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Operable Units 4 and 7 Final Institutional Control Implementation and Assurance Plan

USACE Contract No. W912DQ-18-D-3008
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U.S. Environmental Protection Agency

Libby Asbestos Superfund Site
Libby, Montana

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Operable Units 4 and 7

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Acronyms and Abbreviations

ARP	Lincoln County Asbestos Resource Program
BMP	best management practice
BNSF	Burlington Northern Santa Fe
BOH	City-County Board of Health for Lincoln County
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CDM Smith	CDM Federal Programs Corporation
COC	contaminant of concern
CSM	conceptual site model
DEQ	Montana Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
ESD	explanation of significant differences
GIS	geographic information system
Grace	W.R. Grace and Company
HHRA	human health risk assessment
HI	hazard index
IC	institutional control
ICIAP	institutional control implementation and assurance plan
ICSC	Institutional Control Steering Committee
IUR	inhalation unit risk
LA	Libby amphibole asbestos
LASOC	Libby Asbestos Superfund Oversight Committee
MDT	Montana Department of Transportation
MCA	Montana Code Annotated
NOEC	notice of environmental condition
NOPEC	notice of potential environmental condition
O&F	operational and functional
O&M	operations and maintenance
OU	operable unit
PEN	property evaluation notification
POTS	Property Operations Tracking System
RACR	remedial action completion report
RAL	remedial action level
RAO	remedial action objective
Rfc	reference concentration
RI	remedial investigation
ROD	record of decision
ROW	right-of-way
s/cm^2	structures per square centimeter
Site	Libby Asbestos Superfund Site
VCI	vermiculite-containing insulation
Zonolite	Universal Zonolite Insulation Company

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Section 1
Introduction

This institutional control implementation and assurance plan (ICIAP) was prepared by the U.S. Environmental Protection Agency (EPA) for the EPA Region 8 Libby Asbestos Superfund Site (Site) (Figure 1-1) in Lincoln County, Montana. The Site has been divided into eight separate operable units (OUs) (Table 1-1). A summary of each OU is presented in Section 2.3. Investigations and response actions at OUs 4 and 7 were performed by EPA, in consultation with the Montana Department of Environmental Quality (DEQ), under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and were completed with concurrence in April/May 2019. Institutional controls (ICs) are nonengineered instruments such as administrative, programmatic, and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy (EPA 2012). This plan discusses ICs necessary to maintain the remedy or minimize encounters of Libby amphibole asbestos (LA) for OUs 4 and 7 of the Site. EPA and DEQ worked with the community through an established advisory committee to further develop the outlined ICs and the tools that will be used to implement them. The City-County Board of Health for Lincoln County (BOH) assembled an IC advisory committee, the Institutional Control Steering Committee (ICSC), to assist in recommending, developing, and providing guidance on the ability to implement the ICs detailed in this ICIAP. If warranted, this ICIAP may be updated upon any addition or modification to the ICs at any time by EPA in coordination with DEQ.

Table 1-1 Libby Asbestos Site Operable Units

OU#	Name
1	Former Export Plant
2	Former Screening Plant and Nearby Areas
3	Former Vermiculite Mine, areas adjoining the former mine including forests
4	Libby, Montana Residential, Commercial, Municipal, and Public Areas
5	Former Stimson Lumber Mill Area
6	BNSF Railway Property
7	Troy, Montana Residential, Commercial, Municipal, and Public Areas
8	U.S. and Montana state highways and secondary highways

OUs 4 and 7 are the subject of this ICIAP and include residential, commercial, roadways, municipal (service-related), and public areas (e.g., parks, schools) impacted by contamination such as vermiculite insulation, processed vermiculite ore, and mine wastes associated with the historical local mining, processing, and shipping of vermiculite by W.R. Grace and Company (Grace). Exposure to vermiculite and LA within these OUs was largely mitigated by removing contaminated surface soil and replacing it with clean soil backfill and/or removing contaminated insulation and/or contaminated building materials during response activities.

This ICIAP identifies and documents activities that are designed to implement, maintain, and enforce ICs at OUs 4 and 7, and the organizations responsible for conducting these activities. This ICIAP will help ensure that ICs for OUs 4 and 7 are properly managed to protect the remedies in place and continue to operate as intended to prevent exposure to LA.

Oversight of ICs will be included during the operations and maintenance (O&M) phase for OUs 4 and 7 and is included in the *Final Operations and Maintenance Plan, Operable Units 4 and 7* (CDM Smith 2020b).

1.1 Roles and Responsibilities

Subsequent sections in this plan further discuss roles and responsibilities specific to certain elements of ICs. The roles and responsibilities listed below are general statements regarding agency and stakeholder roles related to IC development, implementation, and management. Additionally, the OUs 4 and 7 O&M plan (CDM Smith 2020b) discusses roles and responsibilities associated with monitoring ICs, scheduling, corrective actions, and reporting for OUs 4 and 7.

1.1.1 EPA Roles and Responsibilities

For OUs 4 and 7, EPA was the lead agency implementing cleanup activities at the Site through the completion of remedial action. EPA is the lead agency in developing this ICIAP, with assistance from DEQ, BOH, BOH's Lincoln County Asbestos Resource Program (ARP), and the ICSC. EPA's primary role with respect to ICs is ensuring they are in place to protect the remedy and remain effective and functioning as designed prior to O&M and during O&M reviews, along with determining any necessary additions or modifications to this ICIAP. EPA formally reviews IC effectiveness during their five-year reviews.

1.1.2 DEQ Roles and Responsibilities

DEQ is the lead agency responsible for O&M at OUs 4 and 7, which includes IC implementation and maintenance, once established, and tracking ICs to assess if they are working as designed to protect the remedy. Tracking will consist of periodic monitoring (consisting of nonintrusive visual inspections, limited sample collection with analysis, and tracking of IC effectiveness statistics and metrics), and reporting to confirm that ICs are in place and providing protection as intended. Additionally, DEQ is responsible for implementing and managing specific ICs, with assistance from ARP, as further detailed in subsequent sections of this ICIAP. DEQ is also responsible for assisting with developing this ICIAP.

1.1.3 Libby Asbestos Superfund Site Oversight Committee

In 2017, the 65th Montana Legislature passed Senate Bill 315, a law that established a Libby Asbestos Superfund Advisory Team attached to DEQ for administrative purposes. In 2019, House Bill 30 revised the Libby asbestos superfund laws to create the Libby Asbestos Superfund Oversight Committee (LASOC). The LASOC was created to enhance communication with site stakeholders and to provide oversight and recommendations to DEQ on matters related to the Site, including administration of the Libby Asbestos Cleanup Trust Fund and DEQ's Libby asbestos settlement accounts. Subject to appropriation by the legislature, money deposited in a state special revenue account must be used for cleanup and long-term O&M at the Site and for the administrative costs of LASOC.

1.1.4 ARP Roles and Responsibilities

BOH is generally responsible for setting countywide policies and regulations to protect the health of Lincoln County residents. ARP is a program implemented by BOH dedicated to informing residents about and helping reduce exposure to LA. ARP works with the local government and public to provide LA education, public outreach, and locally controlled IC implementation, and to implement BOH policies and regulations. ARP may coordinate with and provide guidance to the local government in managing potential LA exposure through ICs. The ARP is also responsible for assisting with developing this ICIAP and providing DEQ and EPA with information and metrics regarding ICs for O&M reporting.

1.1.5 Institutional Control Steering Committee Roles and Responsibilities

The ICSC was responsible to the BOH for assisting with recommendations, development, and guidance on implementing ICs, along with assisting with the development of community-specific ICs to be included in this ICIAP. The ICSC developed recommendations, which was referenced when outlining the ICs defined in Section 3.0 of this ICIAP (BOH 2018).

1.1.6 Municipal Government Roles and Responsibilities

Municipal government agencies (i.e., Lincoln County, City of Libby, City of Troy) are responsible for procedures that may support the implementation and management of specific ICs, as further detailed in this ICIAP. ARP coordinates and provides guidance to municipal governments in OU4 and OU7 with respect to local government procedures, maintenance of remedies, potential LA exposure, and applicable ICs implemented to protect the public.

1.1.7 Community Roles and Responsibilities

This ICIAP provides IC guidance and procedures for the community (e.g., residents, property owners, contractors) to follow. The community has the opportunity to provide feedback and comments on these ICs during the public comment period established for this ICIAP. Details on specific ICs, information, and contact information for the public is available in Section 3 and Appendix C.

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Section 2

Site Details

The Libby Asbestos Superfund Site (Superfund Enterprise Management System #MT0009083840) encompasses the cities of Libby and Troy, Montana (Figure 1-1). 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. Troy is approximately 20 miles west of downtown Libby along U.S. Highway 2.

The dominant impact to human health and the environment in the Libby area has been from historical vermiculite mining and processing. The vermiculite deposit that was mined by Grace contains a distinct form of naturally occurring amphibole asbestos, LA, which is the contaminant of concern (COC) at the Site. EPA initiated an emergency response action in November 1999 to address questions and concerns raised by citizens regarding possible ongoing exposures to LA fibers due to historical mining, processing, and exporting of LA-containing vermiculite. To facilitate a multi-phase approach to remediation at the Site, eight separate OUs were established. These OUs are shown on Figure 2-1 and described in Section 2.2.

2.1 Site Background Information and History

In 1881, gold miners discovered vermiculite 7 miles northeast of Libby. The vermiculite ore body contained a mixture of amphibole mineral fibers of varying elemental composition (e.g., winchite, richterite, tremolite—collectively referred to as LA) that was identified in the Rainy Creek complex near Libby (Meeker et al. 2003). In the early 1920s, Edward Alley initiated mining operations on the vermiculite ore body. Full-scale operations began later that decade under the name of the Universal Zonolite Insulation Company (Zonolite).

The mining of vermiculite ore used standard strip-mining techniques and conventional mining equipment. An on-site dry mill processed the ore to remove waste rock and overburden material. Once processed, vehicles transported the ore from the mine to the screening plant, which sorted the ore into five size ranges. After the sorting process, various locations across the United States received the material for either direct inclusion in products or for “expansion” prior to use in products. Expansion, also known as exfoliation or popping, involved heating the ore, usually in a dry kiln, to approximately 2,000 degrees Fahrenheit. This process explosively vaporizes the water contained within the mica structure, causing the vermiculite to expand. The result was the vermiculite material most commonly seen in stores sold as soil conditioner for gardens and greenhouses.

Facilities handling this material operated at four main locations in Libby:

- OU1 – the export plant and railroad loading station, which were situated on the south side of the Kootenai River just north of downtown Libby
- OU2 – the screening plant, which was located across MT Highway 37 from Rainy Creek Road

- OU3 – the mine and mill, which were situated on Rainy Creek Road on top of Zonolite Mountain
- OU5 – the expansion plant, which was located at the end of Lincoln Road, near 5th Street and became the Stimson Lumber Mill site; the expansion plant went offline in the early 1950s

In 1963, Grace purchased Zonolite and continued the vermiculite mining operations. A wet milling process, added in 1975, operated in tandem with the dry mill to reduce dust generated by milling. The dry mill went offline in 1985. Expansion operations at the export plant ceased sometime prior to 1981, although this area was still used to bag and export milled ore until mining operations stopped in 1990. Prior to its closure in 1990, the mine in Libby produced about 80 percent of the world's supply of vermiculite.

