# Anaconda Smelter Superfund Site – Community Soils Operable Unit

*Anaconda, MT*

***U.S. EPA, Region 8 – Helena, MT*** ***September 2012***

## EPA Issues Proposed Plan to Amend 1996 Cleanup Decision

This proposed plan presents the U.S. Environmental Protection Agency's (EPA's) proposed changes to the remedy for the Community Soils Operable Unit (OU) of the Anaconda Smelter Superfund site (the site). It has been prepared by EPA, the lead agency for site activities, in consultation with the Montana Department of Environmental Quality (DEQ), the support agency. The plan is required as part of EPA's public participation responsibilities under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA or Superfund) and National Oil and Hazardous Substance Pollution Contingency Plan (NCP) 40 C.F.R. Part 300. The NCP is the Federal regulation that guides the Superfund program.

**Existing 1996 Remedy**
Addressed only *arsenic* in residential soils.

**2012 Proposed Remedy**
Adds *lead* in residential soils *and lead* and *arsenic* in indoor dust to the existing cleanup

## Why Changes Are Needed

The changes described in this plan are needed because EPA has identified fundamental additions to the original remedy that are important to the protection of human health and the environment. The original remedy was documented in a 1996 record of decision (ROD). The ROD specified cleanup of contaminated residential soils with arsenic concentrations (in the upper 18 inches of soil) above an action level of 250 parts per million (ppm). In 2002, EPA and DEQ approved the *Residential Soils Remedial Action Work Plan/Final Design Report for the Community Soils OU*. Since then, approximately 1,740 residences in Anaconda and the surrounding rural area have been sampled and 350 yards where the average arsenic concentration for the yard exceeded the 250 ppm residential use action level in the surface soil (0 to 2 inches) have been cleaned up.

Cleanup activities require substantial excavation and sample analysis and have generated much additional data. Three main concerns were identified from review of these cleanup data (Exhibit 1). All three concerns are related to the actual concentrations being higher than expected for the following: arsenic and lead in deeper soils, lead in yards that were not cleaned up, and arsenic and lead in indoor dust. This proposed plan addresses those concerns (except for arsenic in deeper soils) by proposing changes to the original 1996 remedy. Arsenic in deeper soils will be addressed later under the remedial design process.

The changes to the 1996 remedy are described in this plan under *Summary of Remedial Alternatives.* Also included is an overview of site background, the scope and results of previous activities, a summary of site risks, remedial action objectives and goals, and a description of EPA's preferred remedy for cleanup.

EPA will select a final remedy after consulting with DEQ and after reviewing and considering all information received during a 30-day period for public comments (see page 10). New information received during the comment period could result in the selection of a final remedy that differs from the preferred alternative described in this plan.

**Data obtained during cleanup show three main concerns:**

1. **Residential soils at yards that have been cleaned up may have higher concentrations of contaminants at depth (below the top 2 inches) than originally thought.** Data indicate some yards still have elevated concentrations of arsenic and lead at depth.
2. **Residential soils in yards that were not cleaned up have higher concentrations of contaminants than originally thought.** Data from yard cleanups has higher average lead concentrations than that used in the baseline risk assessment.
3. **Indoor dust has higher concentrations of contaminants than originally thought.** More recent analyses have higher lead concentrations in living spaces than was projected in the baseline risk assessment.

**Exhibit 1. New Concerns Based on Cleanup Data**

# Site Background

The site is located in the Deer Lodge Valley in southwestern Montana, in and around the city of Anaconda (Exhibit 2). Milling and smelting activities conducted in the area for nearly 100 years resulted in the contamination of soils, surface water, and ground water, primarily through airborne emissions and disposal practices from smelting operations. The primary contaminants of concern are arsenic, cadmium, copper, lead, and zinc. Exhibit 3 shows the timeline for mining activities at the site.

