

DEPARTMENT OF AGRICULTURE
UNITED STATES FOREST SERVICE
PACIFIC SOUTHWEST REGION

IN THE MATTER OF:

MAMMOTH STAMP MILL SITE,
California

MUFG UNION BANK, N.A.
Respondent

UNILATERAL ADMINISTRATIVE
ORDER FOR TIME-CRITICAL
REMOVAL ACTION

Proceeding Under Section 106(a) of the
Comprehensive Environmental Response,
Compensation, and Liability Act
as amended, 42 U.S.C. § 9606(a)

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**UNILATERAL ADMINISTRATIVE ORDER
FOR TIME-CRITICAL REMOVAL ACTION**

I. JURISDICTION AND GENERAL PROVISIONS

1. This Unilateral Administrative Order (“UAO” or “Order”) is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9606(a), and delegated to the Secretary of Agriculture by Executive Order 12580, as amended by Executive Order 13016, 61 Fed. Reg. 45871 (August 30, 1996). This authority was further delegated to the Director of the USDA Office of Procurement and Property Management and the Chief of the Forest Service, to be exercised with the concurrence of the General Counsel. 7 C.F.R. § 2.93(a)(17)(xiv).
2. This Order directs Respondent to implement the Time-Critical Removal Action for the “Mill Area” and “Mill Diversion Ditch” at the Mammoth Stamp Mill Site (“the TCRA”), described in the Statement of Work (“SOW”) attached as Appendix B. This Order is issued to Respondent MUFG Union Bank, N.A., hereinafter (“Respondent”).
3. USDA-Forest Service has notified the State of California of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

4. This Order shall apply to and be binding upon Respondent, and its directors, officers, employees, representatives, agents, successors, receivers, trustees, and assigns. Respondent is responsible for carrying out all activities required by this Order. Any change in the corporate or partnership status of the Respondent, including, but not limited to, any transfer of assets or real property, shall not alter Respondent’s responsibilities under this Order.
5. Respondent shall provide a copy of this Order to any prospective owners or successors before a controlling interest in any of Respondent’s assets, property rights, or stock are transferred to the prospective owner or successor. Respondent shall provide a copy of this Order to each contractor, sub-contractor, laboratory, or consultant retained to perform any Work under this Order, within five (5) days after the Effective Date of this Order or on the date such services are retained, whichever date occurs later. Respondent shall also provide a copy of this Order to each person representing Respondent with respect to the Site or the Work and shall condition all contracts and subcontracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. With regard to the activities undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to Respondent within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents comply with this Order, and perform any Work in accordance with this Order.

III. DEFINITIONS

6. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in the appendices or documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:
- a. "Action Memorandum" shall mean the Forest Service Time-Critical Removal Action Memorandum relating to the Site signed on April 14, 2017, by the Regional Forester, Southwest Pacific Region, or his/her delegate, and all attachments thereto. The "Action Memorandum" is attached as Appendix A.
 - b. "Cabin Area" shall mean the geographic area consisting of Cabins 7, 8, 9, 12, 13, and 26, the associated surrounding cabin grounds and structures, and the access roads and trails which are downgradient from the Site. This area is generally depicted on the map attached as Appendix C.2.
 - c. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*
 - d. "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the end of the next working day.
 - e. "Effective Date" shall mean the effective date of this Settlement as provided in Section VIII.
 - f. "EPA" shall mean the United States Environmental Protection Agency.
 - g. "Forest Service" shall mean the United States Department of Agriculture, Forest Service, and any successor departments or agencies of the United States.
 - h. "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. Rates are available online at <http://www.epa.gov/superfund/superfund-interest-rates>.
 - i. "Mill Area" shall mean the primary source area comprising of waste rock and mill tailings piles and the mill remnants and operations area. This area is generally depicted on the map attached as Appendix C.2.

- j. "Mill Diversion Ditch" shall mean the man made dry surface water diversion trench leading from the mill remnants and connecting to the flowing perennial tributary to Mammoth Creek. The trench alignment lies between Waste Piles 1 and 3 and down through the Cabin Area between Cabins 9 and 26. This area is generally depicted on the map attached as Appendix C.2.
- 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, including any amendments thereto.
- l. "On-Scene Coordinator" shall mean the Forest Service's On-Scene Coordinator for Work at the Work Area.
- m. "Order" shall mean this Unilateral Administrative Order and all attached appendices and documents. In the event of a conflict between this Order and any appendix this Order shall control.
- n. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.
- o. "Project Manager" shall mean Respondent's Project Manager for the Work at the Work Area.
- p. "Respondent" shall mean MUFJ Union Bank, N.A.
- q. "Response Costs" shall mean all costs, including but not limited to, direct and indirect costs, and accrued interest incurred by the United States in monitoring and supervising Respondent's performance of the Work to determine whether such performance is consistent with the requirements of this Order, including reviewing deliverables submitted pursuant to this Order, as well as costs incurred in overseeing implementation of this Order.
- r. "Section" shall mean a portion of this Order identified by a Roman numeral and includes one or more paragraphs.
- s. "Site" shall mean the Mammoth Stamp Mill Site located within the town of Mammoth Lakes, about 1 mile due east of Twin Lakes, California in Mono County, California, (in the northeast quarter of the northeast quarter of Section 9, Township 4 South, Range 27 east of the Mt. Diablo Meridian), and includes the Mill Area, Mill Diversion Ditch, and Cabin Area, all depicted on the maps attached as Appendix C.1., and C.2, and the areal extent of contamination resulting from the mill operation.
- t. "State" shall mean the State of California.
- u. "Statement of Work" or "SOW" shall mean the statement of work for performance of the Time-Critical Removal Action ("TCRA") for the Mill Area and Mill Diversion Ditch portions of the Site, as set forth in Appendix B to this Order. The SOW is incorporated into this Order and is an enforceable part of this Order.

- v. "United States" shall mean the United States of America.
- w. "USDA" shall mean the United States Department of Agriculture and any successor departments or agencies of the United States.
- x. "Waste Material" shall mean (a) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (d) any "hazardous material" under California state law.
- y. "Work" shall mean all activities Respondent is required to perform under this Order.
- z. "Work Area" shall mean those areas encompassed by the Mill Area and Mill Diversion Ditch.

IV. FINDINGS OF FACT

7. The Site is located within the town of Mammoth Lakes, Mono County, California, on National Forest System lands administered by the Mammoth Ranger District of the Inyo National Forest. The Site consists of an historic stamp mill used for processing gold during the late 1870's through early 1880's, including remnants of the Mammoth Mining Company Stamp Mill, most notably the iron flywheel, five waste piles and the Mill Diversion Ditch. A portion of the Forest Service's Mill City Recreational Cabin Tract is located within the Site. During the period of operation, the processing of ore to recover gold was heavily dependent on the use of mercury. As a result, mill tailings have elevated levels of mercury in addition to other hazardous substances. There are a number of recreational residences that are within 100 feet of the mill site and tailings waste piles. Additionally, there is a recreational trail that runs through the Site that is popular with hikers. Soil samples taken from the area exceed human health and ecological screening criteria. The Mill Diversion Ditch was used to channel water to power the mill and is a conduit for the continuing release of hazardous substances from the Mill Area into the tributary to Mammoth Creek.
8. The Mammoth Mining Company acquired an interest in the Site on June 28, 1878. The Company began construction of a 20-stamp pan amalgamation mill there in July 1878. The Company processed ore into bullion at the mill until at least 1881. The Company continued to operate until at least 1897.
9. On August 29, 1881, the Bank of California, a predecessor to Respondent, acquired the Site along with other real property owned by Mammoth Mining Company at a Sherriff's sale, but the Site was not deeded to the Bank of California until October 13, 1896.
10. On February 5, 1910, the Bank of California, conveyed its interest in the Site to the San Francisco and Fresno Land Company.
11. During the Bank of California's period of ownership of the Site, known and unknown persons removed equipment from the Site and processed tailings at the Site in an attempt to extract

valuable minerals from them. These activities resulted in disposals of hazardous substances at the Site.

12. On February 5, 1910, Bank of California was converted to the Bank of California, National Association.
13. In 1996, the Union Bank and the Bank of California, N.A., merged and adopted the name Union Bank, N.A.
14. On July 1, 2014, Union Bank, National Association changed its legal name to MUFG Union Bank, National Association.
15. Water samples collected in 2012 and 2013 identified elevated levels of metals, in particular mercury, in the unnamed tributary to Mammoth Creek.
16. In 2013, x-ray fluorescence (XRF) sampling showed arsenic concentrations in soil exceeded human health screening criteria in seven of eight samples; mercury concentrations in soil exceeded ecological screening criteria in seven of eight samples, and exceeded human health screening criteria in five samples; lead concentrations in soil exceeded ecological screening criteria in seven of eight samples, and exceeded human health screening criteria in one sample.
17. A Removal Preliminary Assessment (PA) at the Site was completed on January 6, 2014, and noted that mercury contamination present in soil at the Mill Area and Mill Diversion Ditch represents an actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.
18. A Site Inspection (SI) was conducted in 2014. The SI sampling identified arsenic, lead, and mercury at concentrations exceeding human health screening criteria at four of the five waste piles and in soil in the Mill Area.
19. A Final PA/SI was completed in November, 2016.
20. A technical memorandum for refinement of the Streamlined Human Risk Assessment was completed on January 23, 2017.
21. There is a continuing release, or a substantial threat of a release, of hazardous substances at the Mill Area and Mill Diversion Ditch to the environment of the fine milling wastes that are migrating within the Site and off-site from both wind and water erosion.
23. Pursuant to CERCLA and Executive Order 12580 (Jan. 23, 1987), the Forest Service is the lead agency for response actions at the Site. The Forest Service has incurred, and continues to incur, response costs associated with the Site.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

24. Based on the Findings of Fact set forth above, the Forest Service has determined that:

- a. The Mammoth Mill “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 mercury, arsenic, antimony, and lead, “hazardous substances” as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- c. The Respondent or its corporate predecessor is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- d. The Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is subject to this Order under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
- e. The conditions described in Paragraphs 7 - 22 of the Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
- f. The Forest Service has determined in an Action Memorandum dated April 14, 2017, that the conditions at Site, described in Paragraphs 7 - 22 of the Findings of Fact above, may constitute an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance at or from the Site within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), and based upon the criteria for a removal action as stated in the National Contingency Plan (“NCP”), 40 C.F.R. § 300.415(b)(2). These conditions include, but are not limited to, the following:
 - 1) Actual or potential exposure from high levels of hazardous substances to nearby human populations, animals, or the aquatic food chain or water quality from the release and threatened release of hazardous substances pollutants or contaminants in soils largely on or near the surface, including mercury, arsenic, antimony, and lead.
 - 2) Actual or potential contamination of drinking water supplies.
 - 3) Actual or potential contamination of sensitive ecosystems, including the unnamed tributary to Mammoth Creek, and Mammoth Creek, which are downgradient from the Site.
 - 4) The unavailability of other appropriate federal or state response mechanisms to respond to the release; this factor supports the actions required by this Order at the Site because the Site is an abandoned mill site on federally managed land.
- g. The removal action required by this Order is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Settlement, will be consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

- h. The Forest Service has determined that a removal action is appropriate, and that the removal action is time-critical..
- i. Based on information currently available, the Forest Service has determined, for purposes of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), that Respondent is qualified to properly and promptly perform the removal action required by this Order.

VI. ORDER

25. Based on the foregoing Findings of Fact, and Conclusions of Law and Determinations set forth above, Respondent is hereby ordered to comply with all provisions of this Order and any modifications to this Order, including but not limited to all appendices to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines in this Order, attached to this Order, or incorporated by reference into this Order.

VII. OPPORTUNITY TO CONFER

26. No later than five (5) business days after this Order is signed, Respondent may, in writing, a) request a conference with USDA Forest Service to discuss this Order, including its applicability, the factual findings and the determinations upon which it is based, the appropriateness of any actions Respondent is ordered to take, or any other relevant and material issues or contentions that Respondent may have regarding this Order, or b) or notify the Forest Service that they intend to submit written comments or a statement of position in lieu of requesting a conference.
27. If a conference is requested, Respondent may appear in person or by an attorney or other representative. Any such conference shall be held no later than five (5) days after the conference is requested. Any written comments or statements of position on any matter pertinent to this Order must be submitted no later than the five (5) days after the conference or 10 days following the issuance of the Order if Respondent does not request a conference. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Any request for a conference or written comments or statements should be submitted to:

Ronald S. McClain
Senior Counsel
USDA Office of the General Counsel
Room 3351 South Building
1400 Independence Ave., SW
Washington, D.C. 20250-1412
Phone: 202-720-4500
Fax: 202-720-0973
E-mail: ronald.mcclain@ogc.usda.gov

VIII. EFFECTIVE DATE

28. This Order shall be effective five (5) working days after the date this Order is signed and the Respondent is served, by electronic mail, with a copy of this Order, unless a conference is

requested or written materials are submitted in accordance with Section VII (Opportunity to Confer) as provided in this Order. If a conference is requested or written materials are submitted, this Order shall be effective on the later of the 10th day after the day of the conference, or the 10th day after written materials, if any, are submitted, unless Forest Service determines that the Order should be modified based on the conference or written materials. In such event, Forest Service shall notify Respondent, within the 10 day period that Forest Service intends to modify the Order. The modified Order shall be effective 5 days after it is signed.

IX. NOTICE OF INTENT TO COMPLY

29. On or before the Effective Date of this Order, as specified in Section VIII, Respondent shall notify the Forest Service in writing of Respondent's irrevocable intent to comply with this Order. Such written notice shall be sent to the contact listed in Section VII above.
30. Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date of this Order, any "sufficient cause" defense(s) asserted by Respondent under Sections 106(b) and 107(c)(3) of CERCLA. The absence of a response by the Forest Service to a notice required by this Paragraph shall not be deemed to be acceptance of Respondent's assertions. Failure of Respondent to provide such notification within this time period shall, as of the Effective Date, be treated as a violation of this Order.

X. DESIGNATION OF CONTRACTORS, PROJECT COORDINATORS, AND FOREST SERVICE ON-SCENE COORDINATOR

31. Selection of Contractors, Personnel. All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within fifteen (15) days after the Effective Date, and before the Work outlined below begins, Respondent shall notify Forest Service in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such Work. If, after the commencement of Work, Respondent retains additional contractor(s) or subcontractor(s), Respondent shall notify Forest Service of the name(s) and qualification(s) of such contractor(s) or subcontractor(s) retained to perform the Work at least five (5) days prior to commencement of Work by such additional contractor(s) or subcontractor(s). Forest Service retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If Forest Service disapproves of a selected contractor or subcontractor, Respondent shall retain a different contractor or subcontractor and shall notify Forest Service of that contractor's or subcontractor's name and qualifications within five (5) days after Forest Service's disapproval. With respect to any proposed contractor, Respondent shall demonstrate that the proposed contractor demonstrates compliance with ASQ/ANSI E4:2014 Quality Management Systems for Environmental Information and Technology Programs – Requirements With Guidance for Use (American Society for Quality, February 2014), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)", EPA/240/B-01/002 (Reissued May 2006) or equivalent documentation as determined by Forest Service. The qualifications of the persons undertaking the Work for Respondent shall be subject to Forest Service's review for verification that such persons meet minimum technical background and experience requirements.

