U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Bueno Tailings (Bueno Mill and Mine) Site - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: **POLREP #3**
Bueno Tailings (Bueno Mill and Mine) Site
08FW
Jamestown, CO
Latitude: 40.1200000 Longitude: -105.3900000

To:
From: Steven Way, OSC
Date: 6/2/2014
Reporting Period: Final

1. Introduction

1.1 Background

Site Number:	08FW	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	12/9/2013
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	11/17/2013	**Start Date:**	11/18/2013
Demob Date:	12/3/2013	**Completion Date:**	5/30/2014
CERCLIS ID:	CON000802129	**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Time-Critical Removal Action

1.1.2 Site Description

A site visit was made May 30 (See Current Activities Section for full description)

Boulder County is known for its historic mining activity. The original removal Site (2006) was known as the Bueno Mill and Mine Site (also known as the Wano Mill and Mine) and is located in a mountainous area with generally steep slopes. The Bueno Mill and Mine originally processed gold ore but later converted to fluorspar processing (Cobb 1999). Several studies have been completed by agencies including the EPA and the state of Colorado. The studies show increased metals loading downgradient in James Creek as well high metals concentrations in both the Bueno and Streamside tailings. The area is primarily covered with evergreen trees and is considered a forested area with several mining and residential properties located nearby.

Although the Bueno and Streamside Tailings removals were part of the same project, because of separate ownership, Site activities and reports were distinct. The 2013 flooding in Little James Creek affected the Streamside Tailings portion of the original removal Site.

1.1.2.1 Location

The Site is located in the Jamestown Mining District, at the northeastern end of the Colorado Front Range. The Jamestown Mining District extends across portions of the Lefthand Creek and South St. Vrain Creek watersheds. The Site is accessed via James Canyon Road northwest of Boulder, Colorado. A portion of the Site, the Streamside Tailings, is located on Little James Creek and approximately one third of a mile north of Jamestown, in James Creek Canyon (on Overland Rd). The Streamside Tailings is a large impoundment of mill tailings that was deposited in the channel, and it forms one side of the stream bank. The Bueno Mine tailings sit on a ridgetop between James Creek and Little James Creek. James Creek lies directly south of the Bueno tailings and Little James Creek is directly to the north. Jamestown diverts water from James Creek for municipal use, including drinking water, in this stretch.

1.1.2.2 Description of Threat

The mill tailings include a number of heavy metals including lead, arsenic and beryllium, which are

hazardous substances as defined by 101(14) of CERCLA. Flash flooding caused a release of these materials into Little James Creek.

Exposure to heavy metals has a well known detrimental effect on both ecosystems and human health. Actual or threatened releases of hazardous substances from this Site, described in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

Residential areas and the Lefthand Watershed drinking water intake is located on James Creek downstream of the tailings impoundment.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Flash flooding occurred in September 2013 as a result of more than 18-inches of rain in Boulder County in a short period of time. Flooding scoured the creek channel and damaged concrete armoring of the banks, causing slippage and cracks to a concrete Fabriform™ bag construction which was part of the 2006 stabilization remedy. The flood also caused debris (trees) to impact the structure.

During the flood, water levels rose to a height that washed material from behind the concrete armoring and eroded the slopes above the armoring. While the armoring largely stayed in place and prevented a large scale release of the mill tailings into the residential area of Jamestown, the damaged section of concrete armoring needs to be stabilized.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The Site was identified over 10 years ago by the Lefthand Watershed Task Force as a priority area for stabilization and eventual remediation because of impacts to the source waters for Lefthand Water District.

Previously, EPA completed the original Streamside Tailings removal on August 24, 2006. The design was to minimize the undercutting effect of Little James Creek on the tailings pile using Fabriform™ concrete bags to support the slope of the tailings. The design provided stability for the tailings similar to a riprap wall. The top of the tailings pile was graded to promote drainage. The southern end of the Streamside Tailings was graded to slopes ranging from 2:5:1 to 4:8:1 and armored with riprap. Material cut from the area was placed on top of the Streamside Tailings which were then capped using appropriate clean fill material and revegetated.

The current action was performed to mitigate the releases associated with flood damage to the tailings impoundment and to avoid additional damage that was likely to occur in high flows, such as expected in spring run-off.

2.1.2 Response Actions to Date

On May 30 a final site inspection was conducted by the OSC. Above average snowfall had occurred over the winter of 2013/14 and resulted in extremely high flows in Little James Creek, as well as in other streams in the greater watersheds of Boulder County.

As a result of the final inspection, it was decided that some post removal maintenance would be required but, the additional measures taken in 2013 to stabilize the mine waste impoundment were intact and remained effective. Those are again summarized below:

- Re-grading and placing geotextile and riprap on the lower section of the tailings impoundment to achieve immediate stability and reduce the potential tailings impoundment slope failure into Little James Creek and;
- Filling voids behind the concrete armoring where possible to stabilize the slope above the armoring and to prevent further erosion of the mill tailings;
- Installing erosion matting and seeding eroded slopes to establish vegetative growth for erosion protection on the slopes;
- Armoring approximately 160 feet of the channel bottom and the base of the concrete armoring with rip-rap and grout for erosion control and to stabilize the base of the concrete armoring;
- Removing alluvial debris and grading the channel below the tailings to create more channel flow capacity and bank stability using flood deposited alluvial material.

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

A separate Enforcement Addendum provides a confidential summary of current and potential future enforcement actions for the Site.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps:

Determine what post removal site controls are needed following the snow-melt run-off period, which contunues through June.

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.