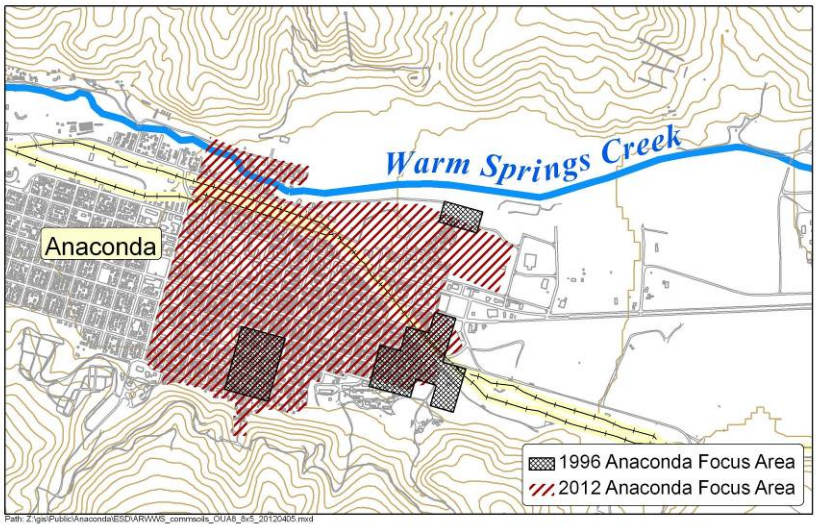


**Exhibit 2. Site Layout**

The site was added to EPA's National Priorities List (NPL) in 1983, under Superfund authority. The Atlantic Richfield Company (AR) was identified as the primary potentially responsible party. Since then, AR has been actively involved in the investigation and cleanup of the following five Anaconda Smelter OUs:

1. **Mill Creek OU**. This first clean-up action involved relocating residents from Mill Creek and other soil stabilization and removal efforts (Exhibit 4).

2. **Flue Dust OU**. The second clean-up action addressed flue dust on Smelter Hill through removal, treatment, and containment. At the same time, AR removed the Arbiter and beryllium wastes and contaminated residential yard materials from portions of Anaconda.

3. **Old Works/East Anaconda Development Area (OW/EADA) OU**. The third clean-up action addressed waste sources within the OW/EADA OU.

4. **Community Soils OU.** The fourth clean-up action provided for cleanup of remaining residential, commercial and industrial soils contaminated with arsenic in Anaconda.

5. **Anaconda Regional Water, Wastes and Soils OU**. The fifth and final OU provides for cleanup of all remaining contamination at the site, including large volumes of wastes, slag, tailings, debris, and contaminated soil, ground water, and surface water that are spread over 300 square miles of agricultural, pasture, rangeland, forests, and riparian and wetland areas.

The Community Soils OU is the subject of this proposed plan. The original 1996 remedial investigation/feasibility study (RI/FS) (Atlantic Richfield, 1996) primarily addressed human health risks from contact with contaminated soils and resulted in the development of a residential soil action level for arsenic. Areas of concern within these communities generally included yard areas and other areas frequented by children (i.e., playgrounds and schools). In addition, potential source areas within the communities, including railroad beds and imported waste/fill areas in both residential and commercial/industrial areas, were also to be addressed.

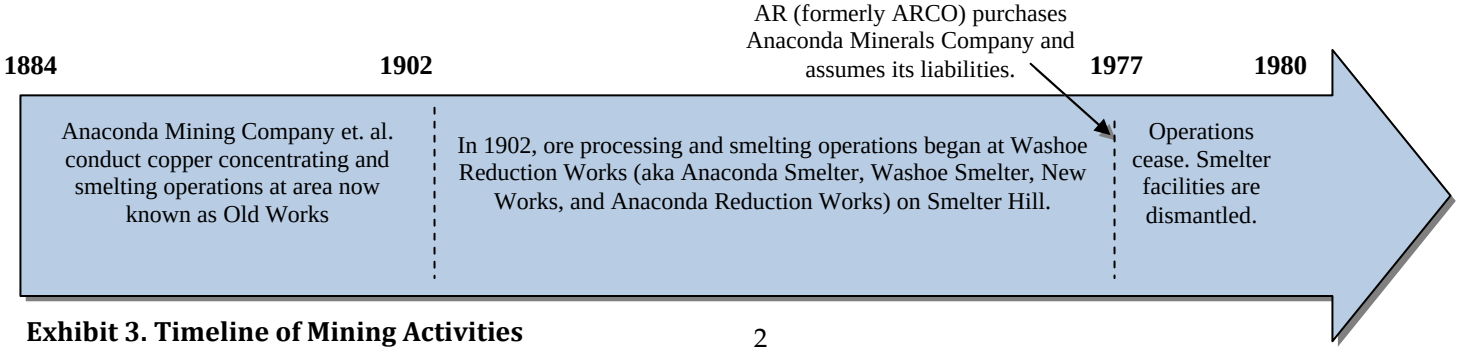


**Exhibit 3. Timeline of Mining Activities**

# Summary of Remedial Action

As discussed earlier, the ROD for the Community Soils OU was executed in 1996, and the remedial design (RD) for cleanup was approved in 2002. During the RD, the area of concern for Anaconda was expanded to include all yards east of Main Street. The cleanup strategy used a two-phase sampling approach of:

1. Sample surface soils (0 to 2 inches) in yards.

   *If the average arsenic concentrations for a yard exceeded 250 ppm, then*

2. Sample subsurface soils (2 to 6 inches and 6 to 12 inches) in a second sampling event.

The rationale for the two-phase sampling was based on the RI site characterization that fallout from smelter emissions was the primary source of contamination and that contaminant levels would be higher at the surface and decrease at depth.

In 2002, AR began sampling residential yards in Anaconda and the rural area under an approved RD. Of 1,740 sampled yards, 350 had calculated average arsenic concentrations that exceeded the cleanup action level of 250 ppm. Those yards were cleaned up.

This number of yard cleanups was significantly more than the 10 to 50 yards estimated in the 1996 ROD, and the results of the RD sampling, especially in subsurface soil, conflicted with the RI site characterization. To address this conflict, in 2006 EPA and AR began conducting additional data analyses.

That analysis entailed the following:

- Interior (living space), exterior, and attic dusts were sampled in several Anaconda and regional residences.
- Approximately 10 percent of the archived soil samples collected during the remedial action (RA) were analyzed to determine the concentration of lead in soils that were not cleaned up.
- Subsurface soils were collected and analyzed from over 100 residences that had average, surface soil arsenic concentrations of less than 250 ppm to determine concentrations of arsenic and lead in remaining subsurface (2 to 18 inch) soils.

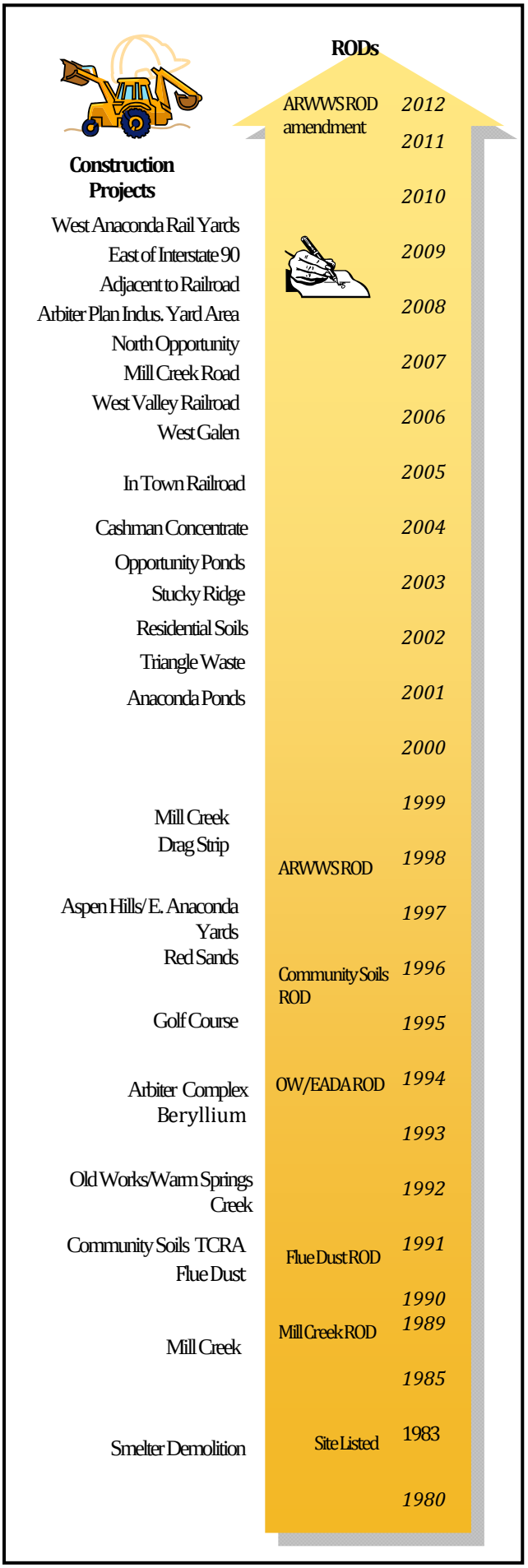


**Exhibit 4. Superfund Timeline**

The results of the data collection effort were presented in the 2008 *Data Interpretation and Analysis Report (DIAR).* The major findings of the DIAR included:

- The actual average concentration of lead in surface soils was 507 ppm, which is much higher than the calculated 290 ppm average from the 1996 risk assessment.
- About one third of yards that were sampled but not cleaned up have some portions of the yard that exceed 250 ppm arsenic in the subsurface.
- About two thirds of yards that were sampled but not cleaned up have portions of the yard and/or overall yard averages that exceed EPA's Regional Screening Level of 400 ppm of lead in surface soils. Ten to twenty percent of sampled yards exceed 800 ppm of lead and some exceed 1,200 ppm.
- Soils with elevated arsenic generally also have elevated lead and vice versa. These correlations are weaker in subsurface soils than surface soils.
- Attic dust concentrations within the Anaconda Focus area are significantly higher than interior dust concentrations, and show no correlation. This suggests that attic dust is not influencing interior dust.
- In most rural areas, smelter emissions appear to be the only site-related source of contamination. The exception is a portion of South Opportunity/ Crackerville where tailings were deposited by Silver Bow Creek flooding events and irrigation practices.

## Changes to EPA's Understanding of Site Characterization as Expressed in the 1996 ROD

Data collected during cleanup show that some of the assumptions used to develop the RI site characterization need to be updated. Although smelter emission fallout remains the primary source of arsenic and lead contamination it is now clear that, at some properties within the Anaconda Focus Area, other sources of contamination are also present.

Other sources of contamination include the following:

1. **Covered historic emissions.** Most yards in East Anaconda were not constructed or landscaped until the 1940s and 50s (after nearly 60 years of smelter operations). This is believed to have resulted in cleaner surface soils being placed over contaminated soils in some locations.
2. **Imported mining-related waste**. Property owners reported that previous residents may have brought in mining and smelting wastes as fill material for yards in low spots or for driveways.
3. **Lead paint contamination in soils.** Many houses were painted with lead-based paint that can or has deteriorated and contaminated surrounding soils. Sometimes this paint has been scraped and the house repainted at least once in the past.

## Summary of Site Risks

As discussed above, the main source of excess concentrations of arsenic and lead in residential soils was long believed to be fallout from the copper smelters which operated in Anaconda from 1884 to 1980. However, mining and smelting wastes that were imported to individual properties, generally for use as fill in driveways and under structures, have also contributed. The material was readily available, easy to transport, and had characteristics that made it desirable for these uses. Another source of lead, which is not necessarily addressed by Superfund law, is lead-based paint. Nationwide, about two-thirds of the homes built before 1940 and half of homes built from 1940 to 1960 contain heavily-leaded paint.

The contaminants of concern identified in 1996 were, and still remain: arsenic, lead, cadmium, copper and zinc. In the 1996 human health risk assessment, risk from lead was determined to be marginally acceptable. The 1996 ROD established the need for cleanup based on arsenic only. Soil cleanup levels developed for arsenic included: 250 ppm for residential, 500 ppm for commercial/industrial, and 1,000 ppm for open space/recreational/agricultural.

The changes in EPA's understanding of site characteristics for Anaconda discussed previously highlight the need for changes to the 1996 ROD to ensure protectiveness, especially in regard to lead. They have resulted in the following risk conclusions:

- The original boundaries of the "Anaconda Focus Area" were too small, and this area has been expanded to include all residential areas east of Main Street (Exhibit 2).

- Although data indicate that the area west of Main Street has lower arsenic concentrations than the area east of Main Street, there is not enough data to rely on use of the "top down" model of smelter emissions deposition west of Main Street. Thus, lack of contamination at the surface does not rule out the presence of contamination in subsurface soils in this area.

- Because most yard areas that were sampled but not cleaned up have lead concentrations that exceed 400 ppm, action levels for lead in soils should be developed.

- Because arsenic and lead concentrations in interior dust are higher than projected in the baseline risk assessment, protocols to address dust in living spaces should be developed.

## Remedial Action Objectives

As discussed previously, this proposed plan covers only residential soils and dust. EPA's decisions in the 1996 ROD for commercial, industrial, and open space soils remain protective.

As such, the following 1996 ROD remedial action objectives (RAO) are still applicable:

- Reduce surface soil arsenic concentrations in residential/commercial areas to acceptable levels.

