U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Barker Hughesville Mining District NPL - Block P Mine Complex - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: **POLREP #6**
Final
Barker Hughesville Mining District NPL - Block P Mine Complex
08-5N
Monarch, MT
Latitude: 47.0878906 Longitude: -110.6378174

To:
From: Steve Way, OSC
Date: 9/24/2013
Reporting Period: December 2012 - September 10, 2013

1. Introduction

1.1 Background

Site Number:	08-5N	**Contract Number:**	
D.O. Number:	NA	**Action Memo Date:**	8/19/2010
Response Authority:	CERCLA	**Response Type:**	Non-Time-Critical
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	NPL	**Operable Unit:**	OU1
Mobilization Date:		**Start Date:**	10/1/2010
Demob Date:		**Completion Date:**	9/10/2013
CERCLIS ID:	MT6122307485	**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

CERCLA Non-time Critical Removal Action

1.1.2 Site Description

Mining: The Site is the location of historical mining and mineral processing only. The removal action involves the consolidation of approximately 229,000 cubic yards (cy) of waste rock into an on-site repository.

1.1.2.1 Location

The Barker Hughesville Mining District NPL Site (Site) is within Judith Basin County and Cascade County, approximately 40 miles southeast of Great Falls, Montana. The removal action includes related activities at Block P Mine, Wright and Edwards mines, Belt Patent Mine, and Grey Eagle Mine ('Block P Mine Complex'). Upper Galena Creek drainage is located in the center of the Site, downstream of Green Creek and Daisy Creek. It encompasses about 1,178 acres and includes Galena Creek from Block P Mine through the town of Barker. The Upper Galena Creek drainage also includes Silver Creek and Bend Gulch Creek. There are a total of 19 mine sites located within this drainage, the largest of which is Block P Mine. Water quality in Galena Creek is poor throughout the drainage due to degrading influences from Block P Mine Complex, upstream tributaries with contaminated mine waste, numerous adit discharges to the creek, and recharge from impacted groundwater. Creek water is often rust-colored, the pH is seasonally low, and the stream bed is iron stained.

1.1.2.2 Description of Threat

Analyses of samples collected at the Site indicate the presence of high concentrations of heavy metals including zinc, cadmium and lead in waste, sediment and mine drainage waters. For example, flows from Block P Mine adit contained zinc at concentrations ranging from 27,000 to 30,000 micrograms per liter (ug/L). In addition, these same hazardous substances are found in several miles of surface water at the Site.

Aquatic life in Galena Creek below the Block P Mine Complex is practically non-existent. Impacts to aquatic life are evident in the Dry Fork of Belt Creek below the confluence with Galena Creek due to elevated concentrations of heavy metals and low pH water being transported from the mines. Galena

Creek surface water sampling shows that concentrations of heavy metals increase 10 to 20 times immediately below the Block P Mine from those samples collected immediately above the Block P Mine. These concentrations are more than 10 times above the surface water quality standards for some metals.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The estimated waste rock volume for the five mines of the Block P Mine Complex is approximately 260,000 cubic yards. (Includes mines waste dumps: Block P, Wright, Edwards, Belt Patent and an unnamed pile.) These waste rock dumps are located within the channels of Galena Creek and a tributary (an intermittent stream) to Silver Creek. Samples have shown lead concentrations in the waste rock dumps range from approximately 4,500 milligrams per kilogram (mg/kg) to 21,000 mg/kg and zinc concentrations are up to approximately 3,000 mg/kg.

In addition, contaminated water accumulated in underground mine workings has historically flowed from the Block P Mine adit (discharge water at approximately a pH of 3.5 standard units) and flows vary widely during the year, ranging as high as approximately 300 gallons per minute. Most recently, the lowered elevation of the Galena Creek channel bottom, at the base of the slope, appears to have reduced (or eliminated) the flow from the adit. However, a new source of acid mine drainage is releasing from the toe of the slope below the adit level. The Grey Eagle adit continues to discharge.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The waste rock from the Block P, Wright, and Edwards mines and Belt Patent has been consolidated in the repository on land now owned by the Doe Run Company. The repository is designed so as to minimize infiltration and run-on and, in turn, prevent migration of hazardous substances from the waste rock. The cover system includes a geo-synthetic membrane system (40 mil LLDPE geomembrane, geogrid/geo-textile), and a soil cap. The removal action is expected to contribute to remedial performance, is intended to provide long-term protection, and to be consistent with future actions at the Site. Revegetation and other restoration tasks are complete. Galena Creek and the slope at the Block P Mine area require Post Removal Site Control maintenance actions to control and reduce erosion from the slope into Galena Creek.

2.1.2 Response Actions to Date

• The final surveyed volume of waste now in the repository is 229,000 cubic yards. The cover system with geosynthetic liner material and a soil cover is completed.

• Revegetation: Willow plantings were installed in June 2013 along Galena Creek at the Block P Mine, and growth has been established. Additionally, grasses and other vegetation are developing in the restored waste rock dump sites and on the repository cover.

• Erosion controls require improvement along Galena Creek channel at the base of the Block P Mine waste rock dump. This work will continue under Post Removal Site Control measures.

• Waste dump areas at the Block P Mine, and at the Wright / Edwards mines require additional maintenance to stabilize the soil.

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

An Administrative Order on Consent was signed in June 2011 to have the Doe Run Company implement the removal action.

2.1.4 Progress Metrics

Dates Shipped	*Waste Stream*	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*	*Destination Facility*
7/2011 – 9/2012	**Mine waste**	**soil**	**229,000cy**	**NA**	**NA**	**Landfill**	**Onsite**

2.2 Planning Section

2.2.1 Anticipated Activities/Next Steps

- Operation and Maintenance is needed before the end of the 2013 field season.

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.