Ross Adams Mine
Environmental management as a result of previous mining activities
USDA FOREST SERVICE
Region 10

Hydaburg, Alaska
Sep 22, 2009

Michael Wilcox, USFS, On-Scene Coordinator
ORGANIZATION OF THE PRESENTATION

• Section 1 – Introduction: History and USDA Forest Service Use of CERCLA

• Section 2 – Types of Sites and Activities

• Section 3 – Coordination Between USDA Forest Service and Partners

• Section 4 – Prince of Wales Island abandoned mine sites managed under CERCLA by the USDA Forest Service, Alaska
SECTION 1

INTRODUCTION: HISTORY AND USDA FOREST SERVICE USE OF CERCLA
WHAT IS CERCLA?

• CERCLA is the Comprehensive Environmental Response, Compensation, and Liability Act, passed by Congress in 1980.
• Purpose is to identify and clean up releases of hazardous substances (petroleum products are not “hazardous substances”)
• Requirements defined in the National Contingency Plan (NCP).
• The terms “CERCLA” and “Superfund” are commonly interchanged.
WHAT ARE THE BENEFITS FOR THE FOREST SERVICE IN USING CERCLA?

- Defined and widely known administrative process.
- Legally defensible and EPA-accepted standards for sampling and analysis.
- Documenting all costs and activities.
- Documenting the decision-making process.
- Involving the community, state, and other partners in the decision-making process.
- CERCLA provides a legal and widely accepted framework within which to identify and involve Potentially Responsible Parties (PRPs).
SECTION 2

TYPES OF SITES
AND FIELD ACTIVITIES
WHAT TYPES OF SITES ARE EVALUATED IN THE FOREST SERVICE WIDE CERCLA PROGRAM?

- The vast majority of sites evaluated under the program are abandoned mines.

Other types of sites may include:
- Landfills, open dumps, and other waste disposal areas
- Lumber, and other treatment sites
- Leaking underground storage tanks
- other miscellaneous sites
WHAT TYPES OF SITES ARE Evaluated IN THE FOREST SERVICE CERCLA PROGRAM?

The types of environmental issues typically associated with these sites are:

• Acid mine drainage
• Groundwater and surface water contamination
• Surface exposure of contaminated waste rock and tailings
• Erosion of waste rock and tailings into the watershed
• Habitat degradation
• Impacts to plants, animals, and fish
• Threats to human health and safety
WHAT TYPE OF WORK TYPICALLY HAPPENS ON THE GROUND?

• Sampling
• Removal of chemicals
• Construction of fences and signs
• Regrading soil
• Removal of contaminated mine tailings, soil and/or sediment
• Consolidation of mine tailings, contaminated soil, and waste rock in a repository
• Construction of water treatment systems
• Revegetation and habitat reconstruction
• Long-term monitoring and maintenance, if hazardous substances have been left on the site.
WHAT TYPE OF RESPONSE ACTIONS ARE AVAILABLE TO DEAL WITH THE CONTAMINATION?

The typical range of possible response actions includes:

• No Action
• Institutional controls/site access restrictions
• Sampling and monitoring
• Hazardous waste and chemical removal
• Contaminated soil and mine tailings removal
• Source control
• Onsite soil, water, or waste treatment
• Offsite waste disposal at a permitted facility
WHO WILL BE DOING THE WORK?

• Cleanup work will be conducted by a viable PRP, if available.

• The PRP will likely hire environmental consulting and removal/remediation contractors.

• If no viable PRP is identified, the Forest Service may hire its own environmental consultants and contractors.

• Field activities will be overseen for technical quality, schedule, and cost control by Forest Service On-Scene Coordinators (OSCs) and state and federal regulators.
WHO WILL BE PAYING FOR THE WORK?

• The cleanup will be either conducted by the PRP, or the PRP will provide the funding through a negotiated settlement.

• If no viable PRP is identified, work will be conducted using federal government funds.

• In some cases, funding arrangements may be made with EPA, states, local governments, or private entities.
SECTION 3
COORDINATION BETWEEN USDA FOREST SERVICE AND PARTNERS
COORDINATION WITH PRPs

- A Potentially Responsible Parties (PRP) Search will be conducted for all sites.

- PRP Search will typically consist of a review of all available records and mailing of 104(e) letters.

