U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Emancipation Mine - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: **POLREP #1**
Initial
Emancipation Mine
A8E6
Salina, CO
Latitude: 40.0507090 Longitude: -105.3710030

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Date: 12/9/2014

Reporting Period: 11/03/2014-12/05/2014

1. Introduction

1.1 Background

Site Number:	A8E6	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	10/28/2014
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	00
Mobilization Date:	11/3/2014	**Start Date:**	11/3/2014
Demob Date:		**Completion Date:**	
CERCLIS ID:	CON000801923	**RCRIS ID:**	
ERNS No.:		**State Notification:**	Yes
FPN#:	N/A	**Reimbursable Account #:**	

Note: This Site was confusingly named in EPA's Superfund Enterprise Management System for the Emancipation Mine which is nearby but not located directly where the work is being performed. Once the name was entered into the database, it could not be changed.

1.1.1 Incident Category

Abandoned Mining Materials (Mill Tailings)

1.1.2 Site Description

The Site is a residential property along Fourmile Creek in the Front Range of the Rocky Mountains. The property contains, at best estimate, 30,000-40,000 cubic yards of re-processed mill tailings that were deposited in the floodplain sometime prior to 1950.

In September 2013, an extreme flash flood changed the course of the creek. The creek is now undercutting the tailings deposit resulting in erosion and the mass slumping of soil, contaminated with heavy metals, into the creek.

1.1.2.1 Location

The Site is located along Fourmile Creek immediately downstream of Salina, Colorado. It is approximately seven miles west of Boulder, Colorado, along Fourmile Canyon Drive. The latitude is 40.050869, and the longitude is -105.370810. The Site is at an elevation of roughly 6,500 feet.

1.1.2.2 Description of Threat

The mill tailings contain elevated levels of arsenic and other heavy metals which are harmful to human health and aquatic ecosystems. Several downstream residential properties obtain water directly from the creek or from shallow fluvial wells. There is also a community water diversion downstream of the Site.

Continued erosion of the mill tailings, resulting in the release of hazardous materials into the creek, threatens residential water supplies and adversely impacts Fourmile Creek's aquatic ecosystem. Due to a severe wildfire that occurred in the area in 2010, Fourmile Creek is now especially prone to flash flooding. This flash flooding could result in a mass failure of mill tailings into the creek.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The tailings deposit is approximately 30,000 - 40,000 cubic yards in size and contains elevated levels of heavy metals, most notably arsenic. The average concentration of arsenic is approximately 200 mg/kg with some locations exceeding 2,000 mg/kg (EPA's screening level for arsenic is 50 mg/kg). This contaminated material readily and regularly migrates from the deposit into Fourmile Creek.

The following criteria exist for the initiation of a removal action in accordance with 40 CFR 300.415(b)(2) of the National Contingency Plan:

- *Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants;*
- *Actual or potential contamination of drinking water supplies or sensitive ecosystems;*
- *High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;*
- *Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;*
- *The lack of availability of other appropriate federal or state response mechanisms to respond to the release.*

Work must be performed to stabilize the mill tailings before the upcoming spring snowmelt season to prevent additional erosion of the tailings into Fourmile Creek.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

EPA’s Response Unit assessed various options to address the continued erosion of the tailings into Fourmile Creek including:

1. Stabilizing the tailings in place.
2. Removing and disposing of a portion of the tailings and reconfiguring the remaining material so that it could be stabilized on Site
3. Completely removing and disposing of the the tailings to the extent practical.

Due to the proximity of the tailings to the creek, the lack of available space along this stretch of the water body and the likelihood of future flood events, EPA determined that the best course of action was to remove the tailings from the Site to the extent practical.

2.1.2 Response Actions to Date

EPA's Emergency and Rapid Response Services (ERRS) contractor mobilized to the Site on 11/3/14 and has performed the following activities:

- Established traffic control and public safety measures.
- Removed existing vegetation from the tailings deposit and used the vegetation to create wood chips for the Site's restoration phase.
- Diverted Fourmile Creek away from the tailings pile to the extent practical.
- Constructed access ramps and an area to stage excavated material prior to its disposal.
- Began excavation and disposal of contaminated material.

EPA's Superfund Technical Assessment & Response Team (START) contractor assisted with traffic control and provided Site documentation services. START also provided sampling and monitoring support.

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

Unknown at this time.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Arsenic Tailings		428 truck loads	multiple	N/A	4,612 CY

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

EPA will remove the tailings deposit in several lifts or excavation levels. Excavated material will be staged

on Site before being loaded onto trucks for transport to an approved disposal facility. When the tailings have been removed to the extent practical, EPA will restore the creek and its floodplain at the Site.

2.2.1.2 Next Steps

If EPA is unable to complete its removal of the tailings by late winter of 2014 when the flows in Fourmile Creek begin to rise, the Site will be stabilized and work will be postponed until the fall of 2015 when flows again decrease.

2.2.2 Issues

Residents near the Site experienced a severe flooding event in September of 2013. The subsequent rebuilding effort has created much additional traffic and inconveniences for these residents. EPA will continue to work to minimize the impacts on residents and keep them informed.

2.3 Logistics Section

Not applicable.

2.4 Finance Section

2.4.1 Narrative

Depending on the amount of contaminated material encountered and the time that it will take to pull the material back from the creek, EPA may decide to finish the project in the fall of 2015. If this is the case, the project will be funded over 2 fiscal years.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	$1,550,000.00	$369,000.00	$1,181,000.00	76.19%
TAT/START	$50,000.00	$18,000.00	$32,000.00	64.00%
Intramural Costs				
USEPA - Direct	$30,000.00	$10,000.00	$20,000.00	66.67%
Total Site Costs	$1,630,000.00	$397,000.00	$1,233,000.00	75.64%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

Not applicable.

2.5.2 Liaison Officer

Not applicable.

2.5.3 Information Officer

Not applicable.

3. Participating Entities

3.1 Unified Command

Not applicable.

3.2 Cooperating Agencies

EPA is cooperating with Boulder County's Flood Recovery Team and its Department of Transportation. EPA has also been in contact with several State of Colorado agencies including the Department of Public Health and Environment and the State Historical Preservation Office.

4. Personnel On Site

EPA Personnel:

1 On-Scene Coordinator

ERRS Personnel:
1 Response Manager
1 Foreman
2 Equipment Operators
3 Field Technicians
4 Truck Drivers
4 Subcontracted Truck Drivers

START Personnel:
1 Sampling and Monitoring Technician

5. Definition of Terms

EPA: Environmental Protection Agency
ERRS: Emergency and Rapid Response Services (Contractor)
OSC: On-Scene Coordinator
START: Superfund Technical Assistance and Response Team (Contractor)

6. Additional sources of information

6.1 Internet location of additional information/report

www.epaosc.org/Emancipation

6.2 Reporting Schedule

The report will be distributed in late December 2014.

7. Situational Reference Materials

Not applicable.