UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 10

IN THE MATTER OF: UPPER COLUMBIA RIVER SITE WASHINGTON	ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR REMOVAL ACTION
Teck American Incorporated Teck Metals Limited	Docket No. CERCLA-10-2015-0140

TABLE OF CONTENTS

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent ("Settlement Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("EPA"), Teck Metals Limited ("TML") and Teck American Incorporated ("TAI"). This Settlement Agreement provides for the performance of a removal action by TAI at or in connection with the Upper Columbia River Site (the "Site"), which is located in northeast Washington, along the Upper Columbia River from the border between the United States and Canada downstream to the Grand Coulee Dam.

2. EPA is entering into this Settlement Agreement pursuant to its authority vested in the President of the United States by Sections 104, 106, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§ 9604, 9606, and 9622.

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

4. EPA, TAI, and TML acknowledge that this Settlement Agreement has been negotiated in good faith and that the actions undertaken in accordance with this Settlement Agreement do not constitute an admission of any liability on the part of TAI or TML. Although TML and TAI are entering into this Settlement Agreement, nothing in this Settlement Agreement shall constitute a waiver of any defenses to liability that TAI or TML may have in any proceeding, including defenses related to the extraterritorial application of CERCLA, the liability of TML as an arranger for disposal, or personal jurisdiction over TAI and TML. TML and TAI do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of facts, conclusions of law, and determinations in Sections IV and V of this Settlement Agreement. TML and TAI each deny it has liability under CERCLA for the Site. TML and TAI nevertheless agree to comply with and be bound by the terms of this Settlement Agreement and further agree they will not otherwise contest the basis or validity of this Settlement Agreement or its terms in any proceeding to implement or enforce this Settlement. The participation of TAI and TML in this Settlement Agreement, including the performance of the Work Plans and Statement of Work, is not admissible in evidence against TAI or TML in any judicial or administrative proceeding other than a proceeding by EPA to enforce this Settlement Agreement.

II. PARTIES BOUND

5. This Settlement Agreement applies to and is binding upon EPA, and upon TML and TAI, as well as their successors and assigns. Any change in TML's or TAI's ownership or corporate status, including, but not limited to, any transfer of assets or real or personal property shall not alter TML's or TAI's responsibilities under this Settlement Agreement.

6. TML and TAI have agreed that TAI will perform the Work required by this Settlement Agreement. Notwithstanding any other provision of this Settlement Agreement, however, TML shall remain jointly and severally responsible with TAI for compliance with this Settlement Agreement.

7. TAI shall provide a copy of this Settlement Agreement to each contractor hired to perform the Work required by this Settlement Agreement and to each person representing TAI and TML with respect to the Site or the Work, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Settlement Agreement. TAI or its contractors shall provide written notice of the Settlement Agreement to all subcontractors hired to perform any portion of the Work required by this Settlement Agreement. TAI shall nonetheless be responsible for ensuring that its contractors and subcontractors perform the Work in accordance with the terms of this Settlement Agreement.

III. DEFINITIONS

8. Unless otherwise expressly provided in this Settlement Agreement, terms used in this Settlement Agreement that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on August 6, 2015, by Chris D. Field, Manager of the Emergency Management Program in the Office of Environmental Cleanup in EPA Region 10, and all attachments thereto except for the confidential enforcement addendum. A copy of the Action Memorandum is attached as Appendix A.

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

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

d. "Department of Ecology" shall mean the Washington Department of Ecology and any successor departments or agencies of the State.

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

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

g. "Final Report" shall mean the "final report" or "Removal Completion Report" described in the Statement of Work attached as Appendix B.

h. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that EPA or the U.S. Department of Justice incur in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement. "Future

Response Costs" shall also include all Interim Response Costs TAI has agreed to reimburse under this Settlement Agreement that have accrued pursuant to 42 U.S.C. § 9607(a) during the period from March 1, 2015 to the Effective Date.

i. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

j. "Interim Response Costs" shall mean all costs, including direct and indirect costs, a) paid by the United States in connection with the Site between March 1, 2015, and the Effective Date, or b) incurred prior to the Effective Date, but paid after that date.

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

l. "OSC" shall mean the EPA On-Scene Coordinator for the Site.

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

n. "Parties" shall mean EPA, TML, and TAI.

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

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

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

r. "Site" shall mean the areal extent of hazardous substances contamination within the United States in or adjacent to the Upper Columbia River, including the Franklin D. Roosevelt Lake, from the border between the United States and Canada downstream to the Grand Coulee Dam, and which is located in northeast Washington.

s. "State" shall mean the State of Washington.

t. "Statement of Work" or "SOW" shall mean the statement of work attached as Appendix B to this Settlement Agreement and any modifications made thereto in accordance with this Settlement Agreement.

u. "TAI" shall mean Teck American Incorporated.

v. "TCRA" shall mean the Time-Critical Removal Action required by the Action Memorandum.

w. "TML" shall mean Teck Metals Limited

x. "Tribal Allotment 151-H 195" shall mean a tribal allotment described in a Workplan, but not in the Action Memorandum. Tribal Allotment 151-H 195 is also referred to as Tribal Allotment H-195. Two of the three decision units in Tribal Allotment 151-H 195 are being addressed by this removal action and are referred to as TA 195-A and TA 195-B. TAI has agreed to conduct removal actions on these decision units notwithstanding the fact that the lead levels are below the action level established by the Action Memorandum.

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

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

aa. "Work Plans" shall mean the property-specific work plans, which are attached as Appendix C, as well as the project work plans required to be submitted by TAI in accordance with the Statement of Work, which is attached at Appendix B. "Work Plans" shall also include any modifications made to the property-specific or project work plans in accordance with this Settlement Agreement.

IV. FINDINGS OF FACT

9. The Upper Columbia River Site consists of the areal extent of hazardous substances contamination within the United States in or adjacent to the Upper Columbia River, including the Franklin D. Roosevelt Lake, from the border between the United States and Canada downstream to the Grand Coulee Dam. TAI is currently performing a Remedial Investigation and Feasibility Study at the Site pursuant to a separate June 2, 2006 Settlement Agreement (the "RI/FS Settlement Agreement") between EPA and the predecessor companies to TAI and TML.

10. TML owns and operates an integrated smelting and refining complex in Trail, British Columbia situated approximately ten river miles north of the U.S. / Canada border. The EPA contends that discharges from the smelter have contributed to releases of hazardous substances, as defined in CERCLA, at the Site and specifically at the fourteen residential properties and three tribal allotments that are referred to in this Settlement Agreement. EPA acknowledges, however, that other entities may have contributed to releases of hazardous substances at the Site.

11. In 2012, the Washington Department of Ecology sampled soil in undisturbed lands near the U.S. / Canada border and found elevated levels of lead and arsenic. Pursuant to the RI/FS Agreement, TAI agreed to conduct soil sampling in the upland area of the Site and to fund EPA's collection of soil samples on certain residential properties and tribal allotments.

12. EPA conducted sampling at seventy-four residential properties, including six tribal allotments in the summer and fall of 2014. Based on interviews with residents, aerial photography, and field visits, samples were taken in areas with a high potential for exposure by residents, especially young children and gardeners likely to be exposed to lead and arsenic via soil ingestion. The soil samples were analyzed for the presence of metals.

13. The final, validated residential and tribal allotment soil sample results revealed the presence of lead in fourteen residential properties and three tribal allotments at levels exceeding 700 parts per million ("ppm"), which EPA asserts at this Site is the level above which the lead contamination may present an imminent and substantial endangerment to public health or welfare or the environment. EPA also found lead at levels below 700 ppm on another tribal allotment -- Tribal Allotment 151-H 195; TML and TAI have nevertheless agreed to address the lead and arsenic contamination on this allotment under this Settlement Agreement.

14. On August 6, 2015, Chris D. Field, Manager, Emergency Management Program, Office of Environmental Cleanup in EPA Region 10, issued an Action Memorandum requiring the performance of a Time-Critical Removal Action ("TCRA") at the fourteen residential properties but not the three tribal allotments at which lead was found to exceed 700 ppm, nor Tribal Allotment 151-H 195. The Action Memorandum establishes a TCRA action level of 700 ppm for lead and cleanup to a level of less than or equal to 250 ppm of lead. A copy of the Action Memorandum is attached as Appendix A to this Settlement Agreement. Based on communication with the Tribes, the three tribal allotments at which lead was found to exceed 700 ppm are not being addressed through this TCRA to allow time to further evaluate removal alternatives. TAI will be addressing the lead and arsenic contamination at these three tribal allotments at a later time.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

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

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

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

c. TML and TAI are each a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. EPA alleges that TML is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is jointly and severally liable for performance of the response action and for response costs incurred and to be incurred at the residential properties and tribal allotments that are the subject of the removal action within the Site.

e. EPA further alleges that the conditions described in the Findings of Fact above resulted in an actual or threatened "release" of a hazardous substance to the residential properties and tribal allotments at the Site that are the subject of the removal action, as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22).

f. The removal action required by the Action Memorandum is necessary to protect the public health, welfare, or the environment. If the removal actions required by this Settlement Agreement are carried out in compliance with the terms of this Settlement Agreement, all such actions will be deemed consistent with the NCP, as provided in 40 C.F.R. § 300.700(c)(3)(ii) of the NCP.

VI. SETTLEMENT AGREEMENT AND ORDER

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

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

17. TAI has notified EPA that it has retained ARCADIS U.S., Inc. ("ARCADIS") to perform the Work required by this Settlement Agreement and has provided EPA with ARCADIS' qualifications. EPA has accepted ARCADIS as the contractor to perform the Work. TAI shall notify EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least ten days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the other contractors and/or subcontractors retained by TAI. If EPA disapproves one of the other contractors proposed by TAI, TAI shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within ten days of EPA's disapproval.

18. TAI has designated David Enos as the Project Coordinator responsible for administration of all actions by TAI required by this Settlement Agreement. To the greatest extent possible, the Project Coordinator shall be readily available during Site work. Receipt by TAI's Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by TAI. EPA has designated Jeffrey Fowlow, in Region 10's Office of Environmental Cleanup, as its On-Scene Coordinator ("OSC"). If EPA's OSC, Jeff Fowlow, is not on-site, a temporary OSC will be designated by EPA.

19. EPA and TAI shall have the right, subject to Paragraph 17, to change their respective designated OSC or Project Coordinator. TAI shall notify EPA five days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

20. Implementation of the Action Memorandum. TAI shall perform all activities necessary to implement the Action Memorandum, as well as removal actions at Tribal Allotment 151-H 195. The activities to be implemented relate to the performance of the TCRA at various residential properties and tribal allotments within the Site, and are described in detail in the Work Plans and Statement of Work attached to this Settlement Agreement. Neither TAI nor TML shall be responsible, through this Settlement Agreement, for implementing, performing, or funding any activities other than those specified in this Settlement Agreement, the Work Plans, or the Statement of Work, unless that activity is required to ensure consistency with the National Contingency Plan, 40 C.F.R. Part 300.

21. Submission of Deliverables. Except as otherwise indicated by the Statement of Work, TAI shall submit all submissions required under this Settlement Agreement and attached SOW in accordance with the schedule to the OSC at Office of Environmental Cleanup, U.S. Environmental Protection Agency, Region 10, 1200 Sixth Avenue, Suite 900 (ECL-133), Seattle, Washington 98101-3140.

22. Review and Approval of Deliverables. EPA may approve, disapprove, require revisions to, or modify deliverables in whole or in part. If EPA requires revisions, TAI and TML shall submit a revised draft deliverable within seven days of receipt of EPA's notification of the required revisions, or such longer period of time that EPA may agree to on a case-by-case basis. TAI and TML shall implement the deliverable as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the deliverable and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement.