Beginning in 1999, EPA conducted investigation and response action activities to address areas in the Libby Valley contaminated with LA. EPA's involvement was initiated in response to media articles detailing extensive asbestos-related health problems in the Libby population. While at first the situation was thought to be limited to those with direct or indirect occupational exposures, it soon became clear there were multiple exposure pathways and many persons with no link to mining-related activities were affected. The Site was ultimately added to the National Priorities List in October 2002 because of the threat presented to human health and the environment. In June 2009, EPA and the U.S. Department of Health and Human Services determined that conditions at the Site constituted a public health emergency because asbestos is a known hazardous substance.

Largely, the LA contamination found in the Libby Valley came from one or some combination of primary source materials such as vermiculite insulation, processed vermiculite ore, and mine wastes. LA from these source materials has been found in interior building dust samples and local soils, which in turn, act as secondary sources.

Workers at the mine primarily lived in Libby or Troy and commuted to the mine to work each day. The workers were exposed to LA-contaminated materials at the mine and processing facilities, and they transported LA-contaminated dust to their homes on their heavily contaminated clothing and equipment, unknowingly exposing their families and contaminating their property.

Vermiculite was transported from the mine for decades, and residents of both Libby and Troy had access to these materials. Waste vermiculite was used for amending soils in gardens, flowerbeds, and lawns; bringing low-lying areas to level grade and beneath sidewalks and driveways; backfilling utilities and septic systems; and insulating buildings and houses. Vermiculite-containing insulation (VCI) was used in attics, and to a lesser extent, in walls for insulation. In some cases, VCI was added to existing insulation to increase the insulating capability or R-value of the existing insulation.

Response activities were ongoing at the Site from 1999, when EPA began emergency response action, until the end of 2018, when EPA concluded remedial action.

2.1.2 Contaminant of Concern

The COC and agent for potential exposure to the public, users, or owners at OUs 4 and 7 has been termed by EPA as LA, a distinct form of naturally occurring amphibole asbestos comprised of a range of mineral types and morphologies and found in the Rainy Creek complex near Libby (Meeker et al. 2003). LA is a hazardous substance under CERCLA and can form durable, long, and thin structures that are generally respirable, and can reasonably be expected to cause disease; therefore, LA is classified as the COC at the Site.

Because vermiculite mined from Libby was found to be contaminated with LA, EPA initiated an emergency response action in November 1999 to respond to public requests to investigate the potential exposure to asbestos related to the former mine operations and vermiculite processing (EPA 2016).

EPA has established an inhalation unit risk (IUR) value and reference concentration (Rfc) value for exposure to LA at the Site. Information on the IUR and Rfc values for exposure to LA is detailed in the *Final Site-wide Human Health Risk Assessment* (CDM Federal Programs Corporation [CDM Smith] 2015).

Impacted Media

Extensive investigations and response actions have been conducted within OUs 4 and 7. Upon conclusions of response actions, LA is known to be present in the following media within these OUs:

- Soil (surface/subsurface) – Surface soil is known to contain LA at nondetect (Bin A) and trace (Bin B1) (greater than nondetect and less than 0.2 percent [by mass]) levels in investigated areas. Subsurface soil is known to contain levels of LA ranging from nondetect to greater than 1 percent. Properties exist with known LA above remedial action levels (RALs) (e.g., spatial extent of the Bin B1 area is more than 25 percent of the total soil exposure area at a property) where owners have refused remedial action.

- Building materials –VCI is likely to remain within portions of interior and exterior walls, attics, and other areas of buildings within OUs 4 and 7. Inaccessible VCI within buildings may be, intentionally or not, currently sealed in place. Properties exist with known LA above RALs (e.g., uncontained VCI present) where owners have refused remedial action.

- Indoor air and dust – A wide range of indoor air (aggressive air clearance) and dust sampling (micro-vacuum dust sampling) was completed within OUs 4 and 7. Indoor dust sampling concentrations ranged from nondetect to 113,000 structures per square centimeter (s/cm^2). Properties with dust sample results greater than or equal to 5,000 s/cm^2 were identified for interior removal and/or interior cleaning. For properties where interior cleanups have been performed, interior living space clearance air samples were required to have an average total LA air concentration less than 0.005 structures per cubic centimeters before the removal was considered complete.

Activity-based sampling soil and air investigations were conducted to evaluate LA concentrations in air during various outdoor and indoor disturbance scenarios. While these studies were used to

evaluate potential exposures under specific scenarios to assist with the human health risk assessment (HHRA), aid in making risk management decisions, and help determine if remedial alternatives were sufficient, they were not used on an individual property-basis to determine whether remedial action was necessary.

Based on investigations outside of the individual properties within OUs 4 and 7, LA is known to be present in the following media within the Site: outdoor air, groundwater, surface water, sediment, porewater, bark, and duff. While LA is known to be present in these media types, exposure risk is below a level of concern as discussed in the final sitewide HHRA (CDM Smith 2015b). It is also important to note that detectable levels of LA exist in background soils within the Kootenai Valley and originated from normal geologic and geomorphic processes unrelated to mining and milling of vermiculite ore from Vermiculite Mountain (EPA 2016). However, estimated risks of LA within background soils are below a level of concern and do not contribute significantly to a human health hazard or cancer risk (CDM Smith 2015b).

The *Record of Decision [ROD] for Libby Asbestos Superfund Site, Libby and Troy Residential and Commercial Properties, Parks and Schools, Transportation Corridors, and Industrial Park, Operable Units 4–8* (EPA 2016) for the Site determined the remedy. The ROD (EPA 2016) summarized the remedy as follows:

> Based on consideration of the CERCLA requirements, the detailed analysis of remedial alternatives, state comments, and all public comments (see Part 3, Responsiveness Summary), EPA has determined that the preferred remedial alternatives for contaminated soil and contaminated building materials presented in the Proposed Plan for the Site-wide cleanup is the appropriate remedy for OUs 4, 5, 6, 7, and 8 of the Site. The selected remedy consists of Alternative SO6: Partial Excavation/Disposal, Backfill, Institutional Controls, and Monitoring and Alternative BM5: Partial Removal/Disposal, Encapsulation, Interior Cleaning, Institutional Controls, and Monitoring, as described in this section [of the ROD].

The ROD (EPA 2016) notes that ICs also are required to be maintained since "LA contamination remaining in soils and building materials does not allow for [unlimited use/unrestricted exposure] UU/UE of these media." Because ICs are part of the remedy selected for the Site, the ICs described in this ICIAP are integral to the remedy to help "minimize the potential for exposure to contamination and/or protect the integrity of a response action." The ROD defined the need for ICs and potential IC objectives and examples, but this ICIAP provides specific ICs that will fulfill the overall objective of minimizing the potential for exposure and/or protect the integrity of a completed remedy.

Exposure to LA has been mitigated by various response actions at the Site, which are detailed in the remedial investigation (RI) reports for OU4 (CDM Smith 2014) and OU7 (Tetra Tech 2014), and the *Final Remedial Action Completion Report [RACR]* (CDM Smith 2020a).

Specific locations of response action and known LA-containing material left in place following response action at a property were documented and provided to property owners upon completion of activities as final as-builts. As-builts are stored electronically on project repository hard drives (per property) provided to ARP and DEQ, and hard copy at EPA's records center

located in Denver, Colorado. Sampling locations and associated evaluations regarding required response actions were based on current and reasonably anticipated future use.

Boundary conditions exist at OUs 4 and 7 and are defined as features or conditions that limit the ability to further remediate LA contamination due to physical or technical constraints and the related lack of accessibility due to the boundary conditions present. Boundary conditions include the following:

- the presence of building foundations that could be compromised by the response action;
- the presence of pavement that is relatively permanent (e.g., roadways, sidewalks);
- the presence of large tree root systems;
- the presence of bedrock;
- the presence of groundwater that is not seasonal or perched and thus cannot be readily avoided;
- a preset maximum vertical extent of 3 feet below ground surface, owing to limited future accessibility to subsurface soils beneath which typical residential, commercial, and park and school activities occur; and
- a maximum horizontal extent to the adjacent property boundary where cleanup occurred, or where other boundary conditions (as identified above) existed.

Additionally, some buildings, soil areas, parking surfaces, and roads have not required response actions because of boundary conditions or physical constraints to remove, block, or encapsulate contaminated material. Due to boundary conditions and physical constraints on implementing the remedy, ICs are integral to protect potential LA exposures from contamination beyond the boundaries of remedies, as discussed further in Section 4.

2.1.3 Risk Exposure Pathways

The ROD (EPA 2016) discusses the conceptual site model (CSM), which incorporates the primary mechanisms that lead to release of contaminants from source materials, migration routes of contaminants in the environment, exposure pathways, and human and ecological receptors. The CSM from the ROD lists the exposure pathways, and Table 5-2 from the ROD (included in this ICIAP as Appendix A), summarizes the exposure locations and general types of disturbances that may occur for each of the nine exposure media identified in the CSM. These exposure pathways and affected media (see Section 2.1.8) informed the decisions to include ICs to minimize potential for exposure to contamination after remedy completion.

2.1.4 Response Action Summary

At the Site, many investigation and response action events occurred from 1999 until the signing of the ROD in 2016. Additional response actions followed the signing of the ROD and continued through 2018 in OUs 4 and 7. The general goal of the sampling investigations at OUs 4 and 7 was to provide information about the presence of LA and LA source materials at individual properties. Based upon that information and the response action levels detailed in the *Libby Asbestos Site*

Residential/Commercial Action Level and Clearance Criteria Technical Memorandum (EPA 2003) and amendments (EPA 2011, 2014), the *Libby Asbestos Site Troy Operable Unit 07 Residential/Commercial Cleanup Criteria Specific Use Area Visible Vermiculite Action Level Technical Memorandum* (DEQ 2009), and the ROD (EPA 2016), EPA was able to categorize each property and determine the appropriate level of response based on the current and reasonably anticipated future use. The activities associated with investigations and response actions within OUs 4 and 7 are detailed in the RI reports (CDM Smith 2014, Tetra Tech 2014) and the RACR (CDM Smith 2020a).

2.1.5 Cleanup Objectives

Remedial action objectives (RAOs) are medium- and source-specific goals to be achieved through completion of a remedy that is protective of human health and the environment. These objectives are typically expressed in terms of the contaminant, the concentration of the contaminant, and the exposure routes and receptors.

The RAOs, as stated in the ROD (EPA 2016), were developed to restrict or mitigate, through management, the continued release and migration of LA from contaminated soil and building materials, thus protecting human receptors within OUs 4 and 7 from unacceptable exposure to LA. The RAOs include:

- 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 noncancer hazard index (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 noncancer HIs that are at or below 1.

