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National Remedy Review Board (NRRB) Exemption Request
Libby Asbestos Superfund Site

Summary

1. Site name: Libby Asbestos Superfund Site OUs 4, 5, 6, 7, and 8
2. Media to be addressed, primary contaminants of concern, preliminary remediation goals (PRGs):
   a. Media – Soil and Building Materials
   b. Contaminants of Concern (COCs) – Libby Amphibole asbestos (LA)
   c. PRGs – See section on Remedial Action Levels (RALs) and remedial clearance criteria.
3. Scope and role of the operable unit or response action:
   a. Does this action hinge on previous actions?
      YES, prior removal actions based on the May 23, 2000, Action Memorandum, as amended.
   b. What is the scope of this response action?
      This response action comprises the residential and commercial properties, schools and parks, and an industrial park in the towns of Libby and Troy, as well as the railroad and highway rights of way included in the site.
4. Risk summary: The 2009 Public Health Emergency declaration documented the historical and continued exposure to asbestos to the residents of the Libby community. The sources of exposure include asbestos in vermiculite, vermiculite processing wastes, uncontained vermiculite insulation, and soil containing vermiculite.
5. Remedial action objectives: The Remedial Action Objectives (RAOs) are: 1) to reduce inhalation of LA from disturbances of soil and 2) to reduce inhalation of LA from accessible building materials contaminated with LA, to achieve acceptable risk-based exposures (see discussion of RALs below).
6. Alternatives – do they address:
   a. TI or MNA? NO
   b. Treatment or containment of Principal Threat Waste? NO (see discussion of PTW below)
   c. Presumptive remedy? NO
   d. Addressing munitions? NO
   e. Chemical COCs or groundwater? NO
7. Tribal or state ARARs: See ARAR discussion below.
8. Stakeholder views – Congressional or community controversy? Congressional representatives and the community are updated monthly on activities at the Libby Asbestos Site. EPA Region 8 has been working with the State of Montana Department of Environmental Quality, Lincoln County and the communities of Troy and Libby on the issue of future Operation and Maintenance (O&M) costs.
9. Decisions requiring headquarters coordination or consultation:
   a. Non-time critical removal actions over $6M – YES, removal actions were time-critical, but extended over 15 years and exceeded $6M.
   b. Remedies for lead, radionuclides, PCBs, asbestos, mercury and dioxin – COC is Libby Amphibole asbestos (LA).
   c. Public Health Emergency declaration – YES
   d. TRW and OSRTI review of risk assessments – YES
   e. OSRTI participation in development of Feasibility Study and Institutional Controls – YES
10. Concurrence of regional division director on exemption request: YES

REQUEST FOR AN EXEMPTION FROM REVIEW
THE NATIONAL REMEDY REVIEW BOARD
LIBBY ASBESTOS SUPERFUND SITE, OUs 4, 5, 6, 7 and 8
LIBBY, MONTANA

Site Name

Libby Asbestos Superfund Site. Libby and Troy, Lincoln County, Montana.
EPA ID# MT0009083840

The Libby Asbestos Superfund Site (Libby Site or Site) is located in and around the towns of Libby and Troy, Montana in the region known as the Kootenai Valley. Libby is the county seat of Lincoln County and is in the northwest corner of Montana, about 35 miles east of Idaho and 65 miles south of Canada. Libby, Montana is also the location of a former Vermiculite Mine, where vermiculite was mined as early as the 1920s by the Universal Zonolite Company. In 1963, W.R. Grace acquired the property and continued the mining and insulation manufacturing operations until September 1990. During the mine's operation, vermiculite, vermiculite processing wastes and vermiculite-containing soil were dispersed throughout the Town of Libby and were also used in building materials.

