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**Statement of Work and Schedule
Actions to be taken by the National Park Service at the
Kennicott National Historic Landmark
Mitigation of Hazardous Material Issues**

December 11, 1997

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Superintendent Date

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All actions are predicated upon the completed acquisition of the entire site, both the surface and subsurface estates. The time frames are established from the date the U.S. government takes ownership of the buildings and the land, inclusive of the mineral (subsurface) estate: e.g. Year 1 would be within 12 months of the date the U.S. government takes title, Year 2 within 24 months, etc.

(1) TAILINGS: The copper ore recovery process implemented at Kennicott generated a large volume of tailings that were discarded on site. Based on the studies and analyses conducted at the Site, the tailings do not pose an unacceptable risk to human health or the environment. This finding is consistent with Alaska Department of Environmental Conservation's (ADEC) belief that the Kennicott tailings are not a human health or environmental concern. No further environmental assessment or mitigation is required.

(2) FUEL RELEASES: Evidence of fuel spills and releases were observed at several locations throughout the site. Recommended management options for these include: determining the depth of Bunker C oil contamination; plugging fuel transport piping; emptying and cleaning out fuel storage tanks (Jumbo Mine); and capping these contaminated areas to minimize exposure.

A. Power Plant soil stain:

1. plug and/or decommission the fuel distribution line to prevent any further releases: Year 1
2. determine the vertical extent of contamination: Year 1
3. encapsulate soil stained area with an impermeable cap: Year 2

B. Jumbo Mine Fuel:

1. empty and clean out fuel tanks: Year 2
2. encapsulate the fuel stained area with impermeable cap: Year 2

C. Bonanza, Glacier, and Erie Mines:

1. characterize the fuel stains: Year 1
2. encapsulate the fuel stained area with impermeable cap: Year 2

(3) TRANSFORMERS: Electrical transformers filled with oil, possibly containing polychlorinated biphenyls (PCBs), were encountered at the Bonanza Mine. The recommended management option calls for the oil to be tested for PCBs, the transformers to be emptied, and the transformers and oil to be disposed of accordingly.

A. Bonanza Mine Transformers:

1. empty transformers of oil and store in leak-proof containers: Year 1
2. sample and analyze the oil for PCBs. Submit the results to ADEC for review: Year 1

3. **treat and/or dispose of the oil and transformers in accordance with state and federal laws: Year 1**

(4) LUBRICANT OILS AND GREASES: Containers of lubricant oils and greases were observed throughout outer mine areas. The recommended management option is that these containers be removed for recycling and/or disposal.

1. **collect and containerize all petroleum lubricants throughout the project area: Year 1**
2. **analyze the materials in accordance with state and federal laws and submit results to ADEC: Year 1.**
3. **treat and/or dispose of the petroleum products in accordance with state and federal laws: Year 1.**

(5) LEAD-BASED PAINT: Approximately 144,000 square feet of building surfaces at the mill town are covered with lead-based paint. The recommended management option is that the potential exposure to lead-based paint be mitigated as part of the stabilization/maintenance of the Site, through a combination of removal and disposal of the lead-based paint, encapsulation of the lead-based paint or repainting with non-lead paint, capping impacted surrounding soils. These activities will occur on a phased, five-year schedule, with a priority based on high lead, accessibility, public safety, and historic stabilization requirements.

Year 1: Implement Worker Safety and Visitor Protection Program, Emergency Stabilization Work Plan: installation of on-site safety features, barriers, toilets, fences, preparation of safety brochure, training for staff on lead paint hazards, environmental contract for lead based blood screening, priority setting for building rehab.

Year 2: Site mobilization, lead based screening, paint scraping/stripping, and paint removal and disposal in accordance with state and federal standards for Hazardous materials. Work will proceed on priority buildings. Capping of soil around buildings will be completed as the paint on the siding is removed or encapsulated.

Years 3-5: Lead based screening, paint scraping/stripping, and paint removal and disposal in accordance with state and federal standards for Hazardous materials. Work will proceed on priority buildings. Capping of soil around buildings will be completed as the paint on the siding is removed or encapsulated.

(6) ASBESTOS: During 1993 and 1994 the Kennicott Corporation hired INTERA Inc. to mitigate the asbestos hazards in the mill town. INTERA Inc. subcontracted the work to Technic Services Inc., and EMCON Alaska provided local assistance and air monitoring services during the removal process (INTERA 1995). ACM was removed from all buildings and accessible utilidors in the mill town, with the following exceptions (INTERA 1995):

- 1) Utilidors with more than two feet of soil cover were not abated.
- 2) The boilers in the power house and leaching plant were not dismantled for ACM removal. Instead, after abatement of exterior ACM, boilers were sealed by

injecting with a solid foam and welding a steel plate across fuel injection port.
3) Due to inaccessibility, they were unable to clean below the boilers in the leaching plant. Consequently, two feet of tails were deposited on the floor to bury it beneath the tanks.

All work was conducted according to Alaska Construction Code 8ACC05.045, and all areas had less than 0.01 fibers/cc before the Site was declared abated, which exceeds OSHA standards for worker safety, and meets EPA standards for clearance in schools. All removed ACM was transported off Site and properly disposed of.

Asbestos containing materials (ACM) were observed at the Jumbo and Erie Mines. The recommended management option is that the ACM at Jumbo Mine be removed. Due to the Erie Mine's inaccessibility, it should be administratively closed to eliminate access.

1. assess the location and extent of the asbestos containing material at the Jumbo Mine site: Year 1
2. remove and dispose (at an approved facility) any ACM identified at the Mill Town and Jumbo Mine Sites: Year 2.
3. submit an administrative closure plan for the Erie Mine site. The plan will include NPS administrative actions to restrict public access to the site: Year 2.
4. inspect area for any current or former ACM disposal sites and develop closure and monitoring standards in conformance with 18 AAC 60: Year 2

(7) **SOLID WASTE:** The historical dumps found at the mill town pose no unacceptable risk to human health or the environment at this time. Based on our findings, the dumps are not leaching hazardous substances into the groundwater. However, to ensure that no risk is posed to groundwater, it is recommended that a groundwater monitoring program for hazardous substances be implemented.

1. develop a Draft Closure plan for all former dump sites on NPS lands. Closure plans will consider historic elements and archeology of the sites: Year 2.
2. close selected landfills and install monitoring plan: Year 3.

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findings, the dumps are not leaching hazardous substances into the groundwater. However, to ensure that no risk is posed to groundwater, it is recommended that a groundwater monitoring program for hazardous substances be implemented.

1. develop a Draft Closure plan for all former dump sites on NPS lands. Closure plans will consider historic elements and archeology of the sites: Year 2.
2. close selected landfills and install monitoring plan: Year 3.