  
(303) 294-1458  
FAX # (303) 294-7653

b. Respondent's Project Coordinator is:

Greg Parker, Construction Supervisor  
ARCO  
307 East Park Avenue, Suite 301  
Anaconda, Montana 59711  
(406) 563-5211  
FAX #(406) 563-8269

Respondent's Alternate Project Coordinator is:

Robin Bullock, Superfund Coordinator  
ARCO  
307 East Park Avenue, Suite 301  
Anaconda, Montana 59711  
(406) 563-5211  
FAX #(406) 563-8269

Respondent's Lead Attorney is:

Richard Curley, Esq.  
ARCO  
555 Seventeenth Street, Suite 1605  
Denver, Colorado 80202  
(303) 293-4520  
FAX #(303) 293-4186

75. EPA's Project Coordinator shall be responsible for overseeing the implementation of this Order. EPA and Respondent each have the right to change its respective Project Coordinator, Alternate Project Coordinator, or Lead Attorney. Such a change shall be accomplished by notifying the other persons identified in this paragraph in writing of the name, title, address, and telephone number of the new personnel at least seven (7) days prior to the change unless prior notification of the change is impracticable due to the circumstances (i.e., death or termination) in which case notification of the change shall be provided to the other persons identified in this paragraph within ten (10) days of the change.

76. To the maximum extent possible, communications between EPA and Respondent, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the Project Coordinators. If the Project Coordinators are unavailable, such information shall be directed through the Alternate Project Coordinators. During implementation of the Work Plan, the Project Coordinators shall, whenever possible, attempt in good faith to resolve disputes informally through discussion of the issues. All written communications, including but not limited to, all notices, approvals, disapprovals, correspondence, and deliverables submitted under this Order shall



be hand-delivered, sent overnight mail, or sent by certified mail, return receipt requested, to the Project Coordinator or to any other persons whom EPA may designate in writing. Documents submitted to EPA shall be sent in triplicate to EPA's Project Coordinator. In addition, Respondent shall provide a copy of all documents to the following State official:

Laura Bassein  
Montana Department of  
Health and Environmental Sciences  
Solid and Hazardous Waste Bureau  
Cogswell Building  
Helena, Montana 59620

77. The EPA Project Coordinator shall have the authority vested in the Remedial Project Manager and the On-Scene Coordinator by the NCP. The absence of the EPA Project Coordinator from the Site shall not be cause for the stoppage or delay of Work.

78. EPA may arrange for assistance in its oversight and review of the conduct of the removal action, as required by section 104(a) of CERCLA, 42 U.S.C. § 9604(a). EPA's authorized representative may observe Work and make inquiries in the absence of EPA, but is not authorized to modify the requirements of this Order.

#### **XVI. OTHER APPLICABLE LAWS**

79. All activities undertaken by Respondent shall be in compliance with all federal, State and local laws and regulations, including permit requirements, unless an exemption is provided by section 121(e) of CERCLA, 42 U.S.C. § 9621(e). Respondent shall identify and seek to obtain all permits, licenses, and approvals required for performance of Work in sufficient time to perform Work as scheduled, including any off-site activities. EPA has determined that the Work conducted on Site pursuant to this Order, if conducted in compliance with the Order and the NCP, is exempt from federal, State, and local administrative or procedural permit requirements as provided by section 121(e) of CERCLA.

#### **XVII. RECORD PRESERVATION**

80. All records and documents in Respondent's possession that relate in any manner to the performance of the Work or the liability of any person currently named as a potentially responsible party for response actions conducted or to be conducted at the Site shall be preserved while this Order is in effect and for a minimum of six (6) years after termination of this Order. Respondent shall acquire and retain copies of all documents that relate to the Site and are in the possession of

its employees, accountants, contractors, or attorneys. After this six (6) year period, Respondent shall notify EPA at least ninety (90) days before the documents are scheduled to be destroyed. At the end of this six (6) year period and prior to any destruction, EPA shall be notified in writing and given thirty (30) days to request an opportunity to inspect and copy all documents, except those which are exempt from disclosure by law. At any time before the end of the six (6) year period, however, Respondent may discharge its obligations under this paragraph by notifying EPA in writing and providing EPA with originals, if available, or true copies of all such reports and documents not already provided to EPA and not exempt by law from disclosure in accordance with paragraph 72.

#### **XVIII. DISPUTE RESOLUTION**

81. Any disputes concerning activities or deliverables required under this Order shall be resolved as follows: If Respondent objects to any EPA notice of disapproval or requirement made pursuant to this Order, Respondent shall notify the EPA Project Coordinator in writing of its objections within fourteen (14) days of receipt of the disapproval notice or requirement. Respondent's written objections shall define the dispute, state the basis of Respondent's objections, and be sent certified mail, return receipt requested, to the EPA Project Coordinator. EPA and Respondent then have an additional seven (7) days to reach agreement.

82. If the dispute cannot be resolved during the period described in paragraph 81, EPA and the Respondent shall submit the dispute in writing to the Regional Administrator, EPA Region VIII, with copies sent to the Director, Hazardous Waste Management Division, EPA Region VIII, and the Director, EPA Montana Operations Office. EPA and Respondent shall submit their positions in writing to the Regional Administrator within two (2) days following the fourteen (14) day period described above, unless EPA and Respondent mutually agree otherwise. All comments by EPA and Respondent to the Regional Administrator related to the dispute and/or any other matter related to this action shall be submitted to EPA in writing.

83. The Regional Administrator, or, in his or her absence, the Deputy Regional Administrator, shall render a written decision as expeditiously as possible. If the Regional Administrator or the Deputy Regional Administrator cannot render a decision within fifteen (15) days of receipt of the submission, the accrual of stipulated penalties shall be stayed at that point pending receipt of his or her decision. The Regional Administrator's decision shall be final. Respondent shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondent agrees with the decision. If Respondent does not agree to perform or does

not actually perform the Work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the Work itself, to seek reimbursement from Respondent, to seek enforcement of this Order, to seek stipulated penalties, and/or to seek any other appropriate relief.

84. Unless expressly permitted by EPA, Respondent is not relieved of its obligations to perform and conduct activities and submit deliverables according to the Schedule set forth in Exhibit 1 while a matter is pending in dispute resolution. The invocation of dispute resolution does not stay the accrual of stipulated penalties under this Order.

#### **XIX. STIPULATED PENALTIES**

85. For each day that Respondent either: (1) produces a disapproved deliverable (as that term is defined in paragraph 86) for those deliverables enumerated in paragraph 86, (2) fails to produce a deliverable in a timely manner for those deliverables enumerated in paragraph 86, or (3) fails to perform in accordance with the other enumerated requirements of this Order set forth in paragraph 86, Respondent shall, at EPA's discretion, be liable for stipulated penalties. For all violations described in paragraph 86 other than disapproved deliverables, stipulated penalties begin to accrue on the day that performance is due and extend through the period of correction. For disapproved deliverables, penalties begin to accrue as of the date of receipt of written notice from EPA and extend through the period of correction. EPA will seek to provide written notice for those violations that are not based on timeliness. Payment shall be due within thirty (30) days of receipt of a demand letter from EPA. EPA, in its sole discretion, may provide an opportunity to cure the violation prior to assessing stipulated penalties or penalties of lesser amounts.

86. For those activities described in the subparagraphs to this paragraph, Respondent shall pay the sums set forth below as stipulated penalties, except as provided in Sections XVIII and XX. For purposes of paragraph 85, stipulated penalties for EPA disapproval of the reports or deliverables enumerated in subparagraph a. of this paragraph, shall accrue if these reports are disapproved by EPA on the following grounds: the reports do not address EPA comments on previous drafts; the reports do not utilize relevant validated data; or the reports do not address the requirements of this Order and Work Plan. EPA may disapprove first draft and resubmittal deliverables; nevertheless, Respondent shall be liable for stipulated penalties only as provided below.



a. Tier 1 tasks include the following:

- Delivery of draft and final deliverables, including disapproval, [specifically including the Preliminary Data Summary Report as defined in the Work Plan], the Health and Safety Plan, and the Final Report;
- Failure to perform Additional Work, as provided in paragraph 50; and,
- Failure to perform Work in compliance with all laws, as described in paragraph 79.

<u>Time Period</u>	<u>Amount/Day</u>
1-14 days	\$ 3,000
15-30 days	6,000
31 or more days	12,000

b. Tier 2 tasks include the following:

- Failure to provide copies and notice of the requirements of the Order to contractors and laboratories, or to provide copies of the Order to successors, as provided in paragraph 4;
- Failure to use appropriate laboratories and provide for EPA access, as provided in paragraph 53;
- Failure to submit yard-specific work plans;
- Failure to submit weekly and monthly progress reports, the Final Report, and the O&M Reports, as provided in paragraph 61;
- Failure to provide for third party duplication or split sampling, as provided in paragraph 67;
- Failure to submit documents upon request, as provided in paragraph 70;
- Failure to notify EPA of change in project officer, as provided in paragraph 75;
- Failure to preserve documents for 6 years, as provided in paragraph 80; and,
- Failure to certify completion with appropriate language, as provided in paragraph 122.

<u>Time Period</u>	<u>Amount/Day</u>
1-14 days	\$ 1,000
15-30 days	3,000
31 or more days	6,000

c. Tier 3 tasks include the following:

- Contesting jurisdiction of EPA to enforce this Order, or contesting the validity of this Order, as described in paragraph 2;
- Failure to provide access as provided in paragraphs 64 and 65;
- Failure to provide data to EPA, as provided in paragraph 66;
- Failure to indemnify the United States, as provided in paragraph 115; and,
- Assertion of claims waived in paragraph 106.