32. Within ten (10) days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of the Work required by this Order and shall submit to Forest Service the designated Project Coordinator's name, address, telephone number, email address, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during the Work. Forest Service retains the right to disapprove of the designated Project Coordinator. If Forest Service disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify Forest Service of that person's name, address, telephone number, email, and qualifications within ten (10) days following Forest Service's disapproval. Respondent shall have the right to change their Project Coordinator, subject to Forest Service's right to disapprove. Respondent shall notify Forest Service five (5) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Communications between Respondent and Forest Service, and all documents concerning the activities performed pursuant to this Order, shall be directed to the Forest Service On-Scene Coordinator. Receipt by Respondents' Project Coordinator of any notice or communication from Forest Service relating to this Order shall constitute receipt by Respondent.
33. The Forest Service has designated Dennis Geiser as the On-Scene Coordinator ("OSC"). All communications, whether written or oral, from Respondent to the Forest Service shall be directed to the Forest Service's OSC. Respondent shall submit to the Forest Service, three copies of all documents, including plans, reports, and other correspondence, which are developed pursuant to this Order, and shall send these documents by certified mail, return receipt requested, or overnight mail.
34. Forest Service will notify Respondent of a change of its designated OSC. Communications between Respondent and Forest Service, and all documents concerning the activities performed pursuant to this Order, shall be directed to the Forest Service OSC at:

Dennis Geiser
Regional Environmental Engineer
USDA Forest Service
1323 Club Drive
Vallejo, CA 94592
Phone: 707-562-8729
Fax: 707-562-9055
Email: dennisgeiser@fs.fed.us

35. Receipt by Respondents' Project Coordinator of any notice or communication from Forest Service relating to this Order shall constitute receipt by Respondent.
36. Forest Service's OSC shall have the authority, consistent with the NCP, to halt, conduct, or direct any Work required by this Order, or to direct any other response action when s/he determines that conditions at the Work Areas constitute an emergency situation or may present a threat to public health or welfare or the environment. Absence of the Forest Service OSC from the Site shall not be cause for stoppage or delay of Work.

37. For any regulation or guidance referenced in this Order, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondent receives notification from the Forest Service of the modification, amendment, or replacement.

XI. WORK TO BE PERFORMED

38. Respondent shall perform, at a minimum, all actions necessary to implement the Action Memorandum and SOW at the Work Areas. The actions to be implemented generally include, but are not limited to, the following: (1) Consolidation and Removal off-site, of all mill tailings and soils containing hazardous substances within the Mill Area; (2) Contouring and revegetation of hazardous substance removal areas; and (3) Excavation of hazardous substances in diversion ditch and stabilization of the Mill Diversion Ditch.
39. For any regulation or guidance referenced in this Order, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondent receives notification from Forest Service of the modification, amendment, or replacement.

40. Work Plan and Implementation

- a. Within 20 days after the Effective Date, in accordance with Paragraph 41 (Submission of Deliverables), Respondent shall submit to Forest Service for approval a draft work plan for performing the removal action (the "Removal Work Plan") generally described in Paragraph 39 above. The draft Removal Work Plan shall provide a description of, and an expeditious schedule for, the actions required by this Order.
- b. Forest Service may approve, disapprove, require revisions to, or modify the draft Removal Work Plan in whole or in part. If Forest Service requires revisions, Respondent shall submit a revised draft Removal Work Plan within 10 days after receipt of Forest Service's notification of the required revisions. Respondent shall implement the Removal Work Plan as approved in writing by Forest Service in accordance with the schedule approved by Forest Service. Once approved, or approved with modifications, the Removal Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.
- c. Upon approval or approval with modifications of the Removal Work Plan Respondent shall commence implementation of the Work in accordance with the schedule included therein. Respondent shall not commence or perform any Work except in conformance with the terms of this Order. Respondent shall notify Forest Service at least 48 hours prior to performing any Work on-Site pursuant to the Forest Service approved Removal Work Plan.
- d. Unless otherwise provided in this Order, any additional deliverables that require Forest Service approval under the Removal Work Plan shall be reviewed and approved by Forest Service in accordance with this Paragraph.

- e. Any non-compliance with any Forest Service-approved plans, reports, specifications, schedules, or other deliverables shall be considered a violation of the requirements of this order. Determinations of non-compliance shall be made by the Forest Service. Approval of the Removal Work Plan shall not limit Forest Service's authority under the terms of this Order to require Respondent to conduct activities consistent with this Order to accomplish the Work outlined in this Section.

41. Submission of Deliverables

a. General Requirements for Deliverables

- 1) Except as otherwise provided in this Order, Respondent shall direct all submissions required by this Order to the OSC at the contact set forth in Paragraph 34.
- 2) Respondent shall submit all deliverables required by this Order, the attached SOW, or any approved work plan to Forest Service in accordance with the schedule set forth in such plan.
- 3) Respondent shall submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Paragraph 41.b. All other deliverables shall be submitted to Forest Service in the form specified by the OSC. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches, Respondent shall also provide Forest Service with paper copies of such exhibits.

b. Technical Specifications for Deliverables

- 1) Sampling and monitoring data should be submitted in standard Electronic Data Deliverable (EDD) format using Microsoft Excel. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.
- 2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (a) in the ESRI File Geodatabase format; and (b) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at <https://edg.epa.gov/EME/>.
- 3) Each file must include an attribute name for each site unit or sub-unit submitted.

- 4) Spatial data submitted by Respondent does not, and is not intended to, define the boundaries of the Site.

42. **Health and Safety Plan.** Within 15 days after the Effective Date, Respondent shall submit for Forest Service review and comment a plan that ensures the protection of the public health and safety during performance of on-site work under this Order. This plan shall be prepared in accordance with “OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities,” Pub. 9285.0-OIC (Nov. 2002), available on the NSCEP database at <http://www.epa.gov/nscep>, and “EPA’s Emergency Responder Health and Safety Manual,” OSWER Directive 9285.3-12 (July 2005 and updates), available at <http://www.epaosc.org/HealthSafetyManual/manual-index.htm>. 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 Forest Service determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by Forest Service and shall implement the plan during the pendency of the removal action.
43. **Sampling and Analysis Plan.** Within 15 days after the Effective Date, Respondent shall submit a Sampling and Analysis Plan to Forest Service for review and approval. This plan shall consist of a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP) that is consistent with the SOW, the NCP and applicable guidance documents, including, but not limited to, “Guidance for Quality Assurance Project Plans (QA/G-5)” EPA/240/R-02/009 (December 2002), “EPA Requirements for Quality Assurance Project Plans (QA/R-5)” EPA 240/B-01/003 (March 2001, reissued May 2006), and “Uniform Federal Policy for Quality Assurance Project Plans,” Parts 1-3, EPA/505/B-04/900A-900C (March 2005). Upon its approval by Forest Service, the Sampling and Analysis Plan shall be incorporated into and become enforceable under this Order. Upon request, Respondent shall provide split or duplicate samples to Forest Service or its authorized representatives. Respondent shall notify Forest Service not less than 7 days in advance of any sample collection activity unless shorter notice is agreed to by Forest Service. In addition, Forest Service shall have the right to take any additional samples that Forest Service deems necessary. Upon request, Forest Service shall provide to Respondent split or duplicate samples of any samples it takes as part of Forest Service’s oversight of Respondent’s implementation of the Work. Respondent shall submit to Forest Service the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondent with respect to the Site and/or the implementation of this Order.
44. **Community Involvement Plan.** The Forest Service will prepare a Community Involvement Plan in accordance with applicable EPA guidance(s) and the NCP. To the extent requested by the Forest Service, Respondent shall provide information and otherwise cooperate with the Forest Service in support of the Community Involvement Plan.
45. **Progress Reports.** Respondent shall submit a written progress report to Forest Service concerning actions undertaken pursuant to this Order on a weekly basis, or as otherwise requested by Forest Service, from the date of receipt of Forest Service’s approval of the Removal Work Plan until issuance of Notice of Completion of Work pursuant to Section XXVI, 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.

46. **Final Report.** Within 30 days after completion of all Work required by this Order, other than continuing obligations listed in Section XXVI (Notice of Completion), Respondent shall submit for Forest Service review and approval, a final report summarizing the actions taken to comply with this Order. The final report shall conform with, at a minimum, the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports" and "Superfund Removal Procedures: Removal Response Reporting – POLREPS and OSC Reports" (OSWER Directive No. 9360.3-03, June 1, 1994). The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement, 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 responsible corporate official of a Respondent or Respondent's Project Coordinator: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than 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."

47. Off-Site Shipments

- a. Respondent may ship hazardous substances, pollutants and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent will be deemed to be in compliance with CERCLA Section 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondent obtains a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).
- b. Respondent may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide written notice to the appropriate state environmental official in the receiving facility's state and to the OSC. This written notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondent also shall notify the state

environmental official referenced above and the OSC of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondent shall provide the written notice after the award of the contract for the removal action and before the Waste Material is shipped.

- c. Respondent may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the Action Memorandum. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

XII. QUALITY ASSURANCE, SAMPLING AND DATA ANALYSIS

48. Respondent shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)", EPA/240/B-01/003, March 2001 (reissued May 2006), "Guidance for Quality Assurance Project Plans (QA/G-5)", EPA/240/R-02/009 (December 2002), and "Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3, EPA/505/B-04/900A-900C (March 2005).

49. Access to Laboratories.

- a. Respondents shall ensure that Forest Service personnel and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondent pursuant to this Order. In addition, Respondent shall ensure that such laboratories shall analyze all samples submitted by Forest Service pursuant to the QAPP for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance the Agency's "EPA QA Field Activities Procedure," CIO 2105-P-02.1 (9/23/2014) available at <https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures>. Respondent shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Order meet the competency requirements set forth in EPA's "Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions" available at <https://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements> and that the laboratories perform all analyses using EPA-accepted methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA's Contract Laboratory Program (<https://www.epa.gov/clp>), SW 846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (<https://www.epa.gov/hw-sw846>), "Standard Methods for the Examination of Water and Wastewater" (<http://www.standardmethods.org/>), 40 C.F.R. Part 136, "Air Toxics - Monitoring Methods" (<https://www3.epa.gov/ttnamti1/airtox.html>)." However, upon approval by Forest Service, Respondent may use other appropriate analytical method(s), as long as (i)

quality assurance/quality control (QA/QC) criteria are contained in the method(s) and the method(s) are included in the QAPP, (ii) the analytical method(s) are at least as stringent as the methods listed above, and (iii) the method(s) have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, e.g., EPA, ASTM, NIOSH, OSHA, etc. Respondent shall ensure that all laboratories they use for analysis of samples taken pursuant to this Order have a documented Quality System that complies with ASQ/ANSI E4:2014 “Quality management systems for environmental information and technology programs – Requirements with guidance for use” (American Society for Quality, February 2014), and “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 Forest Service. Forest Service may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs as meeting the Quality System requirements. Respondent shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order are conducted in accordance with the procedures set forth in the QAPP approved by Forest Service.

- b. Upon request, Respondent shall provide split or duplicate samples to Forest Service or its authorized representatives. Respondent shall notify Forest Service not less than seven (7) days in advance of any sample collection activity. In addition, Forest Service shall have the right to take additional samples or direct the Respondent to take any additional samples that Forest Service deems necessary. Upon request, Forest Service shall provide to Respondent split or duplicate samples of any samples it takes as part of Forest Service’s oversight of Respondents’ implementation of the Work.
- c. Respondent shall submit to Forest Service, in the next progress report as described in Paragraph 45, copies of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondent with respect to the Site and/or the implementation of this Order.

XIII. ACCESS TO INFORMATION

50. Respondent shall provide to Forest Service, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as “Records”) within Respondent’s possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Order, 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 regarding the Work. Respondent shall also make available to Forest Service, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

51. Privileged and Protected Claims

- a. Respondent may assert all or part of a Record requested by Forest Service is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondent complies with Paragraph 51.b, and except as provided in Paragraph 51.c.
- b. If Respondent asserts such a privilege or protection, they shall provide Forest Service with the following information regarding such Record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondent shall provide the Record to Forest Service in redacted form to mask the privileged or protected portion only. Respondent shall retain all Records that they claim to be privileged or protected until Forest Service or a court determines that such Record is privileged and protected.
- c. Respondent may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondent is required to create or generate pursuant to this Order.

52. **Business Confidential Claims.** Respondent may assert that all or part of a Record provided to Forest Service under this Section or Section XIV (Retention of Records) is business confidential 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). Respondent shall segregate and clearly identify all Records or parts thereof submitted under this Order for which Respondent asserts business confidentiality claims. Records submitted to Forest Service that Respondent claims to be confidential business information will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to Forest Service, or if Forest Service has notified Respondent that the Records 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 Records without further notice to Respondent.

53. Notwithstanding any provision of this Order, Forest Service retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XIV. RETENTION OF RECORDS

54. Until ten (10) years after Forest Service provides Respondent with notice, pursuant to Section XXVI (Notice of Completion of Work), that all Work has been fully performed in accordance with this Order, Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in their possession or control, or that come into their possession or control, that relate in any manner to their liability under CERCLA with regard to the Site. Respondent must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in their possession or control or that come into their possession or control that relate in any manner to the performance of the Work,

provided, however, that Respondent (and its contractors and agents) must retain, in addition, copies of all data generated during the performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

55. At the conclusion of the document retention period, Respondent shall notify Forest Service at least 90 days prior to the destruction of any such Records, and, upon request by Forest Service, and except as provided in Paragraph 51 (Privileged and Protected Claims), Respondent shall deliver any such Records to Forest Service.
56. Within 10 days after the Effective Date, Respondent shall submit a written Certification to the Forest Service 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 (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by Forest Service and that it has fully complied with any and all Forest Service requests for information regarding the Site 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.

