Montana Pole and Treatment Plant Federal Superfund Site

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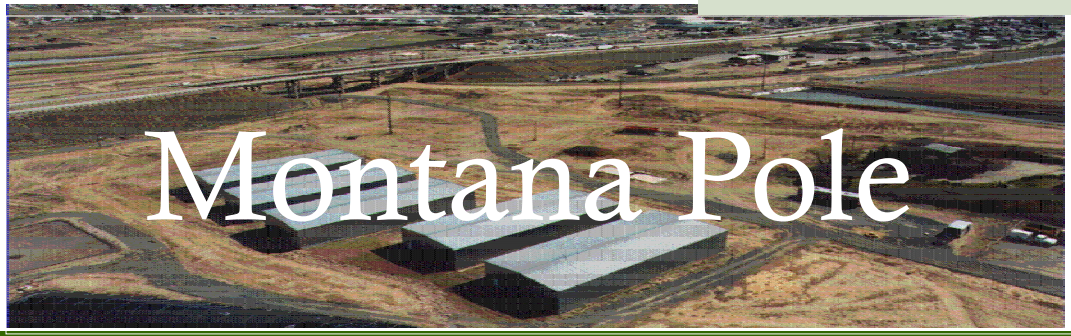


Cleanup Update **April 2010**

Site Status and Recent Developments

operating successfully. Montana Pole is an abandoned 40-acre wood treating facility that operated from 1946 until 1984. Contamination consists of wood-treating products including pentachlorophenol (PCP), related chlorinated phenols, polynuclear aromatic hydrocarbons (PAH), dioxins/furans and petroleum compounds that spread into surrounding soils, groundwater and the adjacent Silver Bow Creek. Montana Pole is one of several Clark Fork Basin Federal Superfund sites. It was added to the National Priority List (NPL) in 1987. Located at 220 West Greenwood Avenue, Butte, Montana, the Site is a mixed land use area. Two neighborhoods sit within a quarter of a mile of the Site.

The Montana Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA) have taken measures to prevent further contamination of Silver Bow Creek and to remove the immediate sources of soil contamination, treat groundw These measures have reduced the potential for exposure to hazard activities are underway.

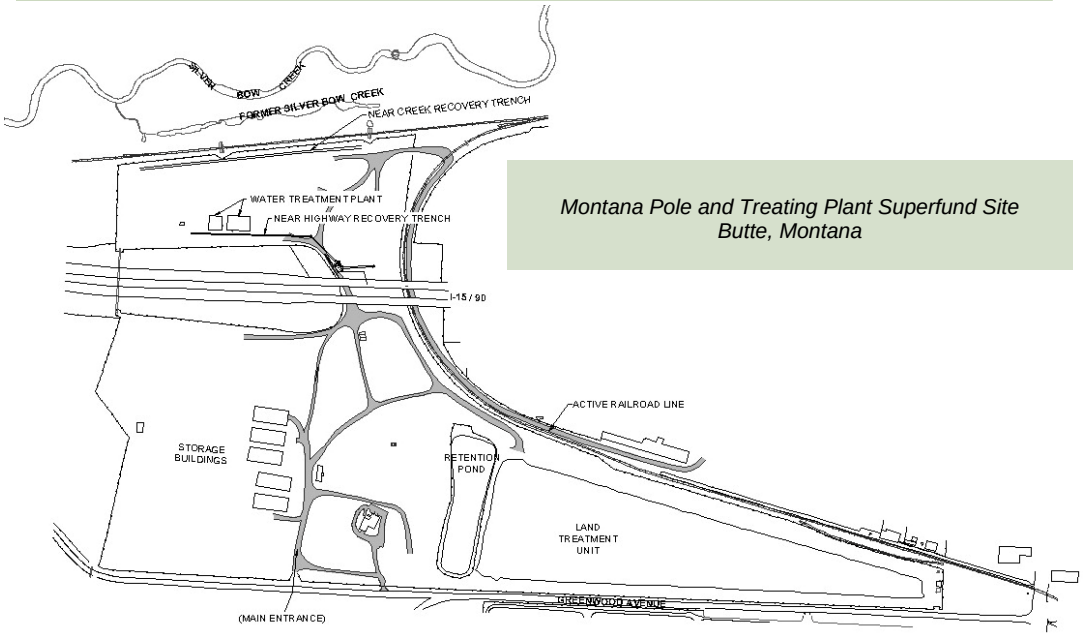
> *"There is active remediation taking place. Even when you don't see trucks moving, the microbes are doing their job through bioremediation."*
> —Lisa DeWitt
> DEQ Project Officer

Soil Cleanup

All the contaminated soil has been excavated and soil remediation more than 200,000 cubic yards. Most of the soil has been moved to (LTU) to biologically break down the contaminants. "There is activ DEQ Project Officer Lisa DeWitt. "Even when you don't see truck their job through bioremediation." More than 150,000 cubic yards LTU and backfilled. Another 45,000 cubic yards remain on the LTU for treatment. Five-year reviews were conducted in 2001 and 2006, with an update in 2008.