Time Period/Amount

\$ 20,000 per instance

Payment shall be due within thirty (30) days of receipt of a demand letter from EPA.

87. Respondent shall make all payments by forwarding a certified or cashiers check, made payable to the "Hazardous Substances Superfund," to the following address:

Mellon Bank  
EPA Region VIII  
Attn: Superfund Accounting  
P.O. Box 360859M  
Pittsburgh, PA 15251

or other such address as EPA may designate in writing. Payments must be designated as "Stipulated Penalties--Anaconda Smelter NPL Site: Anaconda Community Soils Time-Critical Removal Action" and shall reference the payor's name and address, the EPA site identification number (Site No. 18), and the docket number of this Order. Copies of the transmittal letter and check shall be sent to the EPA Removal Program Cost Coordinator, at the same address as the EPA Project Coordinator, at the time of payment.

88. Respondent shall pay interest on any unpaid balance, which shall begin to accrue at the end of the thirty (30) day period, at the rate established pursuant to section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Respondent shall further pay a six (6) percent per annum penalty charge, to be assessed if the penalty is not paid in full within ninety (90) days after it is due.

89. Respondent may dispute EPA's right to, and the amount of, penalties assessed by invoking the dispute resolution procedures under Section XXVIII herein. Penalties shall accrue but need not be paid during the dispute resolution period. If Respondent does not prevail upon resolution, all penalties and interest accrued shall be due to EPA within thirty (30) days of resolution of the dispute. If Respondent prevails upon resolution, no penalties or interest shall be paid. The Regional Administrator, in his or her sole discretion, may excuse or reduce stipulated penalties that accrued during the dispute resolution process based on a finding by the Regional Administrator, to be included in the written decision described in paragraph 83, that Respondent, acting in good faith, submitted a material issue for resolution.

90. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of Respondent's violation of, or failure, or refusal to comply with, this Order. Such remedies and sanctions include, but are not limited to, the assessment of penalties pursuant to section 109 of CERCLA, 42 U.S.C. § 9609, the award of treble damages pursuant to § 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), and conduct of all or part of the removal action by EPA. Respondent shall not be precluded from contesting the imposition or amount of stipulated or statutory penalties sought by EPA or contesting the collection of more than one penalty for the same violation. Payment of stipulated penalties does not alter Respondent's obligation to complete performance under this Order. In addition, the payment of stipulated penalties shall not preclude the State from seeking statutory penalties pursuant to federal or state law.

## **XX. FORCE MAJEURE**

91. "Force majeure," for purposes of this Order, is defined as any event arising from causes beyond the control of Respondent and of any entity controlled by Respondent, including, but not limited to, its contractors and subcontractors, that delays or prevents the performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation. The requirement that Respondent exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (a) as it is occurring, and (b) following the potential force majeure event,



such that the delay is minimized to the greatest extent practicable. Force majeure does not include financial inability to complete the Work.

92. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, Respondent shall notify by telephone the EPA Project Coordinator, or the Alternate Project Coordinator, or, in their absence, the Director of the Hazardous Waste Management Division, EPA Region VIII, within twenty-four (24) hours of when Respondent knew or should have known that the event might cause a delay. Within five (5) days after Respondent knew or should have known that the event might cause a delay, Respondent shall provide in writing: (a) the reasons for the delay; (b) the anticipated duration of the delay; (c) all actions taken or to be taken to prevent or minimize the delay; (d) a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and, (e) a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare, or the environment. Respondent shall exercise best efforts to avoid or minimize any delay and any effects of a delay. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure.

93. If EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Order that are directly affected by the force majeure event shall be extended by agreement of the parties, pursuant to Section XXVI of this Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

94. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with Respondent on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XVIII of this Order. In any such proceeding, to qualify for a force majeure defense, Respondent 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 was or will be warranted under the circumstances, that Respondent did exercise or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay, and that Respondent complied with the requirements of this Section.

95. Should Respondent prevail in the dispute pursuant to the previous paragraph, the delay at issue shall not be deemed a violation of or failure or refusal to comply with this Order.

#### **XXI. REIMBURSEMENT OF OVERSIGHT COSTS**

96. After the end of each calendar year in which this Order is in effect, EPA shall submit to Respondent an accounting of oversight costs incurred by the United States in connection with this Order. Such costs may include, but not be limited to, all direct and indirect costs incurred by the United States in overseeing this Order during the previous fiscal year. The first accounting may include oversight costs incurred by the United States before the effective date of this Order associated with the preparation and negotiation of this Order. Within thirty (30) days of receipt of each accounting, Respondent shall reimburse the United States for all uncontested oversight costs (see paragraphs 98 - 99).

97. If EPA promulgates a regulation, or, if EPA and Respondent enter into a settlement agreement relating to United States v. Atlantic Richfield Co., No. CV 89-39-BU (D. Mont.), which identifies cost documentation to be produced by EPA in support of reimbursement accounting, EPA will produce such documentation in its annual accounting.

98. Respondent may contest payment of any cost under paragraph 96 if it determines that the United States has made an accounting error or has included a cost item that is inconsistent with CERCLA or the NCP by invoking the provisions of Section XVIII of this Order before payment is due. The written request for dispute resolution shall specifically identify the contested costs and provide a detailed explanation of the basis for the objection. In the dispute resolution process, Respondent bears the burden of proving that an accounting error has been made or that the costs are inconsistent with CERCLA or the NCP.

99. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent, on or before the due date, shall pay the full amount of the contested costs into an escrow account in a bank duly chartered in the state. Respondent shall simultaneously transmit a copy of the check to the EPA Removal Program Cost Recovery Coordinator. If Respondent subsequently prevails in all or part of the dispute, Respondent may withdraw from the escrow account the amount upon which they prevailed in the dispute plus interest accrued on such amount. If Respondent does not prevail in all or part of the dispute, the full amount owed to EPA shall be withdrawn from the escrow account and this amount, plus interest calculated in accordance with paragraph 101 of this section, shall be

transmitted to EPA within three (3) days after the completion of dispute resolution.

100. For all payments under this section, Respondent shall remit a certified or cashier's check, made payable to the "Hazardous Substances Superfund," to the following address:

Mellon Bank  
EPA Region VIII  
Attn: Superfund Accounting  
Post Office Box 360859M  
Pittsburgh, Pennsylvania 15251

or other such address as EPA may designate in writing. Payments must be designated as "Oversight Costs-Anaconda Smelter NPL Site: Anaconda Community Soils TCRA" and shall reference the payor's name and address, the EPA site identification number (Site No. 18), and the docket number of this Order. Copies of the transmittal letter and check shall be sent to the EPA Removal Program Cost Recovery Coordinator, at the same address as the EPA Project Coordinator, at the time of payment.

101. If payment is not received by EPA when payment is due, interest shall accrue from the date of the receipt of the accounting for the costs specified in paragraph 96. Interest shall accrue on the unpaid balance until such costs and accrued interest have been paid in full. The interest rate shall be the rate specified for interest on investments of the Hazardous Substances Superfund in section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Interest will be compounded annually. On October 1 of each subsequent fiscal year, any unpaid balance will begin accruing interest at a new rate to be determined by the Secretary of the Treasury. No interest shall be charged or accrue on that portion of any unpaid balance ultimately determined not to be recoverable.

102. The United States reserves its rights to bring an action against Respondent to enforce the cost reimbursement provisions of this Order, to seek penalties pursuant to section 109 of CERCLA, 42 U.S.C. § 9609, and to bring an action pursuant to section 107 of CERCLA, 42 U.S.C. § 9607, to recoup oversight costs set forth in the accounting not reimbursed by Respondent. EPA also reserves its rights to recover any past or future costs not reimbursed under this Order. Respondent reserves its right to contest all such claims.

## **XXII. RESERVATIONS OF RIGHTS**

103. Except as expressly provided in this Order, each party reserves all rights and defenses it may have. Nothing in this Order shall affect EPA's removal authority or EPA's response or enforcement authorities including, but not limited to, the right



to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages, nor shall preclude the United States from taking action to enforce this Order, nor from taking any action pursuant to CERCLA or any other available legal authority.

#### **XXIII. DISCLAIMERS**

104. The execution and implementation of this Order by Respondent does not indicate agreement with EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of Respondent in this Order shall not be considered an admission of liability and is not admissible in evidence against Respondent in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Order or a judgment relating to it. Respondent retains its rights to assert claims against other potentially responsible parties at the Site.

105. Nothing in this Order is intended to release any claims, causes of action, or demands in law or equity of any party against any entity not subject to this Order for any liability arising out of or in any way relating to the Site.

#### **XXIV. OTHER CLAIMS**

106. In entering into this Order, Respondent waives any right to seek reimbursement under section 106(b) of CERCLA, 42 U.S.C. § 9606(b), for costs reimbursed or Work performed under this Order. Respondent also waives any right to present a claim under sections 111 or 112 of CERCLA, 42 U.S.C. §§ 9611 or 9612. This Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2). Respondent further waives all other statutory and common law claims against the United States, its agencies, officers, employees, and agents, acting solely in their regulatory capacity ordering or overseeing actions required by this Order including, but not limited to, contribution and counterclaims, relating to or arising out of conduct of this action except for any such claims arising out of the negligence or wrongful acts or omissions of the United States, its agencies, officers, employees, or agents.

107. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, subsidiary, or corporation for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site.

