BEFORE THE DEPARTMENT OF ENVIRONMENTAL QUALITY

OF THE STATE OF MONTANA

IN THE MATTER OF REMEDIAL ACTION AT THE COLUMBIA FALLS ALUMINUM PLANT a/k/a ANACONDA ALUMINUM CO. COLUMBIA FALLS, A CECRA FACILITY.	ADMINISTRATIVE ORDER ON CONSENT Docket No. SF-14-___

I - JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order on Consent ("AOC") is entered into between the Columbia Falls Aluminum Company LLC ~~and Glencore Ltd. ("Respondents")~~ and the Montana Department of Environmental Quality ("DEQ") pursuant to § 75-10-723, MCA. This AOC requires ~~the~~ Respondent~~s~~ to perform a remedial investigation/feasibility study at the Columbia Falls Aluminum Plant Facility, as outlined in Attachments A, B, and C.

2. This AOC is issued under the authority provided to DEQ by § 75-10-723, MCA.

3. DEQ and ~~the~~ Respondents agree that this AOC has been negotiated in good faith and that the actions undertaken by ~~the~~ Respondent~~s~~ in accordance with this AOC do not constitute an admission of liability. ~~The~~ Respondent~~s~~ do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this AOC, the validity of the findings of fact, conclusions of law, and determinations in Sections IV and V in this AOC. ~~The~~ Respondent~~s~~ agree to comply with, and be bound by, the terms of this AOC and further agree that they will not contest the basis or validity of this AOC or its terms.

II - PARTIES BOUND

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

5. ~~The Respondents agree that all obligations, commitments, and other agreements in this AOC are made both individually and jointly and that they are jointly and severally liable for carrying out all activities required by this AOC. In the event of the insolvency or other failure of any Respondent to implement the requirements of this AOC, the other Respondent shall complete all such requirements.~~

6. ~~The~~ Respondent~~s~~ shall ensure that ~~their~~ Contractor and other agents or representatives receive a copy of this AOC and comply with this AOC. ~~The~~ Respondent~~s~~ shall be responsible for any noncompliance with this AOC.

7. ~~The Respondents shall not assign, transfer, convey, sublet or otherwise dispose of any legal obligation, requirement, right, title or interest contained within this AOC without DEQ's prior written consent. Any attempts to assign, transfer, convey, sublet or otherwise dispose of any requirement of this AOC without DEQ's prior written consent are null and void.~~

III - DEFINITIONS

8. Terms used in this AOC are to be taken and understood in their natural and ordinary sense unless this AOC indicates that a different meaning was intended. Unless otherwise expressly provided herein, terms used in this AOC that are defined in CECRA shall have the meaning assigned to them in the Comprehensive Environmental Cleanup and Responsibility Act (CECRA), §§ 75-10-701, et seq., MCA. Whenever terms listed below are

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used in this AOC or in the documents attached or incorporated by reference into this AOC, the following definitions shall apply:

a. "AOC" means this document together with Attachment A (Remedial Investigation Scope of Work), Attachment B (Risk Assessment Scope of Work), and Attachment C (Feasibility Study Scope of Work), and any subsequent modifications and amendments.

b. "Approved" when used in conjunction with this AOC, means reviewed by DEQ (and if appropriate, modified), and finally agreed to and Approved by DEQ in writing.

c. "CECRA" means the Comprehensive Environmental Cleanup and Responsibility Act, §§ 75-10-701, et seq., MCA.

d. "Contractor" means the individual, company, subcontractor, consultant, laboratory, or other persons retained by or on behalf of the Respondents to undertake and complete all or a part of the Work. A Contractor retained by the Respondents shall be deemed to be related by contract to the Respondents.

e. "Day" means a calendar day. In computing any period of time under this AOC, where the last day would fall on a Saturday, Sunday, or State of Montana holiday, the period shall run until the close of business of the next business day.

f. "Deliverable" means any written document, including but not limited to, work plans, reports, notices, memoranda, data or other documents that the Respondents must submit to DEQ under the terms of this AOC.

g. "DEQ" means the Montana Department of Environmental Quality and any successor departments or agencies of the State of Montana.

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h. "DEQ Remedial Action Costs" shall mean all costs as defined by § 75-10-701(23), MCA, incurred by the State of Montana which are attributable to or associated with a remedial action at the Facility including, but not limited to, direct and indirect costs that DEQ and the State of Montana incur in overseeing work at the Facility; drafting, negotiating and executing this AOC; and all direct and indirect costs that DEQ will incur in reviewing or developing Deliverables submitted pursuant to this AOC, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this AOC. Direct and indirect costs include, but are not limited to, payroll costs, overhead costs, indirect costs, contractor costs, travel costs, attorney's fees, litigation costs, laboratory costs, and all Interest due under § 75-10-722, MCA.

i. "Effective Date" means the effective date of this AOC as provided in Section XXXII (Effective Date).

j. "Facility" means the site commonly known as the Columbia Falls Aluminum Plant, located in or near Columbia Falls in Flathead County, Montana. It is also known as the Anaconda Aluminum Company or the Anaconda Aluminum Company Columbia Falls Reduction Plant. The "Facility" includes (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft; and (b) any site or area where hazardous or deleterious substances have been deposited, stored, disposed of, placed, or otherwise come to be located.

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k. "Force majeure" means any event arising from causes beyond the control of the Respondents, or of any entity controlled by or associated with the Respondents, including but not limited to their Contractor, that delays or prevents performance of any obligation under this AOC despite the Respondents' best efforts to fulfill the obligation. The requirement that the Respondents use "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 force majeure event, such that the delay is minimized to the greatest extent possible. Force majeure events might include delays or failures of governmental agencies in issuing necessary permits or approvals, provided that the Respondents have timely submitted complete applications and provided all requested information. Force majeure does not include financial inability to complete the Work, increased cost of performance, or normal precipitation events.

l. "Institutional Controls" means those restrictions on the use of real property intended to mitigate the risk posed to public health, safety, or welfare or the environment and that are approved by DEQ as provided for in § 75-10-727, MCA.

m. "Party" means DEQ or either Respondent. "Parties" means DEQ and the Respondents.

n. ~~"Remedial Action" means all activities the Respondents are required to perform under this AOC, including but not limited to, development of Deliverables and implementation of Work.~~

o. "Respondent~~s~~" means the Columbia Falls Aluminum Company LLC ~~and Glencore Ltd.~~

p. "Schedule" means the schedule for completion of the Work and all Deliverables, which will be approved by DEQ and incorporated into this AOC.

q. "Work" means the remedial actions identified in Attachments A, B, and C or Section XXVII to be performed by the Respondents under this AOC according to the Schedule.

r. "Work Plan" means a plan for implementing all or a portion of the Work at the Facility to be performed by the Respondents under this AOC, as well as any approved modifications to a Work Plan, as provided for in Sections XXVI (Modifications) and XXVII (Additional Work).

IV - FINDINGS OF FACT

DEQ makes the following findings of fact:

9. The Facility is generally located approximately two miles northeast of Columbia Falls, Flathead County, Montana, in Township 30N, Range 20W, and includes all or a portion of Sections 2, 3, 4, 33, 34, and 35 and may also include other sections.

10. DEQ has listed the Facility on the CECRA Priority List pursuant to § 75-10-704(3), MCA.

11. Based upon current information, the operational area of the Facility covers approximately 950 acres. In general, the Facility lies ~~south~~ the Flathead River, east of Teakettle Mountain, north of Cedar Creek Reservoir, and west of Cedar Creek.

12. The Anaconda Copper Mining Company built the Anaconda Aluminum Reduction Facility and began production in 1955. The Atlantic Richfield Company purchased the plant in 1978 and operated it until 1985 when it was sold to the Montana Aluminum

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Investor's Corporation which operated it under Columbia Falls Aluminum Company. In 1999, ~~Respondent~~ Glencore acquired the company ~~and operated the plant until 2009~~.

13. The plant was an aluminum smelting or reduction facility that produced aluminum in carbon–lined "pots" heated to 960 degrees Celsius. Aluminum oxide was dissolved in a molten cryolite bath and aluminum oxide was reduced to aluminum metal by electrons from direct current through the pot. The molten aluminum was then tapped from the pot and cast into ingots.

14. The Facility includes numerous buildings and industrial operating facilities such as offices, warehouses, fabrication, laboratory, washhouse, paste plant, coal tar pitch tanks, pump houses, and the main pot line facility. Features on the Facility include, but are not limited to, percolation ponds, leachate ponds, sludge ponds, sewage treatment ponds, cathode soaking pits, closed landfills, and operational landfills.

15. Respondent Columbia Falls Aluminum Company LLC is a foreign limited liability company authorized to do business in Montana.

16. ~~Respondent Glencore Ltd. is a foreign corporation authorized to do business in Montana.~~

17. Respondent~~s~~ owns, leases, operates, manages activities at, or exercises control over the Facility where a hazardous or deleterious substance was disposed.

18. ~~Respondents owned, leased, operated, managed activities at, or exercised control of the Facility during the time a hazardous or deleterious substance was disposed~~.

19. In September and October 2013, the United States Environmental Protection Agency, through its consultant, conducted sampling of soil, sediment, groundwater, and surface water at and near the Facility.

20. The results of this investigation are documented in the Site Reassessment Report dated April 2014 ("Report"). The Report concluded that historic industrial activities and resulting burial of potentially hazardous materials have impacted soil, sediment, groundwater, and surface water with concentrations of heavy metals, cyanide, volatile organic compounds, semi-volatile organic compounds, polycyclic aromatic hydrocarbons, and pesticides.

21. Concentrations of arsenic, chromium, cyanide, lead, nickel, selenium, and zinc in groundwater at the Facility were detected at levels that exceed their respective Montana groundwater quality standards (DEQ-7).

22. Arsenic, chromium, cyanide, lead, nickel, selenium, and zinc at the Facility are hazardous or deleterious substances as that term is defined in § 75-10-701(8), MCA.

23. A concentration of cyanide in surface water at the Facility was detected at a level that exceeds the Montana acute and chronic aquatic life surface water quality standards (DEQ-7).