The Libby Asbestos Superfund Site is comprised of eight operable units (OUs). Five of these OUs are included in the Proposed Plan for this action. Specifically, the OUs to be addressed are OU4 (residential, commercial, industrial and public properties in and around Libby); OU5 (400 acres of industrial property, formerly the Stimson Lumber Mill); OU6 (all Burlington Northern & Santa Fe Railroad property in and between OUs 4 and 7, including rights-of-way and rail yards); OU7 (residential, commercial, and public property in and around the Town of Troy, which is about 20 miles east of Libby); and OU8 (state and county rights-of-way between and within OUs 4 and 7). For the purposes of this exemption request, these OUs will be collectively referred to as the Libby and Troy communities (includes residential and commercial properties, parks and schools, transportation corridors, and industrial park).

OU1 (former Export Plant) and OU2 (former Screening Plant) are remedial action complete. OU3 (former Vermiculite Mine) is continuing on a separate track, with the remedial investigation (RI) scheduled to be completed in late-2015.

Media to be Addressed

Residents of the Libby and Troy communities have been exposed to Libby Amphibole asbestos (LA) from various sources, including asbestos in vermiculite, vermiculite processing wastes, and soil containing asbestos-contaminated vermiculite. The Proposed Plan for the Libby and Troy communities addresses the excavation and disposal of LA in contaminated soil and building materials and identifies the need for Institutional Controls (ICs) to ensure the long-term protectiveness of the remedy.

Contaminated soil is defined as granular or fine-grained materials (e.g., topsoil, clays, gravel, sand, fill, boulders) that are subsequently crushed into soil like materials that contain LA, which when disturbed, result in unacceptable airborne exposures and risks. Contaminated soil is further subdivided into surface soil and subsurface soil, where surface soil is used to describe soil that human receptors would encounter while engaged in "typical" activities, and subsurface soil is soil below surface soil that human receptors would encounter less frequently, such as during digging activities including gardening or

excavation. In general, surface soil would be encountered within a shallow (less than 6 inches) depth interval, and subsurface soil would be encountered below 6 inches.

Contaminated building materials are defined as vermiculite or other manufactured materials used in construction (e.g., insulation, log chinking, chimney mortar, plaster, cinder blocks, pipe insulation) that contain LA, which when disturbed, result in unacceptable airborne exposures and risks. Other insulation building materials (such as fiberglass or cellulose) that are in contact or share airspace with LA-containing vermiculite insulation would also be considered contaminated building materials for purposes of this definition.

Contaminated soil at the Site is identified via polarized light microscopy using the visual estimation (PLM-VE) analytical method, which EPA developed in 2003 for use at the Site. PLM-VE is a semi-quantitative method that utilizes LA-specific reference materials to allow for the reliable detection of LA in soil down to concentrations of 0.2 percent in a cost-effective and rapid manner. PLM-VE analyses result in the assignment of soil samples into one of four concentration bins as follows:

- Bin A (ND): non-detect
- Bin B1 (Trace): detected at levels greater than ND, but less than the 0.2 percent (by mass) LA reference material
- Bin B2 (less than 1 percent): detected at levels less than the 1 percent (by mass) LA reference material, but greater than or equal to the 0.2 percent LA reference material
- Bin C: LA detected at levels greater than or equal to the 1 percent LA reference material; results are reported to the nearest whole percent.

Remedial Action Levels (RALs) for surface soil are described below utilizing the preceding bin categorization, dependent upon land use. Surface soil will be excavated to the following cleanup levels:

Frequently Used Areas:
- LA soil concentrations in Bin B2 and/or Bin C PLM-VE (regardless of spatial extent)
- LA soil concentrations in Bin B1 by PLM-VE, if the spatial extent of the Bin B1 area is more than 25 percent of the total soil exposure at a property.