108. Respondent shall bear its own costs and attorneys fees.

**XXV. FINANCIAL ASSURANCE, INSURANCE, AND INDEMNIFICATION**

109. Prior to the effective date of this Order, Respondent has supplied EPA with information concerning its financial ability to undertake the Work that establishes the following:

a. Respondent's current rating for its most recent bond issuance is AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

b. Respondent's tangible net worth is at least six (6) times the sum of the cost of conducting the Work required by this Order;

c. Respondent's tangible net worth is at least \$10 million dollars; and,

d. Respondent's assets located in the United States amount to at least ninety (90) percent of Respondent's total assets or at least six (6) times the sum of the cost of conducting the Work required by this Order.

110. For the duration of this Order, Respondent shall satisfy, or shall ensure that its contractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workers compensation insurance for all persons performing Work on behalf of Respondent in furtherance of this Order.

111. Prior to commencement of any Work under this Order, and annually thereafter on the anniversary of the effective date of this Order, Respondent shall provide to EPA a certificate of self-insurance. Such self-insurance covers the same risks to the same degree as a Comprehensive General Liability ("CGL") Insurance policy which provides for Contractual Liability Coverage in the amount of \$2,000,000.00 per occurrence, and Umbrella Liability Insurance in the amount of \$2,000,000.00 per occurrence.

112. If Respondent demonstrates by evidence satisfactory to EPA that any contractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, Respondent need provide only that portion of the insurance described above which is not maintained by the contractor.

113. At least seven (7) days prior to commencing any Work under this Order, Respondent shall certify to EPA that the required insurance has been obtained by that contractor.

114. Except as provided in paragraph 115, no party shall be liable for any injuries or damages to persons or property resulting from acts or omissions of another party or its employees, agents, or contractors in carrying out the activities pursuant to this Order.

115. Respondent agrees to indemnify and hold the United States Government, its agencies, departments, agents, and employees, acting solely in their regulatory capacity ordering or overseeing actions required by this Order, harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondent, its employees, agents, servants, receivers, successors, or assigns, or any persons including, but not limited to, firms, corporations, subsidiaries, and contractors, in carrying out activities under this Order provided that such claims or causes of action did not also arise from the negligence or wrongful acts or omissions of the United States, its agencies, departments, agents or employees. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondent in carrying out activities under this Order.

#### **XXVI. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION**

116. The effective date of this Order shall be the date it is signed by EPA.

117. This Order may be amended by mutual agreement of EPA and Respondent. Amendments shall be in writing and shall be effective when signed by EPA. EPA Project Coordinators do not have the authority to sign amendments to the Order.

118. No informal advice, guidance, suggestions, assurances, or comments by EPA or its authorized representatives shall modify the terms and conditions of this Order or relieve Respondent of its obligations under this Order, including its obligations to obtain formal approvals. Any deliverables (other than progress reports and SAPs), specifications, schedules, and work required by this Order may be, upon written approval by EPA incorporated into this Order by an amendment pursuant to paragraph 117. If EPA proposes such an amendment, Respondent shall negotiate in good faith for such an amendment. Any non-compliance with such amendments shall be considered a violation of or failure or refusal to comply with this Order.

119. In the event that amendments to CERCLA or the NCP are enacted or promulgated after the effective date of this Order, which materially affect the rights or obligations of any party with respect to the substantive nature of the Work to be performed in the removal action, EPA and Respondent agree to negotiate in good faith an amendment to this Order to provide for such changes. If future amendments to CERCLA or the NCP are



enacted or promulgated after the effective date of this Order, which require or permit changes to the Work Plan, EPA may develop and submit a Supplemental Statement of Work to Respondent and Respondent may propose modifications to EPA pursuant to Section X of this Order.

#### **XXVII. CONTRIBUTION PROTECTION**

120. With regard to claims for contribution against Respondent for matters addressed in this Order, EPA agrees that Respondent is entitled, as of the effective date of this Order, to such protection from contribution actions or claims as is provided in section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2).

#### **XXVIII. TERMINATION AND SATISFACTION**

121. This Order shall terminate when Respondent demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Order, including any Additional Work, payment of response costs, and payment of any stipulated penalties demanded by EPA, have been performed or paid and EPA has approved the certification in writing. This notice shall not, however, terminate Respondent's obligation to comply with any continuing obligation of this Order, including but not limited to, those set forth in Sections II (with the exception of the first sentence of paragraph 3), XVII, XXIV, and XXV of this Order, nor will it terminate the protections and rights afforded Respondent in Sections XXVII and XXIX of this Order.

122. The certification shall be signed by a responsible official representing Respondent. The representative shall make the following attestation:

I certify that on information and belief based on thorough investigation and personal knowledge acquired therefrom, the information contained in or accompanying this certification is true, accurate, and complete.

For purposes of this Order, a responsible official is a corporate official who is in charge of a principal business function.

#### **XXIX. COVENANT NOT TO SUE**

123. Following satisfaction of the requirements of this Order, Respondent shall have resolved its liability to EPA for the Work performed by Respondent pursuant to this Order. Respondent is not released from liability, if any, for response actions taken beyond the scope of this Order regarding other removals, other operable units, remedial investigation/feasibility studies, remedial design/remedial action, or other

activities arising pursuant to section 121(c) of CERCLA,  
42 U.S.C. § 9621(c).

**XXX. SIGNATORIES AND COUNTERPARTS**

124. The undersigned representative of Respondent certifies that he is fully authorized to enter into the terms and conditions of this Order and to execute and legally bind the party he represents to this document.

125. This Order may be executed in duplicate, each of which when executed by the parties hereto shall be deemed an original.

**IT IS SO AGREED:**

RESPONDENT  
Atlantic Richfield Company



BY:

C. Floyd George  
C. Floyd George, Manager  
Rocky Mountain Environmental Remediation

DATE:

9/20/91

**IT IS SO ORDERED AND AGREED:**

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VIII

BY:

Robert L. Duprey  
Robert L. Duprey, Director  
Hazardous Waste Management Division

DATE:

9/20/91

**EXHIBIT 1**

**WORK PLAN AND SCHEDULE**



**FINAL**

**WORK PLAN FOR  
TERESSA ANN TERRACE  
AND CEDAR PARK HOMES RESIDENTIAL  
TIME CRITICAL REMOVAL ACTION (TCRA)**

Prepared By  
Morrison Knudsen Corporation  
Environmental Services Division  
720 Park Boulevard  
Boise, Idaho

For  
ARCO  
307 East Park Avenue, Suite 301  
Anaconda, Montana  
August 26, 1991

## CONTENTS

1.0	INTRODUCTION .....	1
2.0	BACKGROUND .....	2
3.0	PRE-REMOVAL SCOPE OF WORK .....	3
3.1	Removal Area Selection Criteria .....	3
3.2	Review of Existing Data .....	3
3.3	Areas Selected for Removal, Further Sampling, and Analysis .....	4
3.3.1	Teressa Ann Terrace .....	4
3.3.2	Cedar Park Homes .....	8
3.4	Property Survey .....	9
3.5	Health and Safety .....	9
3.6	Borrow Material .....	9
4.0	REMOVAL ACTION .....	10
4.1	Soil Removal .....	10
4.2	Dust Suppression and Air Monitoring .....	11
4.2.1	Purpose .....	11
4.2.2	Air Quality Criteria and Protective Action Limits .....	12
4.2.3	Dust Suppression .....	12
4.2.4	Air Monitoring Network .....	13
4.2.5	Air Monitoring Quality Assurance .....	15
4.3	Soil Disposal .....	16
4.4	Backfill Placement .....	16
4.5	Landscaping .....	17
4.6	Operations and Maintenance .....	18
4.7	Schedule .....	18
5.0	REFERENCES .....	20

## APPENDIX A — REPORT FORM

### LIST OF FIGURES

1	TCRA - Teressa Ann Terrace Remediation Areas .....	21
2	TCRA - Cedar Park Homes Sampling Locations .....	22
3	TCRA - Transportation Route to Red Sands Area .....	23

### LIST OF TABLES

1	Summary of Data Indicating Removal Actions Or Further Sampling and Analysis (mg/kg Arsenic) .....	5
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## 2.0 BACKGROUND

The goal of the Anaconda Community Soils EE/CA is to determine the expedited response actions necessary to protect the public health. As part of the EE/CA effort, investigations were conducted to determine the nature and extent of soil contamination near residential areas. Previous investigations at Anaconda were performed in two phases. The results of the Phase I (PTI, 1989a, 1991) residential soils investigation indicated elevated levels of arsenic in soils in residential areas, specifically the Teresa Ann Terrace and Cedar Park Homes subdivisions. A more detailed Phase II soil sampling program (PTI, 1990, 1991) further delineated certain areas within these subdivisions that exhibit elevated levels of arsenic.

The Teresa Ann Terrace subdivision, including Elkhorn Townhomes, is located in the northeastern part of Anaconda, south of Warm Springs Creek and north of Commercial Street. The Cedar Park Homes subdivision is located in the north-central part of Anaconda, north of Warm Springs Creek and south of the town border.

Development of the Teresa Ann Terrace subdivision began in 1972. Thirty single-family homes and ten Elkhorn Townhome units, each comprising four apartments, were built. The single-family area is currently 60 percent undeveloped and includes an undeveloped park. The city of Anaconda and Deer Lodge County are presently building a baseball field complex east of the single-family area. Victory Homes subdivision was located at the Teresa Ann Terrace site from 1942-1953. The subdivision, which consisted of 18 buildings, was demolished in 1953 (Eccleston, 1988).

The Cedar Park Homes subdivision contains federal low-income housing units that were completed in 1951. There are 21 buildings containing 50 rental units in this subdivision.

