U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Henson Creek Mines - Ute Ulay Mine - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: **POLREP #2**
Progress - Tailings Excavation, Batch Mixing, and Repository Construction
Henson Creek Mines - Ute Ulay Mine
08LJ-OU1
Lake City, CO
Latitude: 38.0196390 Longitude: -107.3770100

To: David Ostrander, 8EPR-ERP

From: Steven Way, OSC
Steven Merritt, OSC
Joyel Dhieux, OSC

Date: 6/20/2013

Reporting Period: June 3, 2013 - June 18, 2013

1. Introduction

1.1 Background

Site Number:	08LJ-OU1	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	4/15/2013
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	5/21/2013	**Start Date:**	5/23/2013
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	February 2013
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

CERCLA Time-Critical Removal Action

1.1.2 Site Description

The Ute Ulay Mine and Mill Site is an inactive gold, silver, lead and zinc mining and milling operation located near Lake City, Colorado. The Site includes a flotation mill with mixed tailing and waste rock piles, several open portals and a shaft. The mill tailing and waste rock piles are situated adjacent to Henson Creek. The tailing and waste rock piles are located on both privately-owned and Bureau of Land Management (BLM) lands at the Site.

1.1.2.1 Location

The Ute Ulay Mine and Mill is located 4 miles west of the Lake City, Hinsdale County, Colorado.

1.1.2.2 Description of Threat

The Site is located in an area that is subject to heavy snow with a pronounced spring snowmelt. In addition, the Site is within an avalanche hazard area. In 2011, an avalanche occurred east of the Ute Ulay Mine and Mill Site. The avalanche filled the channel, blocked the river and backed Henson Creek up to approximately 30 feet deep, submerging a section of the waste dump adjacent to the large mill tailing impoundment. A release of tailing materials occurred when Henson Creek broke through the avalanche debris. Routine run-off events cause releases to the environment of tailings and waste rock containing hazardous substances.

Sensitive ecosystem impacts may occur in the event a large mass of waste released into Henson Creek, which is a tributary to Lake Fork of the Gunnison. Lake Fork River is considered a Cold Water Aquatic Life Class 1 by the state of Colorado. Sampling and analyses conducted by CDPHE in 2000 and 2011 indicate the presence of several known contaminants of concern, especially arsenic and lead. In addition, cadmium, copper, manganese, silver, zinc and mercury have been detected in concentrations exceeding the MacDonald PEC for freshwater aquatic ecosystems guideline related to sediment contaminants. All of the materials contaminated with hazardous substances have been left unsecured in tailing and/or waste rock piles.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Based on investigation and geotechnical analysis, the EPA, DRMS and CDPHE determined that the most significant hazard at the Site is the potential for a failure of the mine waste rock dump slope and mill tailing impoundments into Henson Creek. The stability analysis demonstrates that slope failure is likely under extreme loading events such as an earthquake or rapid drawdown of contained water and that these slopes are only marginally stable in their existing conditions. The factors of safety were calculated for several cross sections on the mine waste dump and were found to be below 1.4 and as low as 0.86 for the primary waste rock slope. Generally, slope stability should be above a factor of safety of 1.5.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

This action involves the following key elements: (1) re-grading of tailings and waste rock piles to achieve an acceptable slope stability and reduce the potential for catastrophic failure into Henson Creek; (2) re-grading to promote positive Site drainage, minimize water run-on, and prevent erosion into Henson Creek; (3) as determined appropriate, amending the mill tailings with a cement mixture to stabilize wet tailings; and (4) securing the top, accessible areas of wastes with earthen cover material, as necessary to reduce human exposure. BLM-managed land and private land on-Site will provide the area necessary to allow re-grading of waste on private land to achieve stable slope conditions. Design drawings are being developed and will show the proposed grading plan to achieve acceptable slope stability.

2.1.2 Response Actions to Date

Response Actions through June 2, 2013 are detailed in POLREP 1.

From June 3-18, 2013, the ERRS crew completed excavation of approximately 80- 90 percent of the tailings in the repository area. (An additional tailings pond remains to be excavated in front of the mill.) The tailings were mixed with a one-to-one ratio of waste rock and amended with cement at three percent. The amended mixed materials were placed and compacted into the footprint of the haul road along the northern edge of the entire tailings impoundment. The tailings impoundment along the southern edge of the Site, directly adjacent to the stream, was excavated to bedrock. Drain rock was placed on the bedrock, followed by the cement-amended mixed materials. Approximately 13,750 cubic yards of the amended and unamended mixed waste rock and tailings were placed from June 3-18, 2013.

An archaeologist from Alpine Archaeology, Michael Prouty, arrived on Site and spent two days documenting the flume structure around the edge of the tailings impoundment, the drain box, and the cabin. During this process, ERRS assisted with excavation under his supervision. Mr. Prouty returned to the Site on June 17, 2013, to document the removal of a timber wall along the southern edge of the tailings impoundment. All feasible attempts are being made to preserve the drain box located on the eastern edge of the BLM property.

There was a two-day in-progress review of the project with Mike Gobla, engineer from the Bureau of Reclamation, to discuss conditions on Site and observe the mixing of the tailings and waste rock. Also discussed were: the drainage feature plan, construction of the toe of the repository slope, and the work to be performed on the upper tailing impoundment slopes. Mr. Gobla surveyed the test pads containing the 1.5 percent cement mix and the un-amended mix of waste rock and tailings. Mr. Gobla returned on June 18, 2013, for an additional Site review with OSC Dhieux. The berm, repository surface and sub-surface drainage, mixing and compaction were discussed. Mr. Gobla observed the drain rock placement, berm construction, and mixing, placement and compaction of the cement-amended materials. The materials appear to be compacting well.

To manage costs, geotechnical tests are being conducted to determine if the percent of concrete may be reduced from 3 percent to 1.5 percent. The initial geotechnical samples submitted were rejected by the lab from the test pads completed in the prior week, due to moisture and packaging issues. RM Francis made arrangements for additional samples to be collected. The same two mixtures (no cement in 50/50 waste rock and tailings, and 1.5 percent cement in 50/50 waste rock and tailings). Test results are expected by June 20, 2013.

Additionally, EPA and the ERRS crew participated in the Groundbreaking Ceremony with Hinsdale County and other stakeholders on June 6, 2013. EPA provided tours of the Site to various stakeholders in an effort to explain the scope of the project. Several city and county officials, neighboring landowners, and curious tourists have stopped by the Site. OSC Merritt provided Grant Houston, a reporter from the Silver World Newspaper, with a Site tour and interview on the progress being made at the Site. Hinsdale County has also requested Site access for a local artist to paint Site activities.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Tailings	solids	7000 cy	na	amended	onsite
Waste Rock	solids	7000 cy	na	amended	onsite

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

- Waste rock slope cut and blending with tailings and cement amending in lower tailings.
- Borrow material will be removed from the slope above the tailings impoundment before waste is placed over the slope.
- Tailings removal will continue as planned in the lower impoundment and replaced after blending of waste rock and cement (as needed).

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

2.4.1 Narrative

NA

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

10 ERRS contractors
1 EPA-OSC either Merritt or Dhieux
1 USBOR (periodically)

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

Hinsdale County Website - Ute Ulay Mine

6.2 Reporting Schedule

7. Situational Reference Materials

No information available at this time.