Infrequently Used Areas:
- LA soil concentrations in Bin B2 and/or Bin C by PLM-VE

Industrial Properties
- LA soil concentrations of Bin C by PLM-VE

Transportation corridors
- LA soil concentrations of Bin C by PLM-VE

Park/School Properties
- LA soil concentrations in Bin B2 and/or Bin C by PLM-VE

The RAL for subsurface soil is described below utilizing the preceding bin categorization. Subsurface soil will be excavated to the following cleanup level:

- Confirmation soil samples collected at the depth of cut are Bin A or Bin B1 by PLM-VE, unless boundary conditions are reached (e.g., bedrock, building foundations, groundwater, or a pre-set vertical extent [e.g., 3 feet below ground surface])

RALs for contaminated building materials are defined as follows:

- Presence of accessible LA-contaminated vermiculite insulation in any quantity in living spaces, non-living spaces, and/or secondary structures
  Or
- Presence of accessible friable and/or deteriorated building materials containing greater than or equal to 0.25 percent LA using the PLM-PC400 analytical method, which EPA developed for use at the Site in 2003 (e.g., chinking, plaster, mortar, and other materials on boilers, pipes, or other appurtenances).

Remedial Action Levels by Location Type

Contaminated Soil	Contaminated Building Material
Residential and Commercial: *Frequently Used Areas* • LA soil concentrations greater than 0.2% (anywhere in total soil exposure area) AND • More than 25% of total soil exposure area has LA at trace concentrations (detectable but less than or equal to 0.2%) *Infrequently Used Areas* • LA soil concentrations greater than 0.2%	All location types: • Accessible LA-containing vermiculite in any quantity in living spaces, non-living spaces and /or secondary structures OR • Accessible building materials with more than 0.25% LA (examples include chinking, plaster, mortar and other materials on boilers and pipes)
Industrial and Transportation: • LA soil concentrations equal to or exceeding 1%	
Schools and Parks • LA soil concentrations greater than 0.2%	

RALs trigger cleanups to meet the objectives, or remediation goals, of reducing exposures, so that risks are below EPA's acceptable level. To achieve these objectives, EPA conducts cleanup until the remedial clearance criteria are met. The remedial clearance criteria are shown in the table below.

Remedial Clearance Criteria

Contaminated Soil		Contaminated Building Material	
Surface Soil (After Cleanup) • Soil samples collected meet the remedial action levels for the location type	**Subsurface Soil (After Cleanup)** • Soil samples collected at the depth of cut are less than 0.2%	**Indoor Non-living Space** • No accessible vermiculite remaining • Average of five samples of disturbed air are less than 0.005 structures per cubic centimeter	**Indoor Living Space** • No accessible vermiculite remaining • No LA structures detected in any of five samples of disturbed air

Scope and Role of the Operable Unit or Response Action

On May 23, 2000, an Action Memorandum was signed for the Time-Critical Removal Action at the Libby Site addressing OU1 and OU2. Subsequent Action Memorandum Amendments were signed in July 2001, May 2002, May 2006, June 2006, August 2009, March 2012, and August 2012, expanding the scope of the May 23, 2000 Action Memorandum to include additional areas within the towns of Libby and Troy, Montana. On October 24, 2002, the Site was listed on the National Priorities List (NPL). Remedial actions have been completed for OU1 and OU2, as outlined in the July 2013 and May 2012 Remedial Action Reports, respectively.

There are approximately 8,000 properties within the NPL Boundary. The majority have been addressed, with over 6,500 properties having undergone an initial assessment or General Property Investigation (GPI), and of those investigated, more than 2,100 properties have had removal actions taken. It is estimated that an additional 300-500 properties remain that may need remedial action.

The proposed remedial action for the Libby and Troy community properties will be taken as a final action to address contaminated soil and building materials in the five OUs identified in the Proposed Plan. The preferred alternative is expected to provide protection of human health and the environment under current and future conditions. The remedial action will be undertaken pursuant to Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1), with the remedy selected pursuant to the remedy selection process described in the NCP at 40 CFR § 300.430. After EPA has evaluated comments submitted regarding the preferred alternative for the five Libby Site OUs identified in the Proposed Plan, EPA's remedy selection will be documented in the Record of Decision (ROD). EPA response to public comments will be documented in a Responsiveness Summary that is part of the ROD.

