

## Site Update Manila Lode



### Operational Period

July 26- August 1, 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 its 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**

For the Operational Period of July 26 to August 1, 2021, the OSC established the following objectives:

- 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.
- Award subcontracts for the purchase of common fill; compost; topsoil; road base; and rip-rap.

### **Current Activities**

During the Current Operational Period the EPA Site Team worked Monday through Saturday. Operations were hampered by a series of heavy afternoon thunderstorms and lightning. During this period the Team:

- Installed rock stabilization structures along the south flank and toe of the waste pile, and along the base of the upper portion of the pile.
- Completed cutting and rocking all drainage ditches and structures on the upper portion of the pile.
- Began cutting and placing a synthetic liner for the permanent Toledo Tunnel discharge channel over the upper portion of the Site. However, the channel remains to be rocked.
- Continued harvesting large rock from the Site for use as stabilizing rip-rap.
- Began taking delivery of the needed construction materials (e.g., common fill, rip-rap, road base, erosion mat, compost, etc.)
- Began placing fill and rip-rap on the upper portion of the waste pile.
- Began grading the top portion of the lower waste pile.

### **Planned Activities**

For the next Operational Period, August 2 through August 8, 2021, the EPA Site Team Plans to:

- Complete construction of the lined drainage channel on the upper pile.
- Begin construction of the lined drainage channel over the lower pile.
- Continue construction of Site drainage features, including run-on/run-off controls.
- Finish grading the pile.
- Continue cover installation of soil cap.
- Purchase vegetation seed mix.

*EPA will distribute the next Site Update on August 8, 2021.*

For additional information please visit the **Manila Lode EPA Response Page** at [https://response.epa.gov/site/site\\_profile.aspx?site\\_id=15048](https://response.epa.gov/site/site_profile.aspx?site_id=15048)