United States Environmental Protection Agency

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Community Soils Update

ANACONDA SMELTER SUPERFUND SITE

EPA Region 8, Montana Office

May 2017

About the Site

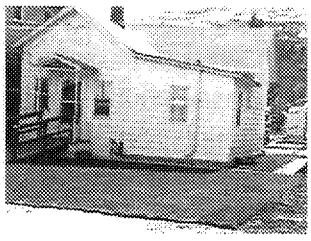
The Anaconda Smelter Superfund Site (Site) is located in the Deer Lodge Valley in southwestern Montana, in and around the city of Anaconda. Nearly 100 years of milling and smelting have resulted in contamination of soils, surface water, and ground water over a large area, primarily through airborne emissions and disposal from smelting operations. The primary contaminants are arsenic, cadmium, copper, lead, and zinc.

The Site was added to EPA's National Priorities List in 1983 and Atlantic Richfield was identified as the primary potentially responsible party. Atlantic Richfield has since been actively investigating and cleaning up the Site. To maximize efficiency, the Site was divided into five operable units, and the Community Soils Operable Unit addresses residential and commercial properties in Anaconda, Opportunity, and the surrounding area.

Work to Date

The 1996 record of decision for the Community Soils Operable Unit provided for removal and backfill of residential soils exceeding an arsenic concentration of 250 parts per million (ppm) and treating or covering commercial soils that exceeded 500 ppm of arsenic. The active railroad line in Anaconda was also covered and institutional controls were implemented to permit future development and provide educational information to the community.

From 2002 to 2010, 1,740 properties were sampled and 350 yards were cleaned up. An additional 39 acres of commercial properties were also addressed.



Contaminated soil and waste were removed and excavations were backfilled with clean soil. The areas were then either revegetated (sod for lawns and native grasses for vacant lots) or paved/graveled (depending on existing land use).

2002 to 2010

Sample: 1,740 properties

Remove: 350 yards

Treat or Cover: 39 commercial acres and active railroad

Recent Changes

Data collected during initial yard cleanups found higher levels of contamination than expected. This prompted a second look at cleanup of arsenic and also at lead, which initially was determined not to pose a risk. New lead data (in 2007 and 2008) identified risks in soils not addressed with the arsenic cleanup.

In 2013, EPA amended the record of decision for the Community Soils Operable Unit to include the removal of residential soils exceeding a lead concentration of 400 ppm and remediation of attic dust when an exposure pathway was present.

With the approval of the *Final Residential Soils and Attic Dust Remedial Action Work Plan* in November 2015, two additional changes were made by EPA in a document called an *Explanation of Significant Differences*. These changes included making the depth of cleanup for arsenic and lead the same and additions to the institutional controls program for interior dust (see page 3).

The U.S. Environmental Protection Agency's mission is to protect human health and the environment.

What to Expect in Residential Areas

What The Current Work Plan Requires

The 2015 work plan calls for resampling residential soils for lead, as well as arsenic at lower depths. Landowners will be asked if they access their attic or if other pathways (such as ceiling cracks) exist. If they do, attic dust will be sampled and cleaned up if necessary.

Sampling will begin with yards previously sampled that have a screening value greater than 400 ppm of lead. There are approximately 1,130 of these priority yards. Sampling in the priority yards began in 2016 and roughly 500 yards have been sampled. Twenty-four yards in Opportunity and 16 in Anaconda were cleaned up based on the results of that sampling.

Schedule

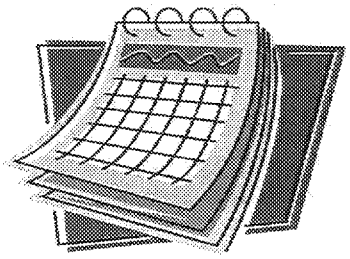
In 2017, Atlantic Richfield plans to clean up 467 of the residential yards sampled in 2016. Cleanup began in late April. Atlantic Richfield will sample another 500 yards in 2017 from the list of priority yards with cleanup for those yards, where needed, in 2018. The last of the priority yards (those suspected of having abandoned trolley/railroad bed materials and requests from families with young children) will be sampled in 2018 with cleanup in 2019. After 2019, yards will be sampled and cleaned up on request.

What Gets Cleaned Up?

Each yard is split into components for sampling and clean up (boulevards, front lawns, flower gardens, back yards, and earthen drives). It is rare that a yard would require a total clean up. Which components are cleaned up depends on if the 400 ppm cleanup level for lead is exceeded or if the *area weighted average* for arsenic is exceeded.