24. The Report also confirmed an observed release of cyanide to sediment in the Flathead River.

25. There have been releases or threatened releases of other hazardous or deleterious substances at the Facility as described in the Report.

26. ARM 17.55.102 identifies that an imminent and substantial endangerment may exist to the public health, safety, or welfare or the environment if concentrations of hazardous or deleterious substances in the environment exist above certain regulatory levels, which include but are not limited to DEQ-7 standards.

V - CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the preceding Findings of Fact, DEQ has made the following Conclusions of Law:

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27. Respondent~~s are each~~ a "person" as that term is defined by § 75-10-701(16), MCA.

28. Respondent~~s are each~~ a person who "owns or operates" the Facility as that term is defined by § 75-10-701(15), MCA, and, by owning or operating the Facility, Respondent~~s are~~ liable for remedial actions pursuant to § 75-10-715, MCA.

29. The Facility, including the real property, all buildings, structures, installations, equipment, pipes or pipelines, wells, pits, ponds, lagoons, impoundments, ditches, landfills, storage containers, as well as any site or area where a hazardous or deleterious substance has been deposited, stored, disposed of, placed, or otherwise come to be located is a "Facility" as that term is defined by § 75-10-701(4), MCA.

30. Concentrations of arsenic, chromium, cyanide, lead, nickel, selenium, and zinc in groundwater at the Facility were detected at levels that exceed their respective Montana groundwater quality standards (DEQ-7).

31. Arsenic, chromium, cyanide, lead, nickel, selenium, and zinc at the Facility are hazardous or deleterious substances as that term is defined in § 75-10-701(8), MCA.

32. A concentration of cyanide in surface water at the Facility was detected at a level that exceeds the Montana acute and chronic aquatic life surface water quality standards (DEQ-7).

33. There has been a confirmed release of cyanide to sediment in the Flathead River.

34. ~~There are other hazardous or deleterious substances, as that term is defined in § 75-10-701(8), MCA, at the Facility which are described in the Report, and these hazardous or deleterious substances pose a threatened release or have been released, as that term is defined in § 75-10-701(19), MCA, at the Facility~~.

35. DEQ has determined that an imminent and substantial endangerment may exist to the public health, safety, or welfare or the environment from the releases and threatened releases of hazardous or deleterious substances at the Facility, that remedial action is necessary to abate this endangerment, and that the Respondents are liable for necessary remedial action under CECRA.

36. Based on the Findings of Fact and Conclusions of Law set forth above, as provided for in § 75-10-723, MCA, DEQ has determined that it is practicable and in the public interest to enter into this AOC requiring ~~the~~ Respondent~~s~~ to perform the Work as defined herein. DEQ also has determined that ~~the~~ Respondent~~s~~ will perform the Work properly and has included in this AOC terms and conditions that DEQ has determined to be appropriate.

37. Based on the Findings of Fact and Conclusions of Law set forth above, DEQ has determined that the actions required by and undertaken pursuant to this AOC are necessary to protect the public health, safety, and welfare and the environment, are in the public interest, are consistent with the requirements of CECRA, and are appropriate remedial actions to contain, remove, and abate past releases of hazardous or deleterious substances and presently continuing releases and threatened releases of hazardous or deleterious substances into the environment at and from the Facility.

VI - ORDER

38. Based upon the foregoing Findings of Fact, Conclusions of Law, and Determinations, it is hereby ordered and agreed that ~~the~~ Respondent~~s~~ shall comply with all provisions of this AOC, including, but not limited to, all appendices to the AOC, implementation of the Work, and payment of DEQ Remedial Action Costs.

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VII - DESIGNATION OF CONTRACTOR AND PROJECT COORDINATORS

39. All Work performed under this AOC shall be under the direction and supervision of qualified personnel. Within 30 Days of the Effective Date of this AOC, and before the Work begins, ~~the~~ Respondent~~s~~ shall jointly select a Contractor or Contractors to perform the Work and notify DEQ in writing of the names, titles, and qualifications of the Contractor to be used in carrying out such Work.

40. ~~DEQ retains the right to disapprove of any or all of the Contractors retained by the Respondents~~ based upon the Contractor's qualifications or ability to effectively perform the required Work. If DEQ ~~disapproves of a~~ Contractor selected by ~~the~~ Respondent~~s~~, DEQ must provide a written ~~disapproval~~ identifying the reason for the disapproval. If DEQ provides written ~~disapproval of~~ a selected Contractor, ~~the~~ Respondent~~s~~ shall select a different Contractor and shall notify DEQ of that Contractor's name and qualifications within 30 Days of DEQ's ~~disapproval~~.

41. ~~The~~ Respondent~~s~~ shall ~~jointly~~ identify a Project Coordinator as an agent of ~~the~~ Respondent~~s~~ who shall be responsible for administration of all actions by the Respondent~~s~~ required by this AOC. ~~The~~ Respondent~~s~~ ha~~ve~~ designated [insert] as their Project Coordinator and have designated [insert] as their Alternate Project Coordinator. To the greatest extent possible, the Respondents' Project Coordinator shall be present on Facility or be readily available during Work at the Facility. ~~The~~ Respondent~~s~~ reserve the right to designate a different Project Coordinator or Alternate Project Coordinator, ~~subject to DEQ's right to disapprove~~. ~~The~~ Respondent~~s~~ shall notify DEQ in writing 30 Days before such change is made.

42. ~~DEQ retains the right, at any time, to disapprove of the designated Project Coordinator or Alternate Project Coordinator~~ based upon the person's qualifications or ability to effectively perform the required Work. If DEQ ~~disapproves of the designated~~ Project

Coordinator or Alternate Project Coordinator selected by the Respondents, DEQ must provide a written ~~disapproval~~ identifying the reason for the ~~disapproval~~. If DEQ ~~disapproves of~~ the designated Project Coordinator or Alternate Project Coordinator, ~~the~~ Respondent~~s~~ shall select a different Project Coordinator and shall notify DEQ of that person's name, address, telephone number, and qualifications within 30 Days following DEQ's disapproval.

43. Receipt by the Respondents' Project Coordinator of any notice or communication from DEQ relating to this AOC shall constitute receipt by ~~the~~ Respondent~~s~~.

44. DEQ has designated Denise Martin as its Project Coordinator. Her telephone number is 406-841-5060 and her email is demartin@mt.gov. DEQ has designated Moriah Bucy as its Alternate Project Coordinator. Her telephone number is 406-841-5064 and her email is mbucy@mt.gov. Except as otherwise provided in this AOC, ~~the~~ Respondent~~s~~ shall direct all submissions required by this AOC to DEQ's Project Coordinator or Alternate Project Coordinator, if the Project Coordinator is not available, at:

Montana Department of Environmental Quality
1400 Broadway
P.O. Box 200901
Helena, MT 59620-0901

45. DEQ has the right to change its respective designated Project Coordinators and will notify the Respondents in writing if such a change is made.

46. DEQ may retain contractors to assist in its oversight and review of the Work. The cost associated with this oversight and review is a DEQ Remedial Action Cost for which the ~~Respondents are responsible~~.

VIII - WORK TO BE PERFORMED

47. ~~Respondents shall conduct all remedial actions necessary to implement the remedial investigation/feasibility study as outlined in Attachments A, B, and C to DEQ's~~

~~satisfaction. This Work shall be conducted in accordance with this AOC, DEQ-approved Work Plans, and all applicable federal, state, and local statutes and regulations.~~

48. ~~At the direction of DEQ, the Respondents shall prepare Work Plans to implement the Work according to a Schedule. DEQ may require changes to the Work Plans or Schedule if DEQ determines such changes are necessary to ensure compliance with this AOC. Any such change in the Work Plans or Schedule made by the DEQ shall be provided to the Respondents in writing. Any subsequent modifications to a Work Plan or Schedule approved by DEQ shall be incorporated into and become fully enforceable under this AOC.~~

49. All Deliverables from ~~the~~ Respondent~~s~~ must be submitted to DEQ concurrently in both hard copy and modifiable electronic format. In addition, ~~the~~ Respondent~~s~~ shall provide DEQ a compiled PDF version of all final documents on CD or DVD that have been optimized for web display.

50. Changes to the Deliverables submitted by ~~the~~ Respondent~~s~~ may be needed to ensure adequate compliance with this AOC. When DEQ comments on and/or directs ~~the~~ Respondent~~s~~ to make changes to Deliverables, the following procedures shall apply:

A. The Respondents will have ~~14~~ Days from receipt of DEQ's comments to incorporate all comments or changes to the Deliverable required by DEQ, unless a different time period is specified by DEQ or requested by ~~the~~ Respondent~~s~~ and approved, in writing, by DEQ.

B. In the event ~~the~~ Respondent~~s~~ do not agree with DEQ's comments or directed changes to a Deliverable, DEQ shall meet with ~~the~~ Respondent~~s~~ to discuss the comments. Such request for a meeting must be made by ~~the~~ Respondent~~s~~ in writing within seven Days of receipt of DEQ's comments. If the request is not

made within this timeframe, ~~the~~ Respondent~~s~~ will be deemed to have waived their right to a meeting. ~~The~~ Respondent~~s~~ and DEQ shall make a good faith effort to meet within 14 Days of the Respondents' request for a meeting. If DEQ deems ~~the~~ Respondent~~s~~, after timely requesting a meeting, have not made a good faith effort to meet within the 14 Day period, DEQ may, in writing, provide notice that ~~the~~ Respondents' right to a meeting has been deemed waived. If DEQ agrees that any of their comments or directed changes should be modified based upon the meeting between DEQ and ~~the~~ Respondent~~s~~, DEQ shall document that decision by sending a letter modifying their comments or directed changes within 10 Days after the meeting. ~~The~~ Respondent~~s~~ must then resubmit the Deliverable in accordance with DEQ's direction.