- The Forest Service will work cooperatively with PRPs to arrange for site cleanup under Forest Service oversight.

- If a viable PRP chooses not to conduct or fund the cleanup, the Forest Service will evaluate options to compel participation, including a possible enforcement order under CERCLA Section 106.
COORDINATION WITH REGULATORS

Throughout the CERCLA process, the regulations and guidance which will be followed by the Forest Service include:

• Following the NCP
• Using national and regional EPA guidance documents
• Using EPA and state standards to define cleanup levels
• Following EPA and state regulations for waste characterization and disposal.
• Complying with OSHA’s 29 CFR 1910.120 and other requirements for site worker protection (HAZWOPER certification, Medical Surveillance Program, etc.)
COORDINATION WITH REGULATORS

Some regulations are not required to be followed by a federal agency conducting a CERCLA project, including:

• Permits are generally not required for CERCLA actions
• National Environmental Policy Act (NEPA) analysis is not required for CERCLA projects.

• These exceptions do not mean that the Forest Service can ignore the substantive requirements of the permits or NEPA, such as Cultural aspects. It has been determined that, when the CERCLA process is followed, it accomplishes the same goals as permits and NEPA documentation, so these would be redundant.
COORDINATION WITH REGULATORS

Ways in which the Forest Service will seek to work with regulators and co-trustees include:

- Negotiating Memorandums of Agreement (MOAs) or other agreements with regulators and other natural resource trustees to establish sampling and analysis requirements, the review process, cleanup standards, and work schedules.

- Provide workplans and reports to regulators for review and comment.
COORDINATION WITH LOCAL COMMUNITY AND OTHER PARTNERS

The community which with the Forest Service will seek to work includes:

- State governments
- Local governments and residents
- Tribal governments
- Environmental organizations
- Anyone else with a vested interest in the conduct and outcome of a CERCLA site investigation.
The Forest Service will follow the NCP requirements for Community Relations activities, which include:

- Conducting community interviews
- Developing a Community Relations Plan
- Developing fact sheets, newsletters, and/or holding public meetings
- Providing a public review period for decision documents
- Establishing and maintaining an Administrative Record File
- Additional activities can be tailored depending on the level of public interest and sensitivity of the site
SECTION 4

PRINCE OF WALES ISLAND
ABANDONED MINE SITES MANAGED
UNDER CERCLA BY THE USDA
FOREST SERVICE, ALASKA
Salt Chuck Mine
Salt Chuck Mine

mid-1970s, courtesy Patricia Roppel
Salt Chuck Mine
General area map
Salt Chuck Mine History

- The site encompasses an abandoned mine, mill (see Aerial map/narrative) located about 4 miles south of Thorne Bay, AK.
- Located partly on the Tongass National Forest and partly on adjacent tidelands owned by the State of Alaska.
- Copper, gold, silver, and platinum group elements, most notably palladium, were the primary ores produced.
- Discovery, mine and milling from 1905-1941.
- Site was the subject of mining claims and exploration work from 1941 until the present.
Forest Service POW Island Abandoned Mine CERCLA Projects (Continued)

- Salt Chuck Mine environmental background
  - Draft 2007 Engineering Evaluation/Cost Analysis (EE/CA) performed by URS Corporation
  - Mixed Ownership site
    - Forest Service land above Mean High Tide
    - State land inter-tidal area
  - Estimated 100,000 yards of tailings in the inter-tidal area
  - Elevated local levels of substances including diesel, polychlorinated biphenyls, copper, lead, mercury, arsenic, vanadium, and selenium
  - Unanswered questions regarding extent of tailings and metals influence into downgradient sediment and shellfish tissue
  - Further risk assessment and removal analysis needed
  - No viable PRP
Forest Service POW Island Abandoned Mine CERCLA Projects (Continued)

• Salt Chuck Mine environmental efforts update
  – Complex and likely very costly to clean-up
  – Forest Service secured “economic stimulus” funding July 2009
  – National Priorities List proposal (EPA/Superfund); EPA-HQ signed the Rule “Proposed” on the National Priorities List - to be published in the Federal Register, 25 Sep 2009
POW Island mine sites on Forest Service land

Forest Service POW Island Abandoned Mine CERCLA Projects (Continued)