The preferred alternative for the Libby and Troy communities is excavation and disposal of contaminated soil and building materials and the implementation of ICs. Excavated LA-contaminated soil will be disposed of in the former Vermiculite Mine and replaced using borrow material that is non-detect for LA by PLM-VE. Risk calculations from the risk assessment show that the fill material depths that have been employed during the removal response activities, which typically range from 6 inches to 3 feet depending upon the type of area and levels of LA contamination, have been effective in minimizing LA exposures during surface soil disturbances. The proposed excavation and backfill of contaminated soil will be consistent with the procedures utilized during the removal response activities at the Site.

Contaminated building materials will be addressed by removing accessible contaminated materials and disposing of them in the Lincoln County landfill (in a separate asbestos cell designed specifically for asbestos waste). Inaccessible contaminated building materials will be left in place. Upon completion of active cleanup of contaminated building materials, indoor cleaning will be performed to mitigate inhalation exposure risks from indoor dust.

Institutional controls will be implemented to address LA that will remain at the Site. Specifically, LA contaminated soil will be intentionally left undisturbed at depth, as described above, after contaminated surface soil is removed and excavations are backfilled. LA will also be present in inaccessible contaminated building materials that are left in wall cavities and other interior locations. Additionally, some LA will exist in soil at depth or in inaccessible locations in structures that have not yet been discovered through screening or other methods. These locations may include areas that were not screened, due to lack of access or where sampling occurred only at the surface.

Risk Summary

On June 17, 2009, EPA Administrator Lisa P. Jackson issued a Determination and Findings of Public Health Emergency at the Libby Site pursuant to CERCLA Section 104(a)(4). This Public Health Emergency declaration documented the historical and continued exposure to asbestos to the residents of the Libby community. The sources of exposure include asbestos in vermiculite, vermiculite processing wastes, uncontained vermiculite insulation, and soil containing vermiculite.

Vermiculite mine wastes containing LA, as well as off-specification asbestos-containing vermiculite, were made available to the community and were widely distributed throughout southern Lincoln County. The community used this asbestos-containing material as a soil amendment in residential yards and as fill for their driveways, gardens, and public areas. Many of the homeowners insulated their homes with asbestos-containing vermiculite insulation. Additionally, soil in the Libby community was contaminated by the atmospheric deposition of asbestos released from the vermiculite processing facilities in Libby, which were in close proximity to the homes in Libby.

The Sitewide Human Health Risk Assessment (HHRA) evaluated potential risks to humans from exposure to LA under a variety of different exposure scenarios and identified unacceptable cancer and non-cancer risk associated with inhalation of LA. In general, the HHRA noted that non-cancer hazard quotients (HQs) can exceed 1 when cancer risks are less that 10^{-4}, indicating that non-cancer exposure is a more sensitive metric of potential concern. The HHRA identified a handful of exposure scenarios that, when considered alone, yielded non-cancer HQs that approached or exceeded 1. These exposure scenarios include:

- Residential or worker activities in homes were asbestos removal has not been conducted,
- Yard work when surface soil asbestos is greater than 0.2% LA,
- Conducting subsurface soil activities when soil asbestos is greater than 0.2% LA,
- Commercial worker exposures in areas of higher asbestos concentrations,
- Brush-hogging along some highway areas,
- Career tradesperson conducting renovations in homes with asbestos contaminated vermiculite,
- Handling ash from fireplaces or wood burning stoves, when firewood is collected near the former Vermiculite Mine for residential use.

Cumulative risks were greatest for exposure scenarios representing activities that actively disturb LA-contaminated source materials (e.g., disturbing asbestos contaminated vermiculite insulation during tradesperson activities).

EPA also performed a number of studies to investigate whether ecological receptors in OU3, the former Vermiculite Mine and surrounding areas, were adversely impacted by LA in the environment. Although OU3 is not subject to this current action, the Sitewide Baseline Ecological Risk Assessment concluded that it was unlikely that LA exposures were causing any adverse effects on ecological receptors in that portion of the Site. Therefore, the same can be said for OUs 4-8, where there are lower concentrations of LA and more limited habitat.