C. If DEQ determines that ~~the~~ Respondent~~s~~ have not adequately incorporated DEQ's comments or directed changes, DEQ may make the required changes to the Deliverable by incorporating their required revisions electronically into the document and either finalizing the document itself or providing an opportunity for ~~the~~ Respondent~~s~~ to finalize the document with DEQ's revisions. If DEQ finalizes the document, upon request of ~~the~~ Respondent~~s~~, DEQ will remove from the final version of the document the name of the author who prepared the original version of the document. In addition, if DEQ finalizes the document, it will include a statement on the cover page of the document such as: "DEQ finalized this document because there was a disagreement between DEQ and Respondents and all of DEQ's required changes were not incorporated. Although this document is designated a DEQ version, the author of the original document holds a copyright

on the original document, and may have intellectual property rights in all or a portion of this document. Further information regarding the original document submitted by Respondents is available in DEQ's files" or equivalent language.

D. If the Respondents disagree with the substantive changes required by DEQ, the Respondents may identify their disagreement in a letter that will be included in the site file for the Facility. In addition, if the Respondents finalize the Deliverable with DEQ's revisions as provided for in (C) above, the Respondents may include the following sentences in a footnote on the cover page of the document: "DEQ has required changes to this document to which the Respondents do not agree. See DEQ's files for more information." ~~The Respondents may not in any other manner indicate their disagreement with DEQ's required revision in the Deliverable itself. This includes, but is not limited to, the use of highlighting, italicizing, footnoting, and underlining.~~

51. If ~~the~~ Respondent~~s~~ fail to comply with the procedures provided for in Paragraph 50, or if DEQ determines that additional changes or additions were included in a resubmittal without identification, DEQ may complete (itself or with the assistance of a contractor) the Deliverable or any portion thereof and the Respondent~~s~~ shall reimburse the costs for doing so as DEQ Remedial Action Costs. To the extent that DEQ completes the Deliverable or any portion thereof, the Respondents shall incorporate and integrate information supplied by DEQ into Deliverables or Work as directed by DEQ, subject to Section XVI (Dispute Resolution).

52. DEQ may also choose to enforce the terms of this AOC in order to require ~~the~~ Respondent~~s~~ to produce any Deliverable consistent with the comments and directed changes of DEQ.

53. Neither failure of DEQ to expressly approve or disapprove ~~the~~ Respondent~~s'~~ Deliverables within a specified time period, nor the absence of DEQ comments, shall be construed as approval by DEQ. DEQ agrees to exercise its best efforts to notify the Respondents, in writing, within 14 Days of receipt of a Deliverable if it will not be able to provide comment or approval of a Deliverable within 30 Days of receipt. DEQ shall also indicate in the written notice when it will provide comment or approval of the Deliverable.

54. ~~The Respondents shall not commence any Work unless approved by DEQ in advance and in conformance with the terms of this AOC.~~

IX - FACILITY ACCESS AND INSTITUTIONAL CONTROLS

55. ~~The~~ Respondent~~s~~ shall provide DEQ and its representatives, including DEQ-designated contractors, with access at all reasonable times to those portions of the Facility that are owned or controlled by ~~either~~ Respondent for the purpose of conducting any activity related to this AOC.

56. ~~The~~ Respondent~~s~~ shall use best efforts to secure access to all portions of the Facility not owned or controlled by ~~the~~ Respondent~~s~~ as needed to implement the AOC. Respondent~~s~~ shall immediately notify DEQ if, after using their best efforts, they are unable to obtain access. For purpose of this paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. In the notification to DEQ, ~~the~~ Respondent~~s~~ shall describe in writing their efforts to obtain access.

57. Notwithstanding any provision of this AOC, DEQ retains all of its access authorities and rights, including enforcement authorities related thereto, under CECRA and any other applicable statutes or regulations. Costs incurred by DEQ in exercising its statutory authority to obtain access are DEQ Remedial Action Costs for which the ~~Respondents are responsible.~~

58. ~~If required by DEQ, the Respondents agree that they will place Institutional Controls on the real property which is owned or controlled by the Respondents in compliance with § 75-10-727, MCA. The Respondents thereafter agree to use their best efforts to implement, maintain, enforce, and comply with the Institutional Controls in the future.~~

X - ACCESS TO INFORMATION

59. Except as otherwise provided for in Deliverables, ~~the~~ Respondent~~s~~ shall provide to DEQ, within 60 Days of DEQ's request, copies of all technical documents and information within their possession or control or that of their Contractor or agents relating to activities at the Facility or to the implementation of this AOC not previously provided to DEQ; such technical documents and information include, but are not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, field books, daily logs, receipts, technical reports, sample transport records, correspondence, or other documents or information related to the Work. Unless privileged or otherwise protected from disclosure, ~~the~~ Respondent~~s~~ shall also make available to DEQ, for purposes of investigation and enforcement of this AOC, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

60. ~~The~~ Respondent~~s~~ may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by Montana law. If ~~the~~ Respondent~~s~~ assert such a privilege in lieu of providing documents, they shall provide DEQ with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted. However, no

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Deliverables created or generated pursuant to the requirements of this AOC shall be withheld on the grounds that they are privileged.

61. With respect to the Facility, no claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other technical documents or information.

XI - RECORD RETENTION

62. Until five years after ~~the~~ Respondent~~s'~~ receipt of DEQ's notification pursuant to Section XXVIII (Notice of Completion of Work), ~~the~~ Respondent~~s~~ shall preserve and retain all non-identical copies of technical records and documents (including technical records or documents in electronic form) now in their possession or control or which come into their possession or control that relate to the performance of the Work with respect to the Facility regardless of any corporate retention policy to the contrary, unless such technical records and documents (including technical records or documents in electronic form) have already been provided to DEQ. Until five years after ~~the~~ Respondent~~s'~~ receipt of DEQ's notification pursuant to Section XXVIII (Notice of Completion of Work), ~~the~~ Respondent~~s~~ shall also instruct their Contractors and agents to preserve all technical documents, records, and other information (including but not limited to field logs, photographs, chain of custody forms, raw data, and manifests) relating to performance of the Work with respect to the Facility, unless such technical records and documents (including technical records or documents in electronic form) have already been provided to DEQ.

63. At the conclusion of this technical document retention period, ~~the~~ Respondent~~s~~ shall notify DEQ at least 90 Days prior to the destruction of any such technical records or documents, and, upon request by DEQ, unless such technical records and documents (including technical records or documents in electronic form) have already been provided to DEQ,

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Respondents shall deliver any such records or documents to DEQ. ~~The~~ Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by Montana law. If the Respondents assert such a privilege, they shall provide DEQ with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted. However, no Deliverables created or generated pursuant to the requirements of this AOC shall be withheld on the grounds that they are privileged.

64. ~~The~~ Respondents hereby certify that to the best of their knowledge and belief, they have not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to their potential liability regarding the Facility.

XII - COMPLIANCE WITH OTHER LAWS

65. ~~The~~ Respondents shall comply with all applicable local, state and federal laws and regulations when conducting Work. ~~The~~ Respondents are required to obtain required local, state, or federal permits or approvals necessary to conduct the Work and shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits and approvals. ~~The~~ Respondents may request, in writing, that DEQ provide a permit exemption for a state or local permit for Work that is conducted entirely on-site pursuant to § 75-10-721(6), MCA. When requesting a permit exemption, ~~the~~ Respondents must provide the basis for the request and an explanation of how ~~the~~ Respondents will conduct the Work to meet the substantive portions of the permit. Any request for a permit exemption must be made by ~~the~~ Respondents in a timely manner so that Work is not delayed if the permit exemption is denied

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and ~~the~~ Respondent~~s~~ must acquire the permit. DEQ may elect to provide the permit exemption in its sole discretion. This AOC is not, and shall not be construed to be, a permit issued pursuant to any federal, state, or local statute or regulation.

XIII - EMERGENCY RESPONSE AND NOTIFICATION

66. In the event of any action or occurrence during performance of the Work that causes or threatens a release from the Facility that constitutes an emergency situation or is likely to present an immediate threat to public health, safety, or welfare or the environment, ~~the~~ Respondent~~s~~ shall immediately take all appropriate action. ~~The~~ Respondent~~s~~ shall take these actions in accordance with all applicable provisions of this AOC to prevent, abate or minimize such release or endangerment caused or threatened by the release. ~~The~~ Respondent~~s~~ shall also immediately notify DEQ's Project Coordinator, or in the event of her unavailability the Alternate Project Coordinator, both telephonically and via electronic mail using the contact information provided in Section VII (Designation of Contractor and Project Coordinators). In the event that the Respondents fail to take appropriate action as required by this paragraph, and DEQ takes such action instead, the ~~Respondents shall reimburse~~ DEQ for all costs of the remedial action pursuant to Section XV (Reimbursement of Costs).

67. In addition, in the event of any new release of a hazardous or deleterious substance from the surficial boundaries of the Facility, ~~the~~ Respondent~~s~~ or their Contractor(s) shall notify DEQ's Project Coordinator and the National Response Center at (800) 424-8802 within 24 hours after obtaining knowledge of each release. ~~The~~ Respondent~~s~~ shall submit a written report to DEQ within seven Days after the notification of each release, setting forth the events that occurred and, in the event such new release was caused by ~~the~~ Respondent~~s~~ or anyone acting on their behalf, the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a

release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq.

68. ~~The~~ Respondent~~s~~ shall immediately notify DEQ's Project Coordinator orally if Facility conditions within any Work Plan change and shall follow up with written notice to DEQ's Project Coordinator within three Days of such occurrence.

XIV - AUTHORITY OF DEQ PROJECT COORDINATOR

69. The DEQ Project Coordinator shall be responsible for overseeing ~~the~~ Respondent~~s'~~ implementation of this AOC. The DEQ Project Coordinator shall have all authorities provided in this AOC and CECRA, ~~including but not limited to the authority, pursuant to the terms of this AOC and upon a reasonable basis, to halt, conduct, or direct any Work required by this AOC, or to direct any other action undertaken at the Facility.~~ Absence of the DEQ Project Coordinator from the Facility shall not be cause for stoppage of work unless specifically directed by the DEQ Project Coordinator.