The results of the Phase I sampling program (PTI, 1991) were used to determine if areas in Teresa Ann Terrace and Cedar Park contained soil contaminated with arsenic or other heavy metals. Evidence of contamination in these areas was found. The Phase II program consisted of the sampling the areas identified as potentially contaminated during Phase I sampling. These sample locations are shown on Figures 1 and 2. This work plan presents areas to be remediated during this TCRA and describes further sampling which is required to complete the characterization of arsenic contamination in certain areas prior to remediation if required. Yard-specific work plans will be prepared for each removal action.



### **3.0 PRE-REMOVAL SCOPE OF WORK**

#### **3.1 Removal Area Selection Criteria**

The goal of the work outlined in this TCRA work plan is to remove soil in the areas previously determined to contain elevated levels of arsenic. Additionally, some areas require further characterization through sampling and analysis to determine whether removal actions are required. Composite samples were also analyzed for lead. However, none of the sampled areas had lead concentrations in soil exceeding levels deemed appropriate by EPA, based on site-specific criteria. Areas with composite samples having arsenic (As) concentrations of 250 mg/kg and greater will be remediated during this TCRA. This concentration level is established for purposes of this TCRA only and should not serve as precedent for other response actions. The smallest scale of remediation will be at approximately the one-half yard level; therefore, in some areas composite sampling will be performed at the half-yard level to further define zones of contamination in order to more accurately select areas for removal actions. Existing data have been reviewed to determine which areas require removal and which require additional sampling prior to removal. Additional areas requiring removal will be identified after evaluation of results from additional sampling.

#### **3.2 Review of Existing Data**

Prior studies (PTI, 1991) indicated that selected surface soil composite and discrete soil pit samples have arsenic concentrations exceeding the action level stated above. Areas represented by these data are recommended for remediation or further sampling and analysis. If remediation is required, it will be performed according to the guidelines established in this work plan.

Data analysis included adjusting the data to remove laboratory bias by using the average matrix spike recovery QC data. The average lab bias for arsenic was calculated using the QC data and found to be 92%. This adjustment, as applied only to the Phase I and II data package, effectively lowers the action level to 230 ppm for the values contained in that data set. This average is applied only to this data set. Matrix spike recovery QC data from subsequent sampling will likely exhibit a different average lab bias.

The laboratory data was adjusted by dividing it by the fraction representing the average matrix spike recovery as recommended by the EPA (1990). Data adjustments are an attempt to remove bias inherent in laboratory data. Such data adjustments help to assure that data reported as close to an action level are not actually at or above the action level, but are reported at lower values because of laboratory inaccuracy.

Two types of sample data were collected: data from surficial soil composites of an area (yard) and data from discrete soil pit sample intervals. The composite samples provide an estimate of the average elemental concentrations for the yard as a whole. The discrete pit data determines only localized elemental concentrations at single locations in a yard. A few discrete samples were also taken in play areas or gardens and are referred to as opportunistic samples.

The data for locations where reported or adjusted arsenic concentrations in surficial composite samples (0-2") or discrete pit samples (2-24") exceed the action level, are shown in Table 1. Locations with surficial (0-2") composite results  $\leq 250$  mg/kg arsenic but whose pit sample results from the 0-2" interval were  $\geq 250$  mg/kg arsenic do not require removal actions. The pit results show only localized arsenic while the composite determines an average value for the entire yard.

Data presented in Table 1 indicate that 18 areas exceed action levels for arsenic based on surficial composite sample results. An additional 15 areas show that arsenic may exist at  $\geq 250$  mg/kg in the subsurface (2-24") but not at the surface (0-2"). The subsurface pit samples do not represent average values for entire yards as do the surficial composite samples. The pit samples do, however, indicate potential subsurface contamination. The areas requiring further work and/or remediation are discussed in Section 3.3.

### **3.3 Areas Selected for Removal, Further Sampling, and Analysis**

The results from prior sampling and analysis efforts and the planned removal and additional sampling and analysis for Teresa Ann Terrace and Cedar Park Homes are summarized below. The sampling, laboratory analysis, and data evaluation, validation and analysis procedures will correspond with methods described herein and additionally in an amendment to (MK 1991) or the original residential soils investigation sampling and analysis plan (PTI, 1989a); Anaconda Smelter laboratory analytical protocol (PTI, 1989b); Anaconda Smelter data management/data validation plan (PTI, 1990); and the Anaconda Smelter quality assurance project plan (U.S. EPA, 1988).

#### **3.3.1 Teresa Ann Terrace**

Soil sample results from the Teresa Ann Terrace subdivision indicate several areas which may contain arsenic in the soil at concentrations exceeding the action level. These are privately owned residences and property. The results from Phase II sampling efforts for Teresa Ann Terrace (TAT) will be discussed as three separate groups of property due to similarities in development: Elkhorn Apartments, developed TAT, and undeveloped TAT.

Table 1 Summary of Data Indicating Removal Actions  
Or Further Sampling and Analysis (mg/kg Arsenic)

Location	Surficial Composite Samples	Discrete Pit Samples			Opportunistic Samples (mg/kg As)
	0 to 2"	0 to 2"	2 to 10"	10 to 24"	
<u>Madison Park</u>					
A-22				413	
A-27				310	
A-28				420	
<u>Pressa Ann Terrace</u>					
<u>Chorn Townhomes</u>					
A-52	490	1600	1400	930	
A-53	420		280		
A-70	250	250			
A-71			330		
A-72	240				
A-73	330	290	474	560	
A-74	300	370	410		
A-76	410	360			
A-79	340	440	260	840	
<u>Developed</u>					
A-21	240				
A-25					330 (garden)
A-28			240		
A-31			230		
A-33			299		
A-35			480	450	
A-43			400		
A-44			1200	1200	
A-45			240		
A-50			740	302	
A-51	230			240	
<u>Undeveloped</u>					
A-23	260	250	280		
A-56			850		
A-57	240				
A-58			293		
A-59	360				
A-60	270				
A-61		280		300	
A-62	280	260			260 (playground)
A-64	540	240	350	420	
A-67	528	640	292		
A-68	640	300	1400	1367	
A-69			250		



## **Elkhorn Townhomes**

Due to the widespread indication of elevated soil arsenic levels in certain areas, singular ownership, and continuity and openness of the existing landscaping, the areas at the Elkhorn Townhomes represented by surficial composite samples exceeding action levels will be remediated without further sampling or analysis. These locations are TA52, 53, 70, 72, 73, 74, 76, and 79, and are shown on Figure 1.

One additional area, TA71, had arsenic concentrations  $\geq 250$  mg/kg in the soil from a single pit sample taken in the 2-10" interval. Subsurface samples 2-10" and 10-18" will be obtained at the same locations previously used to obtain the surficial samples which were composited. The subsurface samples to be taken at locations TA71-8, 9, and 10 will be composited. Those taken at locations TA71-5, 6, 7, and at the pit site will also be composited. If the results from either of those composites exceed the action level, the area represented by the composite will be remediated.

## **Developed Teressa Ann Terrace**

The portion of Teressa Ann Terrace (TAT) referred herein as the developed portion comprises the following areas:

- Lots 1, 17 through 27, Block 4,
- Lots 1, 2, 3, 9, 10, 11, 15, through 24, Block 6, and
- Lots 1 and 2, Block 7.

These lots represent occupied residences which are well established and have well developed landscaping. Two of these yards had surficial composite samples which exceed the action level: TA21, otherwise known as Lot 17, Block 4, and TA51 known as Lot 22, Block 6. The elevated arsenic concentrations in these yards will be further defined as existing in the front or back yard or both to minimize the inconvenience to the occupants during the removal action. This further definition will be done by recompositing the archived samples which were used to prepare the original surficial composite sample. Samples TA21-9, 10, and 11 will be composited and samples TA21-3 (0-2"), 5, 6, 7, and 8 will be composited. Samples TA51-5 and 6 will be composited and samples TA51-3, 7, 8, 9, and 10 will be composited. If the results of those composites exceed the action level, the area represented by the composite will be remediated.

One opportunistic sample, TA25-12, taken from a garden, had an arsenic concentration exceeding the action level. The owner reported that the soil had been imported from

Helena. Although no other soil arsenic concentrations exceeded the action level at this location, the soil in this garden will be removed and replaced with suitable soil (Figure 1).

Nine other areas had discrete pit samples which exceeded the action level but whose corresponding surficial composite samples did not exceed the action level. These locations are Lot 25, Block 4 (TA28); Lot 26, Block 4 (TA35); Lot 27, Block 4 (TA 31); Lot 3, Block 6 (TA33); Lot 15, Block 6 (TA43); Lot 16, Block 6 (TA44); Lot 18, Block 6 (TA45); Lot 22, Block 6 (TA51); and Lot 24, Block 6 (TA50). To assure that these areas are adequately evaluated, additional sub-surface samples will be collected and composited as previously described for Elkhorn Townhomes location TA71. These sub-surface samples will be composited on a half yard (e.g., front and back yard) basis to eliminate the time required for analyzing an entire yard composite and then recompositing half yard and analyzing again. The goal is to determine areas requiring time critical removal actions and then conduct the required removal action in a timely manner. The areas represented by sub-surface composite samples which exceed the action level will be remediated.

#### **Undeveloped Teresa Ann Terrace**

The portion of Teresa Ann Terrace (TAT) referred to herein as the undeveloped portion comprises the following areas:

- Lots 4, 12, and 13, Block 6;
- Lots 2 through 16, Block 4;
- Lots 1, 2, 8, 9, 25, 26, 27, and remaining undesignated lots, Block 2;
- Lots 7, 15, 16, 17, 18, and remaining undesignated lots, Block 1; and
- the area represented by sample location TA68 at the east end of Heather Drive.