23. Schedule. TAI shall implement the Work Plans and provide the deliverables required by the Statement of Work in accordance with the schedule in Table 1 of the Statement of Work. TAI shall not commence any Work except in conformance with the terms of the SOW and Work Plans and the Implementation Schedule, provided, however, that the Parties may jointly agree in writing to modify the schedule set forth therein without further modification of this Settlement Agreement.

24. Progress Reports. TAI shall submit a written progress report to EPA concerning actions undertaken pursuant to this Settlement Agreement every 30th day after the Effective Date of this Settlement Agreement, until completion of the Work, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period,

including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

25. Electronic Reporting. TAI shall submit copies of all plans, reports or other submissions required by this Settlement Agreement in electronic form unless EPA specifically requests a hard copy.

IX. SITE ACCESS

26. To enable EPA to prepare for and oversee the Work, EPA has entered into agreements with the owners of the subject properties. These agreements also authorize Teck to gain access to the properties for the purpose of performing the Work. If further access agreements are necessary, TAI will use best efforts to obtain all necessary access agreements. TAI shall immediately notify EPA if, after using its best efforts, it is unable to obtain such additional access agreements. EPA may then assist TAI in gaining access to the extent necessary to effectuate the response actions described in the Settlement Agreement, using such means as EPA deems appropriate. With the exception of Tribal Allotment 151-H 195, TAI and TML shall reimburse EPA for all reasonable costs and attorney's fees incurred by the United States in obtaining such additional access, in accordance with the procedures in Section XIV (Payment of Response Costs).

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

X. ACCESS TO INFORMATION

28. TAI and TML shall provide to EPA, upon request, copies of all documents and information within TAI's and TML's possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. TAI and TML shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

29. TAI and TML may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified TAI and TML that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to TAI or TML.

30. TAI and TML may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If TAI or TML asserts such a privilege in lieu of providing documents, it shall provide EPA the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by TAI or TML. However, no document, report, or other record that TAI or TML is required to create or generate pursuant to this Settlement Agreement shall be withheld on the grounds that they are privileged.

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

XI. RECORD RETENTION

32. Until 10 years after TAI's and TML's receipt of EPA's notification pursuant to Section XXVII (Notice of Completion of Work), TAI and TML shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after TAI's and TML's receipt of EPA's notification pursuant to Section XXVII (Notice of Completion of Work), TAI and TML shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

33. At the conclusion of this document retention period, TAI and TML shall notify EPA at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA, TAI and TML shall deliver any such records or documents to EPA. TAI and TML may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If TAI or TML asserts such a privilege, it shall provide EPA with the following: a) the title of the document, record, or information; b) the date of the document, record, or information; c) the name and title of the author of the document, record, or information; d) the name and title of each addressee and recipient; e) a description of the subject of the document, record, or information; and f) the privilege asserted by TAI or TML. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

34. TAI and TML certify individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA or the filing

of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

35. All actions required pursuant to this Settlement Agreement shall be performed in accordance with all applicable state and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Settlement Agreement shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements ("ARARs") under federal environmental or state environmental or facility siting law.

36. In accordance with Section 121 of CERCLA, 42 U.S.C. § 9621, no local, state, or federal permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies. This Settlement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

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

38. In addition, in the event of any release of a hazardous substance from the Site, TAI shall immediately notify the OSC, Jeff Fowlow, at 206-553-2751, and the National Response Center, at (800) 424-8802. TAI shall submit a written report to EPA within seven days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq.

XIV. AUTHORITY OF ON-SCENE COORDINATOR

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

XV. PAYMENT OF RESPONSE COSTS

40. Payments for Future Response Costs.

a. TAI shall pay EPA all Future Response Costs not inconsistent with the NCP related to the Work Plans and the Statement of Work. On a periodic basis, EPA will send TAI a bill requiring payment that includes a Region 10-prepared summary of costs incurred, including direct and indirect costs incurred by EPA and its contractors. TAI shall make all payments within 30 days of receipt of each bill requiring payment, except as otherwise provided in this Settlement Agreement.

b. TAI shall make all payments required by this Paragraph by a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund," referencing the name and address of the party(ies) making payment and EPA Site/Spill ID number 10NZ. TAI shall send the check(s) to:

U.S. Environmental Protection Agency
P.O. Box 979076
St. Louis, MO 63197-9000

c. At the time of payment, TAI shall send notice that payment has been made to by email to cinwd_accountsreceivable@epa.gov and to:

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

d. The total amount to be paid by TAI pursuant to Paragraph 40 shall be deposited by EPA in the Upper Columbia River Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

41. In the event that the payment for Future Response Costs is not made within 30 days of TAI's receipt of a bill, TAI shall pay Interest on the unpaid balance. The Interest on Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States.

42. TAI may contest payment of any Future Response Costs billed under Paragraph 40 if it determines that EPA has made a mathematical error, or if it believes EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the OSC. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, TAI shall within the 30-day period pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 40. Simultaneously, TAI shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Washington and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. TAI shall send to the EPA OSC a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, TAI shall initiate the Dispute Resolution procedures in Section XVI (Dispute Resolution). If EPA prevails in the dispute, within five days of the resolution of the dispute, TAI shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 40. If TAI prevails concerning any aspect of the contested costs, TAI shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA in the manner described in Paragraph 40. TAI shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph, in conjunction with the procedures set forth in Section XVI (Dispute Resolution), shall be the exclusive mechanisms for resolving disputes regarding TAI's obligation to reimburse EPA for its Future Response Costs.

XVI. DISPUTE RESOLUTION

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

44. If TAI or TML objects to any EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, it shall notify EPA in writing of its objection(s) within 10 days of such action, unless the objection(s) has/have been resolved informally. The parties to any dispute shall have 15 days from EPA's receipt of TAI's or TML's written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA.

45. Any agreement reached by the parties to a dispute pursuant to this Section shall be in writing and shall, upon signature by the parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the parties to a dispute are unable to reach an agreement within the Negotiation Period, an EPA management official at the Office Director level or higher will issue a written decision on the dispute to TAI and TML. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. If TAI

alone initiates the dispute resolution provisions of this Section to address a requirement of this Settlement Agreement, however, EPA shall not pursue enforcement of that requirement against TML unless and until EPA prevails in the dispute. Neither TAI's nor TML's obligations under this Settlement Agreement shall be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, TAI or TML shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs first.

XVII. FORCE MAJEURE

46. All requirements of this Settlement Agreement shall be performed within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of TAI or TML, or of any entity controlled by TAI or TML, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite TAI or TML's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work.

47. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, TAI or TML shall notify EPA orally within five days of when TAI or TML first knew that the event might cause a delay. Within five days thereafter, TAI or TML shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; TAI or TML'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 TAI or TML, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude TAI or TML 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.

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

XVIII. STIPULATED PENALTIES

49. TAI or TML shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 50 and 51 for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVII (*Force Majeure*), and except as to any Work TAI is to perform on Tribal Allotment 151-H 195. "Compliance" by TAI or TML shall include completion of the activities under this Settlement Agreement or any work plan or other plan approved under this Settlement Agreement identified below in accordance with all applicable requirements of law, this Settlement Agreement, and any plans or other documents approved by EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

50. Stipulated Penalty Amounts - Work

a. The following stipulated penalties shall accrue per violation per day for any noncompliance with the requirements identified in Sections VIII (Work to be Performed), X (Access to Information), XI (Record Retention), XII (Compliance with Other Laws), XIII (Emergency Response and Notification of Releases), Section XV (Payment of Response Costs), and XXVIII (Notice of Completion of Work), except for reporting requirements, which shall be governed by Paragraph 51:

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 14th day
$1,000	15th through 30th day
$2,000	31st day and beyond

51. Stipulated Penalty Amounts – Reports. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports pursuant to this Settlement Agreement:

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 14th day
$1,000	15th through 30th day
$1,500	31st day and beyond

52. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies TAI or TML of any deficiency; and 2) with respect to a decision by the EPA Region 10 management official at the Office Director level or higher, under Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA management official issues a final

decision regarding such dispute. Nothing in this Settlement Agreement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

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

54. All penalties accruing under this Section shall be due and payable to EPA within 30 days of TAI's or TML's receipt from EPA of a demand for payment of the penalties, unless TAI or TML invokes the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to EPA under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to U.S. Environmental Protection Agency, P.O. Box 979077, St. Louis, MO 63197-9000**,** shall indicate that the payment is for stipulated penalties, and shall reference the **EPA Region and Site/Spill ID Number 10NZ, the EPA Docket Number CERCLA-10-2015-0140,** and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to EPA as provided in Paragraph 40.

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

56. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

57. If TAI or TML fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. TAI or TML shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 53. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of TAI or TML's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3); provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Section, except in the case of a willful violation of this Settlement Agreement. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XIX. COVENANT NOT TO SUE BY EPA

58. In consideration of the actions that will be performed and the payments that will be made under the terms of this Settlement Agreement, and except as otherwise specifically

provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against TAI and TML and their parent and affiliate companies pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance of all obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XV. This covenant not to sue extends only to TAI and TML and their parent and affiliate companies and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

59. Except as specifically provided in this Settlement Agreement, nothing in this Settlement Agreement shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement Agreement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring TAI in the future to perform additional activities pursuant to CERCLA or any other applicable law.

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

a. claims based on a failure by TAI and TML to meet a requirement of this Settlement Agreement;

b. liability for costs not included within the definition of Future Response Costs;

c. liability for performance of response action other than the Work;

d. criminal liability;

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

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

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

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

XXI. COVENANT NOT TO SUE BY TAI AND TML

62. TAI and TML covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Settlement Agreement, including, but not limited to:

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

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

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

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

XXII. OTHER CLAIMS

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

65. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or

cause of action against TAI, TML, or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

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

XXIII. CONTRIBUTION AND OTHER CLAIMS

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

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

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

d. Nothing in this Settlement Agreement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Settlement.

e. Except as provided in Section XXI (Covenant Not to Sue by TAI and TML), each of the Parties expressly reserves any and all rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto. Nothing in this Settlement diminishes the right of the United States, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

XXIV. INDEMNIFICATION

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

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

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

XXV. INSURANCE

71. At least 15 days prior to commencing any on-Site work under this Settlement Agreement, TAI or TML shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of $1,000,000, combined single limit, naming EPA as an additional insured. Within the same time period, TAI or TML shall provide EPA with certificates of such insurance and a copy of each insurance policy. TAI or TML shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, TAI or TML shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of TAI or TML in furtherance of this Settlement Agreement. If TAI or TML demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering

some or all of the same risks but in an equal or lesser amount, then TAI or TML need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

72. Within 30 days of the Effective Date, TAI shall establish and maintain financial security for the benefit of EPA in the amount of $2,700,600 in one or more of the following forms, in order to secure the full and final completion of Work by TAI:

a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;

b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA;

c. a trust fund administered by a trustee acceptable in all respects to EPA;

d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;

e. a written guarantee to pay for or perform the Work provided by TAI's parent company or by one or more unrelated companies that have a substantial business relationship with TAI, including a demonstration that any such guarantor company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or

f. a demonstration of sufficient financial resources to pay for the Work made by one or more of TAI, which shall consist of a demonstration that TAI satisfies the requirements of 40 C.F.R. Part 264.143(f), which Region 10 has authorized in this case in light of the short-term, time-critical nature of this removal action.

73. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, TAI shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 72, above. In addition, if at any time EPA notifies TAI that the anticipated cost of completing the Work has increased, then, within 30 days of such notification, TAI shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. TAI's inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

74. If TAI seeks to ensure completion of the Work through a guarantee pursuant to Subparagraph 72(e) or 72(f) of this Settlement Agreement, TAI shall demonstrate to EPA's

satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). For the purposes of this Settlement Agreement, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the dollar amount to be used in the relevant financial test calculations shall be the current cost estimate of $2,700,600 for the Work at the Site plus any other RCRA, CERCLA, TSCA, or other federal environmental obligations financially assured by the relevant party or guarantor to EPA by means of passing a financial test.

75. If, after the Effective Date, TAI can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 72 of this Section, TAI may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. TAI shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, TAI may seek dispute resolution pursuant to Section XV (Dispute Resolution). TAI may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

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

XXVII. MODIFICATIONS

77. The OSC may make modifications to any Work Plan, Statement of Work, or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement Agreement may be modified only in writing by mutual agreement of the parties.

78. If TAI or TML seeks permission to deviate from any approved work plan or schedule, TAI's or TML's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Neither TAI nor TML may proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 77.

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

XXVIII. NOTICE OF COMPLETION OF WORK

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

XXIX. INTEGRATION/APPENDICES

81. This Settlement Agreement and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement and its appendices, which are attached to and incorporated into this Settlement Agreement, and which consist of the following:

Appendix A: Action Memorandum signed on August 6, 2015, by Chris D. Field, Manager, Emergency Management Program, Office of Environmental Cleanup, EPA Region 10

Appendix B: Statement of Work

Appendix C: Property Specific Work Plans

Appendix D: List of residential properties and Tribal Allotment 151-H 195

XXX. EFFECTIVE DATE

82. This Settlement Agreement shall be effective when the Settlement Agreement is signed by Chris D. Field, Manager, Emergency Management Program, Office of Environmental Cleanup, EPA Region 10.

83. The undersigned representatives of TAI and TML certify that each is fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind their respective companies to this document.

For Teck American Incorporated:

Agreed this 10th day of August, 2015.

BY: _____

Phillip A. Pesek
Vice President, General Counsel, and Secretary
Teck American Incorporated

For Teck Metals Limited:

Agreed this 10th day of August, 2015.

BY: _____

Peter Rozee
Senior Vice-President,
Commercial and Legal Affairs
Teck Metals, Ltd.

It is so ORDERED and Agreed this 11TH day of August, 2015 (EFFECTIVE DATE).

BY: _____

Chris D. Field
Manager, Emergency Management Program
Office of Environmental Cleanup
Region 10
U.S. Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL CLEANUP

August 6, 2015

SUBJECT: Action Memorandum for the Upper Columbia River Site Residential Properties Soil Removal near Northport, Stevens County, Washington

FROM: Jeffrey Fowlow, Federal On-Scene Coordinator
Emergency Preparedness and Prevention Unit

THRU: Wally Moon, Unit Manager
Emergency Preparedness and Prevention Unit

TO: Chris D. Field, Manager
Emergency Management Program

I. PURPOSE

The purpose of this Action Memorandum is to document approval of the time-critical removal action ("TCRA") described herein for the Upper Columbia River Site Residential Properties Soil Removal near Northport, Stevens County, Washington (Site).

The Upper Columbia River Site is currently the subject of a remedial investigation / feasibility study (RI/FS) to investigate contamination along the Upper Columbia River from the Grand Coulee Dam to the United States (U.S.)-Canada border related to historical smelting operations. As a part of field sampling activities for the RI/FS, the U.S. Environmental Protection Agency ("EPA") identified several residential properties and tribal allotments[1] in the Columbia River valley north of the town of Northport, Washington, which contained lead and/or arsenic at elevated levels. The residential properties are the focus of the time-critical removal action described herein. Any future time-critical removal actions taken on the tribal allotments will be addressed as a separate action. The residential properties and tribal allotments are located on land that is historically and culturally significant to both the Confederated Tribes of the Colville Reservation (Colville Confederated Tribes) and the Spokane Tribe of Indians.

Teck Metals, Limited (TML), a potentially responsible party ("PRP") at the Site, is currently negotiating a Settlement Agreement and Order on Consent ("Settlement Agreement") with EPA in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") for the funding and performance of the removal action. Under that Settlement Agreement, Teck American

[1] For the purpose of this Action Memo, the term "allotment" refers to parcels of land outside the borders of an established Indian reservation that are owned by private tribal members.

Incorporated (TAI) would be the party performing the work, though both TAI and TML will be held jointly and severally responsible for the work, and herein referred to as "Teck".

II. SITE CONDITIONS AND BACKGROUND

The Superfund Enterprise Management System (formerly CERCLIS) ID Number for the Upper Columbia River Site is WASFN1002171 and the Site/Spill ID is 10NZ.

A. Site Description

1. Removal site evaluation

EPA is performing an RI/FS along the Upper Columbia River. The Upper Columbia River consists of the areal extent of hazardous substances contamination within the U.S. in or adjacent to the Upper Columbia River, including the Franklin D. Roosevelt Lake ("Lake Roosevelt"), from the border between the U.S. and Canada downstream to the Grand Coulee Dam.

A smelter owned by Teck located in Trail, British Columbia, on the Columbia River approximately 10 miles north of the U.S./Canada border has discharged metals-laden slag and liquid wastes into the Columbia River, as well as discharges from the smelter to the properties and allotments that are the subject of this removal action. Under the RI/FS, which is being funded by Teck, sampling has been conducted to determine levels of contamination in fish, river sediment, beach sediment, river water, and soil to support human health and ecological risk assessments.

As part of the RI/FS, in 2014 EPA collected and analyzed soil samples from residential properties in the Columbia River valley north of Northport, WA to the U.S.-Canada border to investigate potential airborne metals contamination from the Trail smelter and the former LeRoi Smelter that had historically operated in Northport. A total of 74 properties along both sides of the river were sampled. At each property, EPA identified representative decision units that had high human contact with soil (i.e., yards, gardens, play areas, etc.). Once the sampling areas were identified, EPA used an incremental composite (IC) sampling approach to collect IC samples from each decision unit ("DU"). A DU is an identified area within a property that is distinguishable from other areas by factors such as location or use and include areas within a property with a high likelihood of exposure to humans from contaminated soil. Examples of decision units are play areas, gardens, or lawns. Most DUs had three IC samples collected. Each IC sample was collected from shallow surface soil (usually 0-1" deep), except gardens which went to tilling depth (usually 0-12" deep). A total of 237 DUs were sampled.

The action level (i.e., the level at which action is triggered) for lead ("Pb") is 700 milligrams per kilogram ("mg/kg"), and the removal action will result in achieving a cleanup level of 250 mg/kg or less, based on a project-specific determination by EPA

(Memorandum from Richard Albright to Mr. Pendowski et al *"Dispute Decision Regarding Upper Columbia River Action Levels for Time-Critical Removal Action Dispute, Upper Columbia River Superfund Site",* April 21, 2015). The cleanup level for arsenic (As) is 20 mg/kg, based on the Washington State Model Toxics Control Act Method A Unrestricted use concentration. The results of the RI/FS sampling effort identified 17 properties, including 14 residential properties and three tribal allotments, which contained lead at concentrations near or above the Site action level.

In May 2015, the EPA Region 10 Removal Program conducted a removal site evaluation. During this removal site evaluation, EPA prepared for the proposed removal action by documenting the condition and layout of each property designated for cleanup and coordinating with each of the property owners. At some of the properties, EPA either extended the size of some DUs, or added new DUs, based on additional observations of property use and interviews with the landowners that indicated areas of the property with a high likelihood of exposure to humans from contaminated soil. EPA also collected and analyzed soil samples from the original DUs to better delineate the horizontal and vertical extent of contamination and to assist in removal planning (i.e., measuring quantities and depths of contaminated soil for logistics, disposal, and cost estimating).

Sampling conducted in 2014 and 2015 also identified tribal allotments where lead and arsenic concentrations exceed action levels; however, this removal action does not include those tribal allotments because the benefits of alternative removal or remedial techniques are being further evaluated for potential future cleanup actions.

2. Physical location

The community of Northport (population 295) is located along the eastern shoreline of the Upper Columbia River, approximately six miles south of the border with Canada and 35 miles north of Colville, Washington. Surrounding land use is primarily forestry and agricultural, with a number of rural residential properties.

The area has a humid continental climate characterized by cold winters and hot summers. The average annual precipitation is 19.5 inches, and the average annual snowfall is 53.7 inches. Average maximum temperatures are as high as 88.4 degrees Fahrenheit (°F) in the summer (July) and average minimum temperatures are as cold as 19.8 °F in winter (January).

3. Site characteristics

The area within the Site in which the removal actions will be conducted consists of 14 residential properties within the Columbia River valley near Northport, Washington (Figure 1). Specific property details including property owner names and locations are included in the confidential enforcement addendum.

Each residential property has one or more DUs designated for removal activities. Each residential property DU is located in an area of the property likely to be used by the residents and/or visitors and so poses an increased exposure risk to the elevated arsenic and lead in the soil. Specifically, most of the DUs at the properties are areas of the residential yard where the residents or visitors are likely to perform recreational, gardening, and/or yard maintenance activities that would likely expose them to the contaminated soil.

4. Release or threatened release into the environment of a hazardous substance or pollutant or contaminant

The primary contaminants of concern (COCs) are lead and arsenic. These contaminants are hazardous substances or pollutants or contaminants as defined by sections 101(14) & (33) of CERCLA, 42 U.S.C. § 9601(14) and (33).

The primary source of the lead and arsenic contamination at each of these properties is believed to be emissions from the Teck smelter in nearby Trail, British Columbia.

Numerous studies have been performed at the Site since 2000 as part of the Upper Columbia River site assessment process and RI/FS. Sampling efforts relevant to the current residential soil removal action are discussed below.

2014 Residential Soil Sampling

In 2014, EPA sampled soil at multiple residential properties and tribal allotments in the Columbia River valley between Northport and the U.S./Canada border that may have elevated metals as a result of regional smelter operations. Property owners volunteered to have their property sampled, and the sampling was conducted between August and October 2014.

The results of this investigation indicated that 14 properties and three tribal allotments contained at least one area (i.e., a decision unit) with concentrations of lead over or near the TCRA action level of 700 mg/kg. The average lead concentration from the IC sampling approach for these properties was 985 mg/kg, which is approximately 4 times higher than the cleanup level of 250 mg/kg. The maximum IC sample lead concentration was 1,936 mg/kg, which is approximately 8 times higher than the cleanup level. The average and maximum IC sample concentrations for arsenic were 52.4 and 103 mg/kg, respectively, which are 2.5 and 5 times the cleanup level for arsenic of 20 mg/kg. Each IC sample was collected from shallow surface soil (usually 0-1” deep), except gardens samples from which were collected from tilling depth (usually 0-12” deep).

2015 Removal Sampling

During EPA's site visit in May 2015, EPA reviewed the DUs from the 2014 sampling event. At certain properties, EPA either extended the boundaries of the DUs, or added new DUs, to ensure that high-risk property areas (i.e., yards or gardens with an elevated risk of potential human contact) were included. From these DUs, EPA

collected and analyzed additional samples to further characterize the vertical and horizontal extent of contamination. At each DU sampled in 2014, EPA assumed that the soil at depths from 0 to 6 inches below ground surface (bgs) was contaminated, and new grab samples were collected at depths from 6 to 12 inches bgs. At new DUs, EPA collected grab samples at intervals of 0 to 6 inches and 6 to 12 inches bgs. The samples were analyzed in the field using field-portable X-ray fluorescence (XRF) instruments, with a subset of the samples analyzed at an off-site laboratory.