XV. COMPLIANCE WITH OTHER LAWS

57. Nothing in this Order limits the obligation of Respondent to comply with the requirements of all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(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 shall, to the extent practicable, as determined by Forest Service, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws. Respondent shall identify ARARs in the Removal Work Plan subject to Forest Service approval.
58. 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, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work that is not on-site requires a federal or state permit or approval, Respondent shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals.
59. All draft and final work plans and reports required for submittal under this Order shall be stamped by a Registered Professional Engineer or Geologist. All draft and final work plans, reports or other items required for submittal under this Order shall include the following certification signed by a person who supervised or directed the preparation of that that report:

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

XVI. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

60. **Emergency Response.** If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Work Areas that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondent shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, Regional Spill Coordinator, Belinda Walker, 909-382-2607, of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and Forest Service takes such action instead, the Forest Service reserves the right to pursue cost recovery.
61. **Release Reporting.** Upon the occurrence of any event during performance of the Work that Respondent is required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-know Act (EPCRA), 42 U.S.C. § 11004, Respondent shall immediately orally notify the OSC or, in the event of his/her unavailability, Regional Spill Coordinator, Belinda Walker, 909-382-2607, and the National Response Center at (800) 424-8802. 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.
62. For any event covered under this Section, Respondent shall submit a written report to Forest Service within 7 days after the onset of such event, setting forth the action or event that occurred and the measures taken, and to be taken, to mitigate any release or threat of release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release or threat of release.

XVII. PAYMENT OF RESPONSE COSTS

63. Upon USDA Forest Service's written demand, Respondent shall pay USDA all Response Costs incurred or to be incurred in connection with this Order. On a periodic basis, USDA will send Respondent a bill requiring payment of all Response Costs incurred by the United States with respect to this Order that includes a detailed cost accounting, which includes direct and indirect costs incurred by USDA, and its contractors, and the Department of Justice.
64. Respondent shall make all payments within thirty (30) days after receipt of each written demand requiring payment. Respondent shall make payment to the Forest Service in accordance with the Forest Service online bill payment process set forth at:
- www.fs.fed.us/billpay
65. The payment should be identified as payment for "costs incurred pursuant to CERCLA Section 106 for the Mammoth Stamp Mill Site." Respondent's payment should include Respondent's tax identification number. At the time of payment, Respondent shall send notice that payment has been made to the contact listed in Section VII. Such notice shall reference the Mammoth Stamp Mill Site.

66. In the event that the payments for Response Costs are not made within 30 days after Respondents' receipt of a written demand requiring payment, Respondent shall pay Interest on the unpaid balance. The Interest on Response Costs shall begin to accrue on the date of the written demand and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section. Respondents shall make all payments required by this Paragraph in the manner described in Paragraph 64.

XVIII. ENFORCEMENT/WORK TAKEOVER

67. Any willful violation, or failure or refusal to comply with any provision of this Order may subject Respondent to civil penalties of up to \$53,907.00 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), and the Civil Monetary Penalty Inflation Adjustment Rule, 81 Fed. Reg. 43,091, 40 C.F.R. Part 19.4. In the event of such willful violation, or failure or refusal to comply, Forest Service may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. In addition, nothing in this Order shall limit Forest Service's authority under Section XXII (Financial Assurance).

XIX. RESERVATIONS OF RIGHTS BY FOREST SERVICE

68. Nothing in this Order shall limit the power and authority of the USDA Forest Service 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 Order shall prevent Forest Service from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law. Forest Service reserves the right to bring an action against Respondent under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order or the Site and not paid by Respondent.

XX. OTHER CLAIMS

69. By issuance of this Order, the United States and the Forest Service, assume no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondent, or their directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither the Forest Service nor the United States shall be deemed to be a party to any contract entered into by Respondent or their directors, officers, employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.
70. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, 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 under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

71. Nothing in this Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), or 40 C.F.R. § 300.700(d).
72. No action or decision by Forest Service pursuant to this Order 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).

XXI. INSURANCE

73. No later than seven (7) days prior to commencing any work on-Site under this Order, Respondent shall secure, and shall maintain for the duration of this Order, commercial general liability insurance and automobile insurance with limits of one million dollars, combined single limit, naming the Forest Service as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondent pursuant to this Order. Within the same time period, Respondent shall provide the Forest Service with certificates of such insurance and a copy of each insurance policy. If the Respondent demonstrates by evidence satisfactory to the Forest Service that Respondent's contractors and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of Respondent pursuant to this Order, covering the same risks but in a lesser amount, then the Respondent need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

XXII. FINANCIAL ASSURANCE

74. **Access to Financial Assurance.** In order to ensure completion of the Work, Respondent shall secure financial assurance, initially in the amount of \$2,750,000.00. The financial assurance must be one or more of the mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA or under the "Financial Assurance - Orders" category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>, and satisfactory to Forest Service. Respondent may use multiple mechanisms if they are limited to trust funds, surety bonds guaranteeing payment, and/or letters of credit.
 - a. A trust fund: (1) established to ensure that funds will be available as and when needed for performance of the Work; (2) administered by a trustee that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency; and (3) governed by an agreement that requires the trustee to make payments from the fund only when the Forest Service On-Scene Coordinator advises the trustee in writing that: (i) payments are necessary to fulfill the affected Respondent's obligations under the Order; or (ii) funds held in trust are in excess of the funds that are necessary to complete the performance of Work in accordance with this Order;
 - b. A surety bond, issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury,

guaranteeing payment or performance in accordance with Paragraph 80 (Access to Financial Assurance);

- c. An irrevocable letter of credit, issued by an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency, guaranteeing payment in accordance with Paragraph 80 (Access to Financial Assurance);
- d. A demonstration by a Respondent that it meets the relevant financial test criteria of Paragraph 77; or
- e. A guarantee to fund or perform the Work executed by a company (1) that is a direct or indirect parent company of a Respondent or has a “substantial business relationship” (as defined in 40 C.F.R. § 264.141(h)) with a Respondent; and (2) can demonstrate to Forest Service’s satisfaction that it meets the financial test criteria of Paragraph 77.

75. **Standby Trust.** If Respondent seeks to establish financial assurance by using a surety bond, a letter of credit, or a corporate guarantee, Respondent shall at the same time establish and thereafter maintain a standby trust fund, which must meet the requirements specified in Paragraph 74.a, and into which payments from the other financial assurance mechanism can be deposited if the financial assurance provider is directed to do so by Forest Service pursuant to Paragraph 80 (Access to Financial Assurance). An originally signed duplicate of the standby trust agreement must be submitted, with the other financial mechanism, to Forest Service in accordance with Paragraph 76. Until the standby trust fund is funded pursuant to Paragraph 80 (Access to Financial Assurance), neither payments into the standby trust fund nor annual valuations are required.

76. Within fifteen (15) days after the Effective Date, Respondent shall submit to Forest Service proposed financial assurance mechanisms in draft form in accordance with Paragraph 74 for Forest Service’s review. Within twenty five (25) days after the Effective Date, or ten (10) days after Forest Service’s approval of the form and substance of Respondent’s financial assurance, whichever is later, Respondent shall secure all executed and/or otherwise finalized mechanisms or other documents consistent with the Forest Service-approved form of financial assurance and shall submit such mechanisms and documents to the On-Scene Coordinator.

77. Respondent seeking to provide financial assurance by means of a demonstration or guarantee under Paragraph 74.d or 74.e must, within twenty five (25) days:

a. Demonstrate that:

1) The Respondent or guarantor has:

- i. Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

- ii. Net working capital and tangible net worth each at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
- iii. Tangible net worth of at least \$10 million; and
- iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or

2) The Respondent or guarantor has:

- i. A current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and
 - ii. Tangible net worth at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
 - iii. Tangible net worth of at least \$10 million; and
 - iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
- b. Submit to Forest Service for the Respondent or guarantor: (1) a copy of an independent certified public accountant's report of the entity's financial statements for the latest completed fiscal year, which must not express an adverse opinion or disclaimer of opinion; and (2) a letter from its chief financial officer and a report from an independent certified public accountant substantially identical to the sample letter and reports available from EPA or under the "Financial Assurance – Orders" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>.

78. Respondent providing financial assurance by means of a demonstration or guarantee under Paragraph 74.d or 74.e must also:

- a. Annually resubmit the documents described in Paragraph 77.b within 90 days after the close of the Respondent's or guarantor's fiscal year;

- b. Notify Forest Service within 30 days after the Respondent or guarantor determines that it no longer satisfies the relevant financial test criteria and requirements set forth in this Section; and
 - c. Provide to Forest Service, within 30 days of Forest Service's request, reports of the financial condition of the Respondent or guarantor in addition to those specified in Paragraph 77.b; Forest Service may make such a request at any time based on a belief that the Respondent or guarantor may no longer meet the financial test requirements of this Section.
79. Respondent shall diligently monitor the adequacy of the financial assurance. If Respondent becomes aware of any information indicating that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, Respondent shall notify Forest Service of such information within 30 days. If Forest Service determines that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, Forest Service will notify the Respondent of such determination. Respondent shall, within 30 days after notifying Forest Service or receiving notice from Forest Service under this Paragraph, secure and submit to Forest Service for approval a proposal for a revised or alternative financial assurance mechanism that satisfies the requirements of this Section. Respondent shall follow the procedures of Paragraph 81 in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. Respondent's inability to secure financial assurance in accordance with this Section does not excuse performance of any other obligation under this Order.

80. Access to Financial Assurance

- a. If Forest Service determines that Respondent (1) has ceased implementation of any portion of the Work, (2) is seriously or repeatedly deficient or late in the performance of the Work, or (3) is implementing the Work in a manner that may cause an endangerment to human health or the environment, Forest Service may issue a written notice ("Performance Failure Notice") to Respondent and the financial assurance provider regarding the Respondent's failure to perform. Any Performance Failure Notice issued by Forest Service will specify the grounds upon which such notice was issued and will provide Respondent a period of ten (10) days within which to remedy the circumstances giving rise to Forest Service's issuance of such notice. If, after expiration of the 10-day period specified in this Paragraph, Respondent has not remedied to Forest Service's satisfaction the circumstances giving rise to Forest Service's issuance of the relevant Performance Failure Notice, then, in accordance with any applicable financial assurance mechanism, Forest Service may at any time thereafter direct the financial assurance provider to immediately: (i) deposit any funds assured pursuant to this Section into the standby trust fund; or (ii) arrange for performance of the Work in accordance with this Order.
- b. If Forest Service is notified by the provider of a financial assurance mechanism that it intends to cancel the mechanism, and the Respondent fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, Forest Service may, prior to cancellation, direct the financial

assurance provider to deposit any funds guaranteed under such mechanism into the standby trust fund for use consistent with this Section.

81. **Modification of Amount, Form, or Terms of Financial Assurance.** Respondent may submit, on any anniversary of the Effective Date or following Respondent's request for, and Forest Service's approval of, another date, a request to reduce the amount, or change the form or terms, of the financial assurance mechanism. Any such request must be submitted to the Forest Service individual(s) referenced in Paragraph 76, and must include an estimate of the cost of the remaining Work, an explanation of the bases for the cost calculation, a description of the proposed changes, if any, to the form or terms of the financial assurance, and any newly proposed financial assurance documentation in accordance with the requirements of Paragraphs 75 and 76 (Standby Trust). Forest Service will notify Respondent of its decision to approve or disapprove a requested reduction or change. Respondent may reduce the amount or change the form or terms of the financial assurance mechanism only in accordance with Forest Service's approval. Within 30 days after receipt of Forest Service's approval of the requested modifications pursuant to this Paragraph, Respondent shall submit to the Forest Service individual(s) referenced in Paragraph 76 all executed and/or otherwise finalized documentation relating to the amended, reduced, or alternative financial assurance mechanism. Upon Forest Service's approval, the Estimated Cost of the Work shall be deemed to be the estimate of the cost of the remaining Work in the approved proposal.
82. **Release, Cancellation, or Discontinuation of Financial Assurance.** Respondent may release, cancel, or discontinue any financial assurance provided under this Section only: (a) after receipt of documentation issued by Forest Service certifying completion of the Work; or (b) in accordance with Forest Service's written approval of such release, cancellation, or discontinuation.

XXIII. MODIFICATION

83. The OSC may modify any plan or schedule or SOW in writing or by oral direction. Any oral modification will be memorialized in writing by Forest Service promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Order may be modified in writing by signature of the Regional Engineer, Pacific Southwest Region.
84. If Respondent seeks permission to deviate from any approved work plan or schedule or the SOW, Respondents' Project Coordinator shall submit a written request to Forest Service for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 83.
85. No informal advice, guidance, suggestion, or comment by the OSC or other Forest Service representatives regarding any deliverable submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXIV. DELAY IN PERFORMANCE

86. Respondent shall notify the Forest Service of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to the Forest Service's On-Scene Coordinator within forty eight (48) hours after Respondent first knew or should have known that a delay might occur. Respondent shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying the Forest Service by telephone, Respondent shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Respondent should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. Increased costs, or expenses associated with implementation of the activities called for in this Order, is not a justification for any delay in performance.
87. Any delay in performance of this Order that, in the Forest Service's judgment, is not properly justified by Respondent under the terms of this Paragraph shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondent's obligations to fully perform all obligations under the terms and conditions of this Order.

XV. ADDITIONAL REMOVAL ACTIONS

88. If the Forest Service determines that additional removal actions, not included in an approved plan to this Order, are necessary to protect public health, welfare, or the environment, the Forest Service will notify Respondent of that determination and require Respondent submit a work plan for additional removal action. The Forest Service may also require that Respondent modify any plan, design, or other deliverable required by this Order, including any approved modifications.
89. Unless otherwise stated by the Forest Service, within thirty (30) days after receiving the Forest Service's notice that additional removal action is necessary, Respondent shall submit for approval by Forest Service, a work plan for the additional removal action. Upon approval by the Forest Service, the work plan is incorporated into this Order as a requirement of this Order and shall be an enforceable part of this Order and Respondent shall implement the work plan according to the standards, specifications, and schedule in the approved work plan. Respondent shall notify the Forest Service of their intent to perform such additional removal action within seven (7) days after receipt of the Forest Service's request for additional removal work.
90. This Section does not alter or diminish the OSC's authority to make oral modifications to any plan or schedule pursuant to Section XXIII.

XXVI. NOTICE OF COMPLETION OF WORK

91. When the Forest Service determines, after its review of the Final Completion Report that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including retention of records, the Forest Service will provide written notice to the Respondent. If the Forest Service determines that any Work has not been completed in accordance with this Order, the Forest Service will notify

Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan to, if appropriate, in order to correct such deficiencies within 15 days after receipt of the Forest Service notice. The Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the Forest Service's notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Order.

XXVII. ADMINISTRATIVE RECORD

- 92. Forest Service will establish an administrative record which contains the documents that form the basis for the issuance of this Order. No later than 60 days after initiation of on-site removal activity, it shall be made available for review by appointment on weekdays between the hours of 8:00 AM and 4:30 PM at the Forest Service offices in Bishop, California at 351 Pacu Lane. To review the administrative record, please contact Colleen Garcia, Forest Geologist at 760-873-2424 to make an appointment.
- 93. Forest Service will determine the contents of the administrative record. Respondent shall submit to Forest Service documents developed during the course of the removal action. Upon request of the Forest Service, Respondent shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports.