Cover Soil from Bridge Work

The DEQ and Montana Department of Transportation (MDT) are planning to save time and money by using soil from upcoming bridge work as cover soil for the Montana Pole remediation. Bridge work is expected to get underway on Interstate 15/90 near Montana Pole in spring 2010 and to last two field



Montana Pole and Treating Plant Superfund Site
Butte, Montana

Montana Department of Environmental Quality

United States Environmental Protection Agency

Site Status and Recent Developments— (Continued from page one)

Water Treatment Plant

Contamination poses the biggest threat to the groundwater at Montana
contaminated groundwater at the site. It was upgraded between 1996 a
groundwater treatment system is operating as designed and currently tr
the Montana Tech Bureau of Mines and Geology. After treatment, the v
billion gallons of water have been treated. Another 20 to 30 years of op

In 2007, the DEQ's contractor evaluated the groundwater collection an
the groundwater collection and treatment system is preventing further
and is limiting release of contaminated groundwater to nearby Silver Bo

Plant treats 345 gallons a minute

Water, Soil and Air Monitoring

Water, soil and air monitoring are conducted as outlined in the Site-Wi
regular collection of samples of groundwater, surface water, water treat
as needed to ensure compliance with the Record of Decision (ROD) an
frequency and methods for collecting samples are currently being reviev
DEQ voluntarily monitors the air quality to ensure the public health and

Interstate Bridge Replacement

The Montana Department of Transportation (MDT) expects the bridge replacement work on Interstate 15/90 to begin in spring 2010, and to last two full seasons. The DEQ and the MDT are working together to save time and money by stockpiling excess clean soil from the bridge work to be used as cover soil for Montana Pole remediation work. By doing this, the MDT does not pay for hauling the clean dirt away, and the Montana Pole project won't have to pay to have clean cover soil trucked in. When you see a large pile of dirt accumulating in the near future, you will know it is clean dirt from the MDT's road work.

During the bridge work, soil and groundwater treatment at Montar
MDT's work is complete. This past summer, in preparation for the
several other physical features at Montana Pole.

Bridge work will provide clean cover soil for Montana Pole

View documents at:

Montana Tech Library, 1300 West Park St.
Butte, MT 59701

DEQ Remediation Division
1100 North Last Chance Gulch
Helena, MT 59601

Check out these websites:
www.deq.mt.gov
www.epa.gov
www.buttectec.org

Next Steps

After all soils have been treated and backfilled, drainage from the LTU will be removed and disposed of and all disturbed areas will be revegetated to make way for potential future development. At that time, the DEQ expects to turn the Site over to Butte-Silver Bow City/County government. Final land use at the site will be determined by Butte-Silver Bow with certain constraints. The remedy will result in waste being left on-site above levels that allow for unlimited use and unrestricted exposure. Rules called "institutional controls" will be established that include adequate zoning restrictions, conservation easements and other controls to prevent any future residential use of the site. Appropriate controls will also be set up to prevent any future water well drilling in the contaminated groundwater plume. These non-engineered methods will minimize the potential for human exposure, limit land and resource use, and protect the integrity of the remedy. Future use may include a fairgrounds or open space. This property will be a great benefit to the residents of the Butte area.

Nine acre land treatment unit

Site History

The Montana Pole and Treating Plant, located in Butte, Montana, operated as a wood treating facility from 1946 to 1984. During most of this time, a solution of about 5 percent PCP mixed with petroleum carrier oil similar to diesel was used to preserve poles, posts and bridge timbers. The PCP solution was applied to wood products in butt vats and pressure cylinders. Creosote was used as a wood preservative for a brief period in 1969. Hazardous substances from the pole-treating operations were discharged into a ditch next to the plant. The substances then began to run towards Silver Bow Creek.

In March 1983, a citizen filed a complaint concerning oil seeping into Silver Bow Creek near the Site. The Montana Department of Health and Environmental Services (MDHES), now the DEQ, investigated the complaint and discovered an oil seep on the south side of Silver Bow Creek in the same direction the water flows, directly below the Site. Further investigation of the Site revealed oil-saturated soils adjacent to the creek and on Montana Pole property. Subsequent sampling confirmed the presence of PCP, PAH and dioxins/furans in Site soils and oil samples. Groundwater use in the area is limited.