Remedial Action Objectives

The RAOs for the OUs addressed under this action are as follows:

- Minimize the inhalation of LA during disturbances of soil contaminated with LA, such that the resulting exposures result in cumulative cancer risks that are within or below EPA's acceptable risk range of 10^{-6} to 10^{-4} and cumulative non-cancer hazard indices (HIs) that are at or below 1.
- Minimize the inhalation of LA during disturbances of building materials contaminated with LA, such that the resulting exposures result in cumulative cancer risks that are within or below EPA's acceptable risk range of 10^{-6} to 10^{-4} and cumulative non-cancer (HIs) that are at or below 1.

The specific RALs for contaminated surface soil and contaminated building materials are outlined in the preceding 'Media to be Addressed' section of this document.

Alternatives

The remedial action proposed for the Libby Site includes the permanent excavation, disposal and backfill of LA contaminated soil and the implementation of institutional controls. This work will be similar to past removal actions which have already addressed the majority of properties. Accessible contaminated building materials will be removed and disposed of in the asbestos cell of the Lincoln County landfill, and remaining inaccessible contaminated building materials will be encapsulated and left in place. Institutional controls will be employed to address contaminated material that is left in place and any unknown areas of contamination.

Preferred Alternative by Location Type

Location Type	Remedial Action for Contaminated Soil – Alternative 6	Remedial Action for Contaminated Building Materials – Alternative 5	Institutional Controls*	Monitoring
Residential/ Commercial	Partially excavate contaminated soil to a depth of 12 to 36 inches and dispose at the former Libby Vermiculite Mine or County landfill.	Remove accessible contaminated materials and dispose at Lincoln County landfill, encapsulate remaining contaminated materials, and clean interior.	Required	Required
Industrial Park	No further action expected.	No further action expected.		
Transportation Corridor				
Parks and Schools				

*Used to protect the remedy and to require additional cleanup where changes in use occur or inaccessible LA becomes accessible

Institutional controls will be required to ensure the long-term protectiveness of the proposed remedial actions for soil and building materials. EPA's preferred combination of institutional controls, which is more fully described in the Proposed Plan, includes the following:

- Asbestos support program;
- Permit for disturbance of soil or building materials;
- Contractor certification;
- Educational program for managing exposure;
- UDIG program;
- MDT (Montana Department of Transportation) encroachment permit;
- Property status database;

- Updated codes, ordinances, and regulations;
- Open space recreation initiative;
- Public nuisance initiative;
- Property notices; and
- Advisories

Ground water has not been impacted by asbestos, so the proposed remedy does not address ground water contamination, and does not involve technical impracticability or monitored natural attenuation of ground water contamination. There is ground water contamination within the industrial park associated with a former wood treating operation. This contamination is being addressed by the Libby Ground Water Superfund Site. The proposed action is not a presumptive remedy, nor does the proposed action address munitions, since munitions are not a contaminant of concern at the Site.

Principle threat wastes are source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The proposed action does not include treatment or containment of principle threat waste. The concentrations of LA in OUs 4-8 do not meet the definition of principle threat waste at this time (post removal action). Any contamination left in place in OUs 4-8 are low level threat wastes, or materials that generally can be reliably contained, would present only a low risk in the event of release, and are near health-based levels.

Tribal or State ARARs

There are no significant issues related to Applicable or Relevant and Appropriate requirements from the State of Montana. There are no tribes affected by OUs 4, 5, 6, 7, and 8 of the Libby Site.

Stakeholder Views

EPA has established and maintains an information office in Libby, which is staffed by a full-time EPA employee. EPA provides frequent updates and for a wide variety of stakeholders including Congressional staff, Lincoln County Commissioners, Libby City Council, TAG and CAG organizations, special interest groups, and property owners. EPA also coordinates activities closely with our counterparts at Montana Department of Environmental Quality.