Meeting remedy RAOs, in combination with ICs, minimizes the potential for exposure to remaining LA contamination and is critical to risk management during O&M (EPA 2016).

2.1.6 Institutional Control Objectives

The following are the main objectives of the ICs in place at OUs 4 and 7, as outlined in the ROD (EPA 2016):

1. **Soil** – Prevent LA fibers that may remain in soil within OUs 4 and 7 after meeting remedial criteria for the land use category, or at undeveloped properties, from becoming a future source of unacceptable risk.
2. **Building Materials** – Prevent LA fibers that may remain in currently inaccessible building materials from becoming a future source of unacceptable exposure.
3. **Land Use** – Track changes in land use and develop a notification system (e.g., property evaluation notification [PEN] regulation, real estate disclosure) for property owners,

prospective property owners, and workers so they can be made aware of remaining or potential remaining LA, which could become a future source of unacceptable exposure.

These IC objectives will be implemented consistent with the ROD adaptive management approach adopted for O&M of the selected remedies. Adaptive management during O&M will continue in order to ensure that property-specific considerations are evaluated for each IC implementation with the IC objectives as the basis for the decisions (EPA 2016).

2.1.7 Current and Reasonably Anticipated Future Land Use

The ICs in place at OUs 4 and 7 are expected to allow for the current and reasonably anticipated future land uses of residential, commercial, parks, and schools at the Site. ICs are expected to serve to control any potential disturbance of any protective remedy through the specific ICs defined in Section 3. As additional ICs are established or existing ICs require modification, this plan will be updated by EPA in coordination with DEQ. While OUs have been used at the Site to organize investigation and response action work, EPA has determined that categories related to current and future land use are more consistent with the risk management approach for the non-OU3 areas of the Site evaluated within the *Site-wide Feasibility Study* (EPA 2015a). Thus, OUs 4 and 7 have been evaluated by land use categories, including residential/commercial and parks/schools, and frequency of use categories during investigation and remedy evaluation (i.e., prior to O&M, frequently used areas were investigated differently than infrequently used areas). A description of these land use categories is included in the ROD (EPA 2016). The specific land use category will not affect the implementation of the ICs defined herein (Section 3).

2.1.8 Exposure Media

EPA found inhalation exposure pathways based on several different affected media for OUs 4 and 7, as outlined in Table 5-2 (Appendix A). The affected media that contribute to human health risk exposure in OUs 4 and 7 include outdoor air/ambient air conditions, soil/duff disturbances, tree bark disturbances, woodchip/mulch disturbances, indoor air/passive conditions, indoor dust disturbances, vermiculite insulation disturbances, and indoor woodstove ash disturbances. These different affected exposure media were taken into consideration when developing ICs for this ICIAP.

EPA does not consider ingestion of groundwater to be a viable pathway for LA exposure above a level of concern within OUs 4 and 7 (CDM Smith 2015b), therefore, groundwater use is not included under this ICIAP.

The EPA does not consider ingestion of surface water to be a viable pathway for LA exposure above a level of concern within OUs 4 and 7 (CDM Smith 2015b), therefore, surface water use is not included under this ICIAP.

2.1.9 Property Ownership/Occupancy Information

Based on EPA's Property Operations Tracking System (POTS) 2 database (as of September 17, 2019) for managing property information, which considers publicly available information, OUs 4 and 7 are comprised of 8,112 properties—6,635 within OU4 and 1,477 within OU7. Property statuses maintained by EPA were used to plan for seasonal project work and assess progress. Following remedial action completion, all property ownership information from EPA's Response

Manager database was migrated into the POTS 2 database for management of property information by DEQ. POTS 2 was migrated into a new DEQ Response Manager database developed by DEQ for use during O&M activities. Property ownership and response action information, and response action status is available through the DEQ Response Manager database and within other database files provided to DEQ by EPA during the operational and functional (O&F) period for properties within OUs 4 and 7. Environmental data (e.g., analytical, sample data) collected since 2010 is located in Scribe (application developed by EPA for managing environmental data). All analytical data collected prior to January 2010 are maintained in the Libby2 Database.

2.1.10 Responsible Parties and Stakeholders

The persons, organizations, and/or agencies responsible for performing and or managing implementation of ICs are detailed in Section 3 and listed in Table 3-1. Responsible practices by property owners, tenants, residents, and contractors within OUs 4 and 7 is essential to successfully protect the remedy at the Site. It is the goal of the O&M program that responsible parties and stakeholders utilize the resources offered to support them through the IC program, and thus help ensure activities at properties do not disturb the physical protective remedy in place. The specific ICs, resources available, and contact information available to responsible parties and stakeholders is discussed in Section 3.3.3.

2.1.11 Local Government Information

BOH entered into a cooperative agreement with EPA, which resulted in the creation of ARP. ARP, under direct supervision of BOH, was developed to assist in educating the public and managing risks associated with asbestos exposure, including implementing initiatives (e.g., ICs) to reduce the risk of LA exposure. DEQ will be responsible for developing and implementing cooperative agreements with local agencies (e.g., BOH) and stakeholders and administering contracts, as necessary, to assist with implementing ICs and protecting the physical remedy during O&M. Additionally, funds are administered by EPA to DEQ through a cooperative agreement grant during O&M, which includes implementing, managing, and evaluating ICs. BOH assisted in developing the ICs (Section 3).

2.1.12 Identification of Available IC Funding

ICs play a critical role in O&M and protection of the physical remedy for the Site. A settlement fund was set up for the Site. From the settlement fund, $11 million was placed into a separate interest-bearing account that will be used to help pay for future sitewide (all OUs except OU3 and OU6) O&M including implementation and management of ICs. Currently, the funds in that account are nearly $12 million. The cost of the sitewide O&M program will be evaluated through a cost-risk analysis to help minimize uncertainty associated with those costs. The funds are administered by EPA to DEQ through a cooperative agreement grant and are subject to EPA eligibility requirements. Further guidance regarding funding for remedy maintenance activities during the O&M period are discussed in *Guidance for Management of Superfund Remedies in Post Construction* (EPA 2017).

In addition to this settlement fund, under Montana Code Annotated 75-10-743(10)(c) and 75-10-704(4)(j)(I), starting July 1, 2018, DEQ receives an appropriation of $600,000 annually from an orphan share transfer. The subsequent Montana Code Annotated 75-10-1601 provided a

framework on how this money could be used, and established a permanent trust fund to pay exclusively for costs to the state of cleanup and long-term O&M for Libby. From this account, $480,000 is allocated annually for oversight and support of the advisory team (i.e., LASOC). As of September 2019, the trust fund balance was $852,536. DEQ also received approximately $5 million as part of the bankruptcy settlement with Grace. Under recommendation by LASOC and approval by DEQ, these funds could also be used to support O&M activities including implementation and management of ICs in OUs 4 and 7.

2.2 Site Operable Units

Initially, to support Site-wide property-specific investigation planning, EPA established a study area boundary. As information regarding contamination at the Site became available through the investigations, EPA was able to establish a formal National Priorities List (NPL) boundary and boundaries for seven of the eight OUs (1, 2, 4, 5, 6, 7, and 8). The final boundary for OU3 is in development and will be detailed in OU3-specific documents. A brief discussion of each OU is provided below.

OU1. OU1 is situated just north of the downtown area of Libby. The property is bounded by the Kootenai River on the north, Highway 37 on the east, the Burlington Northern Santa Fe (BNSF) railroad thoroughfare on the south, and State of Montana property on the west. OU1 includes the former export plant, Riverfront Park, and the embankments of City Service Road and MT Highway 37. The MT Highway 37 right-of-way (ROW) adjacent to OU1 was included because of the proximity to OU1 and known contamination in the ROW.

OU2. OU2 includes areas impacted by contamination released from the former screening plant. The MT Highway 37 ROW adjacent to OU2 was included because of the proximity to OU2 and known contamination in the ROW.

OU3. This OU includes the former vermiculite mine and the geographic area surrounding the mine (including ponds) that has been impacted by releases from the mine including Carney Creek, Fleetwood Creek, Rainy Creek, and the Kootenai River.

OU4. OU4 is defined as residential, commercial, and public properties, including schools and parks in and around the City of Libby. This ICIAP document applies to OUs 4 and 7.

OU5. OU5 includes all properties that were part of the former Stimson Lumber Mill and that are now primarily owned and managed by the Lincoln County Port Authority.

OU6. The rail yard owned and operated by BNSF is defined geographically by the BNSF property boundaries and extent of contamination in areas with BNSF rail operations. Generally, the boundary is as wide as the railroad ROW. Railroad transportation corridors within the Site are also included in this OU.

OU7. The Troy OU includes all residential, commercial, and public properties, including schools and parks, in and around the City of Troy. This ICIAP document applies to OUs 4 and 7.

OU8. OU8 is comprised of the U.S. Highway 2, MT Highway 37, and county roads (Kootenai River Road, County Highway 482 [Farm to Market Road], and County Highway 567 [Pipe Creek Road]) traversing the Site.

Section 3

Key Elements for Planned and Implemented Institutional Controls

3.1 Institutional Control Elements

For OUs 4 and 7, ICs will be used to ensure that any future encounters with residual contamination are managed appropriately. ICs for OUs 4 and 7 include governmental controls and informational devices. Below is the list of ICs currently in place or anticipated to be in place to satisfy the remedial alternatives discussed in the ROD (EPA 2016) prior to the end of O&F, before DEQ takes responsibility for O&M. Detailed descriptions of the IC instruments and each of these ICs for OU4 and 7 are provided in Section 3.3.

- Governmental Controls
  - PEN regulation – BOH (available at http://lincolncountymt.us/lincoln-county-board-of-health or www.lcarp.org, or by visiting the ARP office)
- Informational Devices
  - Montana Department of Transportation (MDT) encroachment permit application and addendum (included in this ICIAP as Appendix B)
  - Notices of environmental conditions (NOECs) and notices of potential environmental conditions (NOPECs) for properties that refused EPA inspection and/or remedy
  - Montana utility locate service (Montana 811)
  - ARP program educational and resource pillars
    - Best management practice (BMP) awareness for the public
    - Contractor awareness for LA
    - Educational outreach at schools and businesses
    - Property transaction awareness
    - Health fairs and a public outreach campaign
    - City of Libby and City of Troy procedure coordination
      - *City utility maintenance and repair*
      - *City building property maintenance and repair*

  - Lincoln County departmental procedures (with review and LA information provided by ARP and BOH)
    - *Subdivision review planning and coordination*
    - *Septic and on-site wastewater system review planning and coordination*
    - *Landfill services and material acceptance criteria coordination*
    - *Business license request coordination (e.g., review potential land use changes)*
    - *Planning department land use coordination*
- Data and administrative record sources
  - Property information database managed by DEQ (Response Manager) and integrated geographic information system (GIS) data
  - Property information repositories (on hard drives)
  - Libby Asbestos Superfund Site administrative record
  - EPA Libby Asbestos Superfund website
- Libby Asbestos Superfund Site – OU4 and OU7 BMP Manual (included in this ICIAP as Appendix C)

3.2 Instrument Duration

ICs are critical to the protection of the remedies and human health and the environment for OUs 4 and 7. All IC instruments set forth for OUs 4 and 7 are expected to be in-place in perpetuity based on the availability of funding mechanisms. The only condition for termination of other individual IC instruments will be the complete removal and proper disposal of all LA-contaminated soil and building material within OUs 4 and 7. As noted in the ROD, ICs and O&M will continue to ensure protectiveness of the remedy despite delisting or deletion of an OU or the Site from the NPL (EPA 2016).

