

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Carpenter Snow Creek - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: POLREP #4
Progress - Continued Tailings Hauling Despite Weather
Carpenter Snow Creek
089X
Neihart, MT
Latitude: 46.9751143 Longitude: -110.6998538

To:
From: Steven Way, OSC
Steven Merritt, OSC
Date: 9/14/2014
Reporting Period: 9/1/14 to 9/14/14

1. Introduction

1.1 Background

Site Number:	089X	Contract Number:	
D.O. Number:		Action Memo Date:	9/2/2014
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	NPL	Operable Unit:	OU 3
Mobilization Date:	8/11/2014	Start Date:	9/3/2013
Demob Date:		Completion Date:	
CERCLIS ID:	MT0001096353	RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

CERCLA Time-Critical Removal Action

1.1.2 Site Description

The NPL Site is within the Neihart Mining District, approximately 50 miles southeast of Great Falls, Montana. The mine district was a relatively steady producer of silver, lead and zinc from its discovery in 1881 to the 1940s. Historic mining and milling operations generated substantial volumes of waste rock and mill tailings that remain within the Site and continue to release hazardous substance into the environment. In 1925, the Silver Dyke tailings dam failed due to an earthquake resulting in tailings being deposited along the length of Carpenter Creek. Erosion and subsequent re-deposition of the tailings along Carpenter Creek and erosion from the upper and lower tailings impoundments moved waste into the floodplains of Carpenter and Belt creeks at least as far as Monarch, MT, approximately 14 miles downstream.

The Site has been divided into three operable units (OU). This removal action included activities in OU 3, which contains the Silver Dyke mining complex including upper mine sites and tailings in Carpenter Creek to the confluence with Belt Creek. The three main areas focused on in the Removal Action were the upper and lower Carpenter Creek tailings, and the Silver Dyke tailings pile

The Mackay Gulch Repository site was investigated as part of the Remedial Investigation and identified as one of two locations to store mine waste from the Site. The Mackay Gulch repository is proposed to have a capacity of approximately 600,000 cubic yards. As part of the Removal Action a small portion of the total area has been identified to receive waste from the Silver Dyke Tailings impoundment area.

1.1.2.1 Location

The Site is located on the northern flank of the Little Belt Mountains at elevations from approximately 5,100 feet Above Mean Sea Level (AMSL) along Belt Creek to 8,621 feet AMSL on Long Mountain. It is located in the southeastern end of Cascade County, Montana and primarily along Carpenter and Snow Creek and then along Belt Creek from the Town of Neihart extending downstream to Monarch, MT.

1.1.2.2 Description of Threat

Aquatic life surveys conducted in Carpenter Creek below the confluence with Sih-mem Creek, indicate populations of benthic invertebrates are severely impaired, and fish populations are absent. Investigations

conducted by Montana Fish Wildlife and Parks and the EPA in 2010 and 2011 (FWP, 2011, 2012, and TechLaw, 2011, 2012) clearly indicate that metals contamination associated with ongoing contaminant releases impairs water quality and severely inhibits aquatic life in Carpenter Creek, and suggests that they are contributing to the impairment of aquatic life in Belt Creek below the confluence of Carpenter Creek.

Water quality in Carpenter Creek is poor throughout the drainage due to degrading influences from the Carpenter Snow Creek Site. Creek waters are subject to active tailings erosion as well as metals contaminants from mine adits. There are general water quality standards exceedences for metals including arsenic, cadmium, copper, lead and zinc, that can be attributed in part to the erosion. Much higher exceedences of metals have been measured during storm events which are directly a result of erosion of the tailings. These metals inhibit aquatic life in the drainage.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The Site investigations by the State and MT Operations office determined that approximately 35,000 cubic yards of tailings remain on the slopes of the No Name Creek valley. This was the location of the former tailings impoundment that failed and dispersed tailings throughout the Carpenter Creek floodplain. Analyses of samples collected at the Site indicate the presence of high concentrations of heavy metals including zinc, cadmium and lead in waste and sediment. Routine run-off and high flows during spring snow melt continue to cause migration of the tailings materials from the Carpenter Creek and Silver Dyke tailings impoundment into the environment

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The objective of this removal action is to prevent continued releases from the estimated 35,000 cubic yards of tailings at the Silver Dyke tailings impoundment within No Name Creek drainage area. The action includes the following elements: (1) Removing the tailings from the hillside slopes and staging for disposal; (2) constructing an onsite repository, pending the repository decision; (3) placing the tailings in an onsite repository; (4) reclaiming/restoring removal area slopes. Designs have been developed for the repository construction and waste placement, and preliminary plans are developed for the site restoration and revegetation.

The Proposed Plan public comment period ended on August 30, 2014 and the the Mackay Gulch Repository site was approved in the Action Memorandum Amendment approved and signed on September 2, 2014.