These areas consist of completely undeveloped land which has been subdivided for residential development (Blocks 1, 2, and 6) and land which has recently been developed but has not yet been extensively landscaped (Block 4). Six of these areas will be remediated without further sampling because of the relative ease anticipated for these removal actions: Lots 5, 6, and 7, Block 4 (TA60); Lot 8, Block 4 (TA59); Lot 11, Block 4 (TA57); Lots 13 and 14, Block 4 (TA23); Lots 9 and 25, Block 2 (TA64); Lots 1, 2, and an undesignated lot, Block 2 (TA67); and Lot 7 and the two adjacent lots immediately south (TA66).

A common area represented by location TA62 contained elevated arsenic in the surficial composite sample. Due to the relatively large area involved, the archived samples will be recomposited to approximately represent thirds of the whole area and then analyzed for arsenic. The three composites will be prepared as follows:

- TA62-4, 7, 8, and 11;
- TA62-6, 9, and 10; and
- TA62-12 and 13.

An opportunistic sample (TA62-6) was taken in a playground in the common area. At a minimum, the area represented by this sample will be remediated.

The areas represented by surficial composite samples which exceed the action level will be remediated. The undeveloped area represented by sample location TA68 will be remediated without further sampling.

Four other areas had discrete pit samples that exceeded action levels for arsenic, but whose surface samples did not. These areas are Lots 2, 3, and 4, Block 4 (TA61); Lots 9 and 10, Block 4 (TA58); Lot 12, Block 4 (TA56); and Lot 13, Block 6. These areas will be sampled in the subsurface (2-10" and 10-18") and composited.

Insufficient samples were collected during Phase II to adequately assess the presence or absence of contamination in Lots 12 and 14, Block 6; Lots 8, 26, and remaining undesignated lots, Block 2; and lot 15 and remaining undesignated lots, Block 1. Surficial and subsurface (0-2", 2-10", and 10-18") samples will be collected and composited in the locations shown on Figure 1 and then analyzed for arsenic. Areas with surficial or subsurface composite samples which exceed the action level will be remediated.

At least 10% of the new 0-2" composite samples will have a portion of the sample sieved to -200 mesh (US), and the material passing will be analyzed for arsenic. This will be in addition to standard CLP arsenic analysis for the sample. This analysis will provide arsenic concentrations for the smallest soil fraction.

### **3.3.2 Cedar Park Homes**

Sampling results from the Cedar Park Home subdivision indicate that no surficial (0-2") soil contamination exists at  $\geq 250$  mg/kg arsenic. Some subsurface arsenic contamination may exist in the 10 to 24-inch zone according to the pit sample results from locations CP-22, CP-27, and CP-28. This will be evaluated by collection of subsurface samples (2-10" and 10-18") at the locations of the previously collected surface samples and at the original pit sample location. Splits of the subsurface samples will be composited and analyzed for arsenic to determine the average arsenic concentration in the subsurface. If the composite sample exceeds the action level for arsenic, the location will be remediated.



### 3.4 Property Survey

ARCO will prepare a scaled plot plan of each property targeted for remediation which will be identified by legal description and address. Enlarged aerial photographs may be useful as a base map for each yard. A field survey of yards will be performed using the plot plan to locate and identify all notable yard features. Measuring wheels and a tape will probably be used to locate these features. Photographs and video tapes will document the existing yard conditions and improvements.

Photographs and descriptive notes of yard features and access will accompany the plot plan. The following items will be considered when documenting property conditions:

- Structures and foundations,
- sidewalks and slabs,
- driveways and composition,
- utilities, including gas, water, sewer — consider clearance of overhead utilities,
- sprinkler systems,
- lawn areas,
- trees species and trunk size,
- shrubs species and trunk size,
- gardens and flower beds,
- fences and composition,
- decks,
- clotheslines,
- garages and storage sheds, and
- wood stockpiles.

### 3.5 Health and Safety

ARCO will prepare a site-specific health and safety plan in compliance with OSHA, CERCLA, and ARCO's comprehensive Safety and Health Program. Prior to the initiation of yard remediation, ARCO will submit a copy of this plan to EPA.

### 3.6 Borrow Material

Potential borrow sites will be evaluated to supply uncontaminated fill for remediated yards. Soil Conservation Service maps will be reviewed to locate areas with favorable soil conditions. Land status maps will also be utilized to determine land ownership. Existing commercial quarries may prove suitable.

Once potential borrow sites have been identified, borrow material will be evaluated to determine its suitability as fill. Sampling will be carried out in pits excavated at potential borrow sites. Samples will be taken of material representative of that to be used as fill and topsoil in the yards. Physical testing to be performed on the material include sieve analysis, Atterburg limits, moisture-density relationship (Proctor) and moisture. Chemical analysis includes selected heavy metals and arsenic. Specifications for acceptable fill material are detailed in Section 4.4.

A borrow site will be identified and secured during yard sampling activities prior to removal of soils.

## **4.0 REMOVAL ACTION**

### **4.1 Soil Removal**

The selected excavation/grading contractor will be responsible for removing and replacing the uppermost 18 inches of soil at each property exceeding action levels described in Section 3.0 by sampling. This depth was chosen because residential gardening activities would not typically disturb soils deeper than 18 inches. A yard-specific work plan will be prepared and submitted to the landowner and EPA's authorized representative at least one week prior to the start of each removal. Each landowner will have the opportunity to review and approve the plan for his property. The yard-specific work plan will be reviewed by the landowner, ARCO, and EPA's representative. The EPA's authorized representative will have the final approval authority of yard-specific plans, with concurrence of the landowner and ARCO, prior to remediation of the yard.

The yard-specific work plan will detail the areal extent of soils to be excavated and describe specific activities involved such as removal of fences for access, extent of excavation around trees, removal of vegetation, etc. The plan will include a scaled plot plan that will graphically show yard feature disposition. Scheduling will also be included in the plan. Utilities will be marked prior to excavation and will be avoided during excavation where possible. Residents will not be required to vacate their homes during the remediation, but will be required to keep their windows and doors shut.

The contractor will remove the upper 18 inches of exposed soil, including lawns and gravel driveways. The equipment will be selected by the contractor. It is anticipated that articulated bobcats, loader/hoes, hand shovels, and dump trucks will be used. Water trucks will be required for spraying and misting for dust control. Yard soil will be excavated, stockpiled, and loaded into dump trucks. Yard soil will be stockpiled for not more than 4

hours and in no case shall remain overnight, over the weekend, or other non-working days to prohibit contamination of other soil.

Care will be taken to avoid damage to structures, vegetation, and permanent yard features. It may be necessary to remove such features for access and equipment mobility. All features will be restored to original condition to the maximum extent practicable. Sprinkler systems will be removed and replaced with the same or equivalent system. Areas under wood decks or similar structures will be skirted to prohibit access to soils when the deck is close to the ground surface as agreed to with the owner; otherwise the soil will be excavated. Soil or gravel material deposited on sidewalks, driveways, etc. during operations will be removed. Excessive dust deposited on features in the yard and on the exterior of the house will be rinsed off.

Trees and shrubs having trunks greater than 1 inches in diameter will be left in place. Care will be taken to prevent damage, especially to roots, by applying moist burlap or keeping clean soil available to backfill over them. Smaller vegetation will be removed. Small shrubs and perennial plants may be temporarily stored in containers prior to excavation by the subcontractor and replanted after backfill.

All concrete or asphalt walkways, driveways, patios, or similar structures will be left in place. If any portion is damaged or destroyed, it will be repaired and/or replaced to original condition. Removal and temporary storage of automobiles and items in gravel floor tool sheds, garages, and storage sheds will be the responsibility of the landowner. ARCO shall provide for temporary storage of items in dirt floor garages and storage sheds if needed.

All excavated areas will be clearly marked by warning tape, barricades, etc., to preclude unauthorized entry. At least one clean access to the house will be maintained at all times. Access to streets and alleyways for emergency vehicles will also be maintained.

## **4.2 Dust Suppression and Air Monitoring**

### **4.2.1 Purpose**

This plan describes the dust suppression and air monitoring activities planned during the Teresa Ann Terrace and Cedar Park Homes Residential Time Critical Removal Action (TCRA). It contains elements of the Site Health and Safety Plan, for completeness but any duplicate requirements are intended to serve the purposes of both plans and should not be duplicated in the field.



## 4.2.2 Air Quality Criteria and Protective Action Limits

Air quality action limits are based on levels determined by EPA (40 CFR 50) and OSHA (29 CFR 1910.1018) to be protective of human health.

<u>Contaminant</u>	<u>Worker Protection/ Time Weighted Average (at work area)</u>
Respirable Dust	5000 $\mu\text{g}/\text{m}^3$ (8-hour TWA)
Arsenic	10 $\mu\text{g}/\text{m}^3$ (8-hour TWA)
Lead	50 $\mu\text{g}/\text{m}^3$ (8-hour TWA)
Cadmium Dust	200 $\mu\text{g}/\text{m}^3$ (8-hour TWA)

Real-time Mini-ram Dust Suppression Action Limits (10-minute average) to Protect Criteria

Stage 1 Limit:	2500 $\mu\text{g}/\text{m}^3$
Stage 2 Limit:	5000 $\mu\text{g}/\text{m}^3$

## 4.2.3 Dust Suppression

Dust suppression is based on methods found to be successful during similar removal actions. They may be better classified as "standard methods" that are continuously and routinely applied; Stage 1 methods which are applied when air criteria are threatened, but may be protected without stopping work; and Stage 2 methods which include a maximum level of control effort, and a temporary work stoppage until conditions are under control. Response actions outlined below are directed by controlling Mini-ram action limits given previously.