XV - REIMBURSEMENT OF COSTS

70. ~~The~~ Respondent~~s~~ shall reimburse all DEQ Remedial Action Costs. On a monthly basis, DEQ will send ~~the~~ Respondent~~s~~ a bill requiring payment that includes a cost summary of direct and indirect costs incurred by the State of Montana and their contractors or subcontractors. ~~The~~ Respondent~~s~~ agree to reimburse DEQ within 30 Days of receipt of each accounting that identifies DEQ Remedial Action Costs.

71. ~~The~~ Respondent~~s~~ shall make all payments to DEQ by check made payable to DEQ and sent to:

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Montana Department of Environmental Quality
Office of Financial Services
P.O. Box 200901
Helena, MT 59620-0901

All payments shall be accompanied by a transmittal letter identifying the name and address of the Party making payment, and shall specify that the payment is to be applied to the Columbia Falls Aluminum Plant Facility. Respondents may choose to make payments to DEQ via electronic wire transfer as follows:

Bank Name:	US Bank, NA
Bank ABA # (routing):	092900383
Bank Address:	302 N. Last Chance Gulch, Helena, MT 59601
Account Name:	State of Montana
Account Number:	156041200221
Federal ID Number:	81-0302402
Third Party Information:	On the wire in the description (OBI) field include "53010-DEQ" and "Columbia Falls Aluminum Plant Facility" and "[insert org unit]"

All payments received under this Section must be deposited into the Environmental Quality Protection Fund provided for in § 75-10-704, MCA.

72. In the event that payments for DEQ Remedial Action Costs are not made within 30 Days of the Respondents' receipt of a bill, interest on the unpaid balance shall accrue in accordance with § 75-10-722, MCA. The interest on DEQ Remedial Action Costs shall begin to accrue on the date the bill is due and shall continue to accrue until the date of payment. Payments of interest made under this paragraph shall be in addition to such other remedies or sanctions available to DEQ by virtue of the Respondents' failure to make timely payments under this section, including but not limited to, payment of Stipulated Penalties pursuant to Section XVIII.

73. ~~The~~ Respondent~~s~~ may, on a line item basis, object to any of the DEQ Remedial Action Costs billed under this Section XV if ~~the~~ Respondent~~s~~ believe DEQ has made a

mathematical error or believe DEQ incurred costs that are not within the definition of DEQ Remedial Action Costs. Such objection shall be made in writing within 30 Days of receipt of the bill and must be sent to Denise Martin, DEQ Site Response Section Manager. Any such objection shall specifically identify the costs being objected to and the basis for objection. In the event of an objection, the Respondents shall within the 30 Day period pay all uncontested DEQ Remedial Action Costs to DEQ in the manner described in this Section XV.

74. As soon as practical but no later than 60 Days after contesting costs, ~~the~~ Respondent~~s~~ either shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Montana and remit to that escrow account funds equivalent to the amount of the contested costs or shall provide a guaranty by one of the methods provided for in Section XXV (Financial Assurance) to provide for payment of such contested costs should they become due and owing. ~~The~~ Respondent~~s~~ shall send to the DEQ Project Coordinator a copy of the transmittal letter and check paying the uncontested DEQ Remedial Action Costs, and a copy of the correspondence that establishes and funds the escrow account or financial assurance, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Concurrently with the establishment of the escrow account or financial assurance, the Respondents shall initiate the dispute resolution procedures in Section XVI (Dispute Resolution).

75. If DEQ prevails in the dispute or for any portion thereof, within five Days of the resolution of the dispute, ~~the~~ Respondent~~s~~ shall pay the sums due (with accrued interest, in accordance with § 75-10-722, MCA) to DEQ in the manner described in this Section XV. If Respondent~~s~~ prevail concerning any aspect of the contested costs, ~~the~~ Respondent~~s~~ shall be

disbursed any balance of the escrow account along with accrued interest. Upon resolution of the dispute and payment of sums due to DEQ, the Respondents shall be released from any obligation under any financial assurance specifically provided for the dispute that has been resolved. The dispute resolution procedures set forth in this paragraph in conjunction with the procedures set forth in Section XVI (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Respondents' obligation to reimburse DEQ Remedial Action Costs.

XVI - DISPUTE RESOLUTION

76. Unless otherwise expressly provided for in this AOC, the dispute resolution procedures of this Section XVI shall be ~~the~~ Respondent~~s'~~ exclusive mechanism for resolving disputes with DEQ arising under this AOC.

77. ~~The~~ Respondent~~s~~ shall attempt to resolve any disagreements with DEQ concerning implementation of this AOC, including the Work Plan, Work, Schedule, Deliverable, or DEQ Remedial Action Costs, expeditiously and informally by notifying DEQ's Project Coordinator in writing within 10 Days after ~~the~~ Respondent~~s~~ identify the dispute. After ~~the~~ Respondent~~s~~ ~~have~~ identified the dispute in writing, the Parties have 14 Days (the "Negotiation Period") to resolve the dispute informally. The Negotiation Period may be extended at the sole discretion of DEQ and any extension must be made in writing. Any agreement reached by the Parties pursuant to this paragraph shall be in writing and shall, upon signature by all Parties, be incorporated into and become an enforceable part of this AOC.

78. If the Parties are unable to reach an agreement during the Negotiation Period, within 10 Days of the expiration of that Negotiation Period, DEQ's determination shall be deemed a final determination and ~~the~~ Respondent~~s~~ have the opportunity to file for judicial review. ~~The~~ Respondent~~s~~ must initiate judicial review within 30 Days of DEQ's final determination. In the event ~~the~~ Respondent~~s~~ seek judicial review, the Parties agree that venue

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for such judicial review shall be the First Judicial District Court in Lewis & Clark County, Montana, and that the standard for judicial review shall be whether ~~the~~ Respondent~~s~~ have demonstrated, on the administrative record, that DEQ's final determination was arbitrary and capricious or otherwise not in accordance with law.

79. ~~The~~ Respondent~~s'~~ remaining obligations under this AOC shall not be tolled by submission of any objection for dispute resolution under this section. Following resolution of the dispute, as provided by this section, ~~the~~ Respondent~~s~~ shall fulfill the requirement that was the subject of the dispute in accordance with the agreement or decision reached.

80. Failure of ~~the~~ Respondent~~s~~ to invoke the Negotiation Period, or proceed with judicial review within the timeframes provided, results in a waiver of the right to request further dispute resolution of that particular dispute.

XVII - FORCE MAJEURE

81. ~~The~~ Respondent~~s~~ agree to perform all requirements of this AOC according to the Schedule approved by DEQ, as may be modified from time to time, unless the performance is delayed by a force majeure.

82. If any event occurs or has occurred that reasonably may delay the performance of any obligation under this AOC, whether or not caused by a force majeure event, ~~the~~ Respondent~~s~~ shall notify DEQ orally within 48 hours of when the Respondents first learn that the event reasonably might cause a delay. Within three Days thereafter, ~~the~~ Respondent~~s~~ shall provide to DEQ in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; ~~the~~ Respondent~~s'~~ rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the

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Respondent~~s~~, such event may cause or contribute to an endangerment to public health, safety, or welfare or the environment. Failure to comply with the above requirements shall preclude ~~the~~ Respondent~~s~~ from asserting any claim of force majeure for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

83. ~~The~~ Respondent~~s~~ shall bear the burden of proving by a preponderance of the evidence that any failure to comply with the requirements of this AOC or of an approved Work Plan or other Deliverable is due to force majeure.

84. If DEQ agrees that the delay or anticipated delay is attributable to a force majeure event, DEQ will notify ~~the~~ Respondent~~s~~ in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event, including any extension of time for performance of any other obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If DEQ does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, DEQ will notify ~~the~~ Respondent~~s~~ in writing of DEQ's decision. .

XVIII - STIPULATED PENALTIES

85. ~~The~~ Respondent~~s~~ shall be liable to DEQ for stipulated penalties in the amounts set forth in this Section XVIII for failure to comply with the requirements of this AOC specified below, unless excused under Section XVII (Force Majeure) or otherwise expressly waived by DEQ in writing. "Compliance" by ~~the~~ Respondent~~s~~ shall include completion of all activities required by this AOC, including but not limited to implementation of this AOC and all Work, within the specified Schedule, as well as submission of Deliverables within the specified time Schedule, and payment of DEQ Remedial Action Costs as specified in Section XV (Reimbursement of Costs).

86. Stipulated Penalty Amounts

A. In the event that ~~the~~ Respondent~~s~~ violate the provisions of this AOC, DEQ may assess, and ~~the~~ Respondent~~s~~ shall pay, by tendering to DEQ within 30 Days of ~~the~~ Respondent~~s'~~ receipt of a written demand from DEQ for payment of such penalties, the sum set forth below as stipulated penalties for each stipulated penalty event. Stipulated penalties may be assessed for each Day during which such violation, delay, or failure occurs or continues, including weekends or holidays. The demand shall specify the events giving rise to the Respondent~~s'~~ asserted liability for stipulated penalties and the amount of such penalties. In evaluating whether to exercise its discretion to impose any such penalties, DEQ will consider the good faith efforts of ~~the~~ Respondent~~s~~ to comply with their obligations herein.

B. The following stipulated penalties shall accrue per violation per Day for any noncompliance:

Days of Violation	Amount/Day
1-14 Days	$ 1,000
15-30 Days	$ 2,500
31-60 Days	$ 5,000
61 or more Days	$10,000

C. All penalties shall begin to accrue on the Day after the complete performance is due or the Day a violation occurs, and shall continue to accrue through the final Day of the correction of the noncompliance or completion of the activity. Nothing in this AOC shall prevent the simultaneous accrual of stipulated penalties for separate violations of this AOC. Within three Days of DEQ's determination that the Respondents failed to comply with a requirement of this AOC, DEQ shall

give ~~the~~ Respondent~~s~~ written notification of the failure and describe the noncompliance. DEQ shall send ~~the~~ Respondent~~s~~ a written demand for payment of the penalties. Penalties shall accrue as provided in the preceding paragraph and specifically include any period of time prior to DEQ's written notice to the Respondents of the violation, with such period of time not to exceed seven Days. However, if DEQ does not provide written notice to ~~the~~ Respondent~~s~~ within three Days of DEQ's determination that ~~the~~ Respondent~~s~~ failed to comply with a requirement of this AOC, penalties will begin to accrue upon the date the Respondents receive notice of such noncompliance.