XXVIII. SEVERABILITY

- 94. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

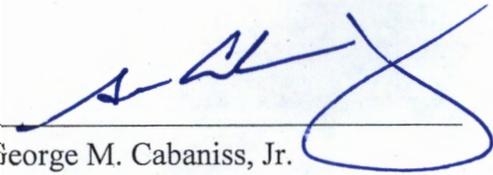
IT IS SO ORDERED

By: 

TONY TOOKE
Chief
Forest Service

Date: 10/23/2017

By:

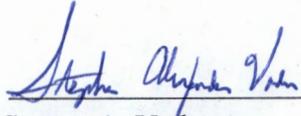


George M. Cabaniss, Jr.
Director
USDA Office of Procurement
and Property Management

Date:

11/1/17

Concurrence:



STEPHEN

~~Steven A. Vaden~~
Principal Deputy General Counsel

Date:

11/3/17

Attachment A

REMOVAL ACTION MEMORANDUM
TIME-CRITICAL REMOVAL ACTION
MAMMOTH STAMP MILL SITE
INYO NATIONAL FOREST

I. PURPOSE

The Mammoth Stamp Mill Site ("Site") is located solely on National Forest System Lands under the jurisdiction, custody and control of the U.S. Department of Agriculture, Forest Service ("Forest Service"), within the Mammoth Ranger District, Inyo National Forest, Mono County, California. The Forest Service is conducting response actions at the Site pursuant to its lead agency authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended under the Superfund Amendments and Reauthorization Act (SARA), 42 U.S.C. 9601 et seq., and Executive Order 12580.

The purpose of this Removal Action Memorandum (AM) is to document the selection of a time-critical removal action to address the presence and continuing release of antimony, arsenic, barium, cadmium, cobalt, copper, lead, mercury, selenium, silver, and zinc from the mill tailings and mill waste piles at the Site. The situation at the Site meets the criteria for a time-critical removal action under Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This decision document presents the Forest Service's selected removal response action for the Site, chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 et seq., and, to the extent practicable, the NCP. The AM is based upon the administrative record for the Site.

This time-critical removal action involves no nationally significant or precedent setting issues. This removal action will not establish any precedent for how future response actions will be taken and will not commit the Forest Service to a course of action that could have a significant impact on future responses or resources.

II. SITE CONDITIONS AND BACKGROUND

A. Site Location

The Site, is a former gold ore processing facility dating from the late 1870s. It is within the town of Mammoth Lakes in Mono County, California, about 4 miles east of Highway 395, at an elevation of 8,370 feet above mean sea level. Figure 1 shows the site location and surrounding area.

The site is located within an area historically known as "Mill City," because of the past gold mining activity in the region (Forest Service, 2014). The Site is within the geographic boundaries of the town of Mammoth Lakes, California, and is found in the northeast quarter

of the northeast quarter of Section 9, Township 4 South, Range 27 East of Mt. Diablo Meridian. It is represented on the Bloody Mountain Quadrangle 7.5-Minute Series topographic map (U.S. Geological Survey [USGS], 1994). The Site can be accessed from Old Mammoth Road, either at the end of the Mill City Tract or from the Mary Townsend grave site trailhead (Forest Service, 2014).

B. Site Characteristics

The Site includes the remnants of the Mammoth Mining Company Stamp Mill, most notably the iron flywheel, five waste piles and a dry diversion ditch that connects to a flowing perennial tributary to Mammoth Creek. A portion of the Forest Service's Mill City Recreational Cabin Tract is located within the Site. Figure 2 shows the Site features. The remnants of the Mammoth Stamp Mill including the fly wheel, diversion ditch, and waste piles are potentially historically significant and may be eligible for the National Register of Historic Places.

The Site drains to a perennial tributary which flows to Mammoth Creek, which runs north-northeast along the eastern edge of the site. Mammoth Creek flows eastward through the town of Mammoth Lakes. The creek name changes to Hot Creek east of Highway 395, and eventually flows into the Owens River and into a series of playa lakes. Sensitive habitats have not been previously identified at or downstream of the site.

The former mill building and the waste piles are located west of the Mill City Tract, a collection of privately owned recreational cabins built on land owned by the Inyo National Forest and leased to the cabin owners. The Mill City Tract is accessed by Mill City Tract Road, to the south of Old Mammoth Road. The Site is populated during the summer months, primarily on weekends and is a popular destination for hikers because of interest in the historic mill foundations and flywheel. A trail passes between the mill and the waste piles, identified by a sign southeast of the Site as "main trail" (Figure 2). The closest recreational cabins (7, 8, 9, 12, 13, and 26) are located within 100 feet of the waste piles and are accessible via an unpaved road by two-wheel drive vehicles. The waste piles and mill remnants are accessible on foot.

Based on site reconnaissance, the Site consists of two sub-areas with different current uses: the Mill Area consists of the waste piles and mill remnants, and the Cabins Area consists of Cabins 7, 8, 9, 12, 13, and 26 and cabin grounds, which are downgradient from the Site. Cabin 29 was not considered part of the Cabins Area because it is located on the east side of the tributary, thus it is not downgradient from the Site. The two sub-areas are shown on Figure 2.

C. Operational History

Mining in the area of the Site began in the late 1870s. During this period, ore was extracted from claims to the southwest of the Site at the Old Mammoth Mine. The Mammoth Mining Company purchased and consolidated five of the claims and needed a nearby mill to process the ore (Caldwell, 1990). Ore from the Mammoth area was considered a complex ore, containing both gold and silver at economically viable concentrations (Caldwell, 1990). The Mammoth Stamp Mill was constructed in 1878. Stamp mills, such as the Mammoth Mill, depended on the use of mercury to separate gold and silver from ore that had been crushed in

the stamp mill. The process involved breaking the ore from cobbles and boulders into smaller particles, ranging in size from coarse sand to silt. Particles were suspended in water to which mercury was added; the slurry was then passed over a corrugated surface or was otherwise agitated (Meyerriecks, 2003, as cited in Forest Service, 2014). The gold or silver and mercury would amalgamate to form a paste. This amalgam was then heated to evaporate and recover the mercury and leave the gold or silver (Meyerriecks, 2003, as cited in Forest Service, 2014). Tailings left over from this process were typically deposited near the mill site and allowed to dry. Tailings commonly have significantly elevated concentrations of mercury, because not all mercury was recovered or reused during processing. The ore from the mine was slid down a chute of about 1000 feet to the valley below, and thence carried by tramway for a quarter mile to the mill (Figure 3). In July of 1880 it was reported that the mill was operating at its full capacity with 40 stamps; the whole machinery being run by waterpower alone, with supply sufficient enough to run the 40 stamps, 16 pans, and 8 settlers with quite a stream flowing down the waste ditch. The mill is crushing 75 to 80 tons daily. (Mining and Scientific Press, July 17, 1880).

After 1881 there were no historical records showing operation of the Mammoth Stamp Mill per se, but in the 1888 Annual Report of the State Mineralogist it was mentioned that parties who were presently engaged in extracting and milling ores from the Mammoth Mine were also re-working the tailings from the old Mammoth Stamp Mill. "No provision had been made to save the pyritic minerals in the tailings from the Mammoth Stamp Mill. Samples of these tailings have given high assay returns of gold and silver; and such tailings are now being concentrated on blanket sluices by the parties who are presently engaged in extracting and milling ores from this mine." (California State Mining Bureau, Eighth annual Report of the State Mineralogist year ending October 1, 1888)

D. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The contaminants of potential concern (COPC) - antimony, arsenic, barium, cadmium, cobalt, copper, lead, mercury, selenium, silver, and zinc - are potential hazardous substances or pollutants or contaminants as defined by sections 101 (14) and 101 (33) of CERCLA, as amended, 42 U.S.C. Section 9601(14) and (33).

The PA/SI originally compared concentrations of the COPC's to background threshold values and to industry accepted screening levels. Figure 4 illustrates the location of the soil and sediment samples and whether the sample concentrations exceeded these screening levels. Due to the close proximity of recreational cabins to the site, the PA/SI was expanded to include a Streamlined Human Risk Assessment. The Streamlined Human Risk Assessment for the recreational cabin occupant receptor was further refined in a companion technical memorandum to reflect site specific usage patterns. Data regarding the nature and extent of mill-waste contamination at the Mammoth Stamp Mill are compared to the Risk-Based Concentrations (RBCs) developed for the Recreational Cabin Occupant Receptor as part of the Streamlined Human Risk Assessment (ERRG, 2017) are summarized in Table 1.

Data regarding the nature and extent of mill-waste contamination compared to Ecological Screening Levels are summarized in Table 2.

TABLE 1: SUMMARY OF COPC CONCENTRATIONS COMPARED TO RBCs FOR HUMAN HEALTH

COPC	RBC Soil (mg/kg) or BTV* LSL**	Mill Area Soil Conc (mg/kg)		Cabin Area Soil Conc (mg/kg)		Ditch Soil Conc (mg/kg)		Tributary Sediment Conc (mg/kg)	
		Min	Max	Min	Max	Min	Max	Min	Max
Antimony	92	ND	230	ND	5.8	0.26	6.2	0.24	0.34
Arsenic	13.3*	4.4	210	3.1	39	5.7	50	36	50
Lead	280**	5.6	2,500	2.7	240	4.2	360	7.0	7.2
Mercury	31	0.61	2,200	0.62	140	0.5	740	2.6	2.9

Notes:

* BTV=Background Threshold Value. The BTV will be used as clean up level for this removal action when the BTV is greater than the RBC.

**LSL=Lead Screening Levels based on CalEPA blood lead model (CalEPA, 2011)

The estimated quantity of soils or sediment that exceed either the Human Health RBCs, BTV, or LSL as shown in Table 1 for each subarea are summarized below.

Mill Area: The total estimated quantity within the waste piles is 4290 CY. Additional impacted soils within the Mill Area not included in the Waste Piles is estimated at 1900 CY.

Cabin Area: The quantity of impacted soils within the Cabin Area is estimated at 3300 CY.

Mill Diversion Ditch: The quantity of impacted soils within the Mill Diversion Ditch Area is estimated at 19 CY.

Perennial Tributary of Mammoth Creek: The quantity of impacted soils within the perennial tributary is estimated at 45 CY.

Total estimate of contaminated soils at the site is approximately 9554 CY. These quantities are estimated and the full extent of contamination has not yet been determined.

TABLE 2: SUMMARY OF COPC CONCENTRATIONS COMPARED TO ECOLOGICAL SCREENING LEVELS

COPC	RBC Soil (mg/kg)	Mill Area Soil Conc (mg/kg)		Cabin Area Soil Conc (mg/kg)		Ditch Soil Conc (mg/kg)		Tributary Sediment Conc (mg/kg)	
		Min	Max	Min	Max	Min	Max	Min	Max
Antimony	0.27	ND	230	ND	5.8	0.26	6.2	0.24	0.34
Arsenic	18	4.4	210	3.1	39	5.7	50	36	50
Barium	330	76	1300	49	720	26	400	38	81
Cadmium	0.36	0.083	2.4	0.017	1.3	0.17	1.4	0.18	0.22
Copper	28	6.7	240	5.1	45	2.5	85	5.1	5.2
Lead	11	5.6	2500	2.7	240	4.2	360	7.0	7.2
Mercury	8	0.61	2,200	0.62	140	0.5	740	2.6	2.9
Selenium	0.52	ND	14	ND	0.59	ND	2	0.53	0.7
Silver	4.2	0.098	140	ND	19	0.23	19	0.66	1.1
Zinc	46	34	570	20	130	19	140	25	33

E. NPL Status

The Mammoth Stamp Mill Site is not listed on the National Priorities List nor has the Site been proposed for the NPL.

F. Maps, Pictures and Other Graphic Representations

- Figure 1: Site Location and Vicinity Map
- Figure 2: Site Features (Current)
- Figure 3: Map of Lake District (circa 1878)
- Figure 4: Soil and Sediment Sample Results

G. Other Actions to Date

Pursuant to the authority found at 42 U.S.C. 9604(a) and in Executive Order 12580, the Forest Service has initiated actions to respond to the above mentioned release of hazardous substances. The Forest Service has implemented a response in accordance with the NCP time critical removal process, which has included the following:

- *Removal Preliminary Assessment*, completed in January, 2014 by Forest Service On-Scene Coordinator.
- *Preliminary Assessment/Site Investigation (PA/SI)*, completed in November, 2016 by Engineering/Remediation Resources Group, Inc.
- *Potentially Responsible Party Search, Final Report, Mammoth Stamp Mill*, (PRP Search), completed in June, 2016 by TLI Solutions, Inc
- *Technical Memorandum for Refinement of Streamlined Human Risk Assessment, Mammoth Mining Company Stamp Mill Site, Inyo National Forest, Mono County, California*, completed on January 23, 2017 by Engineering/Remediation Resources Group, Inc.

H. State and Local Authorities Role

This AM will be provided as formal notification to State and Local authorities who otherwise do not, at this time, have an active role in the response actions for the Site. State and local authorities have informally been kept apprised of Forest Service plans for the Site through Community Relations and Public Outreach.

The Site and the milling activities conducted at the Site were located on National Forest System lands pursuant to the 1872 Mining Law. As such, the Forest Service is neither the owner or operator of the Site pursuant to CERCLA. The Forest Service is conducting response actions at the Site pursuant to its lead agency authority under CERCLA and Executive Order 12580. Pursuant to 42 U.S.C. Section 9621(e); and 40 C.F.R. Section 300.400(e), no Federal, State or local permits are required for the on-site portion of this removal action.

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

A. Threats to Public Health, or Welfare or the Environment

The release of hazardous substances from the drainage emanating from the Site supports the determination that it poses threats to public health, welfare and the environment and that it is appropriate to implement the response actions described in this AM. In accordance with Title 40 Code of Federal Regulations, Part 300, Section 415 (40 CFR 300.415), the following conditions indicate that removal action is warranted for the Site:

- i. Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby human populations, animals, or the food chain;**
 1. **Public Health and Welfare:** The elevated concentrations of antimony, arsenic, lead and mercury found in the Site waste piles, soils, and sediment indicate that the air and soil (inhalation and ingestion) human exposure pathways exists. There are 6 recreational cabins within the Site impacted by contaminants from the historic mill

operation. Contaminant concentrations in the soils in the vicinity of the cabins are 39 mg/kg for arsenic and 140 mg/kg for mercury. The contaminant concentrations in soils in the diversion ditch that runs between cabins 9 and 26 are 50 mg/kg for arsenic, 360 mg/kg for lead, and 740 mg/kg for mercury. All occupants of the 26 cabins within the Mill City Tract recreate within the area of impacted soils; mill area, cabin area and diversion ditch/tributary area.