### 4.2.3.1 Perimeter

The following dust suppression activities will be required to protect the public outside the excavation perimeter.

Routine Control Activities: These activities will be performed as part of the normal excavation/backfilling procedures. These activities are:

- Wet soil before excavation.
- Spray water as needed to maintain dust control.
- Spray truck loads as necessary to reduce blowoff.

Stage 1 Control Activities: These activities will commence when perimeter real-time particulate monitoring shows concentrations from 2500 to 5000  $\mu\text{g}/\text{m}^3$ . These activities are:

- Enhance water spraying program.
- Continue work but minimize dust-generating operations.

Stage 2 Control Activities: These controls will start when real-time monitoring shows particulate concentrations exceeding 5000  $\mu\text{g}/\text{m}^3$  at the excavation perimeter or when high wind results in visible emissions. They are:

- Stop work.
- Control emissions to the maximum extent possible with water sprays.

#### 4.2.3.2 Work Area

The following requirements for personal protective equipment (PPE) will be in place for worker protection within the excavation area (see also Site Health and Safety Plan).

Routine Requirements: The following PPE will be required for all personnel working within the excavation area for real-time particulate concentrations up to 2500  $\mu\text{g}/\text{m}^3$ .

- Level D personal protective equipment.
- Respirators available at site.

Stage 1 Requirements: No additional PPE will be required for worker protection within the excavation area when real-time particulate concentrations exceed 2500  $\mu\text{g}/\text{m}^3$ .

Stage 2 Requirements: The following PPE or mitigation response will be required for worker protection within the excavation area when real-time particulate concentrations exceed 5000  $\mu\text{g}/\text{m}^3$ .

- Stop work or
- Level C personal protective equipment and
- Respirators worn.

## 4.2.4 Air Monitoring Network

### 4.2.4.1 Monitoring Equipment

Monitoring of particulate emissions from excavation and backfilling activities will be accomplished using both real-time and integrated sample collection equipment. This equipment will provide (1) real-time data for enacting dust suppression measures and PPE requirements, and (2) periodic integrated sample collection throughout the duration of the material handling activities. Samples collected and analyzed will confirm arsenic exposure limit compliance. Equipment utilized during the program are outlined below.

Real-time Particulate Monitoring — Particulate monitoring will be conducted using a Mini-ram real-time particle indicator set to provide 10 minute average concentrations. The Mini-ram effectively measures particles approximately 10 microns in size or smaller and is a conservative indicator for total particulate concentration.

Integrated Sample Collection — Air monitoring will be conducted using personal sampling pumps (e.g., Gillian pump sampler) operated at 2 liters per minute periodically throughout the material handling activities. Sampling will be conducted in accordance with NIOSH Methods 7900 for arsenic, 7082 for lead, and 7048 for cadmium, but matched-weight filters will be used so that total particulates can be determined.

### 4.2.4.2 Monitoring Locations

Locations chosen for monitoring during the removal action activities will effectively provide particulate monitoring within the excavation zone (e.g., yard), at the perimeter of the excavation zone, and at the perimeter of the neighborhood. These locations will provide data for both worker protection within the excavation area and public health protection outside of the excavation area. These locations are given below.

Real-time Monitoring — Real-time monitoring of 10-minute averaged particulate concentrations will be continuously conducted at the down-wind edge of each excavation zone with a Mini-ram sampler. Periodically the downwind monitoring will be interrupted to obtain measurements in the work area and at the periphery of the residential neighborhood in the upwind and downwind directions.

Integrated Sample Collection — Integrated sample collection will provide samples of particulates generated as a result of removal activities. These samples will be collected daily during the first two weeks, then periodically if no threat to worker health is observed. The samples will be analyzed as described in Section 4.2.4.3. Sampler locations are detailed below.



- *Work-Area:* As part of the Health and Safety plan, a minimum of one personal sampler will be operated on the person expected to be working in the dustiest area during each 8-hour work period.
- *Excavation Zone:* Particulate samplers (Gilliam pump sampler) will be located as near as is feasible, to the front, back and both side property lines which conservatively encompass the work area planned for a given day. If for example, there is a possibility of working on two adjacent yards in a given work period, a sampler would be located at all four sides of the combined property, but not along their common boundary. If significant material-handling work is conducted at widely separated locations during one day, the sampling network will be re-established with new sample media for each location.
- *Neighborhood Perimeter:* Particulate samplers (Gilliam pump sampler) will be operated at the edge of the neighborhood in both the predominant upwind (west to west-northwest) and downwind (east to east-southeast) locations. These samplers will serve to establish the background concentrations of the incoming air mass and to verify that the air criteria are met at the neighborhood perimeter as well as at the edge of the excavation zone.

#### 4.2.4.3 Sample Analysis Protocol

A total of six perimeter samples from excavation zone and neighborhood perimeter stations, and at least one work area sample should be collected each day or work period during the first two weeks. All samples will be sent to the laboratory using accepted sample custody procedures. The laboratory will perform gravimetric analysis to determine total particulate concentration.

The perimeter sample from each work period with the highest particulate mass concentration will be analyzed for arsenic, lead, and cadmium. All remaining perimeter samples will be archived for possible analysis at a later date.

The work-area personal sample will be analyzed automatically for total mass, arsenic, lead, and cadmium concentrations in accordance with NIOSH Methods 0500, 7900, 7082, and 7048, respectively.

#### 4.2.5 Air Monitoring Quality Assurance

All samplers will be calibrated weekly and sampler flows will be checked at a single point each day. A blank filter will be submitted to the laboratory each sampling day. A

collocated sampler will be operated each sampling day to provide statistics for estimating method precision. Collocated samples will be analyzed gravimetrically and collocated sample pairs will be selected retrospectively and analyzed for arsenic at a sufficient frequency to provide one overall collocated data pair for each five samples analyzed, or 20% overall.

#### 4.3 Soil Disposal

Contaminated yard soil and debris will be disposed of at the Old Works/Arbiter Site. Existing depressions in the Red Sands area of the site will receive the materials removed from the yards. The final disposition of the Red Sands will be determined under the Old Works/Arbiter Site RI/FS. Non-contaminated debris will be disposed at the local city-county owned and operated landfill after securing permission from the local government.

Dump truck beds will be filled in such a way to prevent loss of contents while in route to the disposal site. Soil will be water sprayed on the truck as appropriate to control blowoff while en route to the disposal area. Loose material will be brushed from the truck bed at the disposal site to ensure containment of contaminated soil. Truck washing will not be required.

A transport route to the disposal area will be designed to minimize community exposure to potential contaminants. The transportation route to be utilized from Teressa Ann Terrace and Cedar Park Homes subdivisions to the Red Sands area is shown on Figure 3.

#### 4.4 Backfill Placement

Borrow material accepted for use as backfill will not exceed concentrations given for the following elements: arsenic, 97 ppm; cadmium, 3 ppm; mercury, 0.2 ppm; and lead, 200 ppm. Material with levels exceeding these concentrations will be rejected. Physical parameters for selected material are given below.

##### Satisfactory Material for Residential Backfill

Materials from approved borrow sources that meet the following requirements are satisfactory materials for backfill:

- have a maximum particle size less than 3 inches;
- no greater than 10% coarse gravels (3/4-inch diameter or greater);
- are free of excess moisture and debris;
- classify by ASTM D2487 as GW, GP, GM, GC, SW, SP, SM, SC, CL, OL, and ML (and combinations of these, such as SP-SC, etc.).

### Unsatisfactory Material for Residential Backfill

Materials which are frozen, contaminated, or contain excess moisture, organic matter (such as strippings, roots, etc.), trash, debris, cobbles, or classify by ASTM D2487 as MH, CH, Pt, and OH are unsatisfactory materials and shall not be used for backfill.

### Material Placement

Suitable backfill material will be transported to the properties by the excavation/grading contractor. Prior to placement of fill, a 2-inch layer of crushed 1-inch minus limestone will be placed on the excavated surface. The fill will then be placed in two lifts of approximately 8 inches (loose), moisture conditioned if required, and compacted to approximately 85% of modified Proctor density (ASTM 1557). It is anticipated that this level of compaction will be achieved with roller compactors. Periodic moisture-density field testing will be required to assure that the fill material will not settle. Hand compaction will be required adjacent to structures and trees using care not to deform concrete footings or unstable structures. The materials will be placed up to pre-removal grades.

In areas that were previously graveled, a specific thickness of 3/4-inch gravel will be agreed upon with the landowner and placed back. The gravel will be placed directly upon the compacted fill to original grade.

The responsibility of the excavation/grading contractor will be to restore the areas to be sodded in the yard to rough grade. Final grading and sod placement will be completed by a landscape contractor. Final grading of unsodded or graveled areas will be the responsibility of the excavation/grading contractor. All final grading will restore original drainage patterns to the maximum extent practicable.

Physical testing will be performed during backfilling and compacting in accordance with the following.

### Test or Observation

### Frequency

Field Density and Moisture  
(ASTM D2922 and D3017)

One per lift in front and back yards at random locations.

Visual-Manual Soil Classification  
(ASTM D2488)

One per front and backyards at random locations.