- Prevent direct human contact with mining and smelting waste materials exceeding acceptable levels of arsenic.

New RAOs to address issues with residential soils and dust are:

- Reduce blood lead levels in young children living in Anaconda and surrounding area to below 5 micrograms of lead per deciliter (ug/dL).

- Reduce soil lead concentrations in residential soils to acceptable levels.

- Prevent direct human contact with interior dust exceeding acceptable levels of arsenic and lead.

## Proposed Soil Cleanup Level

In a 2010 technical memorandum that is attached to the focused feasibility study (FFS), EPA developed a range of Preliminary Remediation Goals (PRGs) for lead based on combinations of factors such as the bioavailability of lead in soil, soil to indoor dust transfer, and soil ingestion rates. The range of PRGs for lead calculated from this evaluation is 418 to 1,941 ppm.

EPA is proposing a soil cleanup level for lead in residential yards of 700 ppm, based on several considerations:

- Recent (2009 to 2011) monitoring of blood lead levels in young children living in Anaconda suggest that lead levels are lower, on average, in children from Anaconda than in young children in the U.S. population in general. This suggests a cleanup level near the upper end of the range of possible PRGs would be protective.

- Recommendations from the Center for Disease Control and Prevention use a reference concentration of 5 ug/dL of blood in place of the current level of concern of 10 ug/dL. This value is in the upper range of typical blood lead concentrations in young children in the U.S., and recognizes that no completely safe level of lead exposure has been identified. This suggests a soil cleanup level from the lower end of the PRG range would be more protective of children.

- A soil cleanup level of 700 ppm of lead is proposed by Anaconda-Deer Lodge County (ADLC) and AR as part of a multi-pathway program that will also address risk from other sources of lead, such as interior and exterior lead paint.

The final lead cleanup level will be selected in the ROD amendment.

# Summary of 2012 Remedial Alternatives

In 1996, the proposed plan presented by EPA for the Community Soils OU included four remedial alternatives (Exhibit 5).

1. No Action
2. Institutional Controls (ICs)
3. In Situ Treatment, Capping, and ICs
4. Excavation and Disposal of Contaminated Soils and ICs

**Exhibit 5. 1996 Cleanup Alternatives**

The fourth alternative was selected as the remedy in the 1996 ROD. This remedy has largely been implemented for *arsenic*. Building on this alternative, a Focused Feasibility Study (FFS) was conducted to evaluate combinations of excavation and institutional controls (ICs) to address the *lead* contamination in soils. The 2011 FFS also addressed interior dust, including attics.

Three alternatives were developed and evaluated in the 2011 FFS (EPA, 2011). The 2011 FFS used a range of cleanup levels (400, 500, and 700 ppm lead) as potential cleanup numbers. These were determined by EPA to be protective of human health based on the PRG evaluation. In this proposed plan, FFS Alternative 2 has been modified and uses a cleanup level of 700 ppm. Alternative 3 uses a cleanup level of 400 ppm, to further differentiate these alternatives. The final cleanup level will be selected in the ROD amendment.

The main components of each alternative are shown in Exhibit 6 and a comparison between them follows.

- **Alternative 1 - No Further Action**. This alternative acknowledges that soil cleanup based on arsenic risk has been completed and that ICs required under the 1996 ROD have been implemented or are currently under development. The ICs are the *Development Permit System (DPS)* and the *Community Protective Measures Program (CPMP).*

- **Alternative 2 (modified) - Limited Soil Remediation with Enhanced ICs**. This alternative emphasizes ICs over extensive yard cleanup. All soils exceeding 700 ppm lead would be cleaned up to a depth of 12 inches. The existing ICs program would be expanded by the addition of a multi-pathways program (such as in Butte, Montana) which cleans up or otherwise addresses non-mining lead contamination (e.g., lead-based paint) prior to the cleanup of mining-related lead contamination. This prevents recontamination of previously cleaned areas. Blood lead monitoring would also be conducted. It should be noted that parts of the multi-pathways program cannot be required under CERCLA.