Site debris before remediation

Site after Phase Two remediation, 2000

Site Risk

was that groundwater beneath it had become contaminated with oily wood treating fluid that had spilled, dripped or discharged onto the ground surface. The oily wood treating fluid migrated downward, contaminating the soil that it passed through as it entered the groundwater. Some of this fluid made its way to the surface of groundwater and Silver Bow Creek, and some of the fluid attached to soil particles above and below the water table. A portion of this fluid dissolved in groundwater and surface water where it migrated downstream both above and below the ground surface. This prevented the groundwater and surface water from being used for beneficial uses. The ROD issued in 1993 established performance standards for these and all other contaminants of concern at the site.

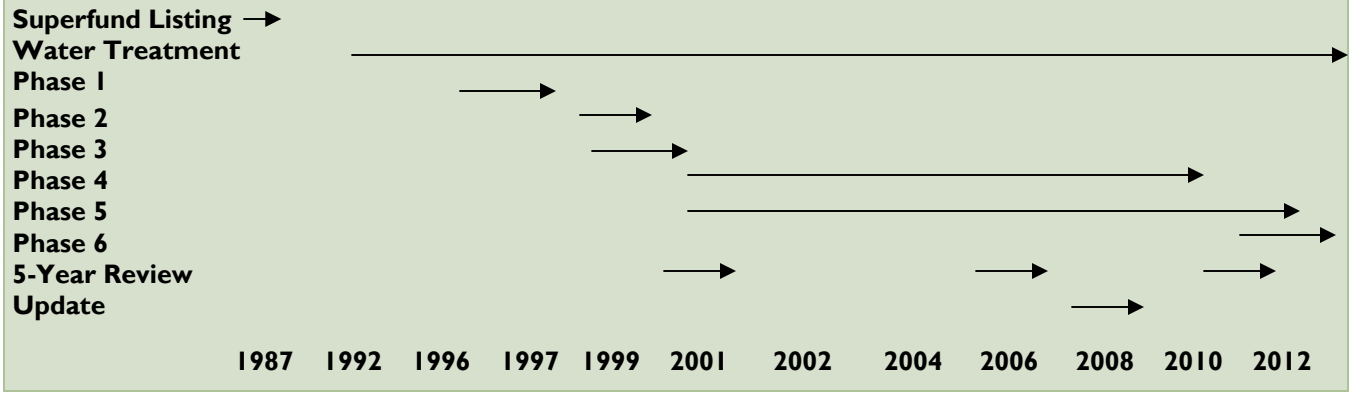
Costs and Coordination

Atlantic Richfield Company (ARCO) and other responsible parties, through a settlement agreement, paid $38 million for cleanup. The DEQ, in consultation with the EPA, conducts cleanup activities.

The DEQ is the lead agency for remediation of the Montana Pole Site under the consent decree for final cleanup, 1996. The EPA works in partnership with the DEQ to provide oversight.

Contamination extended to Silver Bow Creek.

Timeline of Remediation Steps at Montana Pole Superfund Site



Cleanup Approach

In July 1985, the EPA Emergency Response Branch began a removal action on the Site to minimize impacts to Silver Bow Creek and to stabilize the Site. Approximately 10,000 cubic yards of soils were excavated and two groundwater interception/oil recovery systems were installed to alleviate oil seepage into the creek. Contaminated areas of the Site and features of the groundwater recovery system were also fenced to restrict public access.

In October 1989, the EPA granted the MDHES the initial enforcement funding to notify potentially responsible parties and conduct administrative order negotiations. In April 1990, the MDHES signed an administrative order on consent with ARCO under which ARCO agreed to conduct a remedial investigation and feasibility study (RI/FS) at the site. Following MDHES and EPA approval of the RI/FS work plan, ARCO began the RI/FS in June 1990.

In June 1992, the EPA proposed an additional removal action to control and recover floating oils identified during the RI. The action included installation of an 890-foot sheet piling on the south side of Silver Bow Creek. The sheet piling was approximately 50 feet south of the creek. Ten recovery wells were installed on site. Eight of the wells were located south of Silver Bow Creek in a north-south line running perpendicular to the creek. Two wells were installed parallel to the creek, one on each end of the sheet piling. The wells were approximately 25 feet deep. Each well had two pumps, one to collect free-floating oil and pump it to an on-site storage tank, and the other to pump contaminated groundwater to an on-site granular activated carbon treatment facility built by EPA. The water treatment facility went into operation January 22, 1993, at which time a system previously installed by the EPA Emergency Response Branch in 1985 was shut down.

Based upon consideration of Superfund requirements, the detailed analysis of alternatives, and public comments, the MDHES and the EPA issued a ROD in 1993 that documented the appropriate remedy for the Site. The selected remedy reduces contamination at the source, remediates groundwater to the extent practicable and limits releases to Silver Bow Creek to allowable levels. All accessible contaminated soils have been excavated to the extent practicable, preventing this material from continuing to contaminate groundwater.