## **4.5 Landscaping**

Four inches of topsoil will be placed in lawn areas. Garden areas will receive 12 inches of topsoil. Topsoil will be the most fertile reasonably available, free from brush, rocks,

excessive quantities of roots, and other objectionable matter. Prior to placement of topsoil, the subgrade will generally conform to smooth lines, slopes, and grades so that adequate thickness of topsoil can be maintained. The surface will be free of debris and not extremely wet or muddy. Topsoil will be leveled and smoothed and acceptable for sod placement.

Fill material, gravel, topsoil, and sod will be imported from an approved, uncontaminated area, and will be sampled and analyzed to insure their suitability. The landscape and excavation contractors will coordinate their schedules for backfill completion, sodding, and repair/replacement work.

#### **4.6 Operations and Maintenance**

During the physical on-site conduct of the removal action, weekly reports will be prepared discussing at a minimum the weekly activities, field adjustments, summaries of problems, and actions to rectify problems. Monthly progress reports will be prepared and will contain at a minimum: a description of actions taken during the preceding month; a description of problems encountered; and work planned for the next month with schedules relating such work to the overall project. An example of a weekly construction report form is presented in Appendix A.

An operations and maintenance (O&M) report will be prepared describing the O&M activities performed during the previous calendar year for each removal phase. Maintenance activities will include at a minimum, the checking of each remediated yard for settling, sod, and vegetation survival, and overall workability of replaced yard features at approximately 12 months from completion of each phase of removal.

#### **4.7 Schedule**

The following is a schedule of deliverables associated with work to be performed during the Teresa Ann Terrace and Cedar Park Homes TCRA.

<u>Deliverable</u>	<u>Due Date</u>
1. Preliminary Data Summary Report	August 28, 1991
2. Draft Final Data Summary Report	October 1, 1991
3. Site-Specific Health and Safety Plan	Prior to start of field work
4. Yard-Specific Work Plans	48 hours prior to scheduled yard removal



- |    |                                   |   |
|----|-----------------------------------|---|
| 5. | Weekly Construction Reports       | The Tuesday of the following week                                   |
| 6. | Monthly Progress Reports          | The 5th day of the following month                                  |
| 7. | Operations and Maintenance Report | One calendar year following the completion of each phase of removal |
| 8. | Final Report                      | Within 60 days of completion of the remedy                          |

## 5.0 REFERENCES

- Eccleston, K. 5 October 1988. Personal Communication (letter to Mr. John Kane, PTI Environmental Services, Bellevue, WA). Public Relations Liaison, U.S. Environmental Protection Agency Region 8, Anaconda, MT.
- MK, 1991. Teresa Ann Terrace and Cedar Park Homes Residential Time Critical Removal Action Yard Sampling and Analysis Plan. Morrison Knudsen Corp., Environmental Services Division, Boise, Idaho.
- PTI, 1989a. Old Works Engineering Evaluation/Cost Analysis Residential Area Soils Investigation Sampling and Analysis Plan. PTI Environmental Services, Bellevue, WA.
- PTI, 1989b. Anaconda Smelter Laboratory Analytical Protocol. PTI Environmental Services, Bellevue, WA.
- PTI, 1990a. Anaconda Smelter Data Management/Data Validation Plan. PTI Environmental Services, Bellevue, WA.
- PTI, 1990b. Teresa Ann Terrace and Cedar Park Homes Residential Area Soil Investigation Amendment Phase II Yard Sampling and Analysis Plan. PTI Environmental Services, Bellevue, WA.
- PTI, 1991. Data Report for Anaconda Community Soils Phase I and Phase II, Sampling and Analysis (in progress).
- U.S. EPA, 1988. Anaconda Smelter Quality Assurance Project Plan. U.S. Environmental Protection Agency, Helena, MT.
- U.S. EPA, 1990. Quality Assurance/Quality Control Guidance for Removal Activities, Part II: Data Validation Procedures, 540/G-90/004, April.

**EXHIBIT 2**

**ARARs**

## EXHIBIT 2

FEDERAL AND STATE APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs) FOR THE ANACONDA SMELTER SUPERFUND SITE, COMMUNITY SOILS OPERABLE UNIT, TERESSA ANN TERRACE, ELKHORN APARTMENTS, AND CEDAR PARK HOMES RESIDENTIAL TIME-CRITICAL REMOVAL ACTION UNDER ADMINISTRATIVE ORDER ON CONSENT (AOC), EPA DOCKET NO. CERCLA-VIII-91-26.

The time-critical removal action for the Community Soils Operable Unit of the Anaconda Smelter NPL Site (TCRA) addresses the excavation and disposal of contaminated soils and replacement of the excavated soils in residential yards and vacant lots located within the Teresa Ann Terrace, Elkhorn Apartments, and Cedar Park Homes subdivision. The scope of the TCRA is described more specifically in the Work Plan attached as Exhibit 1 to the AOC, EPA Docket No. CERCLA-VIII-91-26.

The contamination at the Site is derived from smelter stack emissions, which are the result of the extraction and beneficiation of metals from ores by smelter operations. Resource Conservation and Recovery Act (RCRA) Subtitle C is not applicable because these wastes are excluded from the definition of hazardous wastes at section 3001(b)(3)(A)(ii) of RCRA, 40 U.S.C. § 6921(b)(3)(A)(ii), and at 40 C.F.R. § 261.4(b)(7).

Substantive provisions of the following requirements are identified as applicable or relevant and appropriate requirements for the TCRA pursuant to 40 C.F.R. § 300.400. In accordance with 40 C.F.R. § 400.415(i), ARARs for this TCRA shall be attained to the extent practicable considering the exigencies of the situation. Following is a list and description of ARARs for this removal action:

### Contaminant-Specific ARARs

1. Primary and Secondary National Ambient Air Quality Standards for Particulate Matter and Lead, 40 C.F.R. §§ 50.6 and 50.12, promulgated pursuant to sections 109 and 301(a) of the Clean Air Act.

2. Montana Ambient Air quality Standards for Lead, Settled Particulate Matter and PM<sub>10</sub>, Annotated Regulations of Montana (ARM) §§ 16.8.815, 818, and 821, pursuant to the Clean Air Act of Montana, MCA § 75-2-101, et seq., as part of a federally-approved State Implementation Plan (SIP) under section 110 of the Clean Air Act, 42 U.S.C. § 7410. Corresponding federal regulations addressing lead and PM<sub>10</sub> are found at 40 C.F.R. §§ 50.12 and 50.6, respectively (see paragraph 1. above.)



3. Montana airborne particulate matter and opacity regulations, ARM §§ 16.8.1401(3) and 16.8.1401(4), pursuant to the Clean Air Act of Montana, MCA § 75-2-101, et seq., as part of a federally-approved SIP, under section 110 of the Clean Air Act, 42 U.S.C. § 7410.

#### Location-Specific ARARs

1. Archaeological and Historic Preservation. 40 C.F.R. § 6.301(c), pursuant to the Archaeological and Historic Preservation Act.

Based upon investigations to date, no irreparable loss or destruction of significant scientific, prehistoric or archeological data is anticipated under the TCRA. Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

2. Protection and enhancement of the cultural environment. 36 C.F.R. Parts 63 and 800, pursuant to Executive Order on Protection and Enhancement of Cultural Environment, No. 1593, 16 U.S.C. § 470.

Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

3. Historic Preservation. 40 C.F.R. § 6.301(b) and 36 C.F.R. Part 800, pursuant to the National Historic Preservation Act, 16 U.S.C. §§ 470, et seq., and the Historic Sites, Buildings, and Antiquities Act, 16 U.S.C. §§ 461-467.

Based upon investigations to date, this action will not affect any property with historic, architectural, archeological or cultural value that is listed on or eligible for listing on the National Register of Historic Places. Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

4. National Natural Landmarks. 40 C.F.R. Part 6.301(a).

Based upon investigations to date, this action will not affect national natural landmarks. Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

5. Endangered Species Protection. 40 C.F.R. § 6.302(h) and 50 C.F.R. Part 402, pursuant to the Endangered Species Act, 42 U.S.C. §§ 1531, et seq.

Based upon investigations to date, no designated endangered or threatened species or their habitat will be affected by this action. Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

6. Floodplains Management. 40 C.F.R. § 6.302(b), and Appendix A, pursuant to Executive Order on Floodplains Management, No. 11,988.

Based upon investigations to date, no adverse impacts associated with direct and indirect development of a floodplain are anticipated under this TCRA. The actions described in the Work Plan comply with this ARAR. Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

7. Wetlands Protection. 40 C.F.R. § 6.302(a), and Appendix A, pursuant to Executive Order on Protection of Wetlands, No. 11,990.

Based upon investigations to date, this TCRA will not be in or affect wetlands. Based upon investigations to date, no further actions are required for compliance with this ARAR under the TCRA at this time.

### Action-Specific ARARs

1. Yard and vacant lot excavation and cleanup.

Reclamation requirements. 30 C.F.R. § 784.13.

Activities for compliance with this requirement under the TCRA are specified in the Work Plan, and require a minimum of 18 inches of fill and soil for the reclaimed lots and yards. No further actions than those specified in the Work Plan are required to comply with this ARAR under the TCRA.

2. Disposal of contaminated soils.

a. ARM §§ 16.14.505 and 523, pursuant to the Montana Solid Waste Management Act, MCA §§ 75-10-201, et seq.

Activities required for compliance with these requirements under the TCRA are contained in the Work Plan. No further actions than those specified in the Work Plan are required to comply with this ARAR under the TCRA.

b. 40 C.F.R. §§ 257.1 through 257.4, pursuant to the Solid Waste Management Act, 42 U.S.C. §§ 6901, et seq.