During the May 2015 sampling event, a total of approximately 480 grab samples were collected and analyzed in the field by XRF, and 100 of these samples were submitted to an off-site laboratory for metals analysis. The results indicated that 80 of the samples exceeded the site cleanup level for either lead or arsenic based on the laboratory data or XRF field screening data if laboratory data was not available. For the laboratory data, lead was detected as high as 1,590 mg/kg, which is 6 times the cleanup level of 250 mg/kg, and arsenic was detected as high as 89 mg/kg, which is 4.5 times the cleanup level of 20 mg/kg.

EPA also submitted five of the samples for toxicity characteristic leaching procedure (TCLP) lead and arsenic analyses at the off-site laboratory to determine if the contaminated site soil was a characteristic hazardous waste. The samples selected for TCLP analyses included those with the highest total lead and arsenic concentrations as determined by XRF. All of the samples were well below the applicable TCLP limits for lead and arsenic, indicating that the site soil can likely be disposed of as non-hazardous waste.

5. NPL Status

Although the Upper Columbia River Site is not currently on the National Priorities List (NPL), it is being investigated through an RI/FS conducted by TAI (formerly Teck Cominco American Incorporated) subject to EPA oversight.

6. Maps, pictures, and other graphic representations

Figure 1 indicates the location of the Site, including the general area on both sides of the Columbia River between Northport and the U.S./Canadian Border where the 14 residential properties and several tribal allotments are located. For specific details including maps of each individual property, please refer to the confidential enforcement addendum.

B. Other Actions to Date

1. Previous actions

In 2004, EPA performed a time-critical removal action at the LeRoi Smelter Site in the town of Northport. The site included a 20-acre smelter operations complex and a 10-acre adjacent lumber mill complex which was formerly part of the original smelter

complex. The smelter operated intermittently from 1896 to 1921 and processed copper, gold, silver, and lead ores from nearby mines in Washington State and British Columbia. The primary contaminants of concern for the removal action were lead and arsenic.

In addition to cleanup of the smelter site itself, the scope of the removal action included the removal of lead and arsenic contaminated soil from 29 residential and common-use properties within or near the town limits of Northport, followed by backfill with clean top soil and property restoration. The removal action was performed to address lead and arsenic contamination associated with nearby and distant smelting operations, mine-waste disposal practices, and construction practices using mine-waste contaminated materials.

2. Current actions

There are no government or known private cleanup activities that are currently being performed at the Site that have not been previously described.

C. State and Local Authorities' Roles

1. State and local actions to date

The Washington State Department of Ecology (Ecology) has been involved in the RI/FS at the Site. Teck American Incorporated entered into a voluntary agreement with Ecology to remove contaminated sediment from Black Sand Beach in the Fall of 2010. The beach is located about three miles south of the Canadian border near Northport, WA and is located within the Site.

2. Potential for continued State/local response

Ecology is expected to remain involved in the RI/FS and in any future remedial cleanup actions.

D. Tribal Government Coordination

Staff-to-staff level coordination has occurred between EPA and the Colville Confederated Tribes regarding the proposed TCRA. EPA offered formal government-to-government consultation to the Chairman of the Confederated Tribes of the Colville Indian Reservation and the Spokane Tribe of Indians on May 27, 2015. On July 7, 2015, the Colville Tribe Business Council ("Council") accepted the offer of consultation and a meeting between EPA and Council occurred on July 21, 2015, in Nespelem, Washington. Prominent topics discussed in the consultation include the Council's desire to be informed of and participate in any ongoing and future negotiations between EPA and Teck at this tribal site where tribal lands and resources are affected. Also discussed was the Council's desire for a long-term cleanup plan for the overall Upper Columbia River Site in general and long term plans for the tribal allotments beyond removal actions in 2015 to include multiple possible options available which have yet to be fully

explored and discussed. In addition, the Council emphasized the requirement of Tribal Cultural Resource Monitors where any soil disturbing actions are undertaken.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

The current conditions at this Site meet the following factors which indicate that the Site may pose an unacceptable risk to the public health or welfare or the environment and a removal action is appropriate under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415(b)(2).

A. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [300.415(b)(2)(i)]

The data from previous environmental investigations shows that surface soil at the properties is contaminated with elevated concentrations of lead and arsenic, and that the primary source of the elevated concentrations of metals is from releases from Teck's smelting operations in nearby Trail, British Columbia.

Potential human exposure routes include direct contact with and ingestion of contaminated soil and inhalation of windblown dust. Human receptors include residents, visitors, trespassers, and passers-by. The potential for exposure is increased by the fact that the majority of these properties are residential with full-time residents.

At each property, the portion of the property subject to investigation and subsequently designated for removal action (i.e., the DUs) were selected based on their proximity to the residences and likelihood that the decision units would be used frequently by residents or visitors. The DUs include lawn and garden areas used by residents for property access, recreation, lawn and house maintenance, and gardening, and therefore represent an increased risk of exposure to the elevated levels of lead and As in the soil.

The effects of exposure to the contaminants of concern on organ systems is influenced by several factors, including dose, duration of exposure, and route of exposure, as well as the age and health of the receptor exposed. Lead is known to be toxic to humans. Children are most susceptible to the effects of lead and even low levels of lead in the blood of children can result in behavior and learning problems, lower IQ and hyperactivity, slowed growth, hearing problems, anemia, and in rare cases, ingestion of lead can cause seizures, coma and even death. Pregnant women are also particularly vulnerable to the effects of lead contamination and exposure to lead can result in serious effects to the mother and her developing fetus, including reduced growth of the fetus and premature birth.

B. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate (40 C.F.R. § 300.415[b][2][iv])

Portions of the DUs on the properties are only partially vegetated. Lead and arsenic are present at elevated concentrations in shallow surface soil (i.e., 0-6 inches bgs), which create the likelihood of exposure from residential and recreational use, and the soils are susceptible to migration within and off of the properties because of water- and wind-borne and mechanical influences.

C. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released (40 C.F.R. § 300.415(b)(2)(v))

The climate in the region of the site includes cold, freezing winters with a large amount of snow and hot, often dry summers. These weather conditions can increase the likelihood that the contaminants in shallow surface soil are susceptible to dispersion (e.g., snow melt and rains in the spring may disperse contaminants in surface water runoff, and the dry and hot conditions in summer and early fall may cause contaminants to disperse by wind, especially in areas that are not protected by a vegetated cover).

D. The availability of other appropriate federal or state response mechanisms to respond to the release (40 C.F.R. § 300.415(b)(2)(vii))

The proposed TCRA is expected to be conducted by Teck in accordance with CERCLA and with oversight by EPA. There are no known other appropriate federal or state response mechanisms capable of providing the appropriate resources in the prompt manner needed to address the potential human health and ecological risks associated with the hazardous substances described herein.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site may present an imminent and substantial endangerment to the public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

The proposed action is intended to mitigate the potential human health threats posed by exposure to lead and arsenic, including direct contact, ingestion, and inhalation pathways.

1. Proposed action description

Soil in each DU above cleanup levels (250 mg/kg for lead and/or 20 mg/kg for arsenic) will be excavated to a maximum depth of 12 inches (24 inches for gardens) for off-Site disposal in an appropriate landfill (selected consistent with the off-site rule) followed by backfill and restoration. The Site consists of 14 residential properties. The general approach to be used at all locations is described below.

Property Preparation

Property-Specific Work Plans are being developed based on interviews with the affected property owner and EPA observations made during site reconnaissance activities. The pre-removal condition of the property (e.g., the house or any other structure, driveways, paved parking areas, fences, utilities, trees or other vegetated areas, gardens, etc.) will be documented. The presence (or evidence) of any children, pets, and/or livestock will also be noted. Items that cannot be temporarily relocated during removal activities will be identified and protected from damage. Removal activities will be conducted in a way that considers property features and uses. The removal activities will be coordinated with the property owner and performed in such a manner as to minimize impacts to the property and the residents.

If necessary, access roads and driveways to the property and DUs will be improved to allow access for equipment and vehicles. Work areas and roads for site traffic will be established in project work plans. Any residential items or personal belongings in the work zone (i.e., DU and support zones) will be temporarily relocated or marked and protected. The location of any underground or aboveground utilities will be identified and marked.

Excavation

In each DU where soil excavation occurs, the contaminated soil will be excavated to an initial depth of 6 inches bgs. In most areas, excavation will primarily be with mechanical equipment (e.g., excavators, skid steers, and loaders), while in some sensitive locations (i.e., near houses, buried utilities, or trees/vegetation), excavation will be performed by hand using shovels and other hand tools.

At the bottom of the initial 6-inch excavation, the soil will be screened using XRF to determine whether additional excavation is required. Screening samples will be located in a grid pattern at a frequency of at least one sample every 400 square feet. If analysis of samples from any location indicates that the soil at the bottom of the excavation contains either lead or arsenic above the cleanup levels, excavation will continue at that location to a maximum depth of 12 inches bgs. The lateral extent of any additional excavation will be determined by soil sampling and analysis to ensure all soil with concentrations exceeding the lead or arsenic cleanup levels is removed. At the bottom of any 12-inch excavation area, the soil will be screened by XRF to determine whether the soil is still above lead or arsenic cleanup levels. If soil at the 12-inch depth is below

both lead and arsenic cleanup levels, backfilling can proceed. If soil is above cleanup levels for lead or arsenic, a geotextile fabric or similar material will be laid down at the bottom of the excavation area before backfilling as a visual indicator between contaminated soil and clean backfill.

Around mature trees, excavation will be performed by hand and will only extend to approximately 2 inches bgs within the tree's root radius to avoid damage to the tree.

Field screening with the XRF will be supported by a site-specific sampling plan (SSSP) and quality assurance project plan (QAPP) and will include the collection of confirmation samples and analysis at an off-site laboratory to validate the precision and accuracy of the field XRF screening. The SSSP/QAPP will be reviewed and approved by EPA prior to removal activities.

Personnel and equipment exiting work areas will be decontaminated to avoid the spread of contaminants.

Waste Management and Disposal

Excavated soil should be managed within the confines of each DU and then will be loaded directly into haul trucks to minimize short-term cleanup impacts to the property. The haul trucks will then transport the contaminated soil to a centrally located stockpile area or, if necessary and/or feasible, directly to a disposal facility consistent with the off-site rule. If needed, the specific locations of any stockpile will be determined on a case-by-case basis. At the stockpile location, contaminated soil from each property will be loaded on to trucks for transport to an appropriate landfill consistent with the off-site rule.

Based on the results of EPA's sampling in May 2014, the soil may be able to be disposed of as non-hazardous waste in a Subtitle D landfill, although this is subject to verification and final waste profiling by the intended disposal facility.

Property Backfill and Restoration

Following the excavation of the contaminated soil at each DU, the excavated area will be backfilled to the original grade with pit run gravel and/or top soil, depending on the property. Additionally, as appropriate grass seed can be added to areas backfilled with clean top soil.

Sources of pit run gravel and top soil will be screened by XRF in accordance with the SSSP/QAPP to ensure that the backfill material does not contain lead or arsenic at concentrations greater than the site cleanup levels.

Following backfill, the property will be restored to a condition comparable to its pre-removal condition, based on pre-removal documentation. If the removal activities require the removal of fencing or shrubs/vegetation, they will be repaired or replaced.

Best Management Practices

Best Management Practices (BMPs) will be implemented during removal activities to protect workers, residents, the community, and the environment from short-term construction impacts such as erosion, sedimentation, fugitive dust, noise, and other similar potential impacts. Removal activities on residential properties will be closely coordinated with the property owners and residents to minimize disruption and impacts to the residents and property.