D. All penalties accruing under this section shall be due and payable to DEQ within 30 Days of the Respondent~~s'~~ receipt from DEQ of a demand for payment of the penalties, unless the Respondents invoke the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to DEQ under this section shall be paid according to the procedures outlined in Section XV (Reimbursement of Costs), and shall indicate that the payment is for stipulated penalties. All penalties recovered under this Section must be deposited into the Environmental Quality Protection Fund as required by § 75-10-704, MCA.

E. Copies of checks or wire transfers paid pursuant to this section, and accompanying transmittal letters, shall be sent to DEQ's Project Coordinator and to:

Cynthia D. Brooks
Special Assistant Attorney General
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

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F. The payment of penalties shall not alter in any way ~~the~~ Respondent~~s'~~ obligation to complete performance of the Work required under this AOC.

G. In the event ~~the~~ Respondent~~s~~ invoke the provisions of Section XVI (Dispute Resolution), any penalties shall be stayed either until DEQ and ~~the~~ Respondent~~s~~ reach an agreement (as provided in Paragraph 77) or DEQ's determination is deemed final (as provided in Paragraph 78). In the event ~~the~~ Respondent~~s~~ invoke judicial review (as provided in Paragraph 78) any penalties shall be stayed until the district court renders its decision, unless the dispute resolution was initiated by ~~the~~ Respondent~~s~~ in bad faith or to cause delay. ~~In addition, penalties shall run from the date of the district court's decision during the pendency of any appeal by the Respondents.~~ Penalties shall be paid within 30 Days after the dispute is resolved by agreement (as provided in Paragraph 77) or by judicial decision. If ~~the~~ Respondent~~s~~ are successful on appeal and the court reduces the penalties, DEQ shall reimburse the penalties within 30 Days of the judicial decision.

H. If ~~the~~ Respondent~~s~~ fail to pay stipulated penalties when due, DEQ may institute proceedings to collect the penalties, as well as interest. In addition, ~~the~~ Respondent~~s~~ shall be liable for an additional stipulated penalty of two times the amount of the unpaid stipulated penalty, as well as interest. In the event that DEQ assumes performance of a portion or all of the Work pursuant to Paragraph 91 of Section XX (Reservation of Rights by DEQ), ~~the~~ Respondent~~s~~ shall be liable for a stipulated penalty in the amount of two times the amount of the DEQ Remedial Action Cost associated with assuming performance of the Work. Stipulated penalties under this Paragraph 86 are in addition to the other remedies available to

DEQ under this AOC. ~~The~~ Respondent~~s~~ shall pay interest on the unpaid balance, which shall begin to accrue 30 Days after the date of demand made pursuant to subsection C above. Nothing in this AOC shall be construed as prohibiting, altering, or in any way limiting the ability of DEQ to seek any other remedies or sanctions available by virtue of the Respondents' violation of this AOC or of the statutes and regulations upon which it is based including, but not limited to, penalties pursuant to §§ 75-10-711(5) and 715(3), MCA; provided, however, that DEQ shall not seek duplicative penalties for the same violation. Notwithstanding any other provision of this section, DEQ may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this AOC.

I. DEQ hereby finds that the provisions of this AOC, including this Section XVIII, are designed to protect the public health, safety, and welfare and the environment by achieving a prompt, complete and efficient remediation of the Facility. ~~The~~ Respondent~~s~~ agree that these stipulated penalties provisions are integral and essential to the Parties' desire that the provisions of this AOC be, to the maximum extent achievable, self-executing and self-enforcing.

XIX - COVENANT NOT TO SUE BY DEQ

87. In consideration of the actions that will be performed and the payments that will be made by ~~the~~ Respondent~~s~~ under the terms of this AOC, and except as otherwise specifically provided in this AOC, DEQ covenants not to sue ~~the~~ Respondent~~s~~ to require performance of the Work and payment of DEQ Remedial Action Costs associated with the Work. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by ~~the~~ Respondent~~s~~ of all obligations under this AOC, including, but not limited to, performance of the Work and payment of DEQ Remedial Action Costs associated

with the Work pursuant to Section XV. This covenant not to sue extends only to ~~the~~ Respondent~~s~~ and does not extend to any other person, and is limited to the Work required under this AOC.

XX - RESERVATION OF RIGHTS BY DEQ

88. Except as specifically provided in this AOC, nothing in this AOC shall limit the power and authority of DEQ to take, direct, or order all actions necessary to protect public health, safety, or welfare or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous or deleterious substances at or from the Facility. Further, nothing in this AOC shall prevent DEQ from seeking legal or equitable relief to enforce the terms of this AOC, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring ~~the~~ Respondent~~s~~ in the future to perform additional activities pursuant to CECRA or any other applicable law.

89. Nothing in this AOC precludes DEQ from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not a Party to this AOC. Nothing herein diminishes the right of DEQ to pursue any such persons to obtain additional remedial action costs or remedial action, or to enter into settlements providing contribution protection to such parties, including claims DEQ may have under § 75-10-719(2), MCA.

90. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. DEQ reserves, and this AOC is without prejudice to, all rights against the Respondents with respect to all other matters, including, but not limited to:

A. Liability for performance of or payment for remedial action other than the Work;

B. Criminal liability;

C. Liability arising from the past, present, or future disposal, release or threat of release of hazardous or deleterious substances outside of the Facility;

D. Liability for violations of state or federal law or regulations; and

E. Claims for damages for injury to, destruction of, or loss of natural resources and the cost of any natural resource damage assessment.

91. In the event DEQ determines that ~~the~~ Respondent~~s~~ have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, are implementing the Work in a manner which may cause an endangerment to public health, safety or welfare or the environment, or have failed to perform additional tasks as provided for in Paragraph 108, DEQ may assume the performance of all or any portion of the Work as DEQ determines necessary. ~~The~~ Respondent~~s~~ may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute DEQ's determination that takeover of the Work is warranted under this paragraph. Costs incurred by DEQ in performing the Work pursuant to this paragraph are DEQ Remedial Action Costs ~~that the Respondents shall pay pursuant to Section XV (Reimbursement of Costs)~~. If the Respondents fail to pay DEQ's costs incurred pursuant to this paragraph as required by Section XV (Reimbursement of Costs), DEQ may also utilize the Respondents' financial assurance contained within Section XXV ~~and~~ may issue stipulated penalties under Section XVIII. DEQ may also elect to unilaterally terminate this AOC based upon a determination that ~~the~~ Respondent~~s~~ ~~are~~ not satisfactorily performing the Work. Notwithstanding any other provision of this AOC other than Section XVI, DEQ retains all authority and reserves all rights to take any and all remedial actions authorized by law.

XXI - COVENANT NOT TO SUE BY RESPONDENTS

92. Other than as set forth in Section XVI (Dispute Resolution), ~~the~~ Respondent~~s~~ covenant not to sue and agree not to assert any and all direct or indirect claims or causes of

action against the State of Montana, or its departments, agencies, instrumentalities, officials, agents, contractors, subcontractors, employees and representatives, arising out of or related to the Facility, the Work, DEQ Remedial Action Costs, or this AOC, including, but not limited to:

A. Any claim under federal, state or local statutory or common law;

B. Any claim, including, but not limited to, contribution claims, motions for joinder and third-party claims, related to any and all lawsuits involving third parties;

C. Any direct or indirect claim for reimbursement from the Environmental Quality Protection Fund established in § 75-10-704, MCA, the Orphan Share Account established in § 75-10-743, MCA, or any other State of Montana fund;

D. Claims based on DEQ's oversight of the Work under CECRA or any other provision of law; and

E. Claims for damages for injury to, destruction of, or loss of natural resources and the cost of any natural resource damage assessment.

93. ~~The~~ Respondent~~s~~ further covenant and agree to use best efforts to protect the integrity of all engineering controls associated with the Work at the Facility.

XXII - OTHER CLAIMS

94. Except as expressly provided in Section XIX (Covenant Not to Sue by DEQ), nothing in this AOC constitutes a satisfaction of or release from any claim or cause of action against the Respondents or any person not a Party to this AOC, for any liability such person may have under CECRA, other federal or state statutes, or common law, including but not limited to any claims of DEQ for costs, damages and interest under CECRA.

95. By issuance of this AOC, DEQ assumes no liability for injuries or damages to persons or property resulting from any acts or omissions of ~~the~~ Respondent~~s~~.

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96. No action or decision by DEQ pursuant to this AOC shall give rise to any right to judicial review except as provided for in Section XVI (Dispute Resolution).

XXIII - CONTRIBUTION

97. The Parties agree that this AOC constitutes an administrative settlement for purposes of § 75-10-719, MCA, and that ~~the~~ Respondent~~s~~ are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by § 75-10-719(1), MCA, for "matters addressed" in this AOC. The "matters addressed" in this AOC are the Work and payment of DEQ Remedial Action Costs. Nothing in this AOC precludes DEQ or ~~the~~ Respondent~~s~~ from asserting any claims, causes of action, or demands against any person not a party to this AOC for indemnification, contribution, or cost recovery.

XXIV – INDEMNIFICATION AND INSURANCE

98. By issuance of this AOC, DEQ assumes no liability for injuries or damages to persons or property resulting from any acts or omissions of the Respondents. ~~The Respondents shall indemnify, save and hold harmless the State of Montana, its departments, agencies, instrumentalities, officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of the Respondents, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this AOC. This indemnification shall specifically include any joinder of the State of Montana to an action between the Respondents and any third party. In addition, the Respondents agree to pay the State of Montana all reasonable costs incurred by the State of Montana, including but not limited to reasonable attorneys' fees and other reasonable expenses of litigation and settlement, arising from or on account of claims made against the State of Montana based on negligent or other wrongful acts or omissions of the Respondents, their officers, directors, employees, agents,~~

~~contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this AOC.~~ The State of Montana shall not be held out as a party to any contract entered into by or on behalf of the Respondents in carrying out activities pursuant to this AOC. Neither the Respondents nor any of their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control shall be considered an agent of the State of Montana.