3.3 Instrument Categories

ICs are typically divided into four distinct types of controls: proprietary, governmental, informational devices, and enforcement documents. The following sections identify the IC instruments associated with OUs 4 and 7 under each of these categories.

3.3.1 Proprietary Controls

Proprietary controls involve private agreements that place restrictions on or otherwise affect the use of property or related resources. An example of a proprietary control is an environmental covenant. Although not anticipated for OUs 4 and 7, DEQ has implemented environmental covenants for other OUs at the Site. Under Montana Code Annotated (MCA) 75-10-727, a DEQ-approved IC could be instituted to restrict a property, as necessary, to mitigate the risk to public

health by way of an environmental covenant. This IC would notify future landowners/users of previous response actions completed at OUs 4 and 7 where known or potential LA contamination remains in soils or buildings at the property. If any such instrument receives final approval by DEQ, it will be included within this plan as an appendix. The landowner must agree to place this IC on the property. No environmental covenants or proprietary controls currently exist for OUs 4 and 7.

3.3.2 Governmental Controls

The governmental controls at OUs 4 and 7 include updating codes, ordinances, and regulations within Lincoln County. The anticipated governmental controls for OUs 4 and 7 are discussed below.

PEN Regulation: The purpose of this regulation is to inform the public of the possibility of exposure to LA as a result of applicable activities, defined as activities related to real property, to include: (1) excavation, grading, and landscaping; (2) interior or exterior demolition, repair, modification, disturbance of material, or remodeling to permanent or temporary structures; (3) transfer of real property regardless of whether any comfort letter has been issued by EPA or any other agency; (4) change in land use category or property use area; and (5) any dividing of land including through subdivision, family transfer, court-ordered division, or other division. In addition to the applicable activities, other activities that require a PEN are included in the regulation. This PEN regulation focuses on providing property information regarding LA, data, education, and evaluations to protect the public in relation to the PEN-required activities. Prior to performing any PEN-required activities at a property within BOH's defined jurisdiction, a person is required to notify ARP of the proposed applicable activities through the PEN process. Based on adaptive management practices, the information provided through the PEN process may be used to provide additional assistance, information, or ICs. Assistance in monitoring and managing contamination may include monitoring contamination and evaluating it using RALs and RAOs in the ROD (EPA 2016), providing resource materials and BMPs, providing contractor referrals, facilitating the removal of contamination, and providing funding information and guidance. A current copy of the PEN regulation is available at http://lincolncountymt.us/lincoln-county-board-of-health or www.lcarp.org, or by visiting the ARP office.

3.3.3 Informational Devices

Currently, informational devices related to OUs 4 and 7 include MDT encroachment permit application and addendum, NOECs and NOPECs, Montana 811, ARP educational outreach and it's resource program, DEQ's Response Manager database, a BMP manual, and the EPA administrative record. These informational devices are discussed below.

MDT Encroachment Permit Application and Addendum: All individuals and organizations intending to perform work within the ROW in OUs 4 and 7 of the OU8 corridor must apply for an encroachment permit with MDT. Any application permit along the OU8 ROW must be accompanied by an addendum, which notifies the permittee to take precautions to guard against potential exposure to LA contamination. Although the Administrative Rules of Montana 18.7.102 defines MDT encroachment application permits and statutory rules exist that dictate associated violations, the addendum that accompanies any such permit along the OU8 corridor is site-specific and acts as an informational device. The addendum serves to inform the permittee of

confirmed presence of LA within areas of the MDT ROW along MT Highway 37. The addendum furthermore acts as a hold harmless agreement to protect, defend, and indemnify the State of Montana, MDT, it's agents, and employees against claims and causes of action from activities conducted under the permit. No specific enforcement or penalty currently exists relating to the protection of a remedy placed within OU4, OU7, or OU8 specific to this encroachment permit application and addendum. A copy of the MDT encroachment application permit and addendum is included as Appendix B.

NOECs and NOPECs: NOECs and NOPECs were filed by EPA with the Lincoln County Clerk and Recorder office for any property whose owner has refused to complete investigation and/or cleanup efforts. The notices are intended to provide notice concerning the presence (NOEC) or potential presence (NOPEC) of contamination at a specific property and to precaution interested parties against using the property in any manner that may increase the risk of exposure to the contamination and result in an imminent and substantial endangerment to public health, welfare, or the environment. A subsequent withdrawal notice is filed for properties where investigation data and/or proof of remediation, as applicable, are completed and submitted to EPA and DEQ. The request and associated investigation and/or remediation documentation to obtain a withdrawal notice are the responsibility of the property owner. ARP, in coordination with DEQ, will assist NOEC and NOPEC property owners in understanding the process and evaluation of the data/report/response quality, and applicability of the request for a withdrawal notice as necessary.

Montana 811: When the Montana 811 call center has been notified of ground-disturbing activities (e.g., excavation, fence installation) planned within the boundaries of OUs 4 and 7, Montana 811 will notify ARP. ARP will review past LA assessment data and sampling analytical results and provide guidance on how to address left-in-place contamination or potential LA encounters. If disturbance is required, guidance and resources may be obtained from ARP. In addition to providing advice and instruction, ARP may assist in managing or providing scope services for encountered contamination as necessary. Assistance in managing contamination may include providing resource materials and BMPs, providing contractor referrals, and facilitating the removal of contamination.

ARP: ARP is a program under the BOH that is currently staffed in Libby, Montana. ARP was developed as a program to educate the public regarding the risks of LA exposure and provide resources to manage risks associated with LA exposure, including implementing initiatives or regulations to reduce or prevent LA exposure. Assistance in managing contamination risk may include providing resource materials and BMPs, identifying contractors educated in LA-specific abatement practices, administering the PEN regulation, monitoring LA exposure during O&M, facilitating the removal and disposal of LA contamination, and reducing the potential for exposure to LA. ARP is funded by EPA through O&F and will be funded by a cooperative agreement with DEQ during O&M as appropriate. The public is encouraged to contact ARP at (406) 291-5335 or visit the ARP website at www.lcarp.org for more information. ARP program components are outlined below:

- *Educational Programs for Managing LA Exposure:* Educational and resource programs are central pillars of ARP. Response actions within OU4 and OU7 were conducted within

properties (e.g., residential, commercial, and parks/schools) throughout the community. The ICs rely on the public to be knowledgeable about recognizing LA and LA source materials and employ BMPs to ensure that potential for LA exposure is limited. ARP strives to make sure the public is aware of what to look for and how to deal with LA and LA source materials prior to or when they may encounter it on their property.

- *BMP Awareness:* A large part of ARP's educational program focuses on BMP awareness. ARP teaches the public what to look for and what to do if someone encounters vermiculite in their yard or VCI within their house. ARP makes site visits to schools, construction sites, and homes to help the public manage LA contamination. ARP developed brochures that contain BMPs and information about reducing exposure, working in exterior and interior conditions, demolition activities, recommended steps for do-it-yourself projects, and yard work and gardening.

- *Contractor Awareness of LA:* ARP works closely with local contractors. During Montana 811 and PEN call backs, ARP reviews BMPs with contractors. Current training opportunities available from DEQ and local professional organizations will be shared with contractors on the ARP website (http://lcarp.org/).

- *Educational Outreach*: ARP participates at STEM Day annually at the local high school. In the past, ARP has given lectures to high school students about the history of the mine, LA and LA source materials, and the role of ARP. ARP also organizes activities for students to explain how LA is quantified. ARP takes advantage of educating the public when responding to do-it-yourself homeowners that call Montana 811 or initiate a PEN. These programs may be modified in the future to best meet community needs.

- *Property Transaction Awareness:* ARP provides printed packets of LA and LA source material information to anyone interested. Included in the packets are an ARP coversheet describing material identification, ARP's hotline number, and available resources. Current real estate sales occurring within the NPL are recorded at the Lincoln County Clerk and Recorder office. Routinely, a list of new transactions is sent to ARP with new property owner contact information. ARP contacts the new property owner, introduces the services and resources ARP offers, and sends a property packet to the new property owner. EPA has communicated with the Lincoln County Board of Commissioners; known Lincoln County realtors, title companies, and appraisers; and others within Lincoln County involved in property transactions, to discuss the transition to O&M for OUs 4 and 7 and how future communication regarding property status information will be handled by DEQ.

- *Health Fairs and Public Outreach Campaign:* ARP participates in an annual health fair in Libby. ARP provides informational packets on BMPs, shows examples of LA and LA source materials, explains what to look for within soil and buildings to identify LA and LA source materials, and provides ARP contact information in a variety of formats. ARP utilizes the local newspapers and publishes hotline information in the paper using outreach materials such as stickers. This outreach material has ARP contact information and can be removed from the newspaper and placed on a hard surface (e.g., refrigerator).

- *Lincoln County Department Procedure Coordination:* ARP provides status updates and information of work done on properties throughout the NPL, including OUs 4 and 7. The Lincoln County Department of Environmental Health and the Cities of Libby and Troy can make a request to ARP for information. ARP will review property files and provide LA property information, data, and education to any department representative. As part of the informational ICs associated with OUs 4 and 7, the following coordination activities are facilitated between the ARP and the specific Lincoln County department:

  - *Subdivision Planning/Septic Review and Coordination* – Most activities falling under this category will require a Montana 811 request and are PEN-required activities; however, preplanning activities for developers or business license applicants are available to help assess LA contamination. Through the Montana 811 request, ARP will contact the person(s) involved in the project and provide property status, BMPs, options for available resources when necessary, and precautions for workers. Through subdivision and planning services, ARP will contact the property owner and/or developer to provide property status, monitoring, and support. A pamphlet of ARP contact information is mailed with every license granted.

  - *Business License Information Request:* Currently, to get a business license in the City of Libby, approvals are required from the city planning department, fire marshal office, city building inspector, and county department of health. Requests for information from any of these departments can be made to ARP about where a new business is planning to reside within the city limits. There are no extra approvals needed to obtain a City of Troy business license. ARP is able to examine current and past use of a property to help evaluate potential land use changes from when EPA provided assessment or remedy, and if the past LA assessments and sampling analytical results are applicable to the proposed business or land use. This information is provided to the business license office and the applicant.