Greener Cleanup Best Management Practices

Appropriate and practicable greener cleanup BMPs will be implemented during cleanup activities, including, but not limited to, minimizing energy consumption (e.g., using new and well-maintained equipment), minimizing generation and transport of fugitive dust (e.g., implementation of construction BMPs), minimizing waste generation through reuse and recycling, minimizing impacts to water resources (e.g., implementation of construction storm water and surface water BMPs), minimizing areas requiring activity or use limitations (e.g., source removal), minimizing unnecessary soil and habitat disturbance, and minimizing lighting and noise disturbance (e.g., implementation of construction BMPs).

Post-Removal Site Controls

If soil contamination in excess of the cleanup level is detected below 12 inches, a geotextile fabric or other similar visual marker will be installed to act as a warning to current or future property owners regarding the contaminated soil below. Following the removal action, a report detailing the removal activities will be provided to each property owner that will document the location of known areas above lead and arsenic cleanup levels. EPA expects that any necessary additional post-removal site controls will be addressed through the anticipated future remedial action.

On properties where sod, grass seed, and/or plants have been installed, a maintenance plan will be provided to each property owner so that the new plantings establish roots and survive.

2. Contribution to remedial performance

The proposed removal action will not impede future actions based upon available information. The proposed removal action may be the first and only action or one of a series of actions depending on post-removal activities such as those necessary to maintain the protectiveness of the cleanup.

The proposed removal action has been and will continue to be closely coordinated with the Remedial Program to ensure that the action will contribute to the efficient

performance of any long-term remedial action with respect to the release or threatened release concerned.

3. Engineering Evaluation/Cost Analysis

An Engineering Evaluation/Cost Analysis is not required because this is a TCRA.

4. Applicable or relevant and appropriate requirements

The NCP requires that removal actions attain Applicable or Relevant and Appropriate Requirements (ARARs) under federal or state environment or facility siting laws, to the extent practicable. (40 C.F.R. § 300.415(j)) In determining whether compliance with ARARs is practicable, EPA may consider the scope of the removal action and the urgency of the situation. (40 C.F.R. § 415(j)) The scope of the removal action proposed in this Action Memorandum is limited.

Endangered Species Act [16 U.S.C. §§ 1531 – 1544; 50 C.F.R. Parts 17, 402]. The Endangered Species Act (ESA) protects species of fish, wildlife, and plants that are listed as threatened or endangered with extinction. It also protects designated critical habitat for listed species. The ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, including consultation with resource agencies. The requirements of the ESA are potentially applicable to the Site since listed threatened or endangered species habitat areas will or could be impacted by response action. Consistent with ESA Section 7, if any federally designated threatened or endangered species are identified in the vicinity of removal work and the action may affect such species and/or their habitat, EPA will consult with USFWS to ensure that response actions are conducted in a manner to avoid adverse habitat modification and jeopardy to the continued existence of such species.

National Historic Preservation Act [16 U.S.C. § 470f; 36 C.F.R. Parts 60, 63, 800]. Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize or mitigate any adverse effects on those properties. This includes archaeological sites, historic sites and traditional cultural properties that are eligible to the National Register of Historic Places.

The Section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and the affected parties, commencing at the early stages of project planning. The EPA is the lead Agency responsible for ensuring that all work is conducted in compliance with Section 106 of the National Historic Preservation Act. EPA will consult with other parties that have an interest in the effects of the planned undertaking and provide them a reasonable opportunity to comment on such undertakings. These parties include, but

are not limited to, the State Historic Preservation Officer and the concerned Tribal Historic Preservation Officers (THPOs).

On June 16, 2015, EPA representatives met with the Colville Confederated Tribes THPO and staff archaeologist regarding the planned soil removal work and discussed the field protocol to be followed by the work crews in coordination with the cultural monitors. A detailed description of the agreed upon field coordination/communication protocol is contained in the Statement of Work (Appendix C to the Administrative Settlement Agreement and Order on Consent for the performance of a removal action by TAI). This protocol will also be included in the Cultural Resources Coordination Plan to be completed by TAI. All field personnel are expected to be familiar with the cultural resources coordination plan and the field coordination/communication protocol to be followed on all properties. As contained in the protocol, the cultural monitors will have stop work authority if a suspected archaeological object or archaeological resource is encountered. Additionally, EPA personnel on-site will have stop work authority if there is any deviation from the coordination/communication protocol without prior approval by EPA. EPA has provided a copy of the field protocol to the Washington State Department of Archaeology and Historic Preservation Office which serves as the State Historic Preservation Office (SHPO) and provides continued updates regarding the planned work and its coordination efforts with the Colville Confederated Tribes.

On July 20, 2015, representatives for EPA, TAI and the CCT History/Archaeology Program discussed TAI's preliminary start date for conducting soil removal work so that the CCT can arrange for the availability of cultural monitors.

The performance of the removal action are expected to achieve the standards set forth under Washington State's MTCA (Chapter 173-340 of the Washington Administrative Code [WAC]) to address potential threats to public health and welfare and the environment from a release or threat of release of hazardous substances. As discussed above, soil cleanup levels for the removal action are based on MTCA Method A cleanup levels and the Work will achieve these levels. The State of Washington's solid waste and dangerous management regulations, found at WAC 173-300 *et seq*., are potentially applicable to solid waste generation and management at the Site.

Clean Water Act. The removal action shall comply with substantive stormwater requirements for construction activities, including erosion and sediment controls. (90.48 RCW, 33 U.S.C. §1251 *et seq*.)

5. Project schedule

The removal action activities are expected to start in August 2015 and the residential properties are expected to be completed by October 2015. The project is expected to last approximately eight to twelve weeks. Excavation is expected to be completed before winter weather arrives (usually November) before snowfall covers the planned

excavation areas and because the access roads/driveways to some of the properties will become impassable.

B. Estimated Costs

Teck is expected to pay for past costs and the cost of the removal action, including EPA's oversight costs. If EPA were to undertake implementation of the work described in this Action Memorandum, an Amendment will be written.

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

A delay in action or no action at the Site would increase the actual or potential threats to the public health and/or the environment associated with exposure to Site contaminants and would allow Site contaminants to continue to migrate from surface soils.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT ADDENDUM

Refer to attached confidential enforcement addendum.

IX. RECOMMENDATION

This decision document sets forth the recommended removal action for the Site that has been developed in accordance with CERCLA, and is consistent with the NCP. The recommended removal action is based on the administrative record for the Site.

Conditions at the Site meet the NCP 40 C.F.R. § 300.415(b) criteria for a removal action, and I request your approval of the recommended removal action. The recommended removal action is expected to be funded and conducted by Teck with oversight provided by EPA. However, if Teck is unwilling or unable to fund or conduct the recommended removal action, and EPA must undertake all removal action work, the total project ceiling is currently estimated to be $5,291,850.

X. APPROVAL/DISAPPROVAL

By the approval which appears below, EPA selects the removal action for the Site as set forth in the recommendations contained in this Action Memorandum.

Approve: X

Chris D. Field, Manager
Emergency Management Program

Disapprove: _____

Chris D. Field, Manager
Emergency Management Program

Effective date of this Decision: _____

ATTACHMENTS:

- References
- Figure
- Enforcement Addendum

ATTACHMENT:

REFERENCE

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OFFICE OF
ENVIRONMENTAL
CLEANUP

April 21, 2015

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Re: Dispute Decision Regarding Upper Columbia River Action Levels for Time-Critical Removal Action Dispute, Upper Columbia River Superfund Site

Dear Mr. Pendowski, Mr. Kieffer, Mr. Passmore, and Ms. Lehnertz:

This letter sets forth my determination with respect to the Washington Department of Ecology's February 13, 2015, request for dispute resolution, the Spokane Tribe of Indians' February 19, 2015, notification of participation in the dispute resolution process and subsequent submittal, the Confederated Tribes of the Colville Reservation's February 20, 2015 request for dispute resolution and subsequent submittal, and the U.S. Department of the Interior's March 19, 2015 comments via telephone on the dispute, regarding EPA's proposal of a lead action level for a Time-Critical Removal Action for various residential properties within the Upper Columbia River Superfund Site ("Site"). In summary, I hereby determine:

1. The lead action level for the Time-Critical Removal Action at residential properties at the Site must be determined through CERCLA removal action procedures and tribal consultation policies and will be documented in an Action Memorandum and the associated administrative record;

2. EPA intends to select an action level for the Time-Critical Removal Action for lead of 700 parts per million which will result in a cleanup level of less than 250 parts per million; and
3. EPA will continue to follow all appropriate CERCLA remedial action procedures, including the Memorandum of Agreement, and tribal consultation policies, for determining final cleanup levels for lead for the Remedial Action at the Site.

I. Background

On June 2, 2006, EPA and Teck Cominco Metals, Ltd. and Teck Cominco American Incorporated (collectively "Teck Cominco") entered into a settlement agreement for the performance of a CERCLA Remedial Investigation and Feasibility Study ("RI/FS") at the Site. On May 18, 2007, five governmental parties ("Participating Parties") entered into the Intergovernmental Memorandum of Agreement for the Upper Columbia River Superfund Site ("MOA"). [1] The MOA provides a framework for coordination and cooperation among the Participating Parties to address the RI/FS process at the Site. While the governmental parties, except for EPA, are not parties to the settlement agreement with Teck Cominco, they have statutory and regulatory mandates applicable to the RI/FS and are active government oversight participants in Teck Cominco's performance of the RI/FS. The current dispute is raised under Section VII of the MOA.

In December 2014, EPA began the process of considering action levels for a potential Time-Critical Removal Action at the Site to address lead contamination in soils at residential properties, pursuant to Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and 40 C.F.R. § 300.415, that pose an immediate threat to human health. EPA initiated conversations with the Washington Department of Ecology on December 16, 2014, and with the Confederated Tribes of the Colville Reservation on December 18, 2014, regarding a potential Time-Critical Removal Action at residential properties with lead levels over 1,000 ppm, and for children's play areas with lead levels over 700 ppm. At that time, EPA expressed that complete data regarding lead levels in soils at the Site were not expected until January 29, 2015, and therefore the discussions regarding an action level range of 700 ppm to 1,000 ppm were preliminary and were not meant to convey a final agency decision on the action level. Throughout December 2014, January 2015, and February 2015, EPA conducted weekly telephone calls with the Participating Parties and was in regular communication with Teck Cominco. On March 11, 2015, following the official commencement of this dispute, EPA met with the parties to the dispute in Spokane, Washington. At that meeting, the concerns of the parties to the dispute were discussed, and EPA presented the perspective of its technical team regarding the proposed action level for the Time-Critical Removal Action. The conversations that occurred over the past few months were intended to provide for open communication among all parties regarding a Time-Critical Removal Action from residential properties at the Site, and were not intended to convey or determine an action level. To date, EPA has not made a determination of the action level for the Time-Critical Removal Action for residential properties at the Site.

II. The Issues

In its request for dispute resolution, the Washington Department of Ecology contends that applying the same action levels developed for the Bunker Hill Superfund Site is inappropriate because it is

[1] The signatories to the MOA, referred to as the Participating Parties, are the United States Environmental Protection Agency, the Washington Department of Ecology, the Confederated Tribes of the Colville Reservation, the Spokane Tribe of Indians, and the United States Department of the Interior.

inconsistent with EPA policy, with current scientific consensus on health risks associated with lead exposure, with more recent bioavailability studies, with Washington's policies, and with other EPA actions.