**Exhibit 6. Remedy Components by Alterative**

| Remedy Component | Alternative | | |
|---|---|---|---|
| | 1 | 2 (modified) | 3 |
| Soil Excavation and Removal | No | **0 to 12 inches:** Remove all soils with lead >700 ppm,. **171 yards** | **0 to 12 inches:** Remove soils with lead >400 ppm **720 yards** |
| Interior Dust Cleanup | No | Cleanup of accessible interior dust that exceeds proposed levels: • arsenic = 250 ppm • lead = 700 ppm | Cleanup of accessible interior dust that exceeds proposed levels: • arsenic = 250 ppm • lead = 400 ppm |
| Institu-tional Controls | No change | • Expanded DPS • Expanded CPMP • Multi-pathway Program* | • Expanded DPS • Expanded CPMP |
| Years to Complete | 0 | 9 | 6 |
| Cost 0 | $0 | $4,405,000 | $4,470,000 |

*Will address non-Superfund sources of lead (ex: lead paint)
DPS – Development Permit System
CPMP – Community Protection Measures Program

- **Alternative 3 - Soil Remediation with Limited ICs.** This alternative requires cleanup of all soil having lead concentrations exceeding 400 ppm of lead to a depth of 12 inches. ICs would stay the same, except that the CPMP would be expanded to provide information about lead and the DPS to address dust from future interior remodeling.

All excavated soils would be disposed in one of the AR waste management areas. Both Alternatives 2 and 3 would address residential interior dust in a similar

manner. This dust can be impacted by the presence of contaminants in soils or by smelter emissions. Accessible interior dust would be tested and remediated if arsenic or lead cleanup levels are exceeded. Attic dust and other inaccessible dust would be addressed under the DPS if remodeling or other home renovation opened an exposure pathway.

The capital cost is estimated at $4,405,000 for modified Alternative 2 and $4,470,000 for Alternative 3. This is based on AR's database for all yards sampled in Anaconda where the average arsenic concentration was below the 250 ppm cleanup level and consequently did not require yard removal under the 1996 ROD.

Under Alternative 2, an estimated 171 yards in Anaconda would be remediated to a depth of 2 to 12 inches. Under Alternative 3, the number of yards increases to 720 yards estimated to require cleanup. Both alternatives assume the same number of interior dust cleanups under the remedy. These cleanups are primarily based on arsenic concentrations.

Alternative 2 includes costs for a blood lead monitoring program as part of the multi-pathways program. Alternative 2 also includes non-Superfund components (such as lead paint abatement) in the annual cost for ICs as part of a multi-pathways program. The multi-pathways program would require a separate agreement between AR and ADLC to fund the portions of the program that are not part of the Superfund cleanup due to lack of EPA's authority under CERCLA to require AR to implement lead paint abatement and other portions of the multi-pathways program.

# Evaluation of Alternatives

The remedial alternatives were evaluated in detail with respect to seven of EPA's nine evaluation criteria (Exhibit 7). The criteria fall into three groups: threshold, primary balancing, and modifying.

Each alternative (except no further action) must meet the threshold criteria. The primary balancing criteria are used to weigh major trade-offs among alternatives. The modifying criteria are State and public acceptance and can be fully evaluated only after public comment is received on this proposed plan.

**Exhibit 7. FS Evaluation Criteria**

| Criterion | Description |
|---|---|
| **Overall protection of human health and the environment** | Does an alternative eliminate, reduce, or control threats to public health and the environment through ICs, engineering controls, or treatment? |
| **Compliance with ARARs** | Does an alternative meet Federal, State, and Tribal environmental statutes, regulations, and other requirements relevant to the site, or is a waiver justified? |
| **Long-term effectiveness and permanence** | Does the alternative maintain protection of human health and the environment over time? |
| **Reduction of toxicity, mobility, or volume through treatment** | Does an alternative use treatment to reduce a contaminants harmful effects or ability to move in the environment and the amount of contamination remaining after cleanup? |
| **Short-term effectiveness** | How much time is needed to implement an alternative and the risk the alternative poses to workers, residents, and the environment during implementation? |
| **Implementability** | What is the technical and administrative feasibility of implementing the alternative, including factors such as the availability of materials and services? |
| **Cost** | What are the estimated capital and annual operations and maintenance costs, as well as present value (PV) cost? |
| **State/Support agency acceptance** | Does the State agree with EPA's analyses and recommendations? |
| **Community acceptance** | Does the community agree with EPA's analyses and preferred alternative? Comments on the proposed plan are an indicator of acceptance. |

PV cost = Total cost of alternative over time in terms of today's dollar value.
Cost estimates are expected to be accurate within a range of +50 to -30 %.

The following is a discussion of how the alternatives compare against threshold and modifying evaluation criteria. This evaluation is summarized in Exhibit 8.