The Mammoth Stamp Mill is a historic site and is a very popular tourist destination. The access trail to the Site goes through the mill waste piles creating a direct exposure to the metals-impacted soil by visitors and recreation cabin occupants with contaminant concentrations of 230 mg/kg for antimony, 210 mg/kg for arsenic, 2,500 mg/kg for lead, and 2,200 mg/kg for mercury. Studies have indicated the following health effects of exposure to antimony, arsenic, lead, and mercury:

- a. Antimony. Respiratory effects, such as inflammation of the lungs, chronic bronchitis, and chronic emphysema are associated with long term inhalation exposure.
- b. Arsenic. Gastrointestinal irritation, neuropathy, skin lesions, vascular disease, and deaths due to cardiopulmonary collapse (acute dose).
- c. Lead. Neurological and central nervous system effects and hematological and kidney effects (with higher susceptibility in children).
- d. Mercury. Effects of inorganic mercury compounds are skin rashes and dermatitis, mood swings, memory loss, mental disturbances, and muscle weakness.

2. Threats to the Environment: Ecological receptors could become exposed to site contaminants through direct contact with mill waste contaminated soils and sediments; ingestion of mill-waste contaminated soils and sediments; and ingestion of contaminated food (e.g., sediment-or soil-dwelling insects, vegetation)

ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems;

The entire Site drains either overland or through the diversion ditch to a tributary of Mammoth Creek. Sediment within the tributary downstream of the Site contains elevated metal concentrations of antimony, arsenic, and lead, indicating metals have been released to sediment that has the potential to migrate downstream to Mammoth Creek. Mammoth Creek flows through the town of Mammoth Lakes to Hot Creek. Hot Creek flows into the Owens River and then into Crowley Lake. Crowley Lake is a primary water supply for the Los Angeles area, representing 50% of the water entering the Los Angeles-Owens River Aqueduct (California Trout, Inc., 2014)

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

1. Human Health and Welfare: Elevated concentrations of antimony (230 mg/kg), arsenic (210 mg/kg), lead (2500 mg/kg) and mercury (2200 mg/kg) in mill-waste contaminated soils which exceed risk based human health exposure thresholds are present in exposed un-vegetated soils at the Site. These contaminated soils are susceptible to migration because of water- and wind-borne influences. Evidence of migration of these mill-contaminated soils into water bodies has been documented based on elevated levels of arsenic (50 mg/kg) in downstream sediments.
2. Threats to the Environment: Elevated concentrations of antimony (230 mg/kg), arsenic (210 mg/kg), barium (1300 mg/kg), cadmium (2.4 mg/kg), copper (240 mg/kg), lead (2500 mg/kg), mercury (2200 mg/kg), selenium (14 mg/kg), silver (140 mg/kg), and zinc (570 mg/kg) in mill-waste contaminated soils which exceed ecological soil screening levels are present in exposed un-vegetated soils at the Site. These contaminated soils are susceptible to migration because of water- and wind-borne influences. Evidence of migration of these mill-contaminated soils into water bodies at levels that pose a potential threat to the environment based on elevated levels of antimony (0.34 mg/kg), arsenic (50 mg/kg) and selenium (0.7 mg/kg) in downstream sediments.

iv. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Mill-waste contaminants are present in un-vegetated soils at the Site and exposed to the elements. The Site drains to a tributary of Mammoth Creek. During the spring snow melt, rainfall, or other forms of run-off inducing events will tend to spread the contaminated materials further from the site. The snow pack in the Mammoth Creek watershed for the winter of 2016-2017 is 240 percent of normal and may bring unprecedented run-off inducing events this spring.

B. Availability of Other Appropriate Federal or State Response Mechanisms to Respond to the Release

The Site is located on National Forest System lands under the jurisdiction, custody and control of the U.S.D.A. Forest Service, within the boundaries of the Inyo National Forest. No other federal or state response mechanisms are available to respond to the release.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances, pollutants and contaminants from the Site, if not addressed by implementing the response actions selected in this AM, may continue to present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COST

A. Proposed Actions

The proposed actions are integral to a comprehensive effort to address mill waste-related human health and ecological impacts in the Mammoth Creek watershed.

The scope of this time-critical removal action is abatement of the threat of exposure to humans and the off-site migration and erosion of mill-waste contaminated soils above the Site-specific Risk Based Concentrations developed for protection of human health or welfare at the Mammoth Stamp Mill Site. The goal for the time critical removal action at the Site is to address the immediate threat posed by “High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;” as defined under section 300.415(b) (2) (iv) of the National Contingency Plan (NCP). This goal would adequately address the actual and/or potential threats to humans due to the level of antimony, arsenic, lead, and mercury present.

The soils and sediment contaminated with antimony, arsenic, lead, and mercury as well as barium, cadmium, cobalt, copper, selenium, silver, and zinc above ecological screening levels within the Mammoth Stamp Mill Site may require a future CERCLA response action.

The scope and goal for this removal action results in the following objectives:

1. Mitigate ingestion and inhalation exposure to mill-waste contaminated soil.
2. Mitigate the likelihood of release of metals from mill-waste contaminated soil at the Site to non-impacted soils.
3. Mitigate the likelihood of release of mill-waste contaminated soil at the Site to downgradient surface water bodies.

Attaining these objectives is expected to result in protection of human receptors and water quality in the Mammoth Creek watershed.

Cleanup Standard

The following have been identified as the soil and sediment cleanup goals for the removal action based on the Site-specific Risk Based Concentrations for the Recreational Cabin Occupant as identified in the Technical Memorandum for Refinement of Streamlined Human Risk Assessment, Mammoth Mining Company Stamp Mill Site or BTV if the RBC is lower than the BTV.

Risk Based Concentrations or Background Threshold Value

	Antimony (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)
Mill-waste contaminated soils	92	13.3	280	31

i. Description of Alternatives

a. No Action

The No Action Alternative would represent leaving the mill-waste contaminated soils and sediment at the Site in their current condition. There would continue to be exposure of recreational cabin occupants and visitors to the mill-waste contaminated soils. This Alternative would not meet any of removal action objectives and would not be protective of human health and the environment.

b. Contaminated Material Removal and Consolidation in On-Site Repository

The actions proposed under this alternative consist of implementation of institutional controls to restrict public access, removal of the mill-waste contaminated soils and consolidation of waste at an on-site repository. All mill-waste contaminated soils within the mill area, cabin area, and diversion ditch with concentrations of antimony, arsenic, lead, and mercury above the following site established risk based exposure thresholds would be excavated, consolidated, and placed in an on-site repository with an engineered cap:

	Antimony (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)
Mill-waste contaminated soils	92	13.3	280	31

This Alternative also requires subsequent regrading, restoring, and re-vegetation of the Site. During the implementation of this response alternative Institutional Controls (ICs) would be implemented to restrict public access to the areas of contamination and work zones. A temporary Forest Closure order will be issued to enforce these restrictions.

This alternative would require long-term inspection and maintenance of the mine waste repository cover system for perpetuity as long as wastes remain in place at the site. This will require the issuance of a permanent Forest Closure order for long term site access and use restrictions to protect the remedy and prevent ground disturbance of the cap.

This alternative will prevent people and wildlife exposure to hazardous substance concentrations of antimony above 92 mg/kg, arsenic above 13.3 mg/kg, lead above 280 mg/kg, and mercury above 31 mg/kg in soils. It would also mitigate the threat of release of hazardous substances into the sensitive ecosystem represented by the Mammoth Creek riparian area resulting from future erosion of the mill-waste contaminated soils.

This alternative is not considered a viable alternative due to the space limitations of the Site which do not provide adequate room for an on-site repository. Residences are located within the Site boundary. The Site is frequented by the residents and by recreational users. The heavy use of the Site would make it very difficult and costly to maintain the integrity of the repository cap in perpetuity.

c. Contaminated Material Removal and Offsite Disposal (Proposed)

The actions proposed under this alternative consist of implementation of institutional controls to restrict public access, removal of the mill-waste contaminated soils and disposal off-site at an approved disposal facility. All mill-waste contaminated soils within the mill area, cabin area, and diversion ditch with concentrations of antimony, arsenic, lead, and mercury above the following site established risk based exposure thresholds would be excavated and removed:

	Antimony (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)
Mill-waste contaminated soils	92	13.3	280	31

This Alternative also requires subsequent regrading, restoring, and re-vegetation of the Site. During the implementation of this response alternative Institutional Controls (ICs) would be implemented to restrict public access to the areas of contamination and work zones. A temporary Forest Closure order will be issued to enforce these restrictions.

This alternative will prevent people and wildlife exposure to hazardous substance concentrations of antimony above 92 mg/kg, arsenic above 13.3 mg/kg, lead above 280 mg/kg, and mercury above 31 mg/kg in soils. This alternative would also mitigate the future threat of release of hazardous substances into the sensitive ecosystem represented by the Mammoth Creek riparian area resulting from future erosion of the mill-waste contaminated soils, by removing the source of the hazardous substance releases and placing them in a stable location already approved for the consolidation of such material. Off-site disposal will also significantly reduce the cost of long-term annual operations and maintenance costs necessary to maintain an engineered on-site mill waste repository.

ii. Contribution to Long Term Performance

a. No Action Alternative

The No Action Alternative would leave cabin occupants and recreational users exposed to the mill-waste contaminated soils, and sediments and leave these vulnerable to anticipated overland and channel flow and release of hazardous substances to the downstream environment. There would be no contribution to the final response at the Site.

b. Contaminated Material Consolidation in On-Site Repository

This alternative would consolidate and place mill-waste contaminated soil in an on-site repository with an engineered cap. The mill-waste contaminated soils at the Site would be capped mitigating exposure pathways within six months of the approval of the AM mitigating additional release of hazardous substances. The proposed removal action will address the threats discussed in Section III, in accordance with the removal criteria of NCP Section 300.415(b)(2). This alternative is not considered a viable alternative due to the space limitations of the Site which do not provide adequate room for an on-site repository. Residences are located within the Site boundary. The Site is frequented by the residents and by recreational users. The heavy use of the Site would make it very difficult and costly to maintain the integrity of the repository cap in perpetuity to ensure the integrity of the cap is not compromised, thereby allowing mill-waste contaminated soils to be released.

c. Contaminated Material Removal and Offsite Disposal (Proposed)

This alternative would remove the mill-waste contaminated soils at the Site within six months of the approval of the AM eliminating additional release of hazardous substances. The proposed removal action will immediately address the threats discussed in Section III, in accordance with the removal criteria of NCP Section 300.415(b)(2). The removal action contemplated in this Action Memorandum is consistent with any future removal actions that could be anticipated at the Site.

iii. Engineering Evaluation/Cost Analysis (EE/CA)

An engineering evaluation/cost analysis (EE/CA) is not required for a time-critical removal action.

iv. Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs include "applicable" or "relevant and appropriate" requirements. In addition to these promulgated standards, EPA may also use guidance and health advisories as matters "to be considered."

Applicable Requirements: Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. "Applicability" implies that the remedial action or the circumstances at the site satisfy all of the jurisdictional prerequisites of a requirement.

Relevant and Appropriate Requirements: Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.

The proposed action shall attain ARARs under federal or state environmental or facility siting laws. Other federal and state advisories, criteria or guidance may, as appropriate, be considered in formulating the removal action. The recommended time-critical removal action will comply with the following ARARs to the extent practicable, considering the exigencies of the situation:

Potential Action-Specific ARARs for this response action are:

- **Hazardous Materials Transportation Act, 49 CFR 107, Parts 171-179; 383, 391-397.** Transportation requirements.
- **California Hazardous Waste Control Law and Hazardous Waste Disposal Regulations; Title 22, CCR 66262.1 *et seq.*** Requirements for hazardous waste management, including manifesting, record keeping, storage, and packaging procedures for hazardous waste.
- **Federal Noxious Weed Act, 7 U.S.C. 2801 *et seq.*** Requires efforts to avoid the introduction and spread of identified noxious weeds.
- **Fish and Wildlife Coordination Act 16 U.S.C. Sections 661-666.** Requires Federal agencies involved in actions that will result in the control or structural modification of any natural stream or body of water, for any purpose, to take action to protect fish and wildlife resources which may be affected by the action. Requires consultation with the U.S. Fish and Wildlife Service prior to taking any action.
- **Clean Water Act Section 404, 40 CFR part 230, 33 CFR part 320-330, 40 CFR part 6, Appendix J.** Regulations to protect waters of the U.S. and wetlands, as defined by EPA and the U.S. Army Corps of Engineers regulations, by prohibiting the discharge of dredged or fill material without a permit, and taking actions to avoid

adverse effects, minimize potential harm and preserve and enhance wetlands to the extent practicable.

- **Porter Cologne Water Quality Act, Water Code 13000 et. seq.** The RWQCB is required to develop Basin Management Plans to set enforceable water quality standards for the protection of the beneficial uses of State waters. Additionally, under WC Sections 13050 and 13172, the RWQCB is authorized to develop standards and regulations for the discharge of mining wastes.
- **Great Basin Unified Air Pollution Control District Regulations (nuisance and fugitive dust control)**

Rule 402 - Nuisance

Rule 403 – Fugitive Dust

Chemical-Specific ARARs for this response action are:

- **Water Quality Control Plan for the Lahontan Regional, North and South Basins, Water Quality Control Board Lahontan Region, September 2015 Revision.** Establishes water quality objectives and designates the beneficial uses for waters in this watershed basin. It also includes requirements for mining wastes.
- **State Water Resources Control Board Resolution No. 92-49 (“Anti-Degradation Policy”).** Requires that quality surface and groundwater be maintained to the maximum extent possible.

Location-Specific ARARs for this response action are:

- **National Historic Preservation Act, 16 U.S.C. 470 et seq.** Requires federal agencies to take into account the effect of any federal undertaking on any site, building, structure, or object that is included or may be eligible for inclusion in the National Register of Historic Places.
- **Archeological and Historic Preservation Act, 16 U.S.C. 469, 40 CFR 6.301.** Establishes procedures to preserve historical and archeological data that might be destroyed through alteration of terrain as a result of a federal undertaking.
- **Endangered Species Act, 16 U.S.C. 1531 et seq.** Defines and provides a means for conserving various species of fish, wildlife, and plants that may be threatened with extinction, and provides for the designation of critical habitats essential to the conservation of a threatened or endangered species. Requires Federal agencies, in consultation with DOI and the National Marine Fisheries Service, to ensure that actions that they authorize, fund or carry out are not likely to jeopardize the continued existence of threatened or endangered species or adversely modify or destroy their critical habitat.

- **Protection of Floodplains, Executive Order 11988 (40 CFR Part 6, Appendix A) -** This Executive Order mandates that response actions taken by federal agencies must be designed to avoid adverse impacts to floodplains. Specifically, if response activities are located within a 100-year floodplain, the activities must be designed to avoid adversely impacting floodplains wherever possible. If response activities take place in a floodplain, these requirements will be applicable.
- **Fish and Wildlife Coordination Act (16 USC 661 et seq.) -** This statute requires federal agencies to consider the effect projects may have on fish and wildlife and to mitigate loss or damage to these resources. This statute is applicable to the selected remedy.
- **Migratory Bird Treaty Act (MBTA) (16 USC 703 - 712) -** The MBTA makes it unlawful to pursue, capture, hunt, or take actions adversely affecting a broad range of migratory birds. The MBTA and its implementing regulations are applicable to remedial activities that could affect any protected migratory birds. The selected remedy will be carried out in a manner that avoids taking or killing of protected migratory bird species, including individual birds or their nests.
- **State Water Resources Control Board Resolution 68-16-** State Water Resources Control Board (SWRCB) Resolution 68-16, Statement of Policy With Respect to Maintaining High Quality Waters in California, establishes the policy that high quality waters of the state “shall be maintained to the maximum extent possible” consistent with the “maximum benefit to the people of the state.”