Implementation of the cleanup is occurring in a number of phases. Phases 1 through 3 are complete; cleanup is currently in phases 4, 5 and 6.

Phase 1

The primary remedy components completed during Phase 1 of the remedial action (May 1996 to November 1997) consisted of constructing the LTU and 13 soil staging and pretreatment piles (SSPs), building an addition to the water treatment plant, constructing two contaminated groundwater recovery trenches and excavating the north side contaminated soils. The Phase 1 construction activities are summarized in the *Phase 1 Construction Report* dated August 2001.

Soil staging and pre-treatment piles

Recovery trench

Phase 2

Phase 2 of the remedial action (March 1999 to May 1999) consisted of removal and disposal of hazardous and non-hazardous waste debris remaining on site. Phase 2 remedial actions are summarized in the *Remedial Action Report, Montana Pole and Treatment Plant Site Phase 2 - Debris Removal* dated September 26, 2000.

Phase 3

Phase 3 of the remedial action (October 1999 to December 2000) consisted of excavating the southside contaminated soils, offloading Phase 1 treated soils from the LTU, placing approximately 132,000 cubic yards of contaminated soil on the LTU, installing the north and south in situ (in place) treatment systems and relocating sewer and potable water lines. The in situ treatment system was operated through November 2002. Since that time, PCP concentrations in surface water samples from Silver Bow Creek have generally remained below the ROD cleanup standard. For this reason, the in situ system has not been reactivated.

North side piping and gravel in situ treatment system, Phase 3

South side in situ treatment system, Phase 3

Excavated soils placed on the land treatment unit for biological treatment of contaminants

Phase 4

Phase 4 of this project is a continuation of F
activities, and includes off-loading the LTU a
is remediated below action limits set for th
began in April 2001 with offload of approxi
cubic yards of treated soils from the LTU. T
soils were placed back onto the Site. In 200
13 SSPs were determined to have met the c
standard for the Site, and were dismantled.
soils were placed over the south side in situ
2005, approximately 28,000 cubic yards of t
were offloaded from the LTU and backfillec
the LTU was regraded. In 2007, approximat
cubic yards of treated soil were offloaded fr
and backfilled on site, and the LTU was reg
2007, the last five SSPs were dismantled, an
approximately 8,000 cubic yards of treated
SSPs were placed on the LTU for final treat

North side excavation

Phase 5

Phase 5 addresses the contaminated soils beneath Interstate 15/90 that divides the site. In 2001, a preliminary remedial alternatives report was prepared to evaluate various potential remediation methods. Since that time, the DEQ, the MDT, and the EPA have extensively evaluated the technical and economic feasibility of excavating and remediating the remaining contaminated soils in conjunction with the MDT interstate bridge removal project. Based on the results of these evaluations, the DEQ concluded that it is not economically or technically reasonable to pursue excavation of these soils during the MDT's interstate bridge removal project. The DEQ is currently conducting a treatability study to determine an appropriate technology for remediation of these inaccessible soils.

Nine infiltration basins, north side

Phase 6

Phase 6 consists of removal of all soils and drainage from the LTU once it meets performance standards specified for use as fill material above historic high groundwater levels in the excavated areas within the Montana Pole property as specified in the ROD. It also calls for final reconfiguration of all disturbed areas. At that time, the DEQ expects to turn the site over to Butte-Silver Bow City/County government. It is expected that the final land use at the site will be determined in conjunction with Butte/Silver Bow, with certain constraints on land use as specified by the DEQ and the EPA, which are consistent with the ROD.

North side backfilled with clean overburden

Community Involvement

Through its Technical Assistance Grant (TAG) program, the EPA is funding the Citizens Technical Environmental Committee (CTEC) to help enable community involvement. CTEC is a group of volunteer citizens who work with the EPA, the State of Montana, responsible parties and others to make the Superfund process and cleanup decisions understandable for all. One of several CTEC functions is to hire independent experts to review documents and provide public outreach and education on behalf of the local community. In future years, the community and CTEC will be asked to take a leadership role in determining the future use for the site. Stakeholders include Butte/Silver Bow County and Montana Tech.

Final plans for future use of the site will be coordinated by community members and Butte/Silver Bow government. This property will benefit the residents of the Butte area for generations to come.

Federal Superfund and Montana's Restoration Economy

Federal Superfund activities have brought hundreds of millions of remedial construction dollars and hundreds of jobs to Montana's economy. According to the 2009 state report, An Estimation of Montana's Restoration Economy, approximately 31 jobs and $2.59 million in economic activity are created for every million dollars of funding spent on remediation and restoration.

Montana Department of Environmental Quality

United States Environmental Protection Agency