In its request for participation in the dispute resolution process, the Spokane Tribe of Indians did not initially raise any specific issues, but requested to participate in the process, as provided for in the MOA. In follow up written communication dated March 12, 2015, Dr. F. E. Kirschner of AESE, Inc., on behalf of the Spokane Tribe of Indians, contends that the proposed use of action levels at the Site that were developed for the Bunker Hill Superfund Site are inappropriate, and that the proposed action level would provide disproportionate protection of human health at the Site than is provided for under Washington State policy.

In its request for dispute resolution, the Confederated Tribes of the Colville Reservation contends that EPA did not coordinate with the Confederated Tribes of the Colville Reservation prior to communicating EPA's cleanup intent and proposed cleanup levels to Teck Cominco, and gave no meaningful consideration to Tribal cleanup standards. Additionally, the Confederated Tribes of the Colville Reservation contends that it shares the Washington Department of Ecology's concerns regarding application of cleanup levels from the Bunker Hill Superfund Site.

In its comments via telephone regarding the current dispute, the U.S. Department of the Interior expressed its support for EPA's proposed action level for the Time-Critical Removal Action and the technical basis used to reach the proposal.

A. Removal Action Authority and Procedures

In the present action level determination process, EPA must follow the procedures of its removal action authority, as laid out in CERCLA, 42 U.S.C. §§ 9601, *et seq.*, the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. Part 300, and relevant EPA guidance documents. Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1), grants EPA the authority to act, consistent with the NCP, to remove a hazardous substance, pollutant, or contaminant, whenever there is a release or a threat of such a release into the environment. Additionally, pursuant to Section 104(a)(2) of CERCLA, 42 U.S.C. § 9604(a)(2), any removal action taken should, to the extent practicable, contribute to the efficient performance of any long term remedial action with respect to the release or threatened release concerned. Therefore decisions made regarding action levels or cleanup levels of a removal action do not constitute final remedial actions, but rather should contribute to final remedial actions. Conducting the Time-Critical Removal Action for residential properties at the Site is intended to address the immediate threat to human health from lead exposure, and will contribute to the long term cleanup of the Site through the remedial action process.

The removal program is in the final stages of the site evaluation and has determined that a Time-Critical Removal Action is appropriate to address immediate threats to human health due to lead contaminated soils. Factors EPA must consider when making this determination include, but are not limited to, actual or potential exposure to humans, actual or potential contamination of drinking water, and threat of fire or explosion.[2] Since EPA has not completed the required process for starting a Time-Critical Removal Action, EPA is now in the final stages of determining action levels, cleanup levels, and the scope of this

[2] 40 C.F.R. § 300.415(b)(2).

Time-Critical Removal Action for residential properties at the Site. Pursuant to 40 C.F.R § 300.415(j), when conducting a removal action, EPA shall, to the extent practicable considering the urgency of the situation and the scope of the removal, attain applicable or relevant and appropriate requirements under federal or state environmental laws ("ARARs"). EPA recognizes that many of the concerns raised in this dispute address ARARs and EPA will consider those issues, in addition to the urgency of the situation and the scope of the removal, as it determines whether the Time-Critical Removal Action will attain ARARs. As noted above on page 2, removal activities conducted by EPA with an action level of 700 ppm will result in a cleanup level of 250 ppm, which is consistent with the State of Washington's cleanup standard for lead.

When a final determination is made to implement a Time-Critical Removal Action, EPA prepares an Action Memorandum in accordance with EPA guidance which provides a concise written record of the removal decision.[3] The Action Memorandum authorizes the initiation of on-site activities, pursuant to Section 104(a) of CERCLA, 42 U.S.C. § 9604(a). There is no opportunity for official public comment regarding selection of a Time-Critical Removal Action prior to initiation of on-site activities because of the time-critical element of such actions. Pursuant to 40 C.F.R. § 300.415(n)(2)(i), within 60 days of initiation of on-site removal activity, EPA will publish an administrative record providing supporting documentation of EPA's decision to conduct the Time-Critical Removal Action. Pursuant to 40 C.F.R. § 300.415(n)(2)(ii), EPA will then provide for a public comment period, as appropriate, for a period of not less than 30 days. That public comment period, which follows determination of removal action levels and initiation of on-site removal activity, is the mechanism for official public comment regarding Time-Critical Removal Actions. Tribal consultation regarding Time-Critical Removal Actions will be addressed in Section II.D, below.

EPA understands the importance of public participation in its decision-making process and recognizes the specific interests of the parties involved in the present dispute in determining final remedial cleanup levels. However the very nature of, and legal procedures for, Time-Critical Removal Actions require rapid decision-making to address immediate threats to human health.

B. Remedial Action Authority and Procedures – Including the RI/FS and MOA

While the removal action procedures described above authorize the determination of the action levels for a Time-Critical Removal Action, remedial action procedures, including the RI/FS process and the MOA, govern the determination of the long term remedial cleanup levels at the Site. Remedial action authority and the selection of cleanup standards are authorized under Sections 104 and 121 of CERCLA, 42 U.S.C. §§ 9604 and 9621. Following a preliminary assessment and site inspection, 40 C.F.R. § 300.430 authorizes the RI/FS. As mentioned in Section I above, EPA and Teck Cominco entered into a settlement agreement under which Teck Cominco agreed to conduct the RI/FS, consistent with EPA guidance and the NCP. The purpose of an RI/FS is to assess site conditions and evaluate alternatives to the extent necessary to select a remedy and includes project scoping, data collection, risk assessment, treatability studies, and analysis of alternatives.[4] The MOA, under which the current dispute was raised, is "intended to assist the Participating Parties in achieving enhanced communication, coordination and

[3] EPA *Superfund Removal Guidance for Preparing Action Memoranda, Final Guidance, September 2009*, available at http://www2.epa.gov/sites/production/files/2014-02/documents/superfund_removal_guide_for_preparing_action_memo.pdf.
[4] 40 C.F.R. § 300.430(a)(2).

efficiencies during the RI/FS process."[5] Therefore the MOA and its dispute resolution procedures apply only to the RI/FS process (not to determinations made by EPA pursuant to its removal authority). EPA is committed to adhering to the letter and spirit of the MOA and will take into account comments and critiques raised by the Participating Parties regarding the RI/FS process.

Following completion of the RI/FS process, EPA will follow legal requirements in CERCLA and the NCP, specifically 40 C.F.R. § 300.430(f), to select a remedial action. Remedial actions involve long-term actions designed to provide a permanent solution to threats posed by hazardous substances, pollutants, or contaminants. Cleanup levels and remediation goals for selected remedial actions must address ARARs, and the site-specific evaluation of ARARs is based on a number of factors in the NCP.[6] The comments and issues raised in the current dispute, such as using data from the Bunker Hill Site, using IEUBK modelling, not attaining cleanup standards from Washington state law and policies, not applying ATSDR and CDC standards, and not mirroring cleanup levels selected at other Superfund sites, are issues that will be relevant to the discussion surrounding ARARs and the applicability of ARARs to the remedy. Additionally, pursuant to 40 C.F.R. § 300.430(f)(3), EPA will provide for a public comment period on the proposed remedy prior to making a final decision. EPA encourages input and participation from state and tribal partners, as well as other members of the public, in selecting the appropriate remedy for the Site.

C. Removal Action Level for Lead

In December 2014, EPA proposed an action level for lead for a potential Time-Critical Removal Action for residential properties at the Site of 700-1,000 ppm. That action level was proposed based on EPA's concern that a number of residential soil samples had lead levels above 1,000 ppm. EPA proposed the lower action level of 700 ppm for children's play areas where children's risk for exposure to lead would be higher. That proposal, and subsequent conversations, led to the initiation of the current dispute in February 2015. That initial proposal was not a decision under the remedial program procedures. As described in Section II.A above, the decision to conduct a Time-Critical Removal Action and the proposal of certain action levels was made pursuant to removal action authorities and procedures, which falls outside the purview of the dispute resolution mechanism of the MOA. EPA does not have the legal authority to make a decision regarding a Time-Critical Removal Action in a response to a dispute raised under the MOA. However, the MOA dispute resolution process has provided a valuable mechanism for the exchange of information regarding lead action levels and EPA is taking the opportunity to use the MOA dispute resolution process to provide the Participating Parties with information on EPA's intended action level for the upcoming Time-Critical Removal Action for residential properties at the Site.

As mentioned above, EPA is currently in the process of determining the scope and action level of the Time-Critical Removal Action. While I am not in a position to make a final decision regarding action levels or cleanup levels for lead in this dispute resolution decision letter, EPA intends to select an action level for lead of 700 ppm for the Time-Critical Removal Action. Therefore, residential soils that are above 700 ppm of lead would undergo a removal action and would be cleaned up to less than 250 ppm of lead. The Time-Critical Removal Action will be focused on immediate threats to human health and there will be additional assessment, through the RI/FS process which provides for input from the Participating Parties under the MOA, and additional opportunity for public comment on the proposed

[5] MOA, page 1.
[6] 40 C.F.R. § 300.400(g).

remedy, to determine a final remedial cleanup level. During that remedial process, EPA will address possible changes in acceptable modelling methods, potential expansion of the sampling area, ARARs, and other relevant issues.

EPA's project team considered a number of factors in proposing the action level for the Time-Critical Removal Action for residential properties, including results of site-specific bioavailability data gathered through the RI/FS process, and other studies regarding bioavailability, lead ingestion rates, and blood lead levels. The project team also reviewed blood lead level and bioavailability data from the Bunker Hill Superfund Site, as well as studies conducted as recently as 2013 and 2014, to propose in December 2014 that removal of soils from residential properties with lead levels of 700 ppm to 1,000 ppm or higher would adequately address the immediate threat to human health.[7] Following bioavailability and blood lead level studies, and calculation of the lead ingestion rate for the Bunker Hill Superfund Site, the project team used that data to estimate the lead ingestion rate at the Upper Columbia River Superfund Site. The project team used this data in its risk evaluation for the Upper Columbia River Superfund Site for purposes of proposing the action level for the Time-Critical Removal Action because the bioavailability data at the two sites is comparable. Additionally, the data and studies from the Bunker Hill Superfund Site have been reviewed extensively by EPA and a distinguished panel from the National Academy of Sciences who published their supportive findings.[8] The current proposal of a blanket action level of 700 ppm (as opposed to an action level of 700 ppm for residential properties where children live and an action level of 1,000 ppm for residential properties where children do not live) was proposed because the demographics of residents can and does change over time, and a property without children present currently may have children present at the property in the future.

In the past EPA has approved different lead cleanup levels at other sites based on site-specific analyses. For example, at the Tar Creek Superfund Site, Ottawa County, Oklahoma, EPA conducted a Time-Critical Removal Action to address lead contaminated soil in 1995 and 1996. The removal in 1995 focused only on areas where children tend to congregate such as schools, playgrounds, and parks and set an action level of 500 milligrams per kilogram ("mg/kg").[9] The removal in 1996 focused on residential properties, and an action level of 500-1,500 mg/kg was selected. For residential properties where children less than 72 months of age resided who had blood lead levels higher than or equal to 10 µg/dL and soil lead concentrations were identified as a significant contributor to that level, the action level was 500 mg/kg. For residential properties that did not meet those criteria, the action level was 1,500 mg/kg. Additionally, the Action Memorandum, dated March 21, 1996, specifically states "the final remediation goal for lead and all other contaminants will be established in the Record of Decision for the Site."[10] Ultimately, the cleanup level selected through the remedial program in the Record of Decision was 500 mg/kg.