Exposure depends on how much contamination is present and how often contact is made. For lead, the main risk is to pregnant women or children 7 years old and younger who ingest or inhale lead through play. **All yard components that exceed 400 ppm of lead will be replaced**. For arsenic to be significant, exposure has to occur over an extended period over an entire yard, not just a single component. **Having arsenic above the cleanup levels in your yard is not a concern, if the area weighted average is below the cleanup level of 250 ppm.**

The example (right) shows how a property can have one or more components with concentrations above the arsenic cleanup level (shown in red) and still not require cleanup. Depth of cleanup is to 12 inches and to 24 inches for gardens.



2017 - May to October

- Cleanup **467** yards
- Sample **500** yards (with prior access)

2018 - May to October

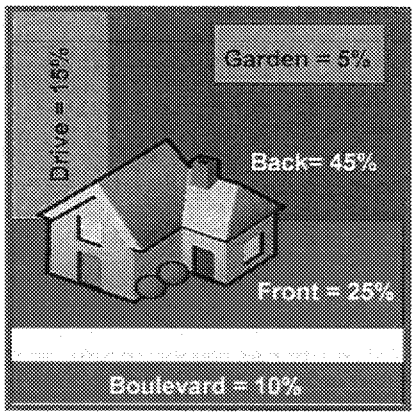
- Cleanup **~500** yards
- Sample **500** yards (with prior access)

2019 & 2021 - May to Oct.

- Cleanup as needed
- Sample yards on request

Sample period is weather dependent

Example of Arsenic Cleanup



Red equals elevated arsenic

Boulevard = 10% x **300** ppm = 30 ppm
Front = 25% x **450** ppm = 112.5 ppm
Back = 45% x 150 ppm = 67.5 ppm
Drive = 15% x 90 ppm = 135 ppm
Garden = 5% x 110 ppm = 55 ppm
Area weighted average = 231 ppm

Arsenic in the boulevard and front exceeds the cleanup level, *but the area weighted average does not.*

Arsenic Cleanup is NOT Required

Institutional Controls To Protect Cleanup

If you have a project that could disturb soil (such as tree planting or fence or underground sprinkler installation) or you'd like to renovate your house or have a garden, please contact the Anaconda-Deer Lodge County Coordinator at 406-563-7019.

Anaconda-Deer Lodge County will assist residents in making sure that activities are done in a way that does not recontaminate a property or house. The county will also provide clean soil and garden boxes to anyone within the Superfund Planning Area who wants to develop a garden.

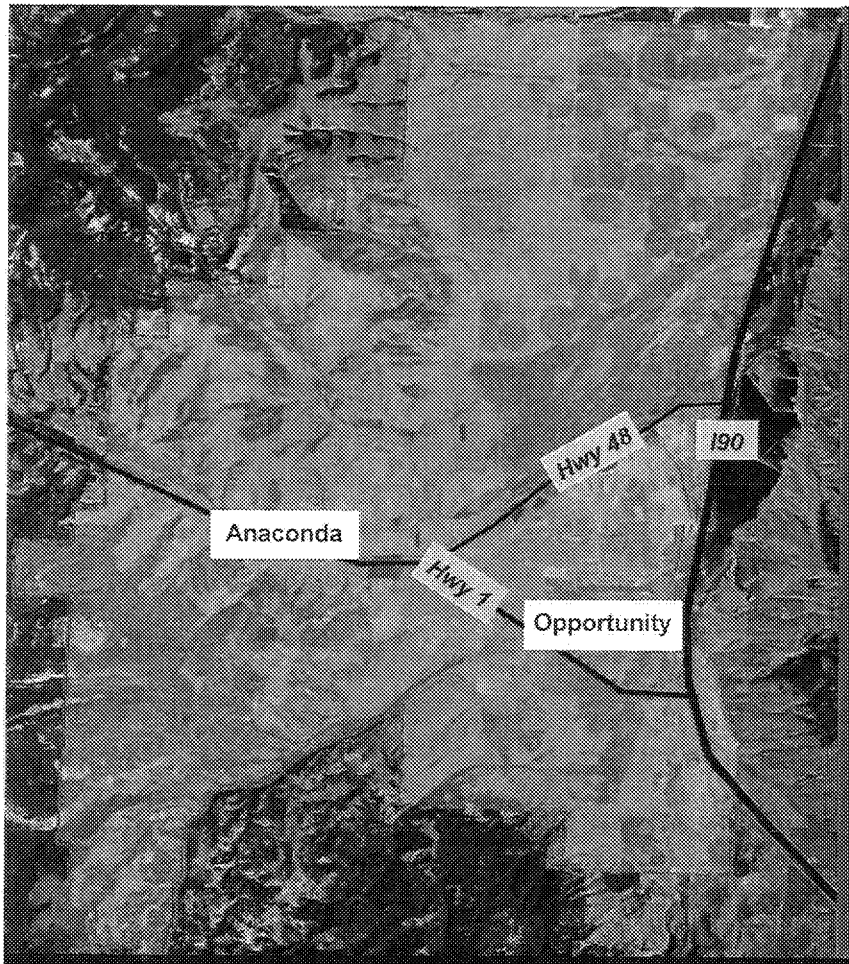
Services that Anaconda-Deer Lodge County will provide to help people understand and address exposure to any residential contamination include:

- Education
- Cleaning, hygiene, and diet guidance
- HEPA vacuum cleaner loaner program
- Renovation starter kits
- Home inspections

Activities that trigger additional cleanup will be referred to Atlantic Richfield.

Test By Request

From 2019 to 2021, Atlantic Richfield will test residents' yards by request if located in the Superfund Planning Area. Any resident in this area may request testing or get information by calling 406-563-7476.



Location of the Anaconda Smelter Superfund Site.

The Superfund Planning Area

Boundaries are based on previous sampling where arsenic in soil exceeded 250 ppm and arsenic in groundwater or surface water exceeded 10 parts per billion (ppb) (human health drinking water standard).

Land included in the planning area is privately owned (with current residents or that may be developed in the future). Open space/recreational/wildlife habitat areas (like Mount Haggin Wildlife Management Area) and lands administered by the U.S. Forest Service are excluded.

Area wells are in Atlantic Richfield's domestic well sampling program and anyone can request annual sampling.

- **Wells with more than 10 ppb of arsenic get a water treatment system.**
- **Wells with between 5 and 10 ppb are sampled annually.**

If you only remember one thing...

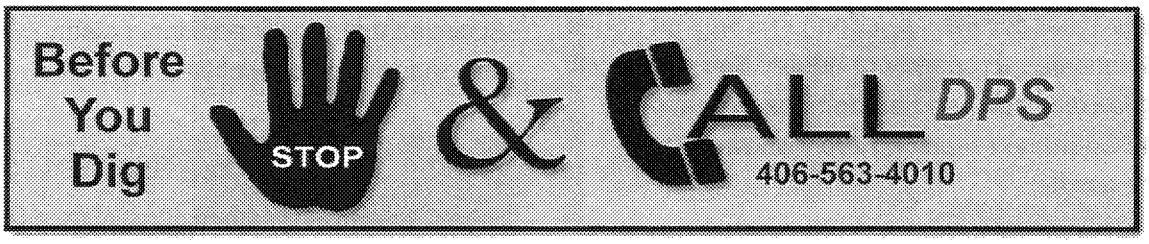
Lead over 400 ppm or arsenic* over 250 ppm = cleanup

*area weighted average - see example

You Are The Key to Long-Term Protection!

Once the yards are cleaned up, residents will be key to making sure the remedy stays protective. Some contamination will remain underground, secured by a significant layer of clean soil, and the most important thing you can do is to respect that soil barrier by using the Development Permit System (DPS). **The DPS was put in place to keep your community safe.**

If you have a digging project, ***before you schedule your backhoe or contractor***, take these two simple steps:



DPS will ☑ to see if your soil needs to be handled carefully and disposed of safely.

If needed, DPS will arrange to replace contaminated soil with clean soil.

If everyone uses the DPS when they plan to expose buried soils, contamination will stay in a safe place. You, your family, your neighbors, and the environment will be protected, which is good for everyone.

Agency and Local Government Contacts

U.S. Environmental Protection Agency

- Charlie Coleman, Remedial Project Manager, 406-457-5038, coleman.charles@epa.gov
- Robert Moler, Community Involvement Coordinator, 406-457-5037 moler.robert@epa.gov

Montana Department of Environmental Quality

- Joel Chavez, Project Officer , 406-444-6407, jchavez@mt.gov

DPS Information

- Carl Nyman, Anaconda-Deer Lodge County, 406-563-7019, www.adlc.us/departments/planning/

Need More Information?

- Visit EPA's website for the Site: www.epa.gov/superfund/anaconda-co-smelter
- Contact the Technical Assistance Grant Group, Arrowhead Foundation, P.O. Box 842, Anaconda, 406-563-5538, www.anacondasuperfund.com/