

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Flat Top Mine & Griffin Ashing Site (OU1) - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: POLREP #2
Progress
Flat Top Mine & Griffin Ashing Site (OU1)
08RW
Ludlow, SD
Latitude: 45.8456780 Longitude: -103.3678530

To: Kerry Guy, US EPA
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From: Shun-Ping Chau, OSC
Date: 4/29/2013
Reporting Period: 04/25/2013 to 04/29/2013

1. Introduction

1.1 Background

Site Number:	08RW	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	4/24/2013	Start Date:	4/25/2013
Demob Date:		Completion Date:	
CERCLIS ID:	SDN000802781	RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Time-critical removal.

1.1.2 Site Description

The Flat Top Mine Site is northeast of the town of Ludlow, Harding County, South Dakota. Uranium mining activities occurred around Ludlow in the North Cave Hills, South Cave Hills and Flint Buttes from the late 1950s to 1964 under the General Mining Laws and Public Law 357, which did not require any restoration. The North Cave Hills and South Cave Hills are part of the Custer National Forest and subsequently owned by the United States Forest Service (USFS).

Flat Top Mine is located in the Flint Buttes and is currently on private ranch land. There have been two previous studies by the South Dakota School of Mines and Technology and the Oglala Lakota College around 2006 and 2007, but no clean-up activities have been done at the Flat Top Mine.

1.1.2.1 Location

The Site is located northeast of the town of Ludlow, in Harding County, South Dakota. Mining activities in the 1950s affected almost 1,000 acres of land in the region. The remnants of Flat Top Mine consist of a water filled pit approximately 1,200 ft by 500 ft. A series of smaller pits, test pits and trenches are currently located within approximately 10,000 acres of undeveloped land used for cattle and sheep ranching but also includes some residential structures.

1.1.2.2 Description of Threat

Uranium, arsenic, vanadium and molybdenum, defined by CERCLA Section 101(14) as hazardous substances, are naturally occurring in the Flint Buttes area. Previous mining activities removed the vegetation and top soil cover in certain areas and left large piles of waste materials and open pits that collect surface water. Many of the waste material piles have been covered with vegetation, but humans, livestock and wild animals are exposed to higher than background levels of these hazardous substances found in water which collects in open pits.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Site assessment work conducted in 2009 and 2011 showed that the highest concentration of contamination occurs at and around an old mine pit that is now the largest pond on the north side of an old highwall, approximately 0.5 miles north of the town of Ludlow. Uranium was detected in soil sediments with concentrations up to 770 parts per million (ppm) and in surface water with concentrations up to 558 micrograms per liter (µg/L). EPA sets the safe drinking water standard for humans at 30 µg/L, and guidelines from several agricultural extension offices recommend a maximum concentration of 200 µg/L for livestock. Other elements of concern with elevated levels in the surface water were arsenic with concentrations ranging from 457 to 536 µg/L, vanadium with concentrations ranging from 73 to 258 µg/L, and molybdenum with concentrations ranging from 894 to 1,730 µg/L. The guidelines for drinking water standard for livestock recommend a maximum arsenic concentration of 200 to 500 µg/L, maximum vanadium concentration of up to 100 µg/L, and maximum molybdenum concentration of 300 to 500 µg/L.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Planned removal action includes treating water from the largest mine pit at the Site, returning the treated water to its original use as livestock drinking water and/or pasture irrigation, backfilling and re-vegetating the pit, and drilling wells to replace the livestock water supply.

2.1.2 Response Actions to Date

Two water wells, approximately 700 feet deep with a flow rates of approximately 10 gallons per minute, were drilled to replace livestock water supply. The wells were completed in December 2012.

During the week of March 25, 2013, EPA and ERRS contractors re-visited the Site in anticipation of a late April mobilization to complete the removal work. Because of several years of drought, the contaminated water in the pond has significantly dried up and, it appeared that there was no longer a need to treat the water.

On April 25, 2013, ERRS contractors traveled to the Site and began preparation work. The existing route from the highway to the pond area was narrow, steep and washed out in places. A wider, safer road was cut. Mid-way up the hill a support zone was set up. A water tank holding clean water, trucked in from the town of Buffalo, for dust suppression was placed at this location as well.

Since March 25, 2013, the area received some precipitation and the water level in the pond has increased slightly. Two small ponds were created to allow for the water to drain and to increase evaporation.

On April 28, 2013, EPA traveled to the Site and, on April 29, START contractors traveled to the Site.

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

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

Barring any severe weather and equipment issues, the pond will be backfilled first with tailings, then with borrowed top soil from undisturbed areas. The entire area will be graded and re-vegetated with hydroseeding.

All activities and materials will be contained within the Site. Air-monitoring will be conducted at the perimeter to ensure no off-Site migration of contaminated dust.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

2.2.2 Issues

A property owner across Highway 85 and two properties away expressed concerns. He did not read the public notice posted last year. He was reassured that none of the response activities should affect his property. Also, "PRIVATE PROPERTY - NO TRESPASSING" signs were posted at the entrance of the property/removal Site to discourage unauthorized visitors from randomly entering the work area/hot zone.

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.

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