  - *Asbestos Disposal Program Coordination:* ARP coordinates with the Lincoln County Solid Waste division to provide appropriate information for contractors and homeowners for disposal of asbestos-containing material or material potentially containing asbestos, including LA. The landfill operators are trained and oversee the acceptance of material at county landfills and the program provides guidance on the county's Asbestos Disposal Program (not specific to LA), references to the DEQ Asbestos Control Program (not specific to LA), and coordination with ARP (LA-specific). The Asbestos Disposal Program, in conjunction with the Lincoln County Solid Waste division, and ARP may provide the following: no-cost disposal at the Libby landfill for LA and LA source materials; staff with current Hazardous Waste Operations and Emergency Response training and asbestos contractor/supervisor certification available to operate the landfill asbestos cell; skid steer dedicated to work only within the landfill asbestos cell, and appropriate storage and decontamination; decontamination trailer, water supply tanks, and misting tent at the landfill asbestos cell available to the landfill operator; rental of Kootenai Disposal roll-off truck; staging area for materials that follows National Emission Standards for Hazardous Air Pollutants solid waste regulations; data

management system for manifest tracking; and scheduled time of operation/dumping events.

- *City of Libby:* Most activities falling under this category will need to request a Montana 811 or PEN. Through the Montana 811 or PEN, ARP will contact the person(s) involved in the project and provide property status, BMPs, options for available resources when necessary, and precautions for workers. The City of Libby business license requires multiple approvals from different departments. A request can be made to ARP for information on city property, BMPs, and available resources. The City of Libby has seven different zoning districts. Amendments to zoning restrictions are currently being reviewed to limit types of businesses and land uses within specific city districts. The City of Libby is located within a controlled groundwater area. Most city residents are on city water and sewer. Well drilling is restricted within this area. More information on City of Libby zoning districts can be found at the following: http://library.municode.com/mt/libby/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.08DIGE

- *City of Troy:* Most activities falling under this category will need to request a Montana 811 or PEN. Through the Montana 811 or PEN, ARP will contact the person(s) involved in the project and provide property status, BMPs, options for available resources when necessary, and precautions for workers. The City of Troy does not have zoning districts. A building plan review must be submitted and reviewed by the city building inspector. A public works and sewer system are established in the city. More information on City of Troy zoning districts and building codes can be found at the following: https://library.municode.com/mt/troy/codes/code_of_ordinances?nodeId=TIT9BURE_CH1BUCORE_9-1-1TECOREAD

For information, handouts, resources, contractor guidance and referrals, or additional resources, individuals may contact ARP at the following:

ARP
418 Mineral Ave
Libby, MT 59923
(406) 291-5335
http://www.lcarp.org/

Data and Administrative Record Sources:

- *DEQ's Response Manager and Integrated GIS Database*: DEQ has adapted EPA response and remedy data into a database of property information on LA assessments, remedies, sample analytical data, and land use applicable to LA remedies. DEQ continues to integrate that database with GIS mapping capabilities to provide geodata for locations of LA-asbestos related information in OUs 4 and 7. Response Manager is a multi-user database administered by DEQ for tracking and reporting purposes. DEQ and ARP have access to Response Manager and the GIS database system in order to provide up-to-date information and assessments of properties with respect to past LA-related investigation and response

activities. Individual property information and data are available through ARP upon request by the property owner or their designated representative.

- *Property Information Hard Drives*: All hard copy property information recorded and collected by EPA was scanned and delivered to DEQ and ARP at the completion of remedial action. The information captured on the property information hard drives provides additional mechanisms for obtaining property-specific information related to past LA-related investigation and response activities. Individual property information and data are available through ARP upon request by the property owner or their designated representative.

- *Libby Asbestos Superfund Site Administrative Record:* The Site administrative record is a set of nondeliberative documents EPA considered, directly or indirectly, in determining the final ROD for the Site. The record includes all factual, technical, and scientific material or data considered in making the final ROD, whether those materials or data supported the decision. The EPA Site administrative record for OUs 4 and 7 are available at the Lincoln County Libby and Troy Libraries. The administrative record may be accessed by the public to be informed on EPA's responses, remedies, and decisions for the Site.

  The full administrative record is housed at the EPA Superfund Records Center in Denver, Colorado. Contact information is:

  EPA Superfund Records Center
  1595 Wynkoop Street
  Denver, CO 80202-1129
  Hours: Monday through Friday from 8:00 a.m. to 5:00 p.m.

  To request copies of administrative record documents, call:
  (303) 312-7273 or (800) 227-8917 ext. 312-7273 (toll free Region 8 only)

  Local information repositories include the Lincoln County Public Library branches. Contact information is:

  Lincoln County Public Library – Main Branch, Libby
  220 W 6th Street
  Libby, MT 59923
  (406) 293-2778
  Hours: Monday through Friday from 9:00 a.m. to 5:00 p.m.; Saturday from 10:00 a.m. to 2:00 p.m.

  Lincoln County Public Library – Troy
  207 3rd Street
  Troy, MT 59935
  (406) 295-4040

- *EPA Libby Asbestos Superfund Website:* The EPA website may be accessed by the public to be informed on EPA's responses, remedies, and decisions for the Site.
  www.epa.gov/superfund/libby-asbestos

BMP Manual: A BMP manual, attached as Appendix C to this ICIAP, was developed as a means of providing the best practices to observe when working with or near LA or potential LA exposure areas. The BMP manual, when used in combination with the other layers of developed ICs and BMPs provided by ARP, provides guidance to owners, land users, tenants, and visitors for the prevention or reduction in the release of and/or exposure to LA within OUs 4 and 7. BMPs will be updated and adapted as necessary throughout O&M.

3.3.4 Enforcement Documents

There are currently no enforcement documents in place with institutional components related to OUs 4 and 7. If enforcement documents with IC components are developed in the future, this plan will be revised to incorporate them.

Table 3-1 Status of Institutional Control Implementation

Instrument Name	PEN Regulation	MDT Encroachment Permit Application and Addendum	NOECs/NOPECs	Montana 811	ARP/Educational and Resource Pillars	Data and Administrative Record Sources	BMP Manual
Additional Tools Under Instrument	NA	NA	NA	NA	• BMP awareness for public • Contractor awareness • Educational outreach (schools/business) • Property transaction awareness • Health fairs and public outreach • Financial awareness • City of Libby/Troy Coordination • Lincoln County Departments procedure coordination	• DEQ Response Manager and GIS data integration • Property information hard drives • Libby Asbestos Superfund Site Administrative Record • EPA Libby Asbestos Superfund website	NA
Instrument Category	Governmental Control	Informational Device	Informational Device	Informational Device	Informational Device	Informational Device	Informational Device
IC Objectives [(a)]	1, 2, 3	1	1, 2, 3	1	1, 2, 3	1, 2, 3	1, 2
Use to Maintain Protectiveness of Remedy	Prevent Penetration of the protective physical remedy, disturbance, transportation and disposal of potential contaminated subsurface soil						Not Applicable
Implementation Status	In Development	Already in place	Already in place	Already in place	Partially in place	Partially in place	Partially in place
Person or Organization Responsible for Performing Implementation	BOH/ARP	MDT	EPA	DEQ/ARP	DEQ/ ARP	DEQ/ARP/EPA	DEQ/ARP
Instrument Lifespan	In perpetuity	In perpetuity	In perpetuity; superseded by EPA letter upon adequate characterization and response as appropriate	In perpetuity	In perpetuity	In perpetuity	In perpetuity
Conditions for Termination of IC	Complete removal and disposal of all LA contamination at the Site						

[(a)] IC Objectives:

1. Soil – Prevent LA fibers that may remain in soil within OUs 4 and 7 after meeting remedial criteria for the land use category from becoming a future source of unacceptable risk.
2. Building Materials – Prevent LA fibers that remain in inaccessible building materials from becoming a future source of unacceptable exposure.
3. Land Use – Track changes in land use and develop a notification system to ensure that property owners, prospective property owners, and workers are aware of remaining or potential LA, which could become a future source of unacceptable exposure.

Section 4

Institutional Control Maintenance

IC maintenance consists of periodic monitoring and reporting to confirm that ICs are in place and providing protection as intended. Maintenance activities consist of DEQ and ARP evaluation of current ICs and their applicability and effectiveness. The IC maintenance will also be assessed during O&M inspection activities outlined in the OUs 4 and 7 O&M plan (CDM Smith 2020b) and may include a periodic O&M review of a representative subset of Site properties and the effectiveness of Site ICs by the implementing agency, entity, or organization.

Monitoring of ICs will be conducted in accordance with the OUs 4 and 7 O&M plan, which details the roles and responsibilities, schedule, corrective actions, and reporting requirements (CDM Smith 2020b). In general, reports summarizing O&M activities, which include verifying the integrity or effectiveness of ICs, will be prepared by DEQ and submitted to the EPA Remedial Project Manager on an annual basis. The ARP will assist in providing ongoing input on the efficacy of the ICs and recommendations for revising or modifying them as necessary.

Currently, ARP uses Response Manager to report information related to response and inspection activities. Reported information typically contains addresses, unique geospatially-tied property identifiers, contacts, access and property statuses, and other property-specific response information.

In addition, special reports may be prepared by DEQ to document unforeseen events or conditions. An example of a special report is an incident report, which is used to document unusual events such as fires, floods, weather damage, or other incidents as required by the OUs 4 and 7 O&M plan (CDM Smith 2020b). Another example of a special report is a record of modification or amendment to governing site documents. These special reports should be made available to EPA and other interested parties in a timely manner.

Periodic monitoring is described in the OUs 4 and 7 O&M plan and may consist of annual investigations at a subset of properties within the Site boundaries, and annual public outreach campaign or assessment of public outreach IC activities to remind the public of the presence and requirements of the ICs. The O&M periodic monitoring will assess for changes in the effectiveness of ICs, evidence of tracking land use changes, evaluation of ICs during property transfers, and failure or inefficiency of any implemented ICs or remedies. ICs will be evaluated and updated, if necessary, based on these annual evaluations. The routine and critical evaluation of ICs will assess:

1. Whether the selected IC instruments are effective, based on each IC's use or other applicable metrics.
2. Whether the selected IC instruments will remain in place.
3. Whether the ICs are able to meet the stated objectives and performance goals and provide protection as defined in the ROD.

Public education can serve as a critical tool for IC maintenance. A well-informed public can provide extra monitoring during O&M. If a member of the public identifies a potential issue within OUs 4 or 7, ARP is locally available to the community to respond to concerns and provide information and guidance. The public can also directly contact DEQ during O&M activities with potential LA exposure concerns in OUs 4 and 7.

Details regarding site inspections, which include the monitoring of ICs currently in place, are included within the OUs 4 and 7 O&M plan (CDM Smith 2020b).

Section 5

Institutional Control Enforcement

IC enforcement consists of methods for addressing issues related to improper or incomplete implementation of ICs, maintenance of ICs, and breaches of ICs[1]. There are currently no enforcement documents with IC components related to OUs 4 and 7 that are managed by EPA/DEQ, nor are they anticipated. Local governmental controls, such as ordinances or regulations, may have their own enforcement clauses or contingencies associated with that particular IC instrument. If local entities have enforcement clauses in their governmental control ICs, those enforcement provisions will supersede this ICIAP's discussion on enforcement.

