

# Site Update

## Silver Dyke Adit and Drainage Site

### Operational Period 6

August 21 - 27, 2023

#### Site Description

The Silver Dyke Mine Adit and Drainage Site is located within Operable Unit 3 (OU3) of the Carpenter-Snow Creek Mining District National Priorities List (NPL) Site (CSCMD Site), near the Town of Neihart, Cascade County, Montana. This emergency response includes initial activities to address severe erosional damage to the area around and down drainage of the Silver Dyke Mine adit that was caused by a high level of snowmelt followed by extremely heavy rains this past Spring.

#### Announcements

EPA anticipates occasional sediment releases and water discoloration resembling rainfall runoff in the drainage between the Silver Dyke adit and Carpenter Creek during EPA's construction activities.

#### Site Goals

Goal 1: Improve water management and erosion control.

- a. Divert water away from the drainage above the adit (**complete**).
- b. Stabilize the slope above the adit to support construction (**complete**).
- c. Complete stabilization of the slope above the adit (**in progress**).
- d. Upgrade the bridge/water crossing at Carpenter Creek.
- e. Restore disturbed areas.
- f. Repair the toe of the two large fluvial tailings ponds.

Goal 2: Open and stabilize the Silver Dyke Adit.

- a. Prep the "Glory Hole" to receive waste (**complete**).
- b. Remove waste rock from below the adit to the Glory Hole (**complete**).
- c. Construct containment ponds below the adit (**one complete, one in progress**).
- d. Provide a stable flow channel for the adit drainage (**in progress**).
- e. Conduct geophysical surveys (**complete**).
- f. Prep drill site above the adit (**in progress**).
- g. Drill into and drain the adit.
- h. Remove material blocking the adit to the Glory Hole.
- i. Install structure to keep the adit open and draining.
- j. Remove containment ponds.

#### Operational Period Objectives

The following were the Objectives for this past Operational Period:

1. Continue to stabilize slope above the adit.
2. Complete the construction of two water management ponds below the adit.
3. Complete the construction of a stable flow channel for the adit drainage.
4. Complete the geophysical investigation of adit conditions.
5. Other Site management tasks.

## **Operational Period 6 Accomplishments**

1. The final bench configuration and grading has been completed on the slope above the adit. Crews began cutting and rocking the drainage channels on the upper section. In addition, woody debris was embedded along the upper slope to provide for protection against erosion, and a soil cover was placed over the upper portion of the slope.
2. The lower containment pond was given its final grading and a spillway completed. This pond has a capacity of approximately 200,000 gallons. Work on the pond immediately adjacent to the adit portal was begun. However, this work was paused as the crew was needed to repair two culverts that handle adit drainage and the flow in Sih-men Creek that had been damaged by heavy rain. These repairs were completed and work on the upper pond will resume on August 28<sup>th</sup>.
3. A stable flow channel for the adit's drainage was completed to immediately below the lower containment pond. Based on Site observations two additional, downstream stretches of the drainage were also stabilized with rock.
4. The seismic geophysical evaluations of the mine work have been completed. This data, coupled with the information collected Electrical Resistivity Tomography (ERT) and Electromagnetic (EM) Digital Geophysical Mapping Surveys completed the week prior, are currently being evaluated. This geophysical data will be used to guide the drilling operations planned for September. Preliminary indications are that the data is consistent with the historic mine maps.
5. Additional erosion control measures were taken in preparation for anticipated rainfall and additional rock to being used for drainage control was harvested.
6. An inspection of the two downstream fluvial impoundments was conducted by the Site OSC and RM. An outline of the repair work to be started Operational Period #8 was completed.

## **PLANNED ACTIVITIES**

For the Operational Period 7, August 28 – September 3, 2023, the following operations are planned:

1. Complete the work to stabilize the slope above the adit.
2. Complete the second containment pond below the adit.
3. Continue building stable flow channel for the adit discharge.
4. Continue road improvement, run on/off and erosion control work.
5. Continue to harvest rock for use on drainage controls.

For additional information please visit the EPA Silver Dyke Adit and Drainage Site Response page: <https://response.epa.gov/silverdykeadit>



Erosion benches above the adit.



Erosion work above the adit.



Channel along West side of benches above adit to divert surface water runoff away from adit. Channel will eventually be lined with rip-rap.



Lower containment pond.