Activities required for compliance with these requirements under the TCRA are contained in the Work Plan. No further actions than those specified in the Work Plan are required to comply with this ARAR under the TCRA.

c. 49 C.F.R. Parts 107 and 171-177, pursuant to the D.O.T. Hazardous Materials Transportation Act, 49 U.S.C. §§ 1801-1813, for on-site transportation of wastes or contaminated soils.

d. No cover currently is anticipated under the Work Plan for the disposal area in the Red Sands for excavated contaminated soils. In the event that a cover for such excavated soils is deemed necessary in accordance with the Additional Work provisions requirements of the Order on Consent, the requirements of the Montana Hazardous Waste Management Act ARM § 16.44.702 and implementing regulations which correspond to 40 C.F.R. §§ 264.310(a)(2), (3), and (4) will be ARARs.

#### General ARARs

ARM §§ 16.8.1401 and 16.8.1427. These ARARs require that clean-up activities be conducted to minimize or prevent particulate emissions and to avoid the creation of a public nuisance, through the use of reasonable precautions.

#### Other Laws

Although not ARARs, the Occupational Health and Safety Act, 29 U.S.C §§ 651-678, 29 C.F.R. Part 1926, 20 C.F.R. §§ 1910.120, and 1910.132, and the Montana Safety Act. MCA § 50-71-201, and the Employee and Community Hazardous Chemical Information Act, MCA §§ 50-78-202 through 204, and 50-78-307, require the development of, and compliance with, a Site Safety Plan to ensure the health and safety of workers involved with the cleanup.

**EXHIBIT 3**

**EXAMPLE OF DISCLAIMER**



### EXHIBIT 3

#### EXAMPLE OF DISCLAIMER

ARCO submits the attached [fill in the name of the report] Report with revisions to section(s) \_\_\_\_\_ on pages \_\_\_\_\_, which were made at EPA's direction over ARCO's objections.

**EXHIBIT 4**

**ACCESS AGREEMENT**

ACCESS AGREEMENT

\_\_\_\_ ("Owner") and Atlantic Richfield Company ("ARCO") enter into this Access Agreement ("Agreement") this day of \_\_\_\_\_, 19\_\_.

1. ARCO plans to enter into an Administrative Order on Consent with the U.S. Environmental Protection Agency ("EPA"), to conduct a Time Critical Removal Action at the Community Soils Operable Unit for the Anaconda Area Site.

2. Access to property owned by Owner as described in Exhibit A is needed to conduct certain work required by the Consent Order as described hereinafter.

3. Owner agrees to permit ARCO to conduct such work on Owner's property.

Therefore, in the mutual interest of Owner and ARCO in furthering the protection of public health and the environment, including the benefits to Owner's property,

Owner and ARCO further agree as follows:

1. GRANT OF ACCESS. Owner hereby grants to ARCO and EPA, including the authorized representatives of each, the right to enter Owner's real property, as described in Exhibit A, which is attached hereto and incorporated herein by reference (the "Property"), to conduct activities required by the Consent Order, including without limitation, excavation and removal of soils, monitoring of environmental media and conducting other information gathering activities such as field investigations, and surveys, (collectively referred to as "Work"). Owner warrants and represents to ARCO that, to the best of Owner's knowledge, Owner possesses ownership interests in the Property sufficient to grant access to ARCO to conduct the Work. ARCO will make every reasonable effort to minimize any inconvenience to Owner during its Work on the Property, and will work closely with Owner to address any concerns Owner may have about the Work.

2. INDEMNIFICATION OF OWNER. ARCO agrees to indemnify and hold harmless Owner from any and all actions, claims, damages, losses, liabilities, or expenses, including damage to property or for loss of use of property, ("liabilities") which may be imposed on or incurred by Owner as a result of ARCO's negligent, reckless or willful acts or omissions while on the Property, except to the extent that such liabilities result from the acts or omissions of Owner. Provided that the Work is conducted without negligence by ARCO, Owner and ARCO agree that the Work conducted pursuant to this Agreement shall not give rise to a claim for indemnification under this provision.

3. COVENANT NOT TO SUE. Except for the indemnification as provided in Paragraph 2 of this Agreement, Owner covenants not to sue ARCO for, and hereby releases ARCO from, any liability for any actions, claims, damages, losses, expenses, or any other liabilities, including but not limited to damages to property or for loss of use of property, arising out of or related to the Work, provided that the Work is conducted without negligence by ARCO.

4. NOTICE. ARCO shall provide Owner, either in writing or verbally, with at least 24 hours notice prior to first commencing the Work on the Property.

All written notices pertaining to this Agreement shall be sent to Owner and ARCO at the respective addresses below. Either Owner or ARCO may designate a different address for receipt of notice by providing written notice of such change to the other.

TO ARCO: ARCO  
307 E. Park Avenue, Suite 301  
Anaconda, MT 59711

Attention: Robin Bullock

TO OWNER: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. RESTORATION OF PROPERTY. Upon completion of the Work, ARCO will use its best efforts to return the Property to the condition it was in at the time ARCO first entered the Property under this Agreement, provided such restoration is not inconsistent with the Work conducted pursuant to this Agreement and the Order.

6. CONDITION OF THE PROPERTY. If the Work entails the excavation and removal of soils, ARCO and EPA may photograph the Property prior to and upon completion of the excavation and removal of soils to document and obtain a fair and accurate representation of the present condition of the Property.

7. MISCELLANEOUS.

a. Effect of Agreement. This Agreement and the rights and obligations created hereby shall be binding upon and inure to the benefit of Owner and ARCO and their respective assigns and successors in interest.

b. Negation of agency relationship. This Agreement shall not be construed to create, either expressly or by implication, the relationship of agency or partnership between Owner and ARCO. Neither Owner nor ARCO is authorized to act on behalf of the other in any manner relating to the subject matter of this Agreement.

c. Termination. Except with respect to paragraphs 2, 3 and 7.a of this Agreement, this Agreement will terminate thirty (30) days following ARCO's written notification to Owner that the Work is complete.

d. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Montana.



e. Construction. The invalidating or unenforceability of any provision of this Agreement shall not affect the validity of enforceability of any other provision.

f. Entire Agreement. This Agreement embodies the entire agreement of Owner and ARCO with respect to the subject matter hereof, and no prior oral or written representation shall serve to modify or amend this Agreement. This Agreement may be modified only by a written agreement signed by Owner and ARCO.

IN WITNESS WHEREOF, Owner and ARCO have executed this Agreement effective as of the date first written above.

OWNER

By: \_\_\_\_\_

Title: \_\_\_\_\_

ATLANTIC RICHFIELD COMPANY

By: \_\_\_\_\_

Title: Montana Facilities Manager

**EXHIBIT B**

**SAMPLE REQUEST**

I, the undersigned, am the owner, his legal representative, or otherwise control the Property (and water well, if applicable) described herein. I have granted access to ARCO, EPA, and their respective representatives to enter the Property and to take samples of environmental media from the Property.

I hereby request that ARCO provide to me:

- (1) \_\_\_\_\_ a portion of any sample taken by ARCO from the Property;
- (2) \_\_\_\_\_ a report of the results of that sampling.

**PLEASE CHECK ONE OR BOTH OF THE ABOVE.**

I understand that, after a sample portion is provided to me, the handling, the storage and any analysis of that sample portion, or costs for the same, are my responsibility.

Signature of person making request (if made on behalf of another person or company, please identify that party also):

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

The address at which the requesting party may be contacted and/or the sample portion delivered:

**PLEASE RETURN ONE EXECUTED ORIGINAL OF THIS ENTIRE ACCESS AGREEMENT, INCLUDING THIS SAMPLE REQUEST FORM, IN THE SELF-ADDRESSED, STAMPED ENVELOPE TO:**

**Atlantic Richfield Company, Attention: Robin Bullock**

**EXHIBIT 5**

**GUIDANCE LIST**

EXHIBIT 5

GUIDANCE LIST

This list is a non-inclusive list of applicable Guidance.

U.S. EPA, National Oil and Hazardous Substances Contingency Plan, 40 CFR Part 300 (1990).

U.S. EPA, CERCLA Compliance with Other Laws Manual, OSWER Directive 9234.1-01 (August 1988).

U.S. EPA, CERCLA Compliance with Other Laws Manual, Part 2, OSWER Directive 9234.1-02 (August 1989).

NIOSH, Guidance Manual for Superfund Activities, (Volumes 1-9) U.S. DHHS, NIOSH, Cincinnati, Ohio (1985).

NIOSH/OSHA/USCG/USEPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, U.S. DHHS (1985).

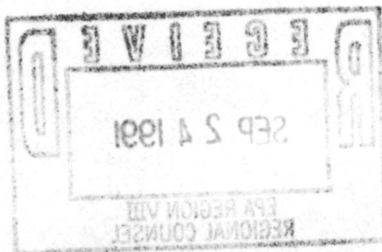
U.S. EPA, Applicability of RCRA Requirements to CERCLA Mining Sites, OSWER Directive No. 9234.0-04 (August 1986).

U.S. EPA, Superfund guide to RCRA Management Requirements for Mineral Processing Wastes, OSWER Directive No. 9347.3-12FS (November 1990).

U.S. EPA, Superfund Analytical Data Review and Oversight, OSWER Directive No. 9240.0-03 (August 1988).

U.S. EPA, Test Methods for Evaluating Solid Wastes, 3rd Ed. (SW-846) (November 1986).

U.S. EPA, Environmental Review Requirements for Removal Actions, OSWER Directive No. 9318.0-05 (April 1987).





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