Guidance recommends that the most effective method of enforcement is early problem identification and communication. This can include site visits and issuing letters or notices to provide documentation of the problem, and information or resources to help the public address those issues.

Further details regarding site inspections for enforcing and monitoring ICs currently in place are included in the OUs 4 and 7 O&M plan (CDM Smith 2020b).

[1] An IC breach means a violation of a use restriction or any other provision set forth within an IC instrument, or any other situation that may interfere with the effectiveness of the IC.

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Section 6

Institutional Control Modification and Termination

At OUs 4 and 7, modification of ICs may be required for further development of ICs or modification of existing ICs to improve effectiveness. If an event occurs that could lead to a modification, this plan should be reviewed and revised accordingly to ensure the ICs at OUs 4 and 7 continue to provide adequate protection and meet IC objectives (EPA 2016). EPA in coordination with DEQ is responsible for modification of this ICIAP plan, which can be done at any time. In addition, EPA will accept public comment on this ICIAP once it has been developed and prepare a modification to the ROD known as an explanation of significant differences (ESD). The ESD will reference this ICIAP and identify the IC requirements and tools that will be used to implement the ICs. Appendix D provides a responsiveness summary addressing public comments received during the public comment period for this ICIAP.

Termination of ICs may occur if all remaining contamination at OUs 4 and 7 is removed to a level below that which poses an unacceptable risk to human health and the environment. As noted in Section 3.1.1, IC instruments set forth for OUs 4 and 7 are expected to be in-place in perpetuity based on the availability of funding mechanisms. The only condition for termination of other individual IC instruments will be the complete removal and proper disposal of all LA-contaminated soil and building material within OUs 4 and 7. EPA and DEQ, per MCA 75-10-727, are responsible for termination of ICs related to OUs 4 and 7. As noted in the ROD, ICs and O&M will continue to ensure protectiveness of the remedy notwithstanding delisting or deletion of an OU or the Site from the NPL (EPA 2016).

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Section 7

References

BOH. 2018. *Report of Recommendations*, Institutional Control Steering Committee, Libby Asbestos Superfund Site.

CDM Smith. 2020a. *Final Remedial Action Completion Report*. Libby Asbestos Superfund Site, Operable Units 4 and 7, Lincoln County, Montana. Prepared for the U.S. Environmental Protection Agency, Region 8.

_____. 2020b. *Final Operations and Maintenance Plan*. Libby Asbestos Superfund Site, Operable Units 4 and 7, Lincoln County, Montana. Report in preparation for the U.S. Environmental Protection Agency, Region 8.

_____. 2015a. *Site-Wide Feasibility Study*, Libby Asbestos Superfund Site, Libby, Montana. Prepared for the U.S. Environmental Protection Agency, Region 8.

_____. 2015b. *Final Site-Wide Human Health Risk Assessment*. Libby Asbestos Superfund Site, Libby, Montana. Prepared for the U.S. Environmental Protection Agency, Region 8.

_____. 2014. *Remedial Investigation Report, Residential and Commercial Properties.* Operable Unit 4, Libby, Montana. Prepared for the U.S. Environmental Protection Agency, Region 8.

DEQ. 2009. *Libby Asbestos Site Troy Operable Unit 07 Residential/Commercial Cleanup Criteria Specific Use Area Visible Vermiculite Action Level Technical Memorandum.*

EPA. 2003. *Libby Asbestos Site Residential/Commercial Action Level and Clearance Criteria Technical Memorandum*, Libby Asbestos Site.

_____. 2011. *Amendment A to Libby Asbestos Site Residential/Commercial Action Level and Clearance Criteria Technical Memorandum*, Libby Asbestos Site.

_____. 2014. *Amendment B to Libby Asbestos Site Residential/Commercial Action Level and Clearance Criteria Technical Memorandum*, Libby Asbestos Site.

_____. 2016. *Record of Decision for Libby Asbestos Superfund Site, Libby and Troy Residential and Commercial Properties, Parks and Schools, Transportation Corridors, and Industrial Park. Operable Units 4–8*. Lincoln County, Montana.

_____. 2012. *Institutional Controls: A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites*. OSWER 9200.0-77, EPA-540-R-09-002.

Meeker, G.P., A.M. Bern, I.K. Brownfield, H.A. Lowers, S.J. Sutley, T.M. Hoeffen, and J.S. Vance. 2003. "The Composition and Morphology of Amphiboles from the Rainy Creek Complex, Near Libby, Montana." *American Mineralogist*. 88:1955-1969.

Tetra Tech. 2014. *Final Remedial Investigation Report.* Operable Unit 7 of the Libby Asbestos Superfund Site. Prepared for the Montana Department of Environmental Quality.

Figures

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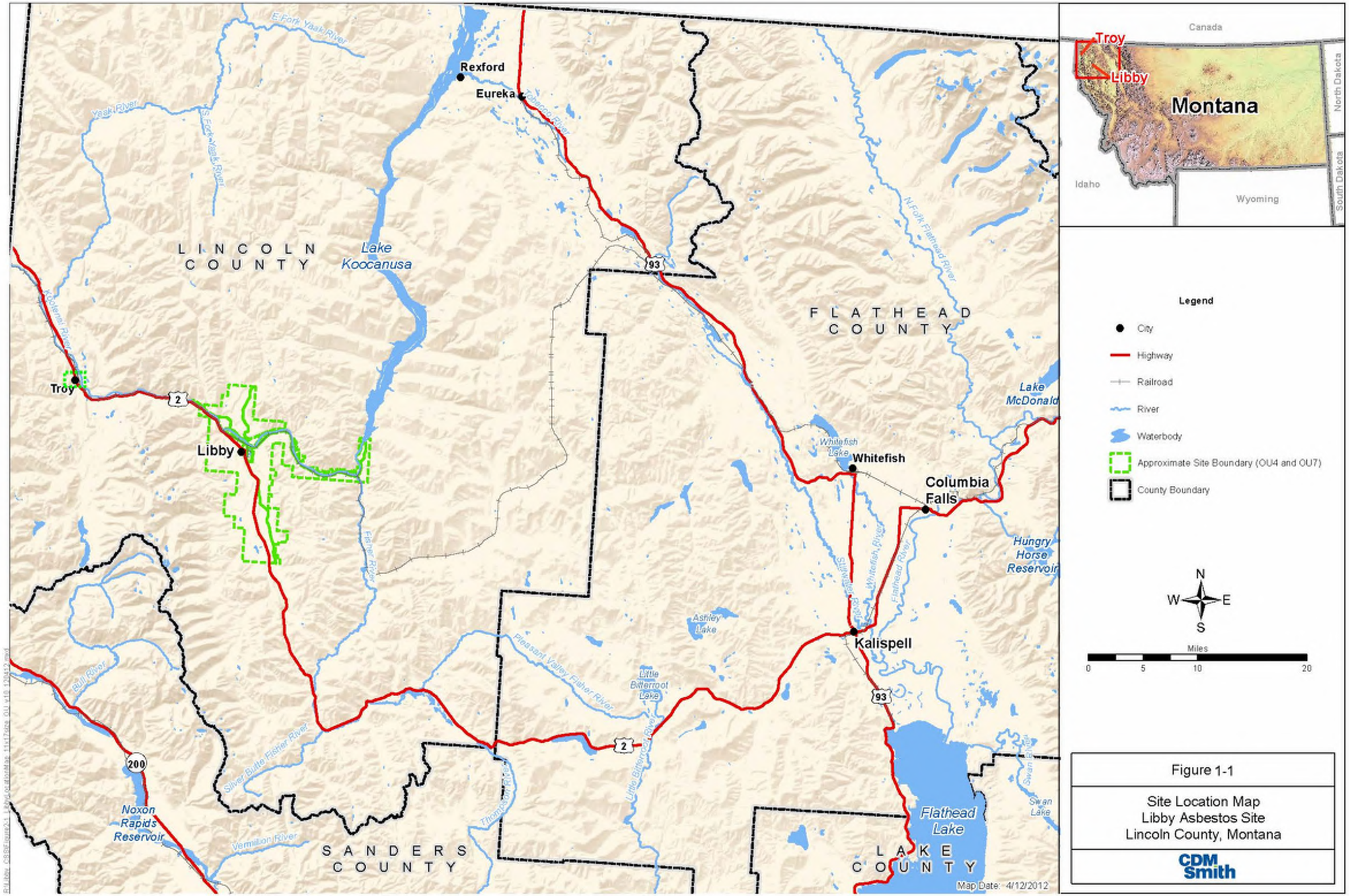
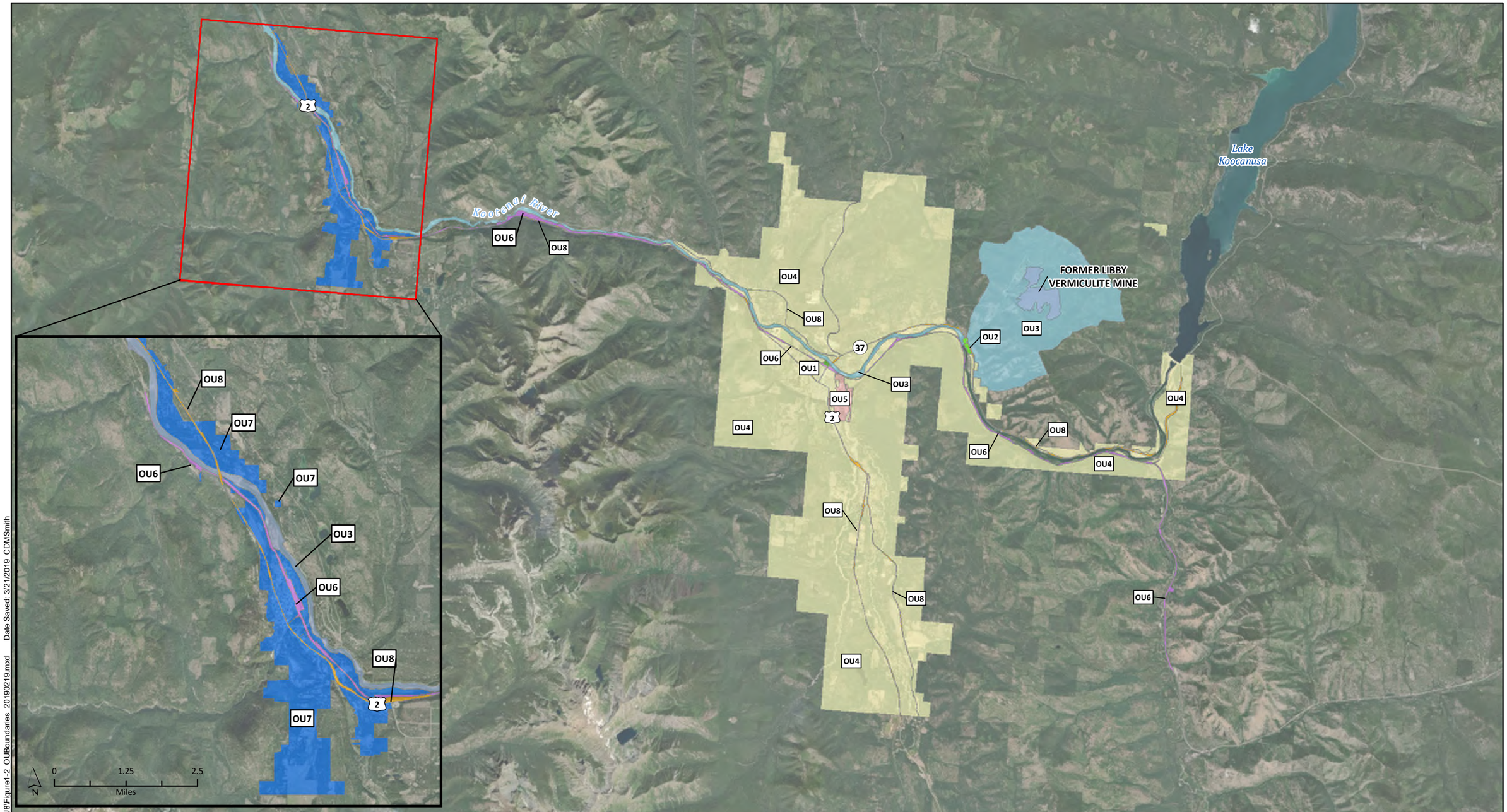