99. The State of Montana shall give the Respondents notice of any claim for which the State of Montana plans to seek indemnification pursuant to this section and shall provide an opportunity for the Respondents to raise objections thereto prior to settling such claim.

~~100. The Respondents waive all claims against the State of Montana for damages or reimbursement or for set-off of any payments made or to be made to the State of Montana, arising from or on account of any contract, agreement, or arrangement between the Respondents and any person for performance of Work on or relating to the Facility, including, but not limited to, claims on account of construction delays. In addition, the Respondents shall indemnify and hold harmless the State of Montana with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between the Respondents and any person for performance of Work on or relating to the Facility, including, but not limited to, claims on account of construction delays.~~

~~101. No later than 15 Days before commencing any on-site Work, the Respondents shall secure, and shall maintain until the first anniversary after DEQ approves the certification of completion of work (Section XXX), commercial general liability insurance with limits of $5,000,000, for any one occurrence, and automobile liability insurance with limits of $2,000,000, combined single limit, naming the State of Montana as an additional insured with respect to all~~

~~liability arising out of the activities performed by or on behalf of the Respondents pursuant to this AOC. In addition, for the duration of this AOC, the Respondents shall satisfy, or shall ensure that their Contractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of the Respondents. Prior to commencement of the Work, the Respondents shall provide to DEQ certificates of such insurance and a copy of each insurance policy. The Respondents shall resubmit such certificates and copies of policies each year on the anniversary of the Effective Date. If the Respondents demonstrate by evidence satisfactory to DEQ that their Contractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that Contractor, the Respondents need provide only that portion of the insurance described above that is not maintained by the Contractor.~~

XXV - FINANCIAL ASSURANCE

102. Within 30 Days of the Effective Date, ~~the~~ Respondent~~s~~ shall establish and maintain financial assurance for the benefit of DEQ in the amount of $5,000,000 to secure the full and final completion of Work by the Respondents. ~~The~~ Respondent~~s~~ shall provide financial assurance by any one method or combination of methods, including but not limited to, insurance, guaranty, performance or other surety bond, letter of credit, qualification as a self-insurer, escrow account, or other demonstration of financial capability.

103. The financial assurance provided pursuant to this section must be in the form, substance, and amount satisfactory to DEQ, determined in DEQ's sole discretion. DEQ may use this financial assurance for DEQ Remedial Action Costs or for stipulated penalties assessed pursuant to Section XVIII. In the event that DEQ determines at any time that the financial assurances provided pursuant to this Section XXV (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, ~~the~~ Respondent~~s~~ shall, within 60 Days

of receipt of notice of DEQ's determination, obtain and present to DEQ additional financial assurance as provided for in Paragraph 102. In addition, if at any time DEQ notifies the Respondents that the anticipated cost of completing the Work has increased, then, within 60 Days of such notification, ~~the~~ Respondent~~s~~ shall obtain and present to DEQ for approval a revised form of financial assurance (otherwise acceptable under this section) that reflects such cost increase. In the event ~~the~~ Respondent~~s~~ are unable to demonstrate financial ability to complete the Work, the Respondents shall notify DEQ of such inability in writing and meet with the DEQ within seven Days of such notice to determine performance of any remaining activities required under this AOC.

104. Within 90 Days after DEQ approves the certification of completion of work (Section XXX), DEQ will release or agree to release the financial assurance.

XXVI - MODIFICATIONS

105. The DEQ Project Coordinator may make modifications to any Deliverable or Schedule in writing or by oral direction subject to the provisions of Section XVI (Dispute Resolution). Any oral modification is not binding until it is memorialized in writing by DEQ but shall have as its effective date the date of the DEQ Project Coordinator's oral direction. Any other requirements of this AOC may be modified in writing by mutual agreement of the Parties.

106. If ~~the~~ Respondent~~s~~ seek permission to deviate from any approved Deliverable or Schedule, Respondents' Project Coordinator shall submit a written request to DEQ for approval outlining the proposed modification and their basis. The written request may be made to DEQ via electronic mail to the DEQ Project Coordinator. ~~The~~ Respondent~~s~~ may not proceed with the requested deviation until receiving written approval from the DEQ Project Coordinator.

107. No informal advice, guidance, suggestion, or comment by the DEQ Project Coordinator or other DEQ representatives regarding a Deliverable, Schedule, or any other

writing submitted by ~~the~~ Respondent~~s~~ shall relieve ~~the~~ Respondent~~s~~ of their obligation to obtain any formal approval required by this AOC, or to comply with all requirements of this AOC, unless it is formally modified.

XXVII - ADDITIONAL WORK

108. DEQ may determine that, in addition to the Work addressed in Attachments A, B, or C, other additional tasks are necessary to accomplish the objectives of the remedial investigation/feasibility study. ~~The Respondents agree to perform these additional tasks, in addition to those required in Attachments, A, B, and C, if DEQ determines that such additional tasks are necessary for a complete remedial investigation/feasibility study.~~ The Respondents shall confirm their willingness to perform the additional tasks in writing to DEQ within seven Days of receipt of DEQ's request. If the Respondents object to the additional tasks determined by DEQ to be necessary pursuant to this paragraph, the Respondents may seek dispute resolution pursuant to Section XVI (Dispute Resolution). ~~The Respondents shall complete the additional tasks according to DEQ's requirements.~~ DEQ reserves the right to conduct the additional tasks itself at any point and seek reimbursement for these DEQ Remedial Action Costs from the Respondents as provided for in Paragraph 91 and/or to seek any other appropriate relief. This section does not alter or diminish the DEQ Project Coordinator's authority to make modifications to any Deliverable or Schedule pursuant to Section XXVI (Modifications) subject to the provisions of Section XVI (Dispute Resolution). Nothing in this paragraph shall be construed to limit DEQ's authority to require performance of further remedial actions at the Facility.

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XXVIII - NOTICE OF COMPLETION OF WORK

109. When DEQ determines that all Work has been fully performed in accordance with this AOC, including payment of DEQ Remedial Action Costs, and record retention under Section XI, DEQ will provide written notice to ~~the~~ Respondent~~s~~.

110. If DEQ determines that any such Work has not been completed in accordance with this AOC, DEQ will notify ~~the~~ Respondent~~s~~, provide a list of the deficiencies, and require that ~~the~~ Respondent~~s~~ correct such deficiencies within a defined period of time. Subject to the provisions of Section XVI, failure by the Respondents to correct the deficiencies within the defined period of time shall be a violation of this AOC, subject to stipulated penalties.

XXIX - INTEGRATION/APPENDICES

111. This AOC and Attachments A, B, and C constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this AOC. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this AOC.

XXX - TERMINATION AND SATISFACTION

112. This AOC shall terminate when the Respondents certify that all activities required under this AOC have been performed (the "Certification"), and DEQ has Approved the Certification. DEQ shall approve or disapprove the Certification within ~~six months~~ of the Respondents' submittal of the Certification. Sections I.2 (Jurisdiction and General Matters), IX (Facility Access and Institutional Controls), XI (Record Retention), XV (Reimbursement of Costs), XIX (Covenant Not to Sue by DEQ), XX (Reservation of Rights by DEQ), XXI (Covenant Not to Sue by Respondents), XXII (Other Claims), XXIII (Contribution), XXIV (Indemnification), XXX (Termination and Satisfaction), and XXXI (Admissibility of Data) shall survive termination of this AOC.

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XXXI -ADMISSIBILITY OF DATA

113. Except as provided herein, ~~the~~ Respondent~~s~~ hereby stipulate to the admissibility of any Deliverables prepared by and submitted to DEQ by ~~the~~ Respondent~~s~~ or their Contractor pursuant to this AOC in any judicial or administrative proceedings brought by DEQ and arising out of or related to the subject matter of this AOC.

XXXII - EFFECTIVE DATE

114. This AOC shall become effective after the AOC is signed by DEQ following the notice and public comment period referenced in Section XXXIV (Public Notice and Comment).

XXXIII - AUTHORITY OF SIGNATORIES

115. Each of the signatories of this AOC states that he or she is fully authorized to enter into the terms and conditions of this AOC and to execute and legally bind the Party represented by him or her to the AOC.

XXXIV - PUBLIC NOTICE AND COMMENT

116. After signature by ~~the~~ Respondent~~s~~ but before final approval and signature by DEQ, DEQ shall make this AOC available for public comment as required by § 75-10-723(2), MCA, and in accordance with § 75-10-713, MCA.

117. After completion of the notice and comment period described in Paragraph 116, DEQ may withdraw or withhold consent to this AOC or may request changes to the AOC based on the comment received. If DEQ requests changes, ~~the~~ Respondent~~s~~ may elect to withdraw their consent. ~~Otherwise, Respondents consent to this AOC without further notice.~~

IT IS SO AGREED:

STATE OF MONTANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

_____ _____

Tracy Stone-Manning, Director Date

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COLUMBIA FALLS ALUMINUM COMPANY LLC

_____ _____

By: Date

~~GLENCORE LTD~~

By:	Date

COLUMBIA FALLS ALUMINUM PLANT
ADMINISTRATIVE ORDER ON CONSENT
ATTACHMENT A
REMEDIAL INVESTIGATION SCOPE OF WORK

The purpose of the remedial investigation (RI) is to collect the data necessary to adequately characterize the nature and extent of contamination at the Columbia Falls Aluminum Plant (Facility) which will allow for the development of site-specific cleanup levels and evaluation of effective remedial alternatives that address human health and environmental risks. Activities developed and conducted under the RI include project scoping, and collecting, evaluating, and interpreting data. The primary objectives of an RI include the following: 1) to adequately characterize the nature and extent of releases or threatened releases of hazardous or deleterious substances at the Facility; 2) to allow an assessment of health and ecological risks and development of site-specific cleanup levels; and 3) to allow the effective development and evaluation of alternative remedies to be included in the feasibility study (FS). The RI is intended to build on existing data and fill identified data gaps. For questions regarding sampling, installation of monitoring wells, standards and screening levels, data validation, etc., please see: http://deq.mt.gov/StateSuperfund/FrequentlyAskedQuestions.mcpx.