Generally, our stakeholders have been satisfied with the response actions taken to date, which have addressed the majority of properties. There is significant interest in the community regarding development of ICs and associated costs. There is also significant interest in roles, responsibilities and costs for the eventual O&M program. Many stakeholders are also interested in moving beyond Superfund, deleting the Site (or at least portions of the Site) from the NPL, abating the Public Health Emergency, and supporting local development and reuse.

Decisions Requiring Headquarters Coordination or Consultation

Throughout the history of the Libby Asbestos Site, EPA Region 8 has consulted with EPA Headquarters in coordinating CERCLA response actions at the Site. EPA Region 8 has had and continues to have quarterly briefings with Jim Woolford, Director of OSRTI, and decision documents, such as Action Memorandum Amendments, have been signed by Mathy Stanislaus, Assistant Administrator of OSWER. In addition, the asbestos Technical Review Workgroup (TRW) and OSRTI have reviewed the risk assessment, and OSRTI has also assisted in scoping of the Feasibility Study and ICs. EPA Region 8

is working with EPA Headquarters and the Department of Health and Human Services to outline the steps to abate the Public Health Emergency. Consultation procedures have been consistent with those outlined in the 1997 OSWER Directive 9200.1-188FS, 1989 OSWER Directive 9360.0-19, 1998 OSWER Directive 9360.3-20, and 1993 OSWER Directive 9360.3-12.

Basis for Exemption

The preferred alternative for the Libby Site OUs 4-8 is similar to prior removal actions and the Action Memorandum (plus Amendments). The majority of properties for the Site have already been addressed, and a number of interim ICs are already in place including a utility locate service (UDIG) that notifies the Lincoln County Asbestos Resource Program (ARP) if excavation will be taking place on a property. Also, the ARP participates in community outreach and education efforts for the Libby Site.

EPA Region 8 has been conducting removal response activities for over 15 years at the Site. The preferred alternative relies on these removal actions (plus ICs), and the risk assessment shows that these residential and commercial property cleanups are effective in reducing risk to below health-based standards based on location and type of use. The preferred alternative is the most cost-effective option that protects human health and the environment relative to the alternatives of community relocation or removal of all LA in the Site boundary.

The Libby Site preferred alternative complies with current law and regulations as well as Agency policy and guidance. The human health and ecological risk assessments have been conducted in accordance with CERCLA risk assessment policy (Risk Assessment Guidance for Superfund) as well as asbestos risk assessment policy (Framework for Investigating Asbestos-Contaminated Superfund Sites, OSWER Directive #9200.0-68). A Determination and Findings of Public Health Emergency at the Libby Site pursuant to CERCLA Section 104(a)(4) has been issued at the Libby Site, and steps to abate the PHE will be outlined in the Proposed Plan and ROD. The remedial action will be undertaken pursuant to Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1), with the remedy selected pursuant to the remedy selection process described in the NCP at 40 CFR § 300.430.

EPA Region 8 has briefed and consulted with OSRTI regularly on the Libby Site and has coordinated with the State of Montana extensively to develop this preferred alternative. Many stakeholders in the communities of Libby and Troy are also interested in moving beyond Superfund, deleting the Site (or at least portions of the Site) from the NPL, abating the Public Health Emergency, and supporting local development and reuse.

Prodigious effort has been and will be made to include the community in the development of ICs and to solicit comment on the preferred alternative during the public comment period. Therefore, EPA Region 8 is requesting an exemption from the National Remedy Review Board (NRRB) process for the preferred remedy for Libby Site OUs 4, 5, 6, 7, and 8.

Concurrence of the Regional Division Director on the Exemption Request

Martin Hestmark, Assistant Regional Administrator of the Region 8 Ecosystems Protection and Remediation Division, supports the action and request for this exemption.

4/22/15

Martin Hestmark, Assistant Regional Administrator
Office of Ecosystems, Protection and Remediation