- Salt Chuck Mine NPL (EPA) effort
  - Remedial characterization and clean-up of intertidal areas and Forest Service land deemed to contain contamination
  - Proposed listing expected to be published on Friday, September 25 after which a 60-day public comment period begins
  - EPA will notify key external partners (state, federal legislators, local officials, and tribes)
  - Courtesy calls to local media, placement of public notices in local media, shipping of hard copy and electronic copy listing packages to designated information repositories
  - Electronic packages for public review
  - Several years to study/characterize the site
  - Clean-up estimated to begin in 5+ years
Forest Service POW Island Abandoned Mine CERCLA Projects (Continued)

- Salt Chuck Mine EE/CA (Forest Service) effort
  - EE/CA effort now focused on Forest Service land (above mean high-tide)
    - Millsite area (with removal and disposal of debris) – 3,450 CY
    - Assay building (C4) area – 975 CY
    - Drum cache/Above-ground storage tank area – 1,023 CY
  - EE/CA complements NPL effort
  - EE/CA human health risk driven
  - Ecological and human risk based clean-up to be addressed in upcoming NPL effort for the State owned/managed intertidal area, as well as the ecological risk driven D14/D15 tailings area
Possible Uplands Tailings Cleanup

**At Mill:** Overlapping metals and benzo(a)pyrene extent above ADEC cleanup levels (eco-risk values in red/blue/green hatched area)

**Piles D14 & D15 and stream tailings in between:** Copper extent above eco-risk level in green hatched area – to be further studied in NPL effort

<table>
<thead>
<tr>
<th>Location</th>
<th>Cu</th>
<th>Se</th>
<th>B(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO03</td>
<td>&gt;10,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SO04</td>
<td>1,085</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SO10</td>
<td>313</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SCUT-6</td>
<td>11,000</td>
<td>11.3</td>
<td>2.22</td>
</tr>
<tr>
<td>SCUT-4/5</td>
<td>9,510</td>
<td>8.38</td>
<td>0.0149</td>
</tr>
<tr>
<td>SCUT-3</td>
<td>53,400</td>
<td>65.4</td>
<td>4.87</td>
</tr>
<tr>
<td>SCUT-1</td>
<td>1,450</td>
<td>ND</td>
<td>NA</td>
</tr>
<tr>
<td>C5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Possible Soil Cleanup**

- Diesel extent above ADEC cleanup level in red hatched area
- Overlapping metals extent above ADEC lead cleanup level (eco-risk values for other metals in blue/green hatched area)
Salt Chuck Mine EE/CA (Forest Service) schedule

- EE/CA contract modification anticipated to be signed 24 Sep 2009
- Cultural coordination with State Historic Preservation Office (SHPO) and mitigation plan by 15 Apr 2010
- Anticipated 30 day Draft EE/CA public review mid Jan - mid Feb 2009
- Final EE/CA anticipated 15 Mar 2009
- Economic stimulus funds ($1.4 million) to be applied toward CERCLA removal action and safety mitigation as determined by selected removal action in Final EE/CA and delineated in Approval Action Memorandum
- Contract award using economic stimulus funds no later than Sep 2010; funds clean-up complete by 2011
POW Island mine sites on Forest Service land

Salt Chuck Mine
Safety and Cultural constraints
POW Island mine sites on Forest Service land

Salt Chuck Mine - looking southeast of mill
Salt Chuck Mine - tailing spit looking southwest from mill

POW Island mine sites on Forest Service land
POW Island mine sites on Forest Service land

Salt Chuck Mine – previous display sign

SALT CHUCK MINE AND MILLSITE

Discovered in 1905, Salt Chuck Mine operated until 1941, with production totaling 326,000 tons of copper palladium ore. Fifty years of inactivity has wrought many changes. Mine sites are hazardous, and Salt Chuck is no exception.

Hazards at this abandoned mine include:

- Dangerous mine openings
- Collapsed structures
- Unstable waste rock dumps
- Rusty metal and debris
- Unsafe mine tailings

Please use caution and be especially careful with children. Avoid unsafe areas and do not play or picnic on mine tailings. We want you to have a safe and enjoyable visit to this historic area.

STAY OUT AND STAY ALIVE!