B. Project Schedule

The proposed actions are anticipated to begin in July 2017 and be completed by November 1, 2017

C. Estimated Costs

Project Preparation, Support, and Mobilization	\$1,245,577
Construction Activities	\$2,036,161
Cultural Resource Monitoring	\$ 24,210
Forest Service Oversight	\$ 40,320
Total	\$3,261,700

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

Should action be delayed or not taken, the Site will continue to present an imminent and substantial endangerment to human health, welfare or the environment due to the release of

hazardous substances into the adjacent Mill City Tract recreational cabin area and into the Mammoth Creek watershed. Cabin residents, the recreating public and the environment will continue to be threatened as described above. The concentrations and magnitudes of antimony, arsenic, lead, and mercury released during water eroding events from the Site will continue to be affected by the magnitude and severity of storm events, human disturbance and spring snowmelt run-off.

VII. OUTSTANDING POLICY ISSUES

None have been identified at this time.

VIII. ENFORCEMENT

The Forest Service's PRP search and follow-up research by the Office of the General Counsel (OGC) resulted in the determination of a viable PRP. An Administrative Settlement Agreement and Order on Consent will be sent to the viable PRP.

IX. DECISION

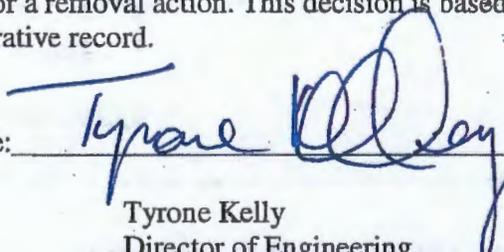
The Forest Service has CERCLA authority and is the "lead agency" for National Forest System (NFS) land at non-National Priorities List sites. No other appropriate response mechanisms or authorities are currently available to address this Site.

In compliance with the Forest Service's role in protecting the public health and welfare and the environment, and because the release or threatened releases are on NFS lands under the administration of the Inyo National Forest, and pursuant to the authority found at 42 U.S.C. 5604 (a), Executive Order 12580, and 7 CFR 2.60, the Forest Service undertakes this response action. The response action will be not inconsistent with the NCP.

Approval is hereby given by the Forest Service to conduct a time-critical removal action to remove mill-waste contaminated soils from the Mammoth Stamp Mill Site including the impacted areas within the adjacent Mill City Tract recreational cabin area on the Inyo National Forest.

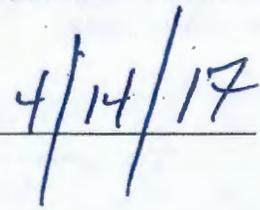
The removal action for the Site was developed in accordance with CERCLA, as amended, and not inconsistent with the NCP. Conditions at the site meet the NCP 40 C.F.R. § 300.415(b) criteria for a removal action. This decision is based upon information contained within the Site's administrative record.

Signature: _____



Tyrone Kelly
Director of Engineering
Pacific Southwest Region

Date: _____



References

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- California Trout, Inc., 2014. "Upper Owens River Water Quality Project, Final Technical Report." April 22.
- ERRG, 2017. "Technical Memorandum for Refinement of Streamlined Human Risk Assessment, Mammoth Mining Company Stamp Mill Site, Inyo National Forest, Mono County, California." January 23.
- Meyerriecks, W., 2003. *Drills and Mills—Precious Metal Mining and Milling Methods of the Frontier West*. Second Edition. ISBN 0-9714383-1-5. 264 Pages.
- U.S. Department of Agriculture Forest Service (Forest Service), 2014. "Removal Preliminary Assessment for the Mammoth Mining Stamp Mill Site, Mammoth RD, Inyo National Forest." January 6.
- U.S. Geological Survey (USGS), 1994. "Bloody Mountain Quadrangle. California -- Mono Co. 7.5-Minute Series (topographic)."

Figures

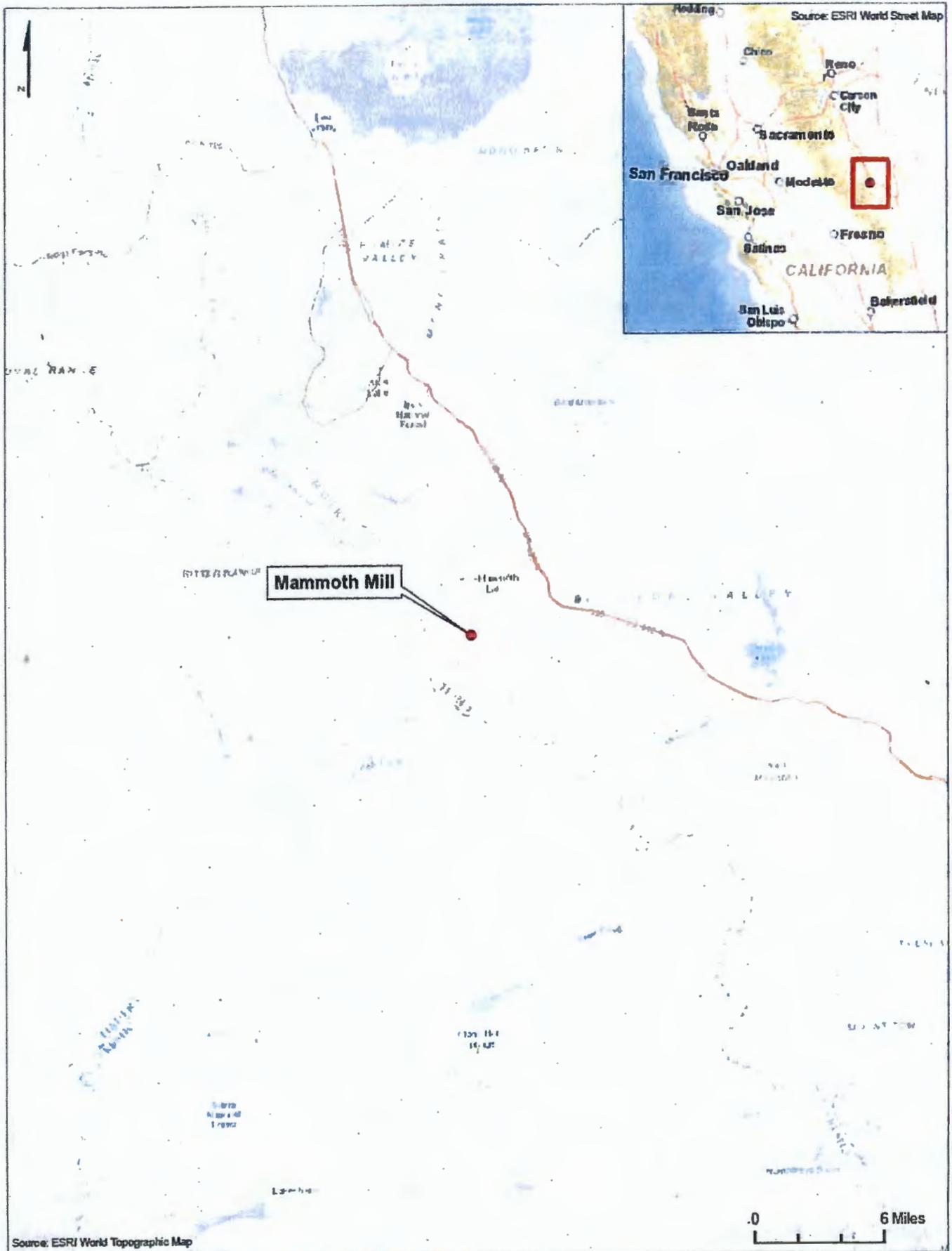
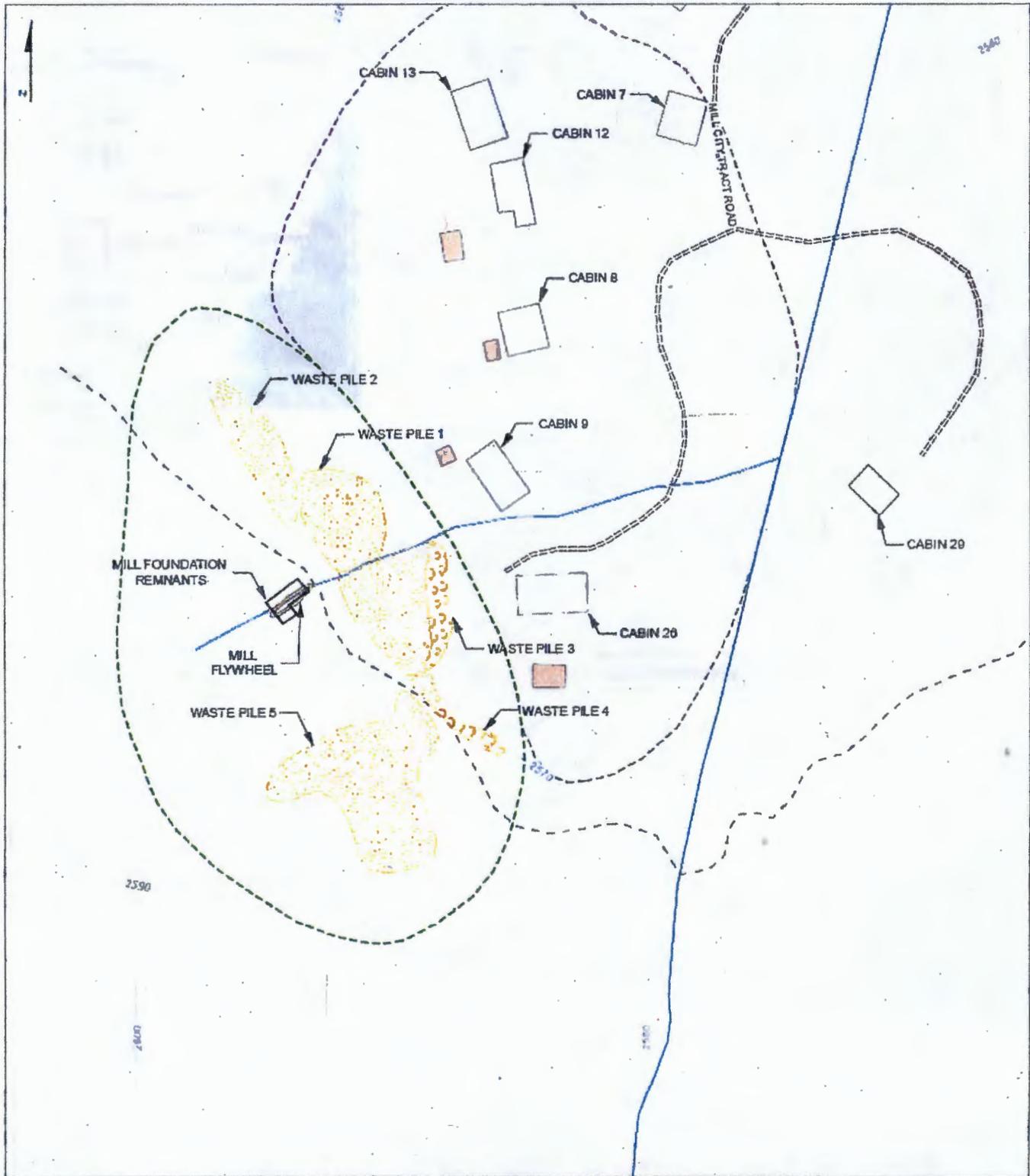


Figure 1. Site Location and Vicinity Map
 Mammoth Mill, Inyo National Forest



<ul style="list-style-type: none"> Elevation Contour* (10-meter interval) Unimproved Road Mill Diversion Trench Tributary to Mammoth Creek Main Trail 	<ul style="list-style-type: none"> Mill Area Cabin Area Waste Pile 	<ul style="list-style-type: none"> Cobbles and Boulders Cabin Shed
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Note:
 * Elevation contours are derived from the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) global digital elevation model.

Figure 2. Site Features
 Mammoth Mill, Inyo National Forest

Lake District, Mono County.

From an interview with Judge J. D. Thompson, who is interested in Lake district, we gain the following information concerning that part of Mono county, in this State. The diagram accompanying this will show the location of the principal mines of the district:

The Lake district is situated in Mono county, some 50 miles southeast of Bodie and 25 miles south of the southern portion of Lake Mono, on the east side of the Sierra Nevada mountains, and but a few miles from the head waters of the north fork of the San Joaquin river, and about 80 miles north from Bodie, on the Southern Pacific railroad, easy of access by wagon from Bodie or Benton, and by wagon road and trail from Bodie.

This district is now attracting a large amount of attention from mining men and capitalists, and bids fair to become one of the most profit-

and worked by the Mammoth G. & S. M. Co. of this city. It is 25 feet in width, and has been prospected at different points for 6,000 feet along the ledge. From 600 to 800 feet east of this, and nearly parallel with it, is the Silveropolis, or Don Quixote ledge, which shows equally as rich as the Mammoth ledge, though only about half as wide. Still to the east, and below the summit, is the Monumental ledge. On the west side of the mountain, and partly down the side, is the Crescent ledge; and to the north, and still lower down the mountain side, is the Alpha ledge.

These ledges all bear a uniform quality of quartz and ore, and in every instance have improved in richness as they have been worked. Assays from different mines show the ore to be low milling ore one-third gold and two-thirds silver, and give a general average of from \$30 to \$50 per ton.