2.1.2 Response Actions to Date

Week of 9.1.2014

- Repository preparation and excavation continued on Monday, September 1, 2014 and Tuesday, September 2, 2014, with the final excavation being completed by noon on Wednesday, September 3, 2014. Engineers and surveyors confirmed the depth of excavation and staked the perimeter on Monday for the crew.
- A total of 1,082 truck loads of common fill were excavated and hauled out of the repository footprint, not including the substantial amount of material that was pushed down the slope by the dozers during the repository preparation activities.
- Tailings hauling from both the upper and lower removal areas began with four 30 ton off-road trucks in the afternoon on Wednesday, September 3, 2014. A total of 34 loads were moved by the end of the day on Wednesday.
- Hauling operations continued through Saturday, September 6, 2014, with up to five haul trucks. Two of the five trucks went down at various times during this period due to hydraulic leaks and other mechanical issues.
- Total load counts for the week were 132 from the lower tailings area and 149 from the bench on the top of the western slope. 205 of these loads were approximately 20 cy/load and 76 of the loads were reduced to 15 cy/load to minimize the weight of the material in an effort to reduce wear on the equipment. Total material hauled through Saturday, September 6, 2014 was approximately 5240 cy.
- The moisture content of the tailings hauled to this point is significantly higher than anticipated from the RI investigations, and placement is more difficult, leading to concerns about compaction and repository stability, despite placing a better graded mixture of fine and granular tailings.

Week of 9.8.2014

- Hauling operations continued to the repository on Monday, September 8, 2014, and Tuesday, September 9, 2014, with only four trucks running due to mechanical issues awaiting parts and repairs on the fifth truck, which was temporarily called off rent.
- Engineers conducted compaction and moisture testing of the material previously placed into the repository on Monday. They also sampled several areas of the repository to conduct new Proctor testing of the material.
- Tailings hauling from the upper bench on the west slope of the tailings area concluded on Tuesday when the excavator couldn't continue efficiently clearing the slope from the top. The total number of loads moved from the upper bench was 186 or approximately 3,500 cubic yards.
- The total number of loads hauled from the lower removal area on Monday and Tuesday was 134 or approximately 2,500.
- Hauling was postponed and the site was shut down on Wednesday, September 10, 2014 when a severe storm brought rain and snow to the Carpenter Creek watershed and the Belt Mountains.
- Limited work resumed on Thursday, September 11, 2014, with a smaller crew coming to work after precipitation ended. The crew graded the saturated roads, began working to access the material on

the west slope of the tailings area, and consolidated materials for load-out.

- The fifth haul truck was successfully repaired in the afternoon on Thursday by the vendor on site.
- As the temperatures rose well above freezing and the sun returned to dry out the tailings area and the repository, another smaller crew came to the site to continue accessing the west slope tailings with the dozer and prepare for hauling on Saturday. Tailings were almost completely saturated with recent precipitation and every effort was made to dry these materials out in stockpiles.
- On Saturday, September 13, 2014 and Sunday, September 14, 2014, the full crew resumed hauling tailings to the repository. Load counts were 124 and 93, respectively, for these two days, bringing the total volume hauled to the repository since resuming hauling was approximately 4,000 cubic yards. Total hauled to date is just over 15,000 cubic yards.

2.1.3 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Est. Percent Complete</i>	<i>Disposal</i>
Tailings	solids	15,000 cy	N/A	45%	On-Site Repository

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

Hauling and placement of tailings is expected to continue for approximately 30 days. To date we have conducted hauling operations for 8 full days and experienced weather related delays for 2 full days. Weather conditions may continue cause operational delays in the coming weeks. Erosion control measures will be maintained.

2.2.1.2 Next Steps

- Receive one additional haul truck to facilitate a 6-truck hauling operation.
- Conduct compaction testing at the repository to ensure proper design strength and stability.
- Procure revegetation and restoration services at the site to focus ERRS efforts on tailings and repository.
- Continue consolidation of the tailings near the access road at the tailings area.
- Develop access roads for the excavator along the west slope of the tailings area to facilitate removal.
- Continue hauling tailings from the tailings area to the repository.

2.2.2 Issues

Weather delays and precipitation may continue to hamper hauling operations and increase the difficulty of placing and compacting the repository.

2.3 Logistics Section

During the Reporting Period:

1 Excavator with Thumb
1 Heavy Excavator
2 Dozer
1 Track Loader
5 Articulated Dump Trucks
1 Grader/Blade

2.4 Finance Section

2.4.1 Narrative

A Ceiling increase was approved on 9/2/14 to \$1,473,000.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$351,000.00	\$86,000.00	\$265,000.00	75.50%
Intramural Costs				
Total Site Costs	\$351,000.00	\$86,000.00	\$265,000.00	75.50%

* 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

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

ERRS - 12

RM - 1

Foreman/Operator - 1

Haul Truck Driver - 4

Water Truck Driver / Laborer - 1

Excavator Operator - 2

Dozer Operator - 2

Grader/Loader Operator - 1

EPA - 1

OSC -1

TETRATECH - 2

STATE - 3

DEQ - 1

FWP - 2

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.

POLREP #4 Last Updated 9/19/2014