

Carpenter Snow Creek Mining District National Priorities List Site Fact Sheet

Cascade County, Montana

April 2014

Site Background

The Carpenter Snow Creek Mining District Superfund Site (CSCMD) lies in the Lewis and Clark National Forest approximately 55 miles south of Great Falls, Montana. The Site is part of the Neihart Mining District, located within tributary drainages to Belt Creek, which flows through the Town of Neihart. Due to the geographic size (approximately 9,000 acres), the Site is broken into three operable units (OUs). The Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ) and the United States Forest Service (USFS), is the lead agency conducting site-wide activities.

The Neihart Community Area Soils (NCAS) portion of the Site is focused on residential soils and includes the Town of Neihart and nearby residences with impacts as a result of former mining operations or relocation of mine waste from former mining operations. NCAS includes properties with soil contamination of metals above EPA action levels adjacent to residential property and mine waste sites immediately adjacent to residential property that are accessible to the general public. These mine waste sites are to be addressed with Institutional Controls. The Belt Creek (Neihart) Tailings Temporary Repository, which also 'houses' residential soils above action levels from the EPA emergency removal action of 2004, is also a part of NCAS. The Record of Decision for the Neihart Community Area Soils issued in 2009 details the Remedial Action (RA) specific to Operable Unit 1 (OU1).

OU2 encompasses the abandoned mine sites, mill sites, and associated wastes along Snow Creek, Lucy Creek, Mackay Creek, Haystack Creek and Burg Creek in the Upper Carpenter Creek basin. RA for the Neihart Slope waste mine sites and adit discharges, other than Institutional Controls required under OU1, are to be conducted under operations in OU2. Combined, over 473,000 cubic yards (cys) of mine related waste are located within OU2.

OU3 includes wastes associated with the Silver Dyke mining complex located in Carpenter Creek and the Belt Creek floodplain to Monarch. The Silver Dyke Mining Complex is located in the Upper Carpenter Creek basin and includes the Silver Dyke glory hole, associated underground workings, mill facilities, tailings piles, and eroded tailings in the floodplain areas of Carpenter Creek. Over 450,000 cys of mine related waste are in these OU3 areas.



Diversion Channel

Neihart Community Area Soils Ongoing & Planned Activities



Topographical Surveying

Information from surveying activities performed in late 2013 is being incorporated into remedial design and the Property Owner's Soil Management (POSM) program.

Enhanced Surveying – Additional topographical survey information will be collected and incorporated into existing information from Neihart and the Neihart Slope. Watershed information will be developed and utilized to determine overland water flows from the slope and through the Town of Neihart. This will aid in minimizing future deposition of mine waste from the slope and better define the adequacy of storm water channels through the Town of Neihart.

Storm Water and Maintenance Access Roads Design – Survey information will also be utilized to design storm water and maintenance access roads on the east side of Neihart. The roads will allow light vehicle traffic within the drainages to manage potential collection or treatment systems that may be installed at existing mines or mine waste piles. These roads are expected to direct water runoff from the slope.

Haul Road Design – As revised locations for potential mine waste repositories are finalized, the EPA has identified a need for haul roads to these locations. In addition, current access roads may require modifications to safely support haul traffic. Survey information and anticipated traffic patterns will be utilized to aid in development of safe haul road designs for heavy vehicle traffic.

Additional Soil Sampling – The EPA is seeking written permission from property owners close to Neihart to sample properties have not been previously sampled. The agency is taking this opportunity to characterize properties in Johnston and O'Brien Creeks and areas south of Neihart.

POSM Activities – Owners have expressed desires to perform modifications and enhancements to their properties. These owners are participating in the POSM program which assists property owners in identifying and managing soils with metals concentrations above EPA action levels.

POSM Revision – Documentation for the POSM program will be updated to reflect the recent surveying efforts, soil relocation/movement, and sampling events. The latest version of the POSM will be located at the POSM Contact Center, the Cascade City-County Health Department.

Remedial Design – All information obtained through efforts associated with the 2014 field season will be reflected in revisions to the remedial design. As the repository site locations are finalized, the remedial design will be completed.

OU2 and OU3 Planned Activities

The EPA and DEQ will continue to collect data in 2014 to identify and design remedial response actions. In general, these activities involve small project teams and little, if any, heavy equipment (e.g. a drill rig or backhoe). Written access will be obtained in advance from all property owners where field activities are planned.

Carpenter Creek Monitoring – The water of Carpenter Creek will be monitored at multiple locations to determine quality and sediment loading. The data will be used to identify the main sediment source areas and prioritize remedial response actions.