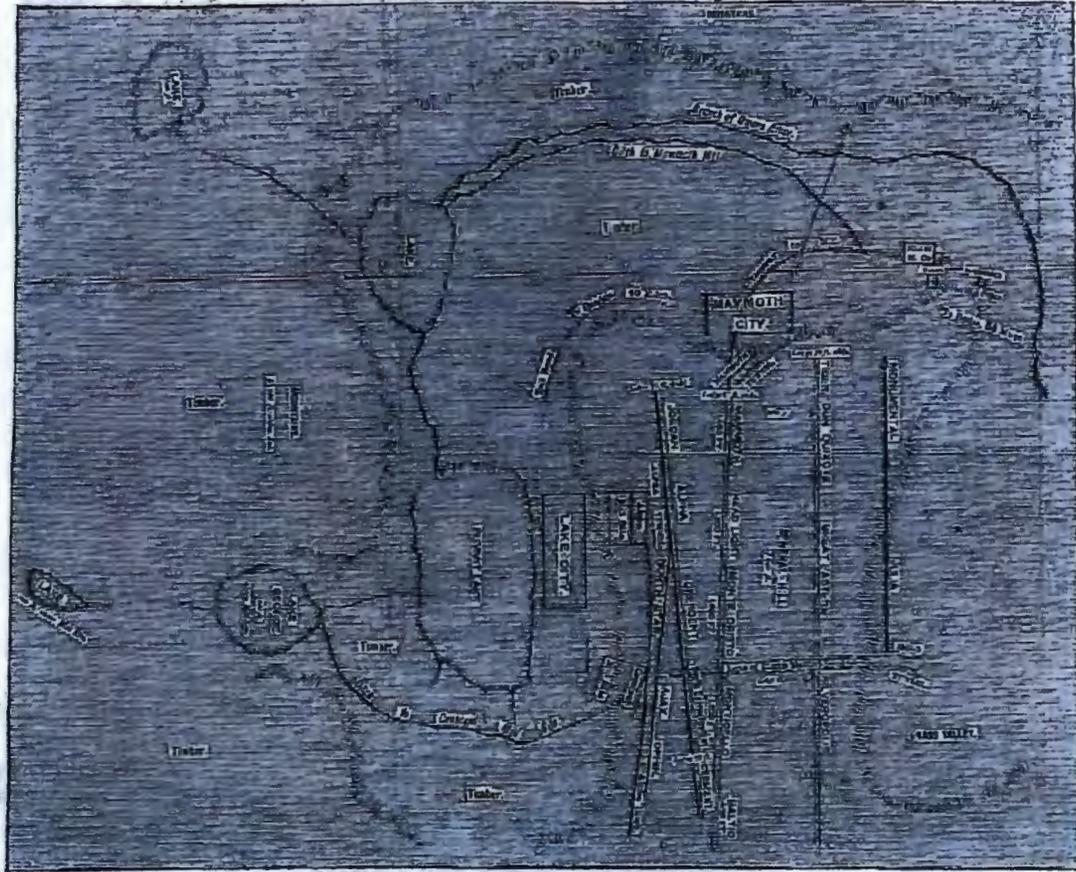
The Mammoth mine is now being worked at the end of the ledge on the north end of the mountain some 200 feet below the cropping; the ore without selecting milling over \$40 per ton, the best run of 200 tons yielding \$11,000 at an expense for mining and milling of less

than \$5 per ton. Adjacent to the Head-light and on the same ledge, is the Monte Cristo, a mine that bids fair to be a rival of the Mammoth in richness. It has two shafts down 40 feet on side of the ledge, but no crosscutting done. On the Alpha ledge the mine most developed is the Alpha. It has a tunnel in nearly 300 feet and is now within 20 feet of the main ledge, whose croppings 13 feet in width, give great promise of rich ore at the depth the tunnel will cut the ledge. It has already passed through three ledges of low grade ore of from two and one-half to six feet in width, with streaks of very rich quality, averaging up in the hundreds. Adjacent to this on the north is the Jerlan, and on the south the North Star, both mines of great promise.

The Crescent is being worked from the side of the mountain, and though not yet into the main ledge, has cut many wide stringers of fine ore, and gives promise of being a valuable mine. Assays from the croppings, which are from eight to ten feet wide, and from the foot-ore out, range from \$40 to \$300 per ton. Recent developments in the Don Quixote prove that to be entitled to rank with the leading mines of the district. While the Silveropolis on the south end is equally as promising, the Jerlan, on the extreme east side of the moun-

Celton Marble.

The Los Angeles Express speaking of this marble says: Henry G. Hanks, President of the State Geological Society, has made a study of the Celton marble. He concludes that it compares in every way with the best Carrara marble. The total consumption per year of Carrara marble is on an average of 30,000 tons. His Hanks says why California should not be able to take some of this to market. He closes his letter to the Express as follows: "The flimsy buildings we are now constructing will surely be replaced by those built of better and more durable materials. The wood which has been so abundant, so easy to get, and so easy to work, will be exhausted, or will have to be brought from greater distances, and as the State grows older the people will see the folly of building red-wood palaces which cannot by any possibility last more than 25 to 30 years. As this will come about in time, it will be well for us to encourage the prospectors who are roaming over the hills to look for these materi-



MAP OF LAKE DISTRICT, MONO COUNTY, CALIFORNIA.

able sections for investment in mining at present known. The work that has been done in the district since the spring opened has been exceedingly satisfactory to those who have engaged in developing it. Values of ore already uncovered prove not only its richness, but go far to prove its permeability.

The ledges are wide and bear ore of uniform quality, though thus far not of high grade, yet sufficiently rich to pay well. The extensive ledges of fine timber and numerous water-powers reduce the cost of mining and milling the ore, so that there can be no doubt of its being highly remunerative.

The principal mines shown by the accompanying sketch are located on Mineral Hill, a table mountain situated in the middle of, and nearly surrounded by volcanic mountains and extinct craters. Mineral Hill is some 7,500 feet in length, and about 2,000 feet in width at the top, the north end and the sides being very abrupt and precipitous; the height at the north end and on the west side is about 1,000 feet, while on the east the valley extends close to the base, and is nearly or quite 1,500 feet below the summit. Running lengthwise, and nearly through the center of this mountain, 25° east of south and almost parallel with its sides, is the ledge known as the Mammoth ledge, on which are the Mammoth and Head-light mines, owned

and worked by the Mammoth G. & S. M. Co. of this city. It is 25 feet in width, and has been prospected at different points for 6,000 feet along the ledge. From 600 to 800 feet east of this, and nearly parallel with it, is the Silveropolis, or Don Quixote ledge, which shows equally as rich as the Mammoth ledge, though only about half as wide. Still to the east, and below the summit, is the Monumental ledge. On the west side of the mountain, and partly down the side, is the Crescent ledge; and to the north, and still lower down the mountain side, is the Alpha ledge.

These ledges all bear a uniform quality of quartz and ore, and in every instance have improved in richness as they have been worked. Assays from different mines show the ore to be low milling ore one-third gold and two-thirds silver, and give a general average of from \$30 to \$50 per ton. The Mammoth mine is now being worked at the end of the ledge on the north end of the mountain some 200 feet below the cropping; the ore without selecting milling over \$40 per ton, the best run of 200 tons yielding \$11,000 at an expense for mining and milling of less

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utilized without great expense.

With these advantages over other districts, there can be little doubt but that in the near future those who have invested in Lake District, will be richly remunerated for their time, labor, and capital.

ABOVE THE LOOP TOWER.—We learn from the Nevada county papers that the Durbin Gravel M. Co. contemplates running a tunnel into their claim, at a point above the town of North Bloomfield, and working it upon the plan of the Bald Mountain claim, in Sierra county, drawing the gravel to the mouth of the tunnel by locomotive power. The tunnel will be between 3,000 and 4,000 feet in length. If this plan is adopted, both the ground of the Durbin and Watt gravel companies can be worked through the same tunnel.

KEW-FARLEIGH'S ONE-STAMP MILL is said to be more than a success with those who understand how to work it. It was promised that the mill would crush five tons per day. It has been found capable of crushing seven.

A GOVERNMENT financial clerk drew about \$1,000 the other day, for salaries. He lost the amount. It has since been returned on "no questions" conditions.

els, and to publish the results of their discoveries for the benefit of our citizens. In this connection I desire to mention again the important case of a State Museum at San Francisco, where specimens from such discoveries may be kept for all time—for the benefit not only of ourselves, but for the advantage of foreign visitors who wish to know the resources of this State." On this latter point we beg to suggest that the University is the place for such museum. Berkeley is very accessible from San Francisco, and we have there the men capable of exhibiting the collection to its best advantage; and there, at the same time, our young men may profit from it, as well as the State at large through intermarriage given visitors.

One of the school scandal witnesses has gone to Hanoluh. A delinquent witness has been bound to appear before the committee.

Our Marble is a naturalized American, has been prohibited from factoring in Berlin on the improved prospects of our Western States.

GOVERNOR STANTON is importing 20 thorough-bred sires from Lexington, Ky.

REPORTS of dread socialist movements in Germany are followed by rumors of nihilistic uprisings in Russia.

Figure 3 Map of Lake District circa 1878

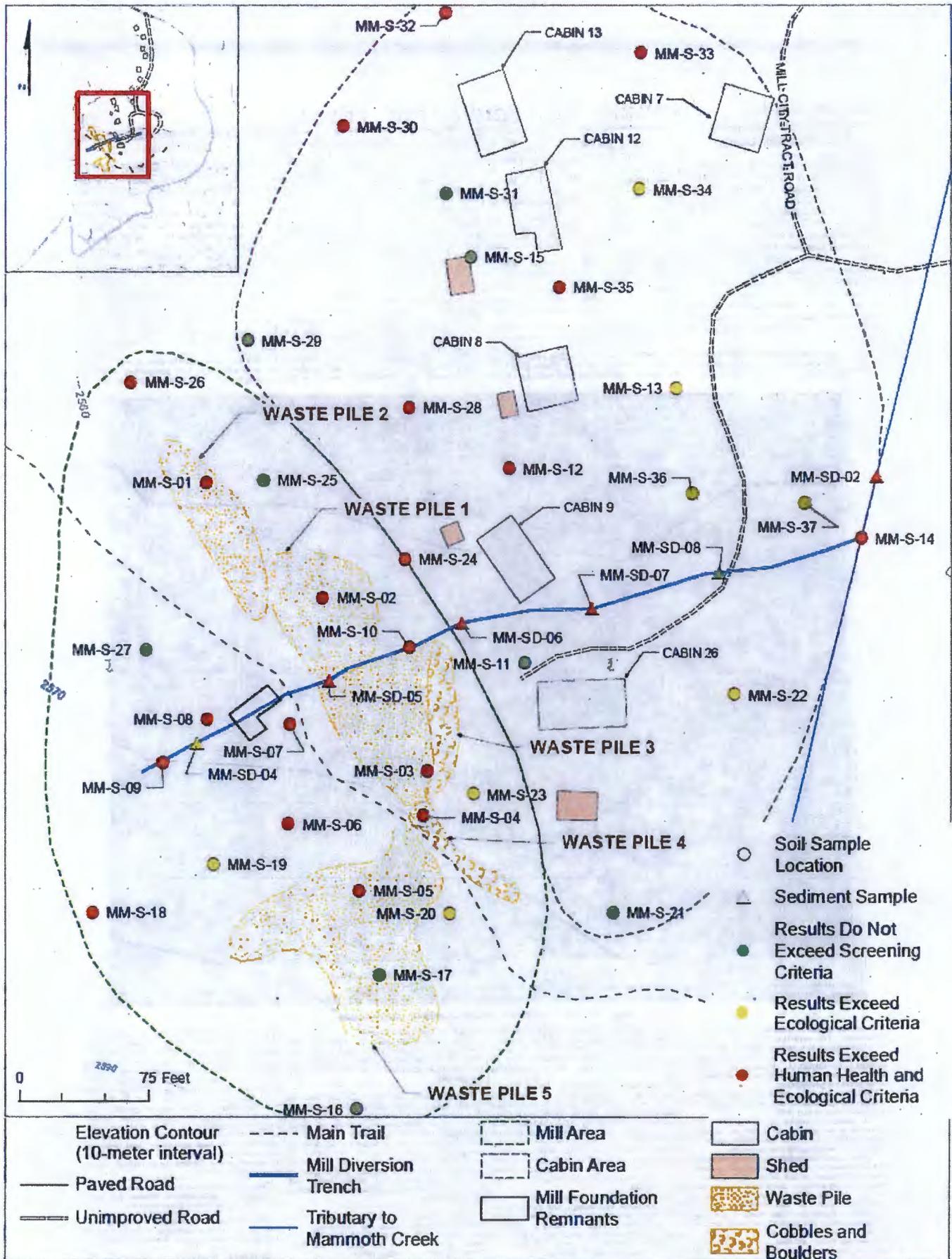


Figure 4. Soil and Sediment Sample Results
Mammoth Mill, Inyo National Forest

Attachment B

Statement of Work
For
Time Critical Removal Action
For
Mammoth Stamp Mill Site
USDA Forest Service, Inyo National Forest

I. PURPOSE

The primary purpose of this Statement of Work (SOW) is to implement the Unilateral Administrative Order (UAO) for the Mammoth Mill Site Time Critical Removal Action. The Removal Action Objectives for this response are:

- Mitigate ingestion and inhalation exposure to mill-waste contaminated soil.
- Mitigate the likelihood of release of metals from mill-waste contaminated soil at the Site to non-impacted soils.
- Mitigate the likelihood of release of mill-waste contaminated soil at the Site to downgradient surface water bodies.

Attaining these objectives is expected to result in protection of human receptors and improve water quality in the Mammoth Creek watershed.

The response action will be consistent with the requirements of the April 2017 Time Critical Removal Action Memorandum (AM), including ARARs, pertinent codes and standards, and performance standards.

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

- Removal Action Work Plan (draft and final);
- Implementation of Site Access Restrictions;
- Implementation of Removal Action;
- Removal Action Completion Report (draft and final);
- Long-Term Monitoring and Reporting Plan (if appropriate); and
- Community Involvement Activities

The aerial scope of the removal action to be performed under this UAO are the contaminated site areas known as the “Mill Area” and the “Mill Diversion Ditch” as defined in Section III of the UAO. All removal activities shall be completed in accordance with Section XI of the UAO.

II. EXISTING SITE DATA

The following information is available to Respondent or their Representatives:

- *“Removal Preliminary Assessment for the Mammoth Mining Stamp Mill Site, Mammoth RD, Inyo National Forest.”* January 6, 2014. U.S. Department of Agriculture Forest Service
- *“Upper Owens River Water Quality Project, Final Technical Report.”* April 22, 2014. California Trout, Inc.,

- *Preliminary Assessment/Site Inspection Report for the Mammoth Mining Company Stamp Mill Site, Inyo National Forest, Mono County, California.* November, 2016. Engineering/Remediation Resources Group, Inc.
- *Technical Memorandum for Refinement of Streamlined Human Risk Assessment, Mammoth Mining Company Stamp Mill Site, Inyo National Forest, Mono County, California,* completed on January 23, 2017 by Engineering/Remediation Resources Group, Inc.

III. REMOVAL ACTION IMPLEMENTATION REQUIREMENTS

A) Deliverables

Respondent shall submit plans, specifications, and other deliverables for Forest Service review and approval, as specified below. One copy of each final written deliverable shall be provided in an unbound hard copy format suitable for reproduction; additional hard or electronic copies shall be provided as stated in the UAO. Information presented in color must be legible and interpretable when reproduced in non-color. Final written deliverables shall also be provided in electronic format as Word® and PDF documents.

Respondent shall implement quality control procedures to ensure the quality of all reports and submittals to the Forest Service. These procedures shall include but are not limited to: internal technical and editorial review; independent verification of calculations; and documentation of all reviews, problems identified, and corrective actions taken.