At the Jefferson County Mining Site, Jefferson County, Missouri, EPA initiated a Time-Critical Removal Action in 2007 to address lead contaminated soil. The action level ranged from 400-1,200

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[7] Large scale reviews and integration of data from tracer, mechanistic, validation modeling/measurement, and empirical relations (biomonitoring/environmental concentration) studies have found that mean ingestion rates in children were less than 100 milligrams per day and may be as low as 40-80 milligrams per day. Estimating Children's Soil and Dust Ingestion Rates Using Blood Lead Biomonitoring at the Bunker Hill Superfund Site in the Silver Valley of Idaho.

[8] Superfund and Mining Megasites: Lessons from the Coeur d'Alene River Basin, available at http://www.nap.edu/catalog/11359/superfund-and-mining-megasites-lessons-from-the-coeur-dalene-river.

[9] 1 mg/kg = 1 ppm.

[10] Action Memorandum for Tar Creek Superfund Site, dated March 21, 1996, page 7.

mg/kg. For properties that were high-use areas for children 84 months of age or younger, or residential properties where children resided who had blood lead levels greater than 10 µg/dL, the action level was 400 mg/kg. For other properties that did not meet those criteria, the action level was 1,200 ppm. While EPA selected different cleanup levels for the removal actions at the Tar Creek Superfund Site and the Jefferson County Mining Site than it has proposed for the Time-Critical Removal Action at the Upper Columbia River Superfund Site, EPA has always applied a site-specific analysis. EPA has also been clear that cleanup levels selected for removal actions are not the final remedial action cleanup levels.

D. Meaningful Tribal Consultation

EPA's policy is to consult on a government-to-government basis with tribal governments when EPA actions and decisions may affect tribal interests.[11] EPA is committed to engaging in consultation with the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians throughout the removal and remedial actions at the Site, pursuant to EPA policy and the MOA, as applicable. Specifically regarding Time-Critical Removal Actions in Region 10, "EPA should offer formal consultation directly to Tribal leadership prior to approval of the Action Memorandum, whenever time allows."[12]

I apologize for any miscommunications or misunderstandings regarding consultation that occurred as a result of communications between EPA, the Confederated Tribes of the Colville Reservation, and the Spokane Tribe of Indians in December 2014 through the present on the matter of EPA's proposed action level of 700-1,000 ppm for lead for a Time-Critical Removal Action at the Site. The communications between EPA and these parties were meant to serve as initial informal consultation to discuss the potential action level for the Time-Critical Removal Action. EPA should have been clearer in those early discussions that a decision had not yet been made, and should have ensured that proper procedures for meaningful formal tribal consultation were followed. EPA fully intends to consult with the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians prior to approval of the Action Memorandum for the Time-Critical Removal Action at the Site. In the near future, EPA will initiate formal consultation regarding the Time-Critical Removal Action.

As EPA and the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians proceed with formal consultation, EPA will take into consideration the issues raised regarding action levels during this dispute, and welcomes any additional input from the Tribes.

III. Decision

The dispute raised by the Washington Department of Ecology, the Spokane Tribe of Indians, and the Confederated Tribes of the Colville Reservation, is resolved as of the date of this letter. EPA's proposal to conduct a Time-Critical Removal Action for residential properties at the Site with an action level of 700 ppm for lead are governed by the authorities and requirements of CERCLA and the NCP regarding removal actions. The MOA and its dispute resolution procedures address the RI/FS process of the remedial action for the Site.

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[11] EPA Region 10 Tribal Consultation and Coordination Procedures, page 1.
[12] EPA Region 10 Tribal Consultation and Coordination Procedures, Appendix A.

Accordingly:

1. The lead action level for the Time-Critical Removal Action at residential properties at the Site must be determined through CERCLA removal action procedures and tribal consultation policies and will be documented in an Action Memorandum and the associated administrative record;
2. EPA intends to select an action level for the Time-Critical Removal Action for lead of 700 parts per million which will result in a cleanup level of less than 250 parts per million; and
3. EPA will continue to follow all appropriate CERCLA remedial action procedures, including the Memorandum of Agreement, and tribal consultation policies, for determining final cleanup levels for lead for the Remedial Action at the Site.

IV. Administrative Record

An administrative record includes the documents that provide the basis for an EPA decision. The administrative record for the Time-Critical Removal Action for the Site will include documents that were used in reaching the decisions detailed in the Action Memorandum. Pursuant to 40 C.F.R. § 300.415(n)(2), EPA will publish the administrative record within 60 days of initiation of on-site removal activity.

EPA acknowledges the importance of the critical issues brought up through this dispute resolution process and will work with the Participating Parties to address those concerns through the proper procedures. EPA is committed to continuing dialog with the Participating Parties throughout the RI/FS process, in accordance with the MOA, and into the selection of the remedy to ensure a long-term solution to contamination at the Site.

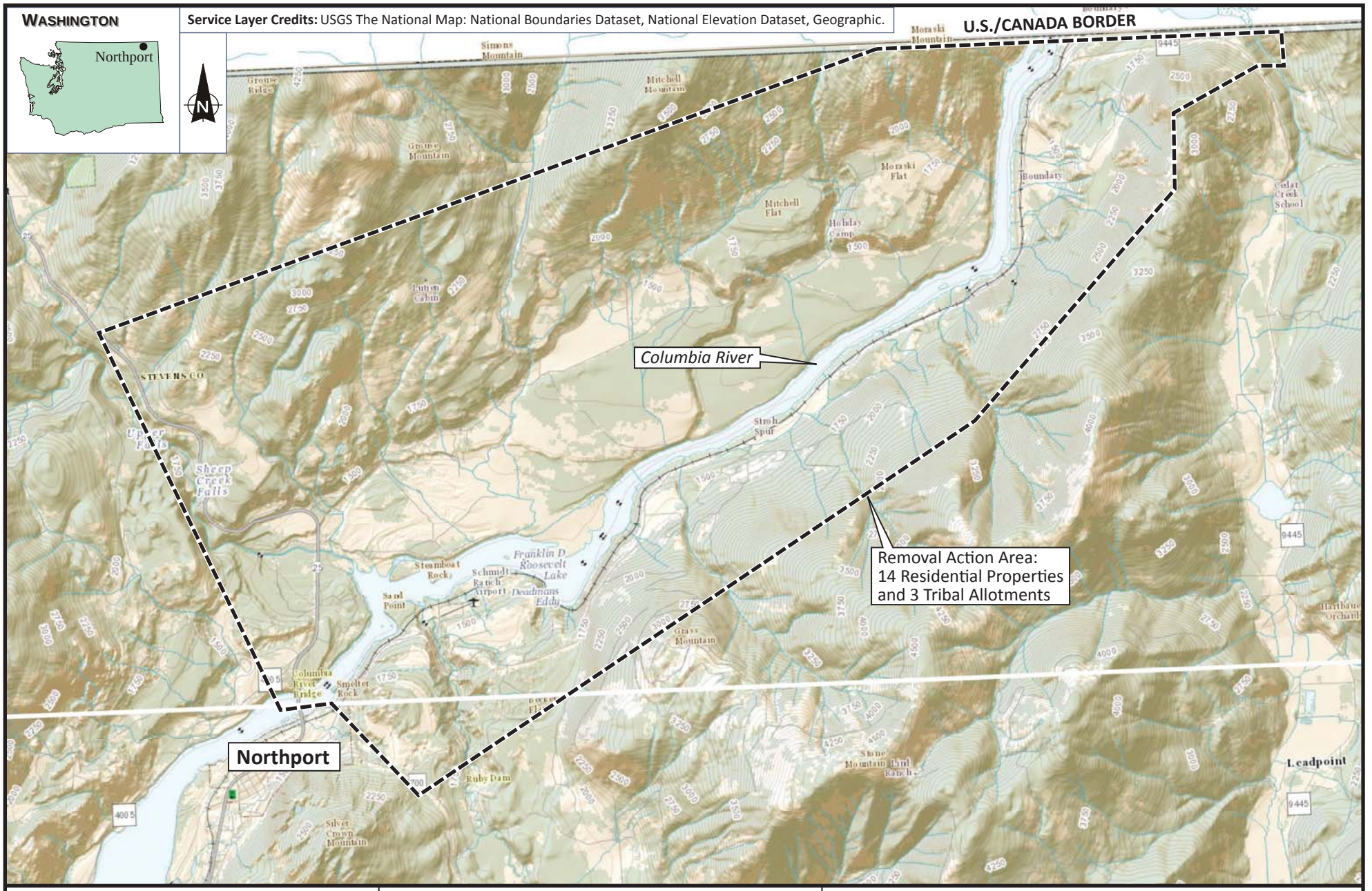
Sincerely,

Richard Albright, Director
Office of Environmental Cleanup

cc: Ms. Patty Bailey, Colville Tribe
Mr. Dan Audet, National Park Service
Mr. Mike Hibbler, Washington State Dept. of Ecology
Mr. John Rowland, Washington State Dept. of Ecology
Mr. Fred Kirschner, AESE, Inc.
Mr. Dennis Faulk, EPA
Ms. Laura Buelow, EPA

ATTACHMENT:

FIGURE 1



ecology and environment, inc.
Global Environmental Specialists
Seattle, Washington

UPPER COLUMBIA RIVER - RESIDENTIAL SOIL REMOVAL ACTION
Northport, Washington

0 1 2
Approximate Scale in Miles

Figure 1
SITE VICINITY MAP

Date:	Drawn by:	
7/15/15	AES	10:START IV\15040004\fig 1

ATTACHMENT:

CONFIDENTIAL ENFORCEMENT ADDENDUM

(Attorney-Client Privileged – Not for Distribution)

APPENDIX B
UPPER COLUMBIA RIVER SITE
STATEMENT OF WORK

I. GENERAL

This Statement of Work (SOW) outlines time critical removal response actions to be performed at the Upper Columbia River Site (Removal Action). This SOW is attached to and incorporated into the Administrative Settlement and Order on Consent for Removal Action (Settlement Agreement) for the Upper Columbia River Site (Site) between the U.S. Environmental Protection Agency and Teck Metals Limited (TML) and Teck American Incorporated (TAI). Technical work described in this SOW is intended to complement, add to, and be consistent with the Settlement Agreement and is not intended to change the meaning of any defined term in the Settlement Agreement. This SOW is also consistent with both the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the National Contingency Plan (NCP). Any discrepancies between the Settlement Agreement and the SOW are unintended and, whenever necessary, the Settlement Agreement will control.

II. PURPOSE

The primary purposes of this SOW are: 1) to implement the Settlement Agreement; 2) address, by excavation or other methods, contaminated soil on residential properties and tribal allotments above cleanup levels (250 mg/kg for lead and 20 mg/kg for arsenic); and 3) dispose of any excavated soil off-site in an appropriate landfill, followed by backfill and restoration of the properties.

III. WORK TO BE PERFORMED

As stated in the Settlement Agreement, TML and TAI have agreed that TAI will perform the Work required by the Settlement Agreement, including this SOW, notwithstanding the fact that TML will remain jointly and severally responsible with TAI for compliance with this Settlement Agreement.

The Parties anticipate that the removal activity will begin in August 2015, and the residential properties will be completed by the end of October 2015.

Deliverables specified in this SOW shall be consistent with relevant and applicable EPA guidance and as described below. The Work to be completed under this SOW shall also include activities necessary to achieve the performance standards contained in the property-specific work plans (Appendix B of the Settlement Agreement), reports, or other deliverables approved under the Settlement Agreement and this SOW. The Work to be completed under this SOW shall be completed in accordance with Table 1 of this SOW.

A. Tasks

The following tasks to be completed by TAI shall include, but are not be limited to:

- Submission of written daily progress reports to EPA during field activities. These daily reports shall describe all significant developments during the preceding period, including the removal actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolution of past or anticipated problems.