### Overall Protection of Human Health and the Environment

Alternative 1 is not protective of human health, as it would allow yards with elevated lead concentrations to remain. Because Alternative 1 does not meet this threshold criterion, it is dismissed from further analysis. Alternatives 2 and 3 are protective of human health. Alternative 2 remediates yards exceeding the proposed 700 ppm lead cleanup level to a depth of 12 inches, while providing for ICs to manage future risk and evaluate current protectiveness. The ICs include the

multi-pathways program, which has non-Superfund components (e.g., lead paint abatement). Alternative 3 cleans up all yards over the 400 ppm lead cleanup level to a depth of 12 inches, thus reducing the need for more comprehensive ICs.

**Exhibit 8. Summary of Focused FS Evaluation Criteria**

| Criteria | Alternative | |
|---|---|---|
| | 2 | 3 |
| **Threshold Criteria** | | |
| Protection of Human Health and Environment | **Yes** | **Yes** |
| Compliance with ARARs | **Yes** | **Yes** |
| **Balancing Criteria** | | |
| Long-term Effectiveness and Permanence | ◑ | ◑ |
| Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment | ○ | ○ |
| Short-Term Effectiveness | ● | ◑ |
| Implementability | ◑ | ● |
| Cost | ◑ | ◑ |
| **Modifying Criteria** | | |
| State and Community Acceptance | To be determined | |

● Meets or exceeds criteria
◑ Meets criteria with some stipulations
○ Does not meet criteria

## Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Both alternatives will meet all ARARs.

## Long-term Effectiveness and Permanence

Alternatives 2 and 3 rank the same in terms of long-term effectiveness and permanence. While Alternative 3 removes more contaminants in the upper 12 inches of soil immediately, the potential for recontamination from flaking lead-based paint is present. Alternative 2 relies more on ICs to ensure protectiveness, but it also removes the potential for recontamination from lead-based paint. Both alternatives have the same dust remedy.

## Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

None of the alternatives utilize treatment, so each rank low for reducing toxicity, mobility and volume through treatment. Both alternatives use removal to address potential exposure pathways.

## Short-Term Effectiveness

Alternatives 2 and 3 both present short-term risks to workers, the community, and the environment. Alternative 2 has the lesser disturbance (excavation and replacement) and risk is from the transport of contaminated and fill materials. Trucks used to haul contaminated soils to one of the AR waste management areas for disposal and offsite borrow for replacement slightly increases short-term risks to the community. Transport and placement of borrow has potential environmental impacts from equipment emissions and disturbance of borrow locations. Because Alternative 2 requires less soil to be removed and replaced than Alternative 3, it has a slightly lowered short-term risk.

## Implementability

For Alternatives 2 and 3, the construction portions of the remedies are equal. But, adding non-CERCLA components to Alternative 2 for ICs would require non-CERCLA funding (e.g., from an enforceable agreement between AR and ADLC). This is not needed for Alternative 3, so Alternative 3 ranks higher for implementability.

## Cost

For Alternatives 2 and 3, the ICs (e.g., DPS and CPMP) have been identified under the existing 1996 Community Soils OU ROD. Thus, no additional costs for those components are required. For the remaining activities, Alternative 2 is slightly lower in cost than Alternative 3 in terms of net present value. However, Alternative 2 does not include costs for the multi-pathways program, which cannot be considered in this proposed plan as it requires actions that are outside of Superfund authority.

## State and Community Acceptance

Community acceptance will be evaluated after the public comment period ends and will be described in the ROD amendment. DEQ does not agree with EPA's preferred alternative and has significant concerns. If Alternative 2 is selected, these concerns could be resolved when a multi-pathway program is developed between AR and ADLC that would provide for a long-term enforceable program.

# EPA's Preferred Alternative (Modified Alternative 2)

EPA has selected modified ***Alternative 2 (Excavation of Soils Exceeding 700 ppm of Lead, Multi-Pathways Program, and Accessible Interior Dust Cleanup)*** as the preferred alternative under this proposed plan.

EPA has modified Alternative 2 as presented in the FFS to require removal of all soils in the 0- to 12-inch depth that exceed the lead cleanup level of 700 mg/kg.

Although it cannot be required under CERCLA, a key component of this alternative is adoption of a multi-pathway program through an enforceable agreement between the PRP and the county (AR and ADLC, respectively). Note that EPA lacks Superfund authority to require PRPs and local government to address such contamination. However, AR and ADLC have indicated that they may be willing to implement the multi-pathways program.

