



Barker Hughesville Superfund Site

Judith Basin and Cascade Counties, Montana

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

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2011 Field Update

The Barker-Hughesville Mining District Superfund Site is located in west-central Montana, east of Monarch. The area is most renowned for its rich mining legacy that prospered through the later part of the 19th century and early 20th century. Historic mining camps of Barker and Hughesville were home to more than 500 people. The site covers almost 15 square miles of land in the Lewis and Clark National Forest and encompasses the floodplain of Dry Fork Belt Creek, four tributary drainages (Galena Creek, McKay Gulch Creek, Spruce Creek, and Smoke-in-Hole Creek), and the upper portion of the Otter Creek drainage.

The site includes the Block P Mill Tailings and Block P Mine Waste Complex properties that are owned by Doe Run Resources Corporation (Doe Run). There are also 45 known abandoned mine sites with associated waste rock dumps, discharging mine adits, streamside tailings deposits, and tailing impoundments. Abandoned mine sites are mostly in the Galena Creek Drainage, near the historic town sites of Barker and Hughesville. Other ancillary mine sites are located in the McKay Gulch Creek and Otter Creek. These sites are on privately-owned land and on public land administered by the U.S. Forest Service (USFS).

In May 2011, the U.S. Environmental Protection Agency (EPA) issued Doe Run an Administrative Order on Consent (AOC) for a removal action of mine waste from the Block P Mining Complex (which includes discrete waste rock piles and associated mine workings). Planned actions under the AOC include excavation of mine wastes and consolidation of those materials into a repository to be located on Doe Run property. Activities in 2011 include road construction and improvement, clearing and grubbing of existing vegetation, and initial grading and preparation of the repository footprint. With the exception of the former tramway structure located north of the now-sealed Block P mine shaft, all historical structures in the footprint of the work zone will be removed prior to excavation. Structures will be demolished using heavy equipment, with the wood will be stockpiled for hauling to the repository.

Site Contacts

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

Roger Hoogerheide, EPA Remedial Project Manager (406) 457-5031 or 1-866-457-2690
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Keith Large, DEQ Project Officer, (406) 841-5039, klarge@mt.gov

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



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, 8am– 4:30pm
- **U.S. Forest Service**, Belt Ranger Station, 4234 U.S. Hwy 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, 8am– 5pm



Site Timeline...

- **1970s to 90s.** Numerous investigations by the State of Montana.
- **2001.** Site listed on EPA's National Priorities List.
- **2002 to 2005.** Under an EPA and USFS AOC, Doe Run investigates and cleans up Block P Mill.
- **2004/2005.** EPA visited and ranked by hazard (Tiers 1, 2, and 3) the 45 abandoned mine sites identified by the State and compiled existing site data into a Technical Memorandum.
- **2007 to 2010.** Doe Run conducts annual monitoring.
- **2008.** EPA and Doe Run sign AOC for investigation of the Block P Mining Complex.
- **2009.** EPA began a remedial investigation (RI) and sampled Tier I and Tier II mines sites, residential properties, roadways, and surface water, and sediments. Doe Run investigates Block P Mine.
- **2010.** Doe Run prepares EE/CA addressing cleanup of Block P Mining Complex. Montana Fish, Wildlife and Parks (FWP) begin to collect macro invertebrates and electrofish along Galena and Dry Fork Belt Creeks. EPA continues to collect sediment and surface water samples. Doe Run begins site prep for waste rock removal in 2011.
- **2011.** EPA and Doe Run sign AOC for cleanup of Block P Mining Complex. EPA and FWP continue their investigations (see pages 2 & 3).
- **2012.** EPA will assess volume of streamside tailings identified in 2011 and investigate the remaining Tier I mine sites (in Daisy Creek drainage). Doe Run will continue cleanup of Block P Mining Complex.

2011 Field Season—Barker Hughesville Mining District Superfund Site

EPA and the State of Montana will continue the investigation into nature and extent of contamination at the abandoned mine properties within the site in late summer and early fall of 2011. In general, these activities will involve only small project teams (usually two people) and little if any heavy equipment (a drill rig). At the same time, Doe Run will be conducting various activities in preparation for construction of a mine waste repository. These activities will include larger equipment and may be more noticeable.

Written access has been obtained in advance from all property owners where field activities will occur. However, residents and visitors may notice the activity, especially on streams and on private property, and may have questions.

1. Mine Sampling/ Surveying

EPA contractors will visit 20 small abandoned mine properties to confirm information obtained by the State of Montana in an Abandoned Mine Sites Inventory in the early 1990s.

Activities will include:

- Sample and survey mine waste piles
- Document (in field notes and photos) evidence of:
 - Land use (such as ATV trails)
 - Surface water runoff, springs, or adit discharge
 - Potential safety hazards (such as open shafts)
- Update field maps showing general size and layout of mine properties

Where: Small mine properties across the site

When: Late Aug. to Early Sept. 2011—2 weeks

2. Aquatic Population Surveys

Montana Fish, Wildlife and Parks will collect macro invertebrates and electrofish along Galena Creek and Dry Fork Belt Creek. Caged fish will also be placed in select locations to determine mortality rates of these fish.

Activities will include:

- Electrofish to conduct population surveys
- Collect tissue samples for genetic analysis of hybridization
- Mark westslope cutthroat trout with passive integrated transponder tags
- Sample for benthic macro-invertebrates
- Take discharge measurements and check on thermographs

Where: Galena Creek/Dry Fork Belt Creek areas

When: Late Aug. thru Sept. 2011—4 weeks

3. Streamside Tailings Investigation

EPA contractors will walk the lengths of site drainages that are known to have water during at least part of the year and that contain documented mine sites.

Activities will include:

- Document (in field notes and photographs) visual evidence of tailings deposits in:
 - Overbank deposits on streambanks
 - Informal camp site areas on Dry Fork Belt Creek
- Collect samples of shallow soils at regular intervals to document mine-waste contamination

Activities will be sequenced beginning with the most downstream locations and ending with the most upgradient.

Where: Creek drainages across the site

When: Sept. 2011—2 weeks

4. Monitoring Well Installation/Sampling

EPA contractors will install and sample monitoring wells to provide sampling locations to evaluate impacts of mining on the shallow (alluvial) groundwater quality along Galena and Dry Fork Belt Creeks. The wells include three well pairs to allow both the shallow and deeper alluvial groundwater to be characterized.

Activities will include:

- Install 15 monitoring wells
- Develop wells
- Collect samples from new wells, existing monitoring wells, and several seeps
- Ship samples for laboratory analysis

Where: Galena Creek/Dry Fork Belt Creek areas

When: Late Sept. to early Oct. 2011—3 to 4 weeks

Heavy equipment: Drill rig

5. Low Flow Stream Sampling

EPA and its contractors will sample surface water and sediment at previously identified station locations. The data will be used with data from previous years to assess surface water conditions, further determine the nature and extent of contamination, and effectively evaluate the biological condition of the area.

Activities will include:

- Collect surface water and sediment samples for laboratory analysis
- Collect additional sediment samples for toxicity tests
- Conduct habitat assessments
- Collect pore water samples
- Collect stream flow measurements

Where: Galena Creek/Dry Fork Belt Creek areas

When: Late Sept. to early Oct. 2011—1 week