- Excavation of all lead and arsenic contaminated soil to achieve cleanup levels (250 ppm lead and 20 ppm arsenic), to a maximum depth of 12 inches (24 inches for gardens), within identified decision units on the properties.[1] TAI will coordinate with EPA and the property owner to ensure that all sensitive areas or items identified by the property owner are properly protected or moved and replaced. TAI is responsible for repairing or replacing any of the property owners' items damaged during the removal. As noted below, TAI shall include in the Project Work Plan (see Section B below) a description of dust suppression activities at the excavation sites and along the unpaved roads leading to/from the sites.

- Transport of all excavated materials for proper disposal, consistent with all applicable disposal requirements and regulations. The contaminated soil will be disposed of at an EPA-approved facility.

- Confirmation sampling of materials at the Site, providing field analytical results on a daily basis, draft analytical sampling results upon receipt, and final results in the final report to EPA.

- Cultural resource monitoring by appropriately qualified and trained staff. Cultural resource monitoring will be conducted in accordance with the approved Cultural Resource Coordination Plan.

- Backfill of excavated areas and landscape restoration. The excavations on the properties will be backfilled to grade with contaminant- and weed free material of the property owner's choice (pit run, sand, and/or top soil) and compacted. TAI shall also conduct landscape restoration to original condition or as agreed with the property owner. TAI will identify, in consultation with the property owner and EPA, which plants, shrubs, brushes, trees, etc. will be destroyed and not replaced; destroyed and replaced with like kind; relocated temporarily and replaced; or left in place and protected from damage.

[1] A "decision unit" is an identified area within a property that is distinguishable from other areas by factors such as location or use and include areas within a property with a high likelihood of exposure to humans from contaminated soil. Examples of decision units are play areas, gardens, or lawns.

- Off-Site Shipments.

a. TAI shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the On-Scene Coordinator. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

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

c. The identity of the receiving facility and state will be determined by TAI following the award of the contract for the removal action. TAI shall provide the information required by (a) and (b) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

d. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, TAI shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. TAI shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

B. Deliverables

The Work to be completed under this SOW shall include preparation, delivery, and implementation of the following deliverables:

1. Project Work Plan. TAI shall submit to EPA for review and approval a draft Project Work Plan. The Project Work Plan shall provide, at a minimum, for all actions necessary to implement the Action Memorandum and to perform a removal action on Tribal Allotment 151-H 195. The documents and plans to be included in the Project Work Plan include, but shall not be limited to, the following:

    a. Sampling Plan (see 5, below)
    b. Quality Assurance Project Plan (see 5, below)
    c. Field Work Schedule
    d. Utility location, excavation, backfill, restoration plan
    e. Transportation and disposal plan
    f. Dust suppression plan
    g. Decontamination plan
    h. Fire suppression plan

i. Description of all other pertinent operational aspects related to this project including but not limited to: site communications, project infrastructure, utilities provided, traffic management, sanitary services, etc.

2. Cultural Resources Coordination Plan. Three days after the Effective Date and at least 15 days before conducting ground penetrating/soil removal work, TAI shall submit for EPA review and approval a Cultural Resources Coordination Plan that will include the field protocol described herein, a detailed description of the work to be performed and the methods to be employed to perform the work, information on the nature of the physical impacts that could be anticipated by the operations, detailed consultation and notification procedures, resource protection measures, pertinent background information, documentation, reporting, deliverables, confidentiality, protocol for inadvertent discovery of artifacts or items of cultural significance, protocol for discovery of human remains, and other elements that should be contained in a cultural resources coordination plan.

Once EPA's comments and the potentially affected parties' comments have been addressed to EPA's satisfaction, copies of the finalized plan shall be provided to EPA. All field personnel doing excavation work will be expected to have read and be familiar with the Cultural Resources Coordination Plan.

Any ground penetrating work cannot be performed at any property without (1) a Cultural Resources Coordination Plan approved by EPA; (2) at least one cultural monitor to accompany each team performing ground penetrating activities; and (3) clearance of areas where ground penetrating activities is to occur by a cultural monitor.

In prior discussions with EPA, the Colville Confederated Tribes (CCT) agreed to provide cultural monitors for this field event. At least 30 calendar days prior to commencing soil removal work, the CCT History/Archaeology Program will be contacted with the planned date that ground penetrating/soil removal activities will begin so that the CCT can determine and arrange for the availability of monitors. Arrangements will need to be made directly with the CCT for monitoring services. The CCT contact is Eric Oosahwee-Voss, History/Archaeology Program, Colville Confederated Tribes, Phone: (509) 634-2690, E-mail address: eric.oosahwee-voss@colvilletribes.com

The field protocol below shall be included in the Cultural Resources Coordination Plan:

- The areas/decision units where soil removal will be conducted will be marked off by tape and/or spray paint;
- The field crew foreman will designate a nearby location from which the cultural monitor(s) can safely observe the work. The cultural monitor(s) will observe the work in order to determine if evident or likely artifacts are present in the soil material or if other deposits are present that are likely to be cultural in origin;
- Cultural monitors are required to wear a hard hat, high visibility vest, and steel toe boots;
- A grading bucket will be used to remove the soil at no greater than 6 inch cuts;

- The cultural monitors will have stop work authority if a suspected archaeological object or archaeological resource is encountered;
- The cultural monitors may also request work to stop in order to conduct an occasional close-up examination of soil material;
- The cultural monitors will be provided with a radio to communicate any stop work direction to the foreman and/or field crew;
- Hand signals and/or a high-visibility flag will also be used to communicate stop work direction;
- In the event of a stop work direction, the equipment operator will stop grading, dump the collected soil on the ground, and allow the monitor(s) to safely approach and examine the soil material;
- If nothing of cultural significance is found, the soil (that was deposited on the ground for examination) can be re-collected and work can proceed;
- If artifacts or likely archaeological deposits are present, the cultural monitor will record the location of the materials and photograph the materials in place in such a manner to provide information on provenience. The artifacts or archaeological materials and all the soil that was removed will be re-deposited back on the ground. The EPA representative and the cultural monitor will discuss whether removal work can proceed within a certain distance of where work stopped;
- At any time, the cultural monitors may request that grading be slowed;
- All soil removed from the property will be transported via dump truck to a separate location/lay-down yard;
- Before any soil is brought to the lay-down yard, a cultural monitor accompanied by an EPA representative will visit and visually examine the lay-down yard;
- At some point, the soil at the lay-down yard will be loaded onto a dump truck and transported to a landfill/disposal site. A cultural monitor may be present at the lay-down yard to observe this because in addition to collecting the soil that was staged, some amount of soil below the ground surface may be graded/removed in the process.
- All cultural resources coordination activities conducted by TAI will be subject to oversight and approval by EPA.
- EPA personnel on-site will have stop work authority if there is any deviation from the above protocol without prior approval by EPA.

3. Professional Archaeologist Report. Within 150 days of completion of the soil removal activities covered under the SOW and accompanying work plans, a professional archaeologist shall prepare a confidential written report that presents the results of the cultural monitoring and responses to any discoveries of archaeological resources or burials. The report will include: 1) copies of field notes/forms; 2) descriptions of any discoveries made during such monitoring and the outcome of the discoveries (including the rationale for the decisions for the disposition of any finds; and 3) recommendations for any changes in the monitoring or how well existing coordination procedures worked. The draft professional archaeologist report will be provided to EPA for review and comment.

4. Health and Safety Plan. Within three business days after the Effective Date, TAI shall submit for EPA review and comment a plan that ensures the protection of worker health and safety during performance of on-Site work under this Settlement Agreement. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. TAI shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

5. Project Specific Sampling Plan and Quality Assurance Project Plan. TAI shall prepare a project specific sampling plan (PSSP) to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols. The PSSP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). These documents may be combined.

   The FSP will define in detail the sampling and data-gathering methods that will be used on the project. It will include sampling quality assurance objectives, sample location and frequency, sampling equipment and procedures, and sample handling and laboratory analysis. The QAPP will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used.

   All analytical data collected under this SOW shall be provided electronically to EPA. The FSP and QAPP shall ensure that all sampling and analyses performed pursuant to this Settlement Agreement will conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. TAI shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. TAI shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. TAI shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-42004, "Quality Systems for Environmental Data and Technology Programs: Requirements with Guidance for Use" (American National Standard), and "EPA Requirements for Quality Management Plans (QMP). The QMP shall be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements. Upon request by EPA, TAI shall have such a laboratory analyze samples submitted by EPA for QA monitoring. TAI shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

   Upon request by EPA, TAI shall allow EPA or its authorized representatives to take split and/or duplicate samples, and to maintain possession of split samples. TAI shall notify EPA not less than five days in advance of any sample collection activity, unless shorter notice is

agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary.

Upon request by TAI, EPA shall allow TAI to take split or duplicate samples of any samples it takes as part of its oversight of TAI's implementation of the Work, and any samples EPA has taken as part of its development of the Work Plans or Statement of Work attached to this Settlement Agreement.

6. Property-Specific Removal Completion Reports. Within 45 days following removal activities at each property, TAI shall prepare a Property-Specific Removal Completion Report for each property owner that documents all removal activities conducted on that owner's particular property. At a minimum, the report will include a description of all removal activities; report significant deviations from applicable work plans; vertical and lateral extent of excavation; an estimate of the volume/weight of waste material removed/disposed; summary of dust and any other environmental monitoring results; description of the sampling conducted and confirmation sample results; description of the backfill and restoration; description of damage to property or other problems (if any) and the resolution of the problem; instructions for maintenance of installed sod, hydro seeded areas, or any other landscape products (if applicable); GPS survey of the location(s) of remaining soil contamination following excavation (soil contamination below 12 inches or 24 inches in gardens); GPS survey of the location of the visual barrier (if installed); instructions concerning the maintenance or restrictions associated with disturbance of the visual barrier; photographs of site activities and the condition of the property following restoration; and a record of the post-removal site inspection (with acknowledgement from the property owner, if present).

7. Removal Completion Report. Within 90 days after demobilization from the Site, following completion of all field activities required by this Settlement Agreement, TAI shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Settlement Agreement. The final report shall conform, at a minimum, with the requirements set forth in the NCP, 40 C.F.R. § 300.165, entitled "OSC Reports." The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of the report:

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

C. Schedule

The schedule for submission to EPA of deliverables described in the SOW is presented in Table 1.

TABLE 1
Milestone Schedule
Time-Critical Removal Action
Upper Columbia River Site
Northport, Washington

Milestone	Completion Date
30 Day CCT Notification of Ground-Breaking Activities	20-Jul-15
Draft PWP to EPA for review	3 Days after Effective Date
Final Project Work Plan to EPA	7 Days after receipt of EPA Comments
Draft CRCP to EPA for review	3 Days after Effective Date
Final CRCP to EPA	7 Days after receipt of EPA Comments
Draft FSP/QAPP to EPA for review	3 Days after Effective Date
Final FSP/QAPP to EPA	7 Days after receipt of EPA Comments
Draft HASP to EPA for review	3 Days after Effective Date
Final HASP to EPA	7 Days after receipt of EPA Comments
Mobilization to the Site	30 Days after CCT notification, upon receipt of EPA approval of PWP, FSP/QAPP, CRCP and HASP
Draft Property-Specific Removal Completion Reports	45 days after completion of removal activities at each property
Draft Removal Completion Report to EPA	90 days after demobilization from the Site
Draft Professional Archaeologist Report to EPA	150 days after conclusion of soil removal

PWP - Project Work Plan
FSP - Field Sampling Plan
CRCP - Cultural Resources Coordination Plan
QAPP - Quality Assurance Project Plan
HASP - Health and Safety Plan