EPA believes that modified Alternative 2 is more effective than Alternative 3, as non-Superfund sources of contamination (such as lead-based paint and lead pipes) would be addressed. However, if the multi-pathway program is not adopted, EPA will select Alternative 3 as the preferred alternative in the ROD amendment.

Based on information currently available, EPA believes the preferred alternative meets the threshold criteria and provides the best balance among the alternatives with respect to the balancing and modifying criteria. EPA expects the preferred alternative to satisfy the following statutory requirements of CERCLA §121(b): (1) Protect human health and the environment, (2) Comply with ARARs (or justify a waiver), (3) Be cost effective, and (4) Use permanent solutions to the maximum extent practicable.

The alternative analysis addressing lead in soils and lead and arsenic in dust is a *fundamental* change to the 1996 ROD. Additionally, there are several *significant* differences to the selected remedy in the 1996 ROD. These include expanding the soils area of concern, removing waste from historic and abandoned railroad beds within Anaconda, and expanding the current ICs. Fundamental and significant differences between the 1996 ROD remedy and EPA's preferred alternative in this proposed plan are shown in Exhibit 9.

**Exhibit 9. 2012 Preferred Alternative Summary**

| Component | 1996 Community Soils OU ROD | 2012 Preferred Alternative (Modified Alternative #2) |
|---|---|---|
| Residential Soil | • Cleanup arsenic > 250 ppm to a depth of 18 inches.<br>• No cleanup action level for lead. | • No change for arsenic.<br>• Cleanup soils* where lead exceeds 700 ppm to a depth of 12 inches. |
| Interior Dust | • Not addressed. | • Cleanup arsenic > 250 ppm.<br>• Cleanup lead > 700 ppm. |
| Institutional Controls | • Development Permit System (DPS).<br>• Community Protection Measures Program (CPMP). | • DPS expanded to cleanup dust if future home remodels create exposure pathways.<br>• CPMP expanded to provide information about lead.<br>• A multi-pathways program to be created through a separate agreement between the PRP and local government. |
| Industrial/ Commercial Soil | • Cleanup arsenic > 500 ppm. | • Commercial/Industrial properties not addressed under this proposed plan. |
| Railroad beds | • Engineered covers over active railroad beds and yards. | • Engineered covers over active railroad beds and yards.<br>• Remove abandoned railroad beds. Consolidate into a waste management area (not part of this OU). |

* To a depth of 12 inches.

# Opportunities for Public Involvement

## Public Meeting

EPA will provide a short presentation about the proposed plan at a public meeting in October 2012. It's a great opportunity to learn more about the details. Please join us.

**Community Soils Operable Unit**
**Public Comment Meeting**

**October 24, 2012**
**6:30 to 8:30 pm**
**Metcalf Memorial Sr. Citizen Center**
**115 E Pennsylvania St.**
**Anaconda**

If you like, you can provide your comment orally at the public meeting, and the meeting stenographer will record it.

## Contacts

If you have questions or need additional help, please feel free to contact the following representatives:

**U.S. EPA, Region 8**
**Helena, MT**
1-866-457-2690 (toll free)

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**Montana DEQ**
**Helena, MT**
Joel Chavez
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## Written Comments

The public has 30 days to comment on this proposed plan. The public comment period runs from October 1, 2012 to October 31, 2012. You can submit a comment in writing (by mail, email, or at the public meeting).

The mailing address for written comments is:

**Charlie Coleman**
**U.S. EPA, Region 8, 10 West 15th Street, Suite 3200, Helena, MT 59626**
**coleman.charles@epa.gov**

## Documents

Background information EPA used to prepare this proposed plan came from several sources:

- The 1996 ROD for the site
- A data interpretation and analysis report that reviewed existing cleanup data from the 2002 to 2006 remedial action
- A focused feasibility study that evaluated cleanup alternatives to address lead contamination

This information and other site documents are available in the site record at EPA's office in Helena and at the Community Center in Anaconda. All public project reports and documents are available for viewing at EPA's website or at one of the document repositories. These are also excellent sources for all sorts of project information (fact sheets, brochures, etc.).

**www.epa.gov/region8/superfund/mt/anaconda/**

**EPA Superfund Records Center**
**10 West 15th Street, Suite 3200,**
**Helena, Montana**

**Arrowhead Foundation**
**118 E. 7th Street, Anaconda,**
**Montana**