

US Environmental Protection Agency
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Barker-Hughesville Superfund Site

Cascade and Judith Basin Counties, Montana

U.S. EPA Region 8 – Montana Office
15 West 10th Street, Suite 3200, Helena, Montana 59626

April 2014

2014 Project Update

The Barker-Hughesville Mining District Superfund Site (the Site) is located in west-central Montana, east of Monarch. The area has a rich mining legacy from the later part of the 19th and early 20th centuries when the historic mining camps of Barker and Hughesville were home to more than 500 people. The Site covers almost 15 square miles of the Lewis and Clark National Forest and private lands and includes the floodplain of Dry Fork Belt Creek, numerous tributary drainages (Daisy, Green, Silver, Galena, McKay Gulch, Spruce, Gold Run, and Smoke-in-Hole Creeks), and the upper portion of the Otter Creek drainage.

The Site contains numerous abandoned mines with waste rock dumps, discharging mine adits, streamside tailings deposits, and tailing impoundments. The largest ones include the Block P Mill Tailings (reclaimed in 2004 and 2005) and the Block P Mine Waste Complex properties owned by Doe Run Resources Corporation (Doe Run). The mine sites are mostly in the Galena Creek drainage near the historic town sites. Some are on private land, and some are on public land administered by the U.S. Forest Service (USFS).

In 2014, the U.S. Environmental Protection Agency (EPA) will be completing the remedial investigation (RI) report for the Site and will also be conducting field work to support the upcoming feasibility study (FS). This fact sheet describes EPA's planned activities for the 2014 field season. It also includes a description of work done by Doe Run at the Block P Mill and Block P Mine properties on the Site.

Site Contacts

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

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

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

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

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

Upgrades to Dry Fork Belt Dispersed Campsites

The USFS obtained funding in 2014 to make improvements to several areas along Dry Fork Belt Creek that are being used as dispersed campsites.

These improvements are being conducted to limit exposure of recreational users to contaminated soils in these areas until final cleanup decisions are made.

The planned improvements are installation of:

- Steel campfire rings and 3-inch thick gravel pads in 6 to 8 camp areas
- Waterless-SST restroom facilities at two locations



Barker-Hughesville Superfund Site Document Repositories

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, 8:00am–5:00pm



Cascade County Commission Briefing

EPA, Montana Department of Environmental Quality (DEQ), and the USFS will be briefing the Cascade County Commissioners at the regular commission meeting in May. The public are 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.

Site Timeline...

- **1970s to 90s**. Numerous investigations for by the State of Montana.
- **2001**. The Site is listed on EPA's National Priorities List.
- **2002 to 2005**. Under an EPA and USFS Administrative Order on Consent (AOC), Doe Run investigates and cleans up the Block P Mill.
- **2004/2005**. EPA visits and ranks by hazard the 45 abandoned mine sites identified by the State and compiles site data into a technical memorandum.
- **2007 to 2013**. Doe Run conducts annual monitoring.
- **2008**. EPA and Doe Run sign AOC for investigation of Block P Mining Complex.
- **2009**. EPA begins a RI and samples mine sites, residential property, roads, surface water, and sediments. Doe Run investigates the Block P Mine.
- **2010**. Doe Run prepares an EE/CA for cleanup of Block P Mining Complex. Montana FWP begin collecting macro-invertebrates and electrofishing along Galena and Dry Fork Belt Creeks. EPA continues to collect sediment and surface water samples. Doe Run begins building a waste repository.
- **2011**. EPA and Doe Run sign AOC for Block P Mining Complex. The Block P Mine cleanup begins. EPA and FWP continue investigations and fish studies.
- **2012**. EPA continues investigation. Doe Run completes removal of Block P mine waste and repository closure.
- **2013**. EPA begins preparing RI report and starts FS investigations. FWP continues fish studies. Doe Run begins post-removal inspection and monitoring.

2014 Field Season—Additional Investigations to Support the Feasibility Study

EPA Activities

The RI report is scheduled to be completed in late 2014 and will use information gathered between 2009 and 2012, as well as historic data. It will describe the nature and extent of contamination at the Site and will include human health and baseline ecological risk assessments. In 2014, EPA will begin a FS of the Galena Creek portion of the Site (where the abandoned mines are) to evaluate the most appropriate cleanup methods. This Galena Creek FS should be completed in 2015. This will be followed by a proposed plan and a record of decision for cleanup for Galena Creek. EPA will then focus on preparing a FS for the Dry Fork Belt Creek portion of the Site. This area does not contain source areas, but has roughly 13 miles of impacted streambanks (including campsites) to be evaluated for cleanup.