Adit Discharge Monitoring – There are more than 12 adits within the CSCMD that discharge water. In general, the adit flow rate increases during and after snow melt and then slowly decreases into fall and winter. The concentration of metals can vary greatly depending on whether the water is derived from surface water or groundwater. Water quality and flow rate data will be collected from adits throughout spring runoff to be used to assess seasonal changes in quality and sources of the water.

Repository Location Study – There are greater than 1,000,000 cys of mine waste present at the CSCMD. One potential remedial alternative is to excavate the waste and place it in an engineered repository. A Remedial Investigation/Feasibility Study for selection of a repository site is being prepared. Later this spring, a Proposed Plan will present the preferred alternative to the public and a Record of Decision will be issued this summer to select the repository sites.

Silver Dyke Mine Tracer Study – The glory hole at the Silver Dyke mine is under consideration as a repository location. The water quality is poor discharging from the Silver Dyke adit. To assess the suitability of the glory hole as a repository, the effects of filling and capping need to be better understood. Dye tracers were placed uphill of the Silver Dyke glory hole to identify the sources of water draining from the adit and to better understand the relative contributions from snowmelt and groundwater.

Mine Discharge Treatment Bench Scale Study – A number of the mines discharge water that contains metals at concentrations above acceptable levels. Some of this water will require treatment in the future. To assess the viability of different treatment technologies, water will be collected from Silver Dyke mine for use in treatment testing.

Revegetation Pilot Test – Much of the mine waste does not have vegetation which may be due to metals toxicity, physical features like grain size, unstable surfaces, or lack of nutrients. In 2013, the physical features of five sites were systematically modified in test plots. In 2014, the test plots will be monitored to determine if vegetation can be established. Two test plots will also be installed on slopes to evaluate methods for reducing erosion.

Fish Study – Montana Fish, Wildlife and Parks will evaluate fish populations, distribution, and mortality rates in Belt Creek. Additional activities include: electronic tagging of Westslope cutthroat trout, sampling for benthic macro invertebrates (e.g., beetles, stoneflies, leeches, etc.), taking discharge measurements, and checking thermographs. Design will commence to determine a suitable location to place a fish barrier in Carpenter Creek to ensure the genetically pure Westslope cutthroat trout are protected once remediation of Carpenter Creek commences.



Mine Discharge in Snow Creek Drainage

Community Meeting Information

The EPA, DEQ, and the USFS will be briefing the Cascade County Commissioners at the regular commission meeting in May.

The public is welcome!

May 12, 2014, 1:00 PM
Courthouse Annex, Room 105
325 2nd Ave N, Great Falls, MT

Agency personnel will be available to answer questions.

Further Information

Site-related documents are available at the following locations for your information and review:

EPA Records Center, 40 West 15th St., Ste. 3200, Helena, MT 59626, (406) 457-5046, M-F, 8:00am–4:30pm

U.S. Forest Service, Belt Ranger Station, 4234 U.S. Highway 89 N, Neihart, MT 59465, (406) 236-5511, M-F, 8:30am–4:30pm

Cascade County Health Department, 115 4th Street South, Great Falls, MT 59401, (406) 454-6950, M-F, 8:00am–5:00pm

http://www.epa.gov/region8/superfund/mt/carpenter_snow_creek/index.html



This Sheet Contains Important Facts about:

- ✓ **The EPA Carpenter Snow Creek Mining District Superfund Site Operable Units**
- ✓ **Ongoing and Anticipated 2014 Activities**
- ✓ **Ways to learn more about the Carpenter Snow Creek Mining District Superfund Site**
- ✓ **Upcoming meeting information**
- ✓ **Contact Information for Program Representatives**

Contact Information

If you need more information on the work being done, please call or email one of the people listed below:

Tillman McAdams, EPA Remedial Project Manager (for OU1), (406) 457-5015 or toll free 1-866-457-2690, mcadams.tillman@epa.gov

Roger Hoogerheide, EPA Remedial Project Manager, (406) 457-5031 or toll free 1-866-457-2690, hoogerheide.roger@epa.gov

Keith Large, DEQ Project Officer, (406) 841-5039, klarge@mt.gov

Beth Ihle, USFS On-Scene Coordinator, (406) 495-3863, bihle@fs.fed.us

Sandy Johnson, Cascade City-County Health Department Environmental Health Manager, (406) 791-9275, sjohnson@casadecountymt.gov



US Environmental Protection Agency
10 West 15th Street, Suite 3200
Helena, Montana 59626
Attn: T McAdams