Figure 1-1

Site Location Map
Libby Asbestos Site
Lincoln County, Montana

CDM Smith



- OU1 - Former Export Plant
- OU2 - Former Screening Plant
- OU3 - Forest/Former Mine Site/Kootenai River Study Area Boundary
- OU4 - Residential/Commercial Areas within Libby
- OU5 - Former Stimson Lumber Mill
- OU6 - Burlington Northern and Santa Fe Railroad
- OU7 - Residential/Commercial Areas within Troy
- OU8 - Highways
- OU3 - Former Mine Site

Aerial Sources: Esri, USGS, NOAA
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Road and Railroad Source: US Census Tiger/Line
Waterways and Waterbodies Source: National Hydrography Dataset - USGS

Figure 2-1

Operable Unit Boundaries

Libby Asbestos Superfund Site | Lincoln County, MT

N

0 1.5 3 6

Miles

March 2019

CDM Smith

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Appendix A

Conceptual Site Model, Exposure Pathways, and Population

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TABLE 5-2
Conceptual Site Model, Exposure Pathways and Populations
Libby Asbestos Superfund Site

Primary Source	Primary Transport Mechanism	Secondary Source	Exposure Media	Exposure Locations	Operable Unit	Disturbance Description	Exposure Population[a]					
										Worker		
							Resident	Recreational Visitor	Teachers/ students	Indoor Worker	Tradesperson	Outdoor Worker
Mine site & past mining, milling, processing operations	Aerial emissions (current and historical, deposition/resuspension during disturbance activities	soil/duff	Outdoor air, ambient conditions	Outdoor	All	---	1	1	1	1	1	1
	Transport of solid waste, raw materials	soil/duff	Outdoor air, during soil/duff disturbance activities	Parks	OU1, OU4, OU7	lawn/park maintenance						1
						park use		1				
				Road ROW	OU2, OU8	mowing/brush-hogging						1
				Forested Areas	OU4	hiking		1				
						building campfires		1				
						ATV riding		1				
				Residential/Commercial Properties	OU2, OU4, OU7	yard work	1					1
						gardening	1					1
						playing on driveways	1					
						ATV riding in LUAs	1					
				Schools	OU4, OU7	outdoor maintenance						1
						playing on playgrounds			1			
				Bike Trails/Paths	OU4, OU5, OU7	riding bicycles		1				
				Roads	OU8	driving cars	1	1	1	1	1	1
				Motocross Track	OU5	motocross participant/spectator		1				
				Industrial Properties	OU5	site maintenance						1
				Railyard/Railroad Corridors	OU6	RR maintenance						1
	Aerial emissions	Tree bark	Outdoor air, during tree bark disturbance activities	Forested Areas	OU4	local wood harvesting	1					
						campfire burning		1				
						wildfire	1	1	1	1	1	1
				Landfills	OU4, OU7	woodchipping						1
	Aerial emissions to tree bark; use of bark as a landscaping material	Wood chips/mulch	Outdoor air, during woodchip/mulch disturbance activities	Residential/Commercial Properties	OU2, OU4, OU7	gardening/landscaping	1					1
				Woodchip Piles	OU5	pile maintenance						1
	Aerial emissions (current and historical)/indoor air potentially impacted by previous disturbance of LA-containing material[b]	indoor air mixed with outdoor air	Indoor air, passive conditions	Residential/Commercial Properties	OU4, OU7	---	1			1		
				Industrial Properties	OU5	---				1		
				Schools	OU4, OU7	---			1			
	Use of vermiculite in building materials	vermiculite insulation (VI)	Indoor air, during VI disturbance activities	Residential/Commercial Properties	OU4, OU7	attic use, routine property maintenance	1				1	
						construction/demolition					1	
	Aerial emissions (current and historical) to outdoor air mixing with indoor air potentially impacted by previous disturbance of LA-containing material[b]	indoor dust	Indoor air, during indoor dust disturbance activities	Residential/Commercial Properties	OU4, OU7	cleaning (sweeping, dusting, vacuuming)	1					
				Commercial/Industrial Buildings	OU1, OU5	general				1		
				Schools	OU4, OU7	general			1			
	Aerial emissions (current and historical) to tree bark used for firewood	woodstove ash	Indoor air, during woodstove ash disturbance activities	Residential/Commercial Properties	OU4, OU7	woodstove ash removal	1					

[a] Note that a given individual may be a member of several exposure populations. For example, an individual may live in OU7, work in OU4, and recreate in OU5. In this example, aspects of the exposure scenarios for a resident, indoor worker, and recreational visitor would apply to the individual. The cumulative assessment addresses cumulative exposures that span multiple exposure scenarios.
[b] LA-containing material could include VI or woodstove ash.

Notes:
ATV - all-terrain vehicle
LA - Libby amphibole asbestos
LUAs - limited-use areas
OU - operable unit
ROW - right-of-way
RR - railroad
USFS - United States Forest Service
VI - vermiculite insulation

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Appendix B

Montana Department of Transportation Encroachment Permit Application and Addendum

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MDT-MAI-007 07/14

Page of

Montana Department of Transportation Encroachment Application

2701 Prospect Avenue
PO Box 5895
Helena, MT 59604-5895
Phone: (406) 444-7220
Fax (406) 444-7684
TTY: (406) 444-7696

To be filled in by Department of Transportation Personnel

Print Form

Agreement Number: | Project Number: | Project Name: | ID Number: | County:

Maintenance Section: | Corridor: | Sign Route: | Milepost: | Roadbed:

Montana Department of Transportation | Title | Signature | Date

Subject to the terms and conditions shown on Page 2 hereof; this permit is hereby approved and granted. The "Permittee" agrees to the terms of this permit.

APPLICANT (PROPERTY OWNER)

NATURE OF PERMIT APPLICATION:
(Give sufficient detail to permit thorough understanding and submit blueprints or sketches in triplicate.)
*If work involves Environmental-Related cleanup or monitoring, also complete Section 7.

Township | Section | Range / Corridor | Sign Route | Mile Post

Name | Phone\Fax Number

Address | E-mail

City | State (MT) | Zip Code

If a Corporation, give State of Incorporation and names of President and Secretary

Highway survey stations, milepost, distances to centerline, and distance from right-of-way line near which installations or structures will be installed:

For how long a period is the permit desired?:

Are there environmental actions involving hazardous waste sites? (Superfund, Spills, Underground Storage Tanks, Old Mines, etc.) If Yes you will need to fill out additional environment questions.

◯ Yes (Complete Page 3)
◯ No

An environmental checklist must be filled out, signed and attached in order for this application to be considered complete.

Link to Environmental Checklist

Company or Corporation

The undersigned, the "Permittee" mentioned in the aforegoing instrument, hereby accepts this permit, together with all of the terms and conditions set forth therein.

Title | Signature | Date

Montana Department of Transportation Encroachment Application

2701 Prospect Avenue
PO Box 5895
Helena, MT 59604-5895
Phone: (406) 444-7220
Fax (406) 444-7684
TTY: (406) 444-7696

(INSTRUCTIONS CONCERNING USE OF THIS FORM)

Applicant will complete this form along with plans, sketches and an environmental checklist and send to the appropriate District Maintenance Chief for review and approval.

If the proposed installation will result in significant, permanent or long term impacts to the transportation network in terms of substantial increase traffic volumes, weight or delays to traffic on state roadways, such as major mines greater than five acres, a railroad at -grade crossing, railroad under or overpass, or strip mines, or if the proposed action has permanent impacts to other forms of transportation (rail, transit, or air movement), the encroachment permit must be submitted to the transportation planning division for review prior to issuance of this permit.

Subject to the following terms and conditions, the permit applied for upon the reverse side hereof, is hereby granted:TERM. This permit shall be in full force and effect from the date hereof until revoked as herein provided.REVOCATION. This permit may be revoked by State upon giving **45** days notice to Permittee by ordinary mail, sent to the address shown herein. However, the State may revoke this permit without notice if Permittee violates any of its conditions or terms.COMMENCEMENT OF WORK. No work shall be commenced until Permittee notifies the Maintenance Chief shown in application the date the Permittee proposes to commence work.CHANGES IN HIGHWAY. If State highway changes necessitate changes in structures or installations installed under this permit, Permittee will make necessary changes without expense to State.STATE SAVED HARMLESS FROM CLAIMS. As a consideration of being issued this permit, the Permittee, its successors or assigns, agrees to protect the State and save it harmless from all claims, actions or damage of every kind and description which may accrue to, or be suffered by, any person or persons, corporations or property by reason of the performance of any such work, character of materials used, or manner of installations, maintenance and operation, or by the improper occupancy of said highway right-of-way, and in case any suit or action is brought against the State and arising out of, or by reason of, any of the above causes, the Permittee, its successors or assigns, will, upon notice to them of the commencement of such action, defend the same at its sole cost and expense and satisfy any judgment which may be rendered against the State in any such suit or action.PROTECTION OF TRAFFIC. The Permittee shall protect the work area with traffic control devices that comply with the Manual of Uniform Traffic Control Devices. The Permittee may be required to submit a traffic control plan to the Maintenance Chief for approval prior to starting work. During work, the Maintenance Chief or designee may require the Permittee to use additional traffic control devices to protect traffic or the work area. No road closure shall occur without prior approval from the District Engineer.HIGHWAY AND DRAINAGE. If the work done under this permit interferes in any way with the drainage of the State highway affected. Permittee shall, at the Permittee's expense, make such provisions as the State may direct to remedy the interference.RUBBISH AND DEBRIS. Upon completion of work contemplated under this permit, all rubbish and debris shall be immediately removed and the roadway and roadside left in a neat and presentable condition satisfactory to the State.INSPECTION. The installation authorized by this permit shall be in compliance with the attached plan and the conditions of this permit. The Permittee may be required to remove or revise the installation, at sole expense of Permittee, if the installation does not conform with the requirements of this permit or the attached plan.STATE'S RIGHT NOT TO BE INTERFERED WITH. All changes, reconstruction or relocation shall be done by Permittee so as to cause the least interference with any of the State's work, and the State shall not be liable for any damage to the Permittee by reason of any such work by the State, its agents, contractors or representatives, or by the exercise of any rights by the State upon the highways by the installations or structures placed under this permit.REMOVAL OF INSTALLATIONS OR STRUCTURES. Unless waived by the State, upon termination of this permit, the Permittee shall remove the installations or structures installed under this permit at no cost to the State and restore the premises to the prior existing condition, reasonable and ordinary wear and tear and damage by the elements, or by circumstances over which the Permittee has no control, excepted.MAINTENANCE AT EXPENSE OF PERMITTEE. Permittee shall maintain, at its sole expense, the installations and structures for which this permit is granted, in a condition satisfactory to the State.STATE NOT LIABLE FOR DAMAGE TO INSTALLATIONS. In accepting this permit, the Permittee agrees that any damage or injury done to said installations or structures by a contractor working for the State, or by any State employee engaged in construction, alteration, repair, maintenance or improvement of the State highway, shall be at the sole expense of the Permittee.STATE TO BE REIMBURSED FOR REPAIRING ROADWAY. Upon being billed, therefore, Permittee agrees to promptly reimburse State for any expense incurred in repairing surface of roadway due to settlement at installation, or for any other damage to roadway as a result of the work performed under this permit.The Permittee shall not discharge or cause discharge of any hazardous or solid waste by the installation or operation of the facility of a State Right-of-Way.The Permittee will control noxious weeds within the disturbed installation area for two (2) years.In accordance with Mont. Code Ann. § 76-3-403(2), Permittee shall, at Permittee's expense, employ the services of a Montana Licensed Professional Land Surveyor to re-establish all existing survey monuments disturbed by work contemplated under this permit.The use of explosives is prohibited for the installation.Any condition of this permit shall not be waived without written approval of the appropriate District Administrator.