As described in Section XI of the UAO, the Forest Service may approve, disapprove, or modify each deliverable. All deliverables required under the UAO and SOW shall contain the following statement, signed by the Respondent's Project Manager:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

B) Communication Requirements

1. Project Initiation Meeting and Site Visit

Respondent will hold a project initiation meeting with the Forest Service within fifteen (15) days of the effective date of this UAO. The purpose of project initiation meeting is to afford Respondent and Respondent's contractors an opportunity to review with the Forest Service the technical requirements of the UAO and this SOW and seek clarification regarding the performance of the required Work and/or preparation of deliverables, and to establish a date for a Site visit, if needed. Respondent will prepare a written summary of the content, key decisions, and action items of the meeting and distribute it to the meeting participants.

2. Weekly Status Updates

Respondent will hold weekly status meetings or phone conferences with the Forest Service during implementation of response action field activities. Respondent will prepare a written summary of the content, key decisions, and action items of each meeting and distribute it to the meeting participants before or during the following meeting.

3. Monthly Progress Reports

Monthly progress reports shall be submitted to the Forest Service by the 15th day of the following month that describes all actions undertaken pursuant to the UAO and this SOW. At a minimum, with respect to the preceding month, progress reports shall contain the following information regarding the preceding reporting period:

- Actions which have been taken to comply with the Settlement Agreement and this SOW during that month,
- Results of sampling and tests and all other data received by Respondent,
- Work planned for the next two months with schedules relating such Work to the overall project schedule,
- Description of all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

4. Community Involvement Activities

Respondent will support the Forest Service's community involvement and information efforts to ensure that the public receives accurate and timely information regarding the Removal Action Implementation. As requested by the Forest Service and as described in Section XI of the UAO, Respondent shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by Forest Service to explain activities at or relating to the Site.

C) Removal Action Work Plan

Respondent shall prepare a Removal Action Work Plan (Work Plan) in accordance with the schedule in Section XI of the UAO. The Removal Action Work Plan shall describe Respondents plan for implementation of the site response action within the terms and conditions of this SOW, the UAO and the Mammoth Mill Site AM. The Work Plan shall include, but is not limited to, the following elements:

- i) Health and Safety Plan per UAO schedule and requirements.
- ii) Quality Assurance, Sampling, and Data Analysis per UAO schedule and requirements that includes a Quality Assurance Project Plan and a Field Sampling Plan which addresses sampling and analysis required to guide and confirm removal activities.
- iii) Work Plan that includes:
 - General description of proposed removal and other actions to be performed.
 - Proposed schedule for implementation of all proposed activities and deliverables.
 - Identification and description of the duties, responsibilities, authorities, and qualifications of the personnel involved in design and implementation of the removal measures.
 - Description of the selected removal action and action levels in accordance with the Time-Critical Removal Action Memorandum.
 - Identification and description of design criteria and performance standards that shall be applied to the removal activities to be conducted by Respondent.

- Identification and listing of federal, state, or local laws, regulations, or guidance applicable to or associated with the removal action and an explanation of how they will be incorporated into the implementation of the removal action.
- Description of how removal action activities at the Site will comply with the substantive requirements of the National Historic Preservation Act.
- Description of how vegetation and tree removal will be accomplished in accordance with Forest Service Regulations.
- Description of how removal action will maintain integrity of all structures during and after removal action.
- Description of institutional controls and site access restrictions to be imposed during and/or after removal action activities and how they will be implemented and maintained.
- Description of construction methods and equipment to be used.
- Site Management Plan (SMP) that provides the Forest Service with a written understanding of how access, security, contingency procedures, management responsibilities and field generated waste disposal are to be handled.
- Noise Control and Abatement Plan.
- Dust Abatement Plan.
- Site Restoration Plan including re-vegetation with native seed mix.
- Monitoring and Maintenance Plan of Site Restoration.

D) Removal Action Implementation

Respondent shall perform all work efforts related to the construction and implementation of the removal action remedy by the Contractor(s) at the site in accordance with the UAO, this SOW, and approved Removal Action Work Plan.

Work activities under this task include, but are not limited to:

- Implementation of Site Access Restrictions;
- Securing site and establishing operations area, including laying out of clean zone, waste/stage handling areas and decontamination areas.
- Implementation of the remedy in accordance with the design plans and specifications.
 - Maintain field logs and daily diaries.
 - Monitor, update, and report construction progress.
 - Conduct field and confirmation sampling and analysis.
- Oversight of subcontractors performing site work.
 - Conduct/attend progress meetings.
 - Check construction drawings submitted by construction subcontractors for compliance with design and construction plans and specifications.
- Perform field testing, recommend action on health and safety considerations (e.g., site safety plan), and monitor quality control procedures.
- Quality Assurance Monitoring.
- Preparation of documents for Community Involvement Activities.
- Removal of site security and access restriction measures.
- Site restoration.

E) Removal Action Completion

1. Removal Action Completion Site Inspection

Within ten (10) days after Respondent believes that the Removal Action has: i) been fully performed, ii) achieved the removal action goals and objectives set forth in the AM and the UAO, Respondent shall so notify the Forest Service and shall schedule and conduct a removal action completion site inspection. The inspection shall be attended by Respondent's project manager, its contractor/s, and the Forest Service.

The objective of the inspection(s) is to determine whether the removal action was fully performed and that site restoration efforts have been completed. Any outstanding items and deficiencies discovered during the removal action completion site inspection shall be identified and noted on a bullet list and corrected by Respondent.

2. Removal Action Completion/After Action Report

In accordance with Section XI of the UAO, Respondent shall submit a Removal Action Completion/After Action Report to the Forest Service for review and approval. The report shall conform, at a minimum, with the requirements set forth in the EPA guidance document entitled: "Superfund Removal Procedures: Removal Response Reporting – POLREPS and OSC Reports" (OSWER Directive No. 9360.3-03, June 1, 1994). In addition to the items listed in the UAO this report shall contain, but is not limited to:

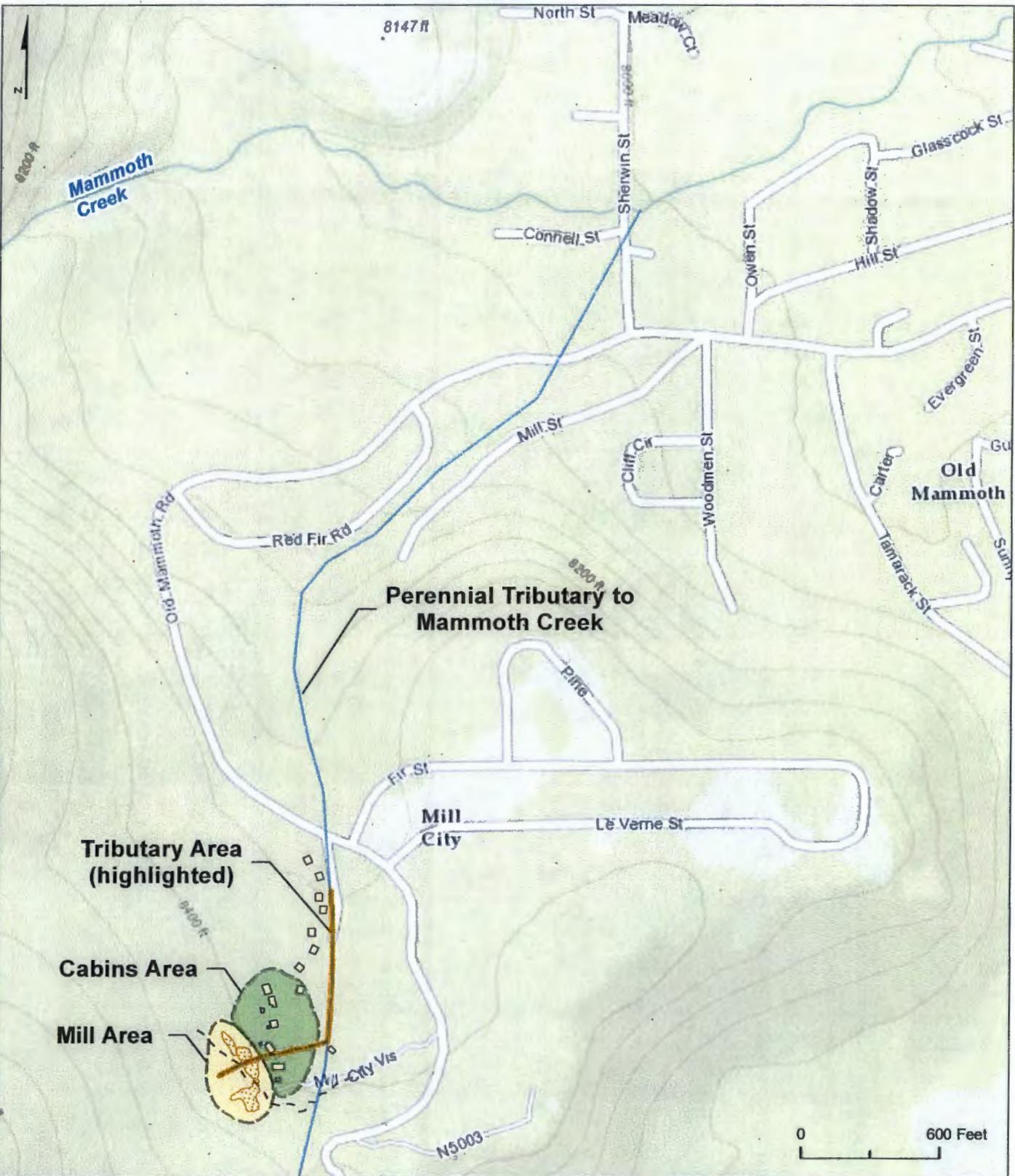
- Results of the removal action completion site inspection, including a brief description of any problems discovered during the inspection and the resolution of those problems, as necessary.
- A detailed description of all work conducted in accordance with the approved final Removal Action Work Plans and specifications, and certification by Respondent's Project Coordinator that the work was performed in accordance with all approved plans and specifications.
- Results of confirmation sampling, including all raw data and data validation. Discussion of any variance from the SAP. Evaluation of the sampling results. Certification that the required removal action criteria have been achieved.
- A listing of quantities and types of materials removed off-Site from each contaminated area.
- Accompanying appendices containing all weekly status updates, monthly reports, and Community Involvement Activities documents prepared during the course of the removal action.
- Long-term Operations and Monitoring Report

IV. SCHEDULE FOR MAJOR DELIVERABLES AND OTHER TASKS

The deliverables required by this SOW shall be submitted to the Forest Service in accordance with Section X of the UAO and the Approved Removal Action Work Plan.

Attachment C

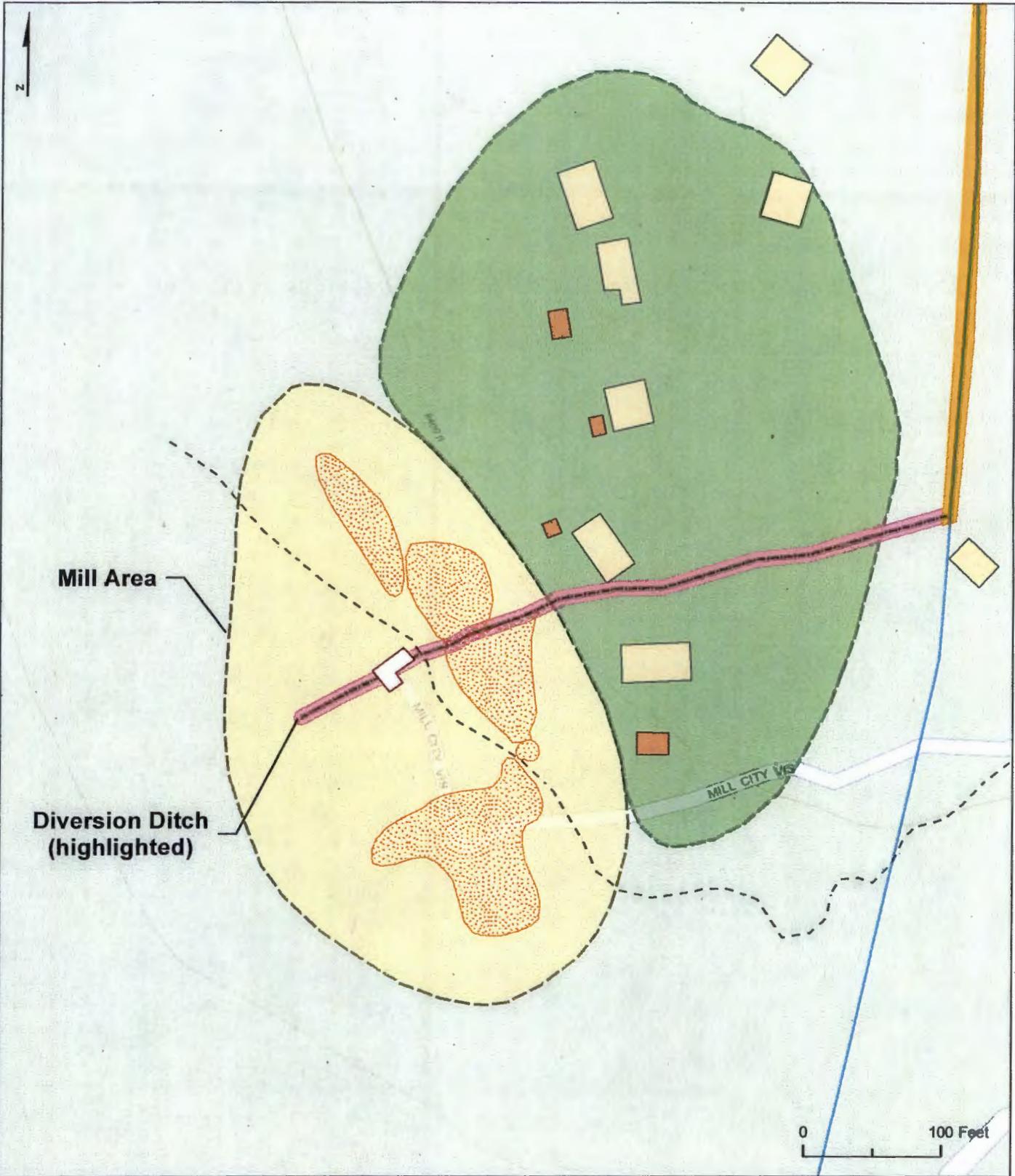
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- Tributary (approximate)
- Mill Diversion Ditch
- Main Trail
- Cabin
- Shed
- Waste Pile

Figure 1. Site Subareas Overview
 Mammoth Mill, Inyo National Forest

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Mill Area

Diversion Ditch (highlighted)

- Tributary (approximate)
- Mill Diversion Ditch
- Main Trail
- Cabin
- Mill Foundation Remnants
- Shed
- Waste Pile

0 100 Feet

Figure 2. UAO Site Subareas
Mammoth Mill, Inyo National Forest

C.2.