The 2014 field season will focus on information important to the Galena Creek FS. Results will help to develop various alternatives for cleanup and will provide a greater understanding of site conditions. It builds on work done in 2013 and includes the following:

- **Seep and Adit Discharge, Groundwater, and Surface Water Sampling.** An additional round of samples will be collected from seeps and adits, groundwater monitoring wells and temporary well points, and streams. The samples will be collected at high-flow (May or June) and low-flow (September). The data will help us to better understand the local hydrogeologic system.
- **Continuous Monitoring.** Throughout summer, EPA will continuously monitor water quality at two locations on Galena Creek near the Block P Mine to determine if there are significant fluctuations in metals loading, pH, conductivity, or temperature due to contributions from nearby mine sites.
- **Passive Treatment Testing.** Contaminated water discharging from mine adits is a major source at the Site. This water must be addressed in order to cleanup the heavily contaminated Galena Creek. EPA is testing several forms of passive treatment of site water in 2014. If successful, passive treatment would be less costly and easier to construct and maintain than a traditional water treatment facility. Activities to support this evaluation in 2014 are:
 1. **Danny T Adit Pilot Test.** EPA will continue a field pilot test begun in 2013 to evaluate various passive treatment methods (such as mixtures of locally available limestone, manure, and other organic material) on highly-contaminated water discharging from this adit.
 2. **Tiger Shaft Pilot Test.** Several mines on the Site have extensive underground workings that are connected to adits that discharge contaminated water. In 2014 and 2015, EPA will add amendments to a mine shaft at one of these mines to see if the water quality from the discharging adit can be improved before it leaves the mine.
 3. **Test Pit Excavations.** In July, test pits will be excavated on USFS-administered land on Galena Creek to evaluate its use as a potential treatment area for adit discharge from upstream mines.
- **Diversion of Surface Water Runoff.** With the owners' permission, EPA will temporarily divert surface water runoff away from a mine shaft that is connected to extensive underground workings. By reducing the amount of water that enters the mine workings, the amount of contaminated water that discharges from the workings should also be reduced.
- **Revegetation Studies.** EPA will install a series of revegetation test plots on Dry Fork Belt Creek and possibly in Galena Creek to evaluate the best ways to revegetate areas impacted by mine waste.

EPA is the lead agency at the Site.

The support agencies are USFS, USFWS, and Montana DEQ and FWP.



Groundwater sampling



Danny T passive treatment test

Montana Fish, Wildlife and Parks (FWP) Activities

FWP has been working with EPA, DEQ, and USFS to conduct aquatic studies at the Site since 2010. The studies document conditions prior to cleanup and as cleanup progresses.

In 2014, FWP will continue their work with the following activities:

- **Fish Population and Community Monitoring.** Monitor Dry Fork Belt Creek and its tributaries, including an extensive survey of the drainage to determine the presence of fish, species composition, and genetic composition of Westslope cutthroat trout (WCT) populations.
- **Macro-Invertebrate Sampling.** Monitor the same sites as previous years. These organisms (including insects, spiders, worms, etc.) are excellent indicators of the health of a watershed.
- **Fish Tracking.** Continue passive integrated transponder (PIT) tagging in Gold Run Creek near the mouth, downstream, and upstream to track if water quality has improved to the point where fish are moving into this area.
- **Caged Fish Bioassay.** Continue to monitor fish survival downstream of cleanup work. Temperature, discharge, and precipitation will be monitored in some locations.

Doe Run Activities

Under a May 2011 AOC with EPA, Doe Run removed 235,000 cubic yards of mine waste from the Block P Mining Complex (Block P, Wright/Edwards, and Belt Patent mines). In 2011 and 2012, under EPA oversight, the wastes were excavated, placed, and capped in a repository constructed on Doe Run property. The repository and other disturbed areas were revegetated in late 2012. In 2013, Doe Run began implementation of a post-removal, site control, inspection and monitoring program.

In 2014, Doe Run will continue acid mine drainage investigations and post-removal inspection and monitoring at the Block P Mine Complex. They will also continue annual monitoring activities at the Block P Mill Repository (general site inspections and repository integrity monitoring).

FISH BARRIER-PISCICIDE TREATMENT

At the Site, genetically-pure WCT have been living in clean water *upgradient* of mining contamination. As cleanup proceeds, there will no longer be a contaminated zone that separates these pure WCT from the rest of the fishery. In 2014, the USFS and Montana FWP are building a fish barrier to serve that purpose, using a grant awarded in the 2013 Montana legislative session. The fish barrier, to be constructed in Dry Fork Belt Creek on USFS-administered land, will keep new fish from migrating into areas of pure WCT and will expand their range and numbers in the watershed.

FWP has also prepared an environmental assessment to evaluate piscicide treatment of stream areas above the fish barrier to remove non-native fish. A public meeting about the barrier and piscicide will be held at the Monarch/Neihart community center on **April 23 at 6:30 pm**. Comments on the barrier may be mailed to Carol Hatfield, White Sulphur and Belt Creek District Ranger, P.O. Box A, White Sulphur Springs, MT 59645, or emailed to Beth Ihle at bihle@fs.fed.us by May 13, 2014.

