

Site Update Manila Lode



Operational Period

July 19-25, 2021

Current Situation

Manila Lode is a former mine/mill operation just outside the town of Montezuma, Colorado that ran from the 1870s into the 1910s during the Colorado Silver Boom. Although the mineral processing stopped operation well over a hundred years ago, the remnants of the operation still impact the area today.

At the site today, two large contiguous waste rock and mine tailing piles exist and present heavy metal contamination threats to hikers/recreationists, the Upper Snake River and the residence built adjacent to the site. In a site soil sampling event in 2018, Trout Unlimited reported presence of aluminum, arsenic, cadmium, copper, iron, lead, manganese and zinc. Lead concentrations in the pile range from 2,000 to 20,000 mg/kg. A subsequent Trout Unlimited water sampling event in 2019 found that much of the heavy metal contamination was reaching the Upper Snake River adjacent to the site.

Exposure routes to heavy metal contamination from the pile include a county greenspace trail traversing the site, a residence adjacent to the pile, and year-round rainwater run off/snow melt draining through the pile and to the Snake River via a wetland.

In April and May of 2021, an EPA removal team conducted a site assessment and made observations consistent with the Trout Unlimited findings and deemed the site to be in need of a removal action due to the threat to both the Upper Snake and the nearby residents.

In July of 2021 an EPA removal team was dispatched to the site to conduct removal action that will include rerouting the storm water and regrading, capping and revegetating the waste pile to eliminate heavy metal exposure routes.

Site Description

Manila Lode is located several miles south east and upstream of Keystone, Colorado along the Snake River. The mine and milling system is no longer in operation and two large contiguous waste rock and tailing piles now sit in it's place. A residence is adjacent to the piles, a greenspace trail traverses the piles, and storm water drains through the piles to the Snake River via a wetland across from Montezuma Road.

Site Objectives

- Safety of the public and response personnel is top priority.
- Maintain site security to prevent public exposure.
- Minimize or, if possible, eliminate threats to human health and/or the environment posed by metal laden rock and contaminated storm water.
- Temporarily reroute storm water drainage around the waste pile to allow for waste piles to be reworked and a permanent drainage path to be constructed without the inflow of water.
- Rework and regrade the waste piles to eliminate void spaces within the piles and to eliminate the steep slopes currently present. This will minimize water infiltration through the piles as well as mitigate erosion.
- Construct a permanent lined drainage channel to take water from the Toledo Tunnel across the waste site to the wetland area without allowing direct contact with waste materials.
- Install an evapo-transpiration cover over the waste piles and establish proper vegetation to promote stabilization and mitigate direct contact with the metal laden rock.
- Provide institutional controls, such as deed restriction or an environmental covenant.
- Provide timely and accurate communication of response information to the public, on-site media, and affected stakeholders.

Safety Message

EPA will adhere to all CDC and local recommendations pertaining to COVID-19 during the site work.

EPA will adhere to all construction and hazardous substance safety best management practices.

Operational Period Objectives

The following tasks have been identified as key to progress the project during this operational period:

- Continue harvesting and stockpiling rock for waste pile stabilization.
- Complete the rough grade and stabilization of the upper portions of the waste piles.
- Continue the temporary diversion around the Site of the discharge from the Toledo Tunnel.

Current Activities

The EPA Team (ERRS crew, START Contractor, and EPA personnel) worked Monday through Saturday (July 19 to July 24). Operations were hampered by afternoon thunderstorms and lightning, which caused early departures from the Site Tuesday through Saturday. Personnel and Heavy equipment used on-site this period included:

- 2 Excavators
- 1 Bulldozer
- 1 Front End Loader

- Vibratory Roller/ Compactor
- 1 500- Gallon Water Tank/ Pump Unit
- EPA Mobile Command Truck
- 5 ERRS Crew
- 2 EPA
- 1 START (July 23 only)

The rough grading of the upper portion of the waste pile was completed on Saturday, July 24, 2021. This section is ready for rocking, drainage ditch installation, topsoil, and vegetation.

The crew continued to collect and segregate large rocks/boulders (>1' diameter) for use in drainage ditches and pile stabilization. A portion of this rock was put in place along the toe of the upper waste pile.

Planned Activities

For the next Operational Period (July 26 to August 1) the following are the planned activities:

- Complete the installation of rock stabilization structures along the toe of all steeper slopes of the upper waste pile.
- Cut, line, and rock the permanent Toledo Tunnel discharge channel over the upper waste pile.
- Begin stabilization work on the lower portions of the waste piles.
- Collect and segregate large boulders/rocks from waste piles for use in pile stabilization.

EPA will distribute the next Site Update on August 1, 2021.

For additional information please visit the **Manila Lode EPA Response Page** at https://response.epa.gov/site/site_profile.aspx?site_id=15048