Respondents must submit all documents in hard copy and modifiable electronic formats. In addition, a schedule for submittal of all required work must be included for DEQ approval.

A. Components of the Remedial Investigation Work Plan

The RI Work Plan describes the technical approach, methods, and justification for conducting the RI at the Facility, typically through a sampling and analysis plan (SAP), consisting of an integrated field sampling plan and quality assurance project plan (QAPP), as well as a health and safety plan (HASP). Respondents must prepare the RI Work Plan which includes the following information:

1. A characterization that compiles available information regarding the Facility and known or suspected contaminant releases at the Facility. The characterization consists of:
   a. General information such as project title, and legal and general descriptions of the location of the Facility.
   b. A complete history of operations including discussion of identity and dates of owners, operators, transporters, and generators; a summary of any records relating to hazardous or deleterious substances, description of known releases or disposal of hazardous or deleterious substances, and all identified operational components, pipelines, etc., associated with any hazardous or deleterious substances (with references/citations to original sources of the information).
   c. A complete history of regulatory involvement at the Facility including the timeframes, reasons for involvement, activities regulated by each agency, and any environmental permits (with references/citation to original sources of the information). The history also includes a description of all previous remedial actions taken at the Facility, including the demolition/removal of buildings, fuel lines, and

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storage tanks, and any prior or ongoing removal or remediation of hazardous or deleterious substances.

d. A description of natural features of the Facility such as regional and local topography, geology, soil, meteorology, ecology, demography, hydrology and hydrogeology (with references/citation to original sources of the information). Existing information on the characteristics to be investigated should also be incorporated. The hydrology/hydrogeology characterization includes:
   (1) a summary of available groundwater and surface water quality data;
   (2) a description of current and possible future uses of surface water and groundwater at or near the Facility to include identification of area wells and well log information for wells within one-half mile of the Facility, including industrial, commercial, irrigation, stock, drinking water, and monitoring wells;
   (3) a description of groundwater aquifers and the connection between aquifers;
   (4) surface water and groundwater flow rates and directions;
   (5) location of surface water within one mile of the Facility;
   (6) groundwater and surface water classification;
   (7) location of groundwater discharge/recharge; and
   (8) description of surface water drainage patterns.

e. A description of current land use of the Facility and surrounding areas, including zoning information.

f. An existing conditions map of the Facility illustrating relevant features such as property boundaries, surface topography, surface and subsurface structures, utility lines/easements, pipelines, well/borehole locations, general areas of known or suspected contamination, wetlands or floodplains, areas of ongoing erosion or runoff, and other pertinent information.

g. A site conceptual model identifying sources of hazardous or deleterious substances, and potential hazardous or deleterious substance migration pathways, including release mechanisms.

h. Current and historical aerial photos, as well as Sanborn Fire Insurance maps.

i. Name and location of regulated site(s) (i.e., leaking underground storage tank (LUST), Water Quality Act (WQA), Enforcement Division (ENFD), spills) within ¼-mile of the Facility.

j. Any other identified data gaps or available information.

2. A SAP which details the specific investigations to be conducted and the procedures to be followed in the RI. The SAP must include:

   a. A field sampling plan that presents a detailed description of all field investigation methodologies, sampling, data gathering, and analytical methods used to conduct the RI, including:
      (1) objectives and data quality objectives (DQOs);
      (2) specific description of proposed sampling design for the initial and ongoing groundwater, soil, surface water, sediment, and air monitoring (as applicable);
      (3) schedules and task assignments;
      (4) access and permit arrangements (if applicable) for all sampling;
      (5) field verification procedures including, but not limited to:
         (a) monitoring well specifications and procedures for installation and development;

(b) licensed global positioning system (GPS) survey of monitoring wells for location and elevation, with the survey tied in to a known United States Geological Survey (USGS) benchmark (wells that have already been appropriately surveyed do not need to be surveyed again unless there is a reason to suspect the survey is no longer accurate);
(c) methods for determination of groundwater flow direction and rate and aquifer characteristics;
(d) identification of all physical hazards; and
(e) identification of all plumbing, pipeways, product conveyance lines, foundations, trenches, recovery sumps, and all other related underground features at the facilities;

(6) sampling procedures including, but not limited to:
(a) sampling methods;
(b) sample locations (both planimetric and vertical) and identification (ID) numbers (map);
(c) survey of sample locations;
(d) frequency and order of sample collection;
(e) decontamination of equipment to prevent cross-contamination;
(f) sample media (soil, groundwater, surface water, sediment, air, dust, or waste) and objectives;
(g) quality assurance/quality control (QA/QC) samples;
(h) sample labeling procedures, with shipping and handling arrangements;
(i) split sampling opportunity; and
(j) analytical parameters, including:
i) justification for choice of analyses;
ii) laboratory and analytical method identification, including method detection limits;
iii) comparison of the method detection limit to DEQ screening levels, including the most recent version of the EPA Regional Screening Levels (RSLs), Montana Numeric Water Quality Standards (DEQ-7), EPA Drinking Water Maximum Contaminant Levels, Montana Tier I Risk-Based Corrective Action Risk-Based Screening Levels, EPA Region 3 Biological Technical Assistance Group Freshwater Sediment Screening Benchmarks (for sediment), or other screening levels identified by DEQ;
iv) sample containers, preservation and documentation methods, and holding times; and
v) laboratory-generated QA/QC samples.

(7) procedures (including any hazardous waste issues) for management of investigation-derived wastes (IDW) including, but not limited to, drill cuttings, purge water, wash water, and disposable equipment/clothing.

b. A QAPP presenting the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to ensure valid data that addresses:

(1) field QA/QC methods:
(a) standard operating procedures for field sampling methods;
(b) field documentation methods;

(c) frequency of QA/QC samples (duplicates, rinsates, blanks);
(d) field instrument calibration;
(e) preventive maintenance and corrective action procedures and schedule for field equipment;
(f) field chain of custody procedures.

(2) laboratory analytical protocol (LAP):
(a) laboratory identification;
(b) sample custody;
(c) analytical turn-around time;
(d) calibration procedures and frequency;
(e) data reduction, validation, and reporting;
(f) internal quality control checks;
(g) laboratory chain of custody procedures;
(h) performance system and audits, including corrective action procedures; and
(i) specific procedures for routine assessment of data precision, representativeness, accuracy, and completeness.

(3) data reduction, documentation, validation, reporting, and tracking procedures for both field and laboratory data.

c. A HASP describing the procedures to be employed to comply with applicable federal and state health and safety laws and regulations that address the following:
(1) levels of protection;
(2) hazard evaluation;
(3) waste characteristics;
(4) special site considerations;
(5) medical surveillance and emergency information;
(6) personnel responsibilities and training;
(7) decontamination procedures, including:
(a) entry and exit controls;
(b) disposal of wastes (IDW) from sampling effort; and
(c) equipment and personnel decontamination.

3. A description of any other information collection and evaluation activities necessary for the RI.
4. A provision for submittal of a final RI Work Plan that incorporates all DEQ comments on the draft RI Work Plan and a provision for submittal of both a draft RI and a final RI that incorporates all DEQ comments on the draft RI.

B. Components of the Remedial Investigation Report

The RI Report describes the results of the RI at the Facility and presents the results, along with historical data (if available). The RI Report must also summarize historical site activities, remedial actions, and other information pertinent to characterization of the Facility. Respondents must prepare the RI Report which includes the following information (with references/citation to original sources of the information):

1. A general introduction describing the purpose and organization of the Report;
2. A summary of Facility history, compiled per Section A(1)(b) and (c), including an overview

of the operational history, property ownership history, regulatory events, investigations, and interim actions.

3. A summary of the investigations conducted pursuant to the final RI Work Plan;
4. A summary of general field observations and any deviations from the final RI Work Plan;
5. A natural features characterization incorporating the information presented in the final RI Work Plan and any additional information on natural features characterization developed in the execution of the final RI Work Plan;
6. Data summary tables, sorted by media, as well as all validated field and laboratory analytical results. Analytical results reports and associated validation reports may be separately presented in an appendix;
7. A presentation and evaluation of the QA/QC results according to the QAPP;
8. All field notes and borehole and monitoring well logs showing well construction details and driller's observations, which may be presented separately in an appendix;
9. All photographs, including pertinent details about the subject of the photograph, date taken, and photographer name, which may be separately presented in an appendix;
10. A presentation and evaluation of the results of the investigations conducted pursuant to the final RI Work Plan to include a presentation of data collected from various hydrologic seasons, groundwater potentiometric surface maps, sample location maps, wetlands delineation, and hazardous or deleterious substance concentration maps [to include maps depicting distribution of non-aqueous phase liquid (NAPL) or sludge, contaminant concentrations, and the lateral and vertical extent of contamination, including lines depicting the DEQ-7 required reporting value and the human health standard, or other applicable screening levels as appropriate for the media];
11. An evaluation of the horizontal and vertical extent of contamination in each affected medium and a comparison of the data to the standards and screening levels identified in the final RI Work Plan description;
12. A discussion of potential hazardous or deleterious substance migration routes and human and ecological receptors;
13. A summary of any other pertinent information obtained during the RI;
14. An updated site conceptual model; and
15. Conclusions, including identification of and recommendations for filling any remaining data gaps.

COLUMBIA FALLS ALUMINUM PLANT
ADMINISTRATIVE ORDER ON CONSENT
ATTACHMENT B
RISK ASSESSMENT SCOPE OF WORK

A risk assessment is intended to estimate potential human health and environmental risks posed by current and potential future conditions assuming no further remediation of the Columbia Falls Aluminum Plant (Facility) and to develop site-specific cleanup levels (SSCLs) protective of public health, safety, and welfare and the environment using exposure assumptions acceptable to DEQ. The risk assessment work plan describes the approach to the risk assessment and facilitates discussions as to the appropriate ways to evaluate current and future risks for the Facility and develop SSCLs. It is intended that most of the components of the risk assessment will be provided in the risk assessment work plan so that any discrepancies or discussion may be addressed before the risks are calculated and the report is prepared. For questions regarding risk assessment/analysis and fate and transport analysis, please see: http://deq.mt.gov/StateSuperfund/FrequentlyAskedQuestions.mcpx#5.