District Ranger, Thorne Bay Ranger District
POW Island mine sites on Forest Service land

Updated signs being placed on Forest Service land near mill site

**SALT CHUCK MINE AND MILL SITE**

This mine and mill site was operated from 1905 to 1941 and produced 326,000 tons of copper palladium ore. Many changes have occurred over the years. Mine sites are hazardous and Salt Chuck is no exception.

Hazards at this abandoned mine include:

- Dangerous Mine Openings
- Collapsed Structures
- Rusted Metal and Debris
- Unstable Waste Rock Dumps
- Unsafe Mine Tailings and Soil Containing Elevated Levels of Hazardous Substances

Please use caution and be especially careful with children. Avoid unsafe areas and do not play or picnic on mine tailings. We want you to have a safe and enjoyable visit to this historic area.

Stay on existing trails. Please take only photographs and leave only footprints in this significant and dangerous area. For further information, contact the Thorne Bay Ranger District (907) 828-3304, Website: [http://www.fs.fed.us/r10/tongass/districts/pow/index.shtml](http://www.fs.fed.us/r10/tongass/districts/pow/index.shtml)
Other Abandoned Mines needing further assessment

POW Island mine sites on Forest Service land
Omar Creek drainage, Khayyam Mine/Stumble-On Prospect
  - PA/SI finalized July 2008
  - Provided PA/SI to EPA in 2008 to determine Hazard Ranking Score (HRS); anticipated HRS value well below NPL trigger
  - Localized areas of acid mine drainage/metals contamination
  - Very remote area
  - EE/CA characterization fieldwork August 2009
  - No PRP
Forest Service POW Island Abandoned Mine CERCLA Projects (Continued)

- Rush and Brown Mine
  - Close to Salt Chuck Mine
  - USFS/BLM Abandoned Mine Inventory indicates further assessment needed
  - PA/SI planned by 2011

- Flagstaff Mine
  - In Karta Bay Wilderness
  - USFS/BLM Abandoned Mine Inventory indicates further assessment needed
  - Wilderness designation provides access challenges
  - PA/SI planned 2011
Ross Adams Mine

POW Island mine sites on Forest Service land
Forest Service POW Island Abandoned Mine CERCLA Projects

• Ross Adams Uranium Mine
  – Located approximately 38 miles southwest of Ketchikan in the west arm of Kendrick Bay (Bokan Mountain area)
  – Historical production occurred from 1957 until 1971, with an estimated total of 94,500 tons of uranium ore removed
  – Ross Adams Mine area has the potential for near term activation of mining production for uranium and rare earth elements
  – Landmark Alaska Limited Partnership, U.S. subsidiary of Ucore Uranium Inc., a publicly traded Canadian junior exploration company, recently undertook exploration activities
POW Island mine sites on Forest Service land
Bokan Mountain
Ross Adams Mine
Ross Adams Uranium Mine

- No mill or tailings on site
- Ore barged off for milling
- Preliminary Assessment/Site Investigation (PA/SI) completed in 2004, Kent & Sullivan, Inc.
- PA/SI revealed elevated levels of hazardous substances in concentrations exceeding normal background levels for arsenic, lead, and uranium exist in waste rock, soil, and sediment samples
- Underground mine workings and waste rock piles are sources of radon emissions to the atmosphere
Forest Service POW Island Abandoned Mine CERCLA Projects (Continued)

- Ross Adams Uranium Mine (continued)
  - Administrative Settlement Agreement and Order On Consent (ASAOC) for Engineering Evaluation/Cost Analysis (EE/CA) with PRP (Newmont USA Limited and Dawn Mining Company)
  - Signed by Denny Bschor, the Forest Service Alaska Region, Regional Forester on 17 April 2009
  - Statement of Work for EE/CA in ASAOC coordinated with Alaska Department of Environmental Conservation and EPA Region 10
  - EE/CA field work commenced May/June 2009
  - Scott Miller, Newmont USA Limited, and Tom Shepherd, Shepherd Consulting LLC, to present work accomplished
Forest Service, Alaska Region
Abandoned Mine Environmental Characterization and Clean-up Contact

Michael Wilcox
On-Scene Coordinator, Juneau, AK
mrwilcox@fs.fed.us
907-586-9379

Questions?