Respondents must submit all documents in hard copy and modifiable electronic formats. In addition, a schedule for submittal of all required work must be included for DEQ approval.

A. Components of the Risk Assessment Work Plan

The risk assessment work plan addresses both human health and ecological impacts and the fate and transport of contaminants through soils to groundwater. Respondents must prepare a risk assessment work plan that includes the following information:

1. History and setting of the Facility, including demographic information
2. Data evaluation and selection of chemicals of potential concern (COPC)
    a. Data summary
    b. Data evaluation
    c. Selection of COPC(s) for each media
3. Human health risk assessment
    a. Exposure assessment
        i. Site conceptual exposure model
        ii. Potential receptors and exposure pathways
        iii. Exposure assumptions
        iv. Definitions of exposure areas and calculations of exposure point concentrations
        v. Calculation of chronic daily intakes
    b. Toxicity assessment
        i. Definitions of carcinogenic and non-carcinogenic risks
        ii. Carcinogenic slope factors and inhalation unit risks
        iii. Non-carcinogenic reference doses and reference concentrations
        iv. Uncertainties associated with toxicity assessment
    c. Risk Characterization
        i. A description of how cancer risk estimates will be derived

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ii. A description of how non-carcinogenic hazard estimates will be derived
iii. Evaluation of uncertainties

d. Ecological risk assessment, including a description of how SSCLs based upon protection of ecological receptors will be calculated, if appropriate (for some sites this may only be a qualitative evaluation)

4. Fate and Transport Analysis
5. Description of how SSCLs will be developed
   a. Human health-based SSCLs
   b. SSCLs based on fate and transport analysis
   c. Ecological risk-based SSCLs (for some sites this may only be a qualitative evaluation)
6. Completed tables 1, 2, 3, 4, 5, and 6 of EPA's Risk Assessment Guidance for Superfund (RAGS) Part D.
7. The provision for submittal of a draft risk assessment work plan for DEQ review and a final risk assessment work plan that incorporates all DEQ comments.

B. Components of the Risk Assessment Report

The risk assessment report provides data sufficient in quantity and quality to identify potential human health and environmental risks associated with current and future conditions at the Facility. The data represents potential exposures at the Facility. Respondents must prepare a risk assessment report that includes the components developed in the risk assessment work plan and the following information:

1. DEQ approved history and setting of the Facility, data evaluation, exposure assessment, and toxicity assessment sections and tables from the risk assessment work plan
2. Calculation and discussion of the carcinogenic and non-carcinogenic risks for the receptors and pathways
3. Discussion of uncertainties
4. Ecological risk assessment
5. Fate and transport analysis (Calculation of SSCLs based on protection of human health via direct contact (i.e., ingestion, dermal, inhalation, etc.))
6. Calculation of SSCLs based on protection of groundwater
7. Calculation of SSCLs based on protection of ecological receptors, if appropriate (for some sites this may only be a qualitative evaluation)
8. Completed Tables 1-10 of RAGS Part D.
9. The provision for submittal of a draft risk assessment report for DEQ review and a final risk assessment report that incorporates all DEQ comments on the draft risk assessment report.

COLUMBIA FALLS ALUMINUM PLANT
ADMINISTRATIVE ORDER ON CONSENT
ATTACHMENT C
FEASIBILITY STUDY SCOPE OF WORK

The feasibility study (FS) consists of the development and screening of remedial alternatives or cleanup options and a detailed analysis of a limited number of the most promising options to establish the basis for a remedy selection decision at the Columbia Falls Aluminum Plant (Facility). A range of viable alternatives are developed that meet the remedial response objectives developed during scoping and refined as the FS progresses.

Respondents must submit all documents to DEQ in hard copy and modifiable electronic formats. In addition, a schedule for submittal of all required work must be included for DEQ approval.

A. Initial Alternatives Screening Table

As the first step in scoping the FS, Respondents must prepare an initial alternatives screening table to DEQ, which includes the following information:

1. Identification and description of all potential remedy alternatives that may be used at the Facility;
2. Description of the Federal Remediation Technology Roundtable (FRTR) factors of availability, implementability, effectiveness, reliability/maintainability, and cost evaluation criteria used in the initial screening of remedy alternatives (see http://www.frtr.gov/); and
3. Initial evaluation of remedy alternatives according to the FRTR factors to eliminate those remedies that are clearly infeasible or inappropriate for use at the Facility.

After submittal of this table, DEQ and Respondents shall hold a scoping meeting to discuss the table. After the scoping meeting, Respondents must prepare a technical memorandum for DEQ providing discussion and rationale for the decisions reached during the scoping meeting with DEQ. Respondents must also provide a proposed schedule for submitting the FS Work Plan and FS for DEQ's review and approval. Respondents must include the initial alternatives screening table and technical memorandum as an appendix in the FS Work Plan and FS Report and this table and memorandum serve as the basis for preparing the second table referenced in B(4) below.

B. Components of the FS Work Plan

Respondents must prepare an FS Work Plan which includes the following information:

1. An identification of the areas and volume of contaminated media exceeding site-specific cleanup levels (SSCLs) (developed in the risk assessment or risk analysis for the Facility);
2. An identification of the preliminary remedial action objectives (PRAOs) specifying contaminants and media of concern, potential exposure pathways, and SSCLs;

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3. An identification and description of any interim actions that have occurred at the Facility;

4. An alternatives screening table containing the alternatives remaining after the initial screening conducted in (A) above, which includes:

   a. Identification of the remaining potential remedy alternatives;
   b. Further evaluation of the retained technologies according to the following criteria: effectiveness, implementability, and cost. The rationale for eliminating any remedies from further detailed evaluation must be documented as a footnote to the table or in a comment column;
   c. Remedial alternatives retained for further evaluation in the FS report; and
   d. Identification of all retained potential remedial alternatives that may require treatability studies.

5. An identification and evaluation of potentially suitable technologies, including alternative treatment technologies and resource recovery technologies, based upon the table in B(4). The no action alternative is also included;

6. An identification of the FS tasks, including procedures for evaluation of alternative remedies;

7. An identification of any proposed treatability studies (if it is more appropriate, these may sometimes be proposed as part of remedial design). If treatability studies are necessary, a treatability study work plan must be prepared and include:

   a. A project description (including a schedule) and background describing the Facility and the type, concentration, and distribution of hazardous or deleterious substances;
   b. A remedial technology description describing the technology(ies) to be tested either in a bench scale or pilot scale test and the test(s) objective(s);
   c. If a bench scale test is to be conducted, a description of the specialized equipment and materials required for the test and sequential description of the experimental procedures to be performed to include identification of the variable conditions to be tested; and
   d. If a pilot scale test is to be conducted, a description of pilot test installation and start-up equipment and methods and a description of pilot test operation and maintenance procedure to include listing the various operating conditions which are to be tested.

8. A sampling and analysis plan (including a quality assurance project plan [QAPP]), if sampling will be performed during the FS;

9. An evaluation of each alternative remedy in accordance with the criteria found in § 75-10-721(1) and (2), MCA, which requires:

   a. Attainment of a degree of cleanup of the hazardous or deleterious substance and control of a threatened release or further release of that substance that assures protection of public health, safety, and welfare and of the environment;
   b. Compliance with and cleanup consistent with the preliminary applicable and relevant state or federal environmental requirements, criteria, or limitations (ERCLs) identified by DEQ (including a discussion of the estimated time to meet them);
   c. With consideration of present and reasonably anticipated future uses of the Facility, an evaluation of how the alternative:

      i. Demonstrates acceptable mitigation of exposure to risks to the public health, safety, and welfare and the environment;

ii. Provides long-term and short-term effectiveness and reliability;
iii. Is technically practicable and implementable;
iv. Uses treatment technologies or resource recovery technologies, if practicable, giving due consideration to engineering controls; and
v. Is cost effective.

10. A provision and schedule for submittal of a final FS Work Plan that incorporates all DEQ comments on the draft FS Work Plan and a provision for submittal of both a draft FS and a final FS that incorporates all DEQ comments on the draft FS. Depending on public comments received on the Proposed Plan, revisions to the FS may be necessary, resulting in a third version of the FS. Respondents must include a schedule for submitting the final FS Work Plan to DEQ for DEQ's review and approval.

C. Components of the FS Report

Respondents must prepare an FS Report which includes the following information:

1. An introduction describing the purpose and organization of the report and general background information, including an identification and description of any interim actions that have occurred and how they meet the criteria of § 75-10-721(1) and (2), MCA;
2. A presentation and discussion of results of treatability studies including an assessment of the success of the test(s) and an evaluation of the results as they pertain to the selection of the remedy;
3. A presentation and evaluation of the results of any investigations conducted subsequent to the Remedial Investigation (RI), including treatability study investigations pursuant to the final FS Work Plan approved by DEQ. This may also include a tabular summary of RI data relied on in the FS;
4. A presentation and evaluation of the quality assurance/quality control results according to the QAPP, including all appropriate data validation information;
5. All validated field and laboratory analytical results for samples collected subsequent to the RI, including those collected during any treatability studies and during the FS, all of which may be separately presented in an appendix;
6. A summary of any deviations from the final FS Work Plan approved by DEQ;
7. A presentation and discussion of results of the detailed alternatives analysis including estimated volumes of media impacted above SSCLs and detailed cost estimates;
8. Figures including, but not limited to: figures identifying the groundwater potentiometric surface and extent of contamination above SSCLs; figures identifying the estimated areal extent of contamination in surface and subsurface soils above applicable SSCLs; figures, if separate from those outlined above, used to calculate soil or groundwater volumes for treatment/removal; and other relevant Facility figures/maps demonstrating property ownership and current uses, utilities, etc.;
9. Appendices containing DEQ's analyses of preliminary ERCLs as well as both alternative screening tables from (A) and (B)(3) above;
10. A discussion of estimated time to meet SSCLs and ERCLs (may be based on trend

analysis or modeling); and

11. Other pertinent information obtained during the FS.