20. OTHER CONDIDTIONS AND/OR REMARKS:

21. ☐ See attached addendum

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Page of

Montana Department of Transportation Encroachment Application

2701 Prospect Avenue
PO Box 5895
Helena, MT 59604-5895
Phone: (406) 444-7220
Fax (406) 444-7684
TTY: (406) 444-7696

Additional Environmental Questions Pertaining to Environmental actions involving hazardous waste sites (Superfund, Spills, Underground Storage Tanks, Old Mines, etc.)

Name of Facility: _____ Facility ID: _____

Address: _____ City _____ State MT Zip Code _____

Check Boxes that are applicable below and provide subsequent details

☐ Leaking underground storage tank site? MDEQ identification number _____ ☐ Petro Fund Eligible?

☐ Remediation Response Sites (State Superfund Site)? identification number and/or site name _____

☐ Federal Superfund Site? identification number and/or site name _____

☐ Is Mine Active or Abandoned? Mine Site ID# _____ Mine Description or Name _____

☐ Spill? Spill Site _____ Spill Description _____

Other Environmental Action

_____

Traffic Control Plan Attached? ◯ Yes ◯ No

For each well installed in MDT R/W, provide GPS coordinates in state plane coordinates (preferred) or well survey information in another format (continue on another sheet if necessary).

NOTE: Each well request needs to be submitted on a separate application form.

Add Well	Well Designation	Easting	Northing
X			
X			
X			

MDT-MAI-007 07/14

Montana Department of Transportation
Encroachment Application

2701 Prospect Avenue
PO Box 5895
Helena, MT 59604-5895
Phone: (406) 444-7220
Fax (406) 444-7684
TTY: (406) 444-7696

The undersigned, the "Permittee" mentioned in the aforegoing instrument, hereby accepts this permit, together with all of the terms and conditions set forth therein.

ADDENDUM TO MDT APPROACH AND ENCROACHMENT/OCCUPANCY PERMIT
NOTIFICATION OF LIBBY AMPHIBOLE ASBESTOS

MDT right-of-way surface soil located within the boundaries of the Libby Asbestos National Priorities List Superfund site and in yet unidentified areas of MDT right-of-way in Lincoln Co., Montana may contain ubiquitous amounts of amphibole asbestos contamination. This contamination is primarily sourced from the historic mining, processing, and transport of vermiculite from the former W.R. Grace Mine located north of Libby, MT. The releases of Libby amphibole asbestos (LA) to the environment have caused a range of adverse health effects in exposed people, including not only workers at the mine and processing facilities, but also residents of Lincoln County.

Testing by MDT and the U.S. Environmental Protection Agency (EPA) has confirmed the presence of LA in both asphalt aggregate and in MDT right-of way surface soil on MT 37 north of the Kootenai River Bridge to past the junction with Rainy Creek Road. Though not yet tested, LA may also be present in trees and vegetation. Testing also indicates that other transportation corridors in Lincoln Co. also contain varying amounts of LA in both surface soil and vegetation.

(Name of Permittee) is hereby put on notice that undiscovered areas of LA contamination may be present in MDT right-of-way surface soil in the permit area. Permittee should take all appropriate precautions to guard against potential exposure to LA contamination by its agents, employees, or other third parties while conducting any soil or vegetation disturbance in MDT right-of-way in the permit area. Permittee shall notify the EPA to report any planned disturbance of soil or vegetation within the permit area, at (406) 291-5335. For additional information or questions, Permittee may contact the EPA or MDT Environmental Services in Helena, MT at (406) 444-7632.

Permittee, its agents and employees, agree to protect, defend and indemnify the State of Montana, MDT, its agents, and employees, and save and hold each of them harmless from and against all claims, demands and causes of action of any kind or character, including defense costs, arising from activities conducted under this permit, from any claims or causes of action from the Permittee's agents, employees, or other third parties arising from or allegedly due to activities under this permit, and from any claims, demands and causes of action of any kind or character, including defense costs, or damages due to or allegedly caused to any third parties for personal injuries, property damage, loss of life or property, civil penalties, or criminal fines resulting from or in any way connected with activities pertaining to this permit.

This Addendum constitutes an addition to said permit. All other provisions of said permit remain unchanged.

SAMPLE

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Appendix C

Libby Asbestos Superfund Site - Operable Unit 4 and 7 BMP Manual

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Libby Asbestos Superfund Site – Operable Unit 4 and 7 Best Management Practices Manual

This document has been prepared by the Environmental Protection Agency (EPA) to outline best management practices (BMPs) for working within Libby Asbestos Superfund Site, operable units (OU)s 4 and 7 residential/commercial properties, parks, and schools. This BMP manual will be updated routinely or periodically and the most recent version during O&M can be accessed through the Lincoln County Asbestos Resource Program (ARP). Discussion of the contaminant of concern (COC), BMPs, and where to find additional information pertaining to OU4 and OU7, including, previous response actions, investigations, institutional controls (ICs), and the Site-wide Human Health Risk Assessment are provided within this document.

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Section 2 Best Management Practices 2-1

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Section 1 Introduction

OU4 and OU7 includes areas of residential, commercial, parks and schools impacted by contamination from activities associated with mining, processing, and shipping of vermiculite by W.R. Grace & Co. (Grace). Exposure to vermiculite and Libby amphibole asbestos (LA) was largely mitigated by removing surface soil and placing clean soil backfill and removing insulation and/or building materials during response activities. This BMP manual provides guidance on how to safely mitigate exposures to these LA-contaminated soils.

Numerous hard rock mines have operated in the Libby area since the 1880s, but the dominant impact to human health and the environment in the City of Libby and City of Troy has been from vermiculite mining and processing. The vermiculite deposit that was mined by W.R. Grace (Grace) contains a distinct form of naturally occurring amphibole asbestos, LA, which is considered the COC at the Libby Asbestos Superfund Site. EPA initiated an emergency response action in November 1999 to address questions and concerns raised by citizens of the City of Libby regarding possible ongoing exposures to asbestos fibers as a result of historical mining, processing, and exportation of asbestos-containing vermiculite.

1.1 Contaminant of Concern

As previously stated, the COC for the site is LA. Asbestos fibers are odorless and tasteless and vary in length, structure, and chemical composition. Fibers are microscopic and environmentally persistent. They do not evaporate, burn, or dry out from heat or degrade in water. The toxicity of different types of asbestos fibers varies, but chronic and acute exposure to any one of them potentially can be fatal. While some chrysotile asbestos is likely present, it is not due to Site- related contamination and is not considered a COC. EPA actions at the Site have not focused on the removal of chrysotile or other forms of asbestos, only LA (EPA 2015).

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Section 2 Best Management Practices

For the purposes of this document, BMPs are defined as means and methods when used in combination of developed ICs, provide guidance to owners, contractors, and land users for the prevention or reduction in the release and exposure to LA within OU4 and OU7. The information within this section is grouped by the type of activities anticipated to take place in OU4 and OU7 which could cause a release and potential exposure to LA.

2.1 Housekeeping

Housekeeping is defined as activities such as cleaning, routine maintenance of facilities, buildings or grounds on the property. The following BMPs are grouped by indoor (e.g., cleaning, indoor maintenance) and exterior (e.g., mowing, surveying,equipment storage) types of activities.

BMP Guidance

Indoors

1. The property owner should contact the ARP to obtain most current information on where contamination was removed or may remain. Information is also be available from EPA developed documents as listed within the Additional Information and Resources section of this document.
2. Maintain a clean building by periodically cleaning with a high-efficiency particulate air (HEPA) filtered vacuum. Follow manufacturer's instructions on how and when to change out bags and filters.
3. Avoid sweeping with a broom during maintenance activities. Utilize a mop and water or wet methods to clean horizontal surfaces.
4. Notify the property owner if suspected LA material is encountered during housekeeping activities.
5. See Attachment 1 for additional information and guidance regarding BMPs

Outdoors

1. The property owner should contact the ARP to obtain most current information on where contamination was removed or may remain. Information is also be available from EPA developed documents as listed within the Additional Information and Resources section of this document.
2. Ensure equipment is stored on clean surfaces or free from areas where detectable levels of LA are documented to remain at ground surface.
3. When conducting mowing activities, attempt to mow when the area is damp or small amounts of moisture are present to minimize dust generation.
4. Clean and rinse tools after use and prior to storage
5. Attempt to keep soles of shoes clean after working outdoors and prior to entering buildings, vehicles, or heavy equipment.
6. Notify the property owner if suspected LA material is encountered during housekeeping activities.
7. See Attachment 1 for additional information and guidance regarding BMPs

2.2 Building Renovation

Building renovation includes, but is not limited to, any alterations, additions, or improvements to the interior or exterior of buildings or structures located on the property. Scale of renovation is not limited by financial or size of renovation and includes any protrusion into any existing wall system, removal of any wall surfacing material, or removal of any complete or partial wall systems currently in place.

BMP Guidance

1. The property owner should contact the ARP to obtain most current information on where contamination was removed or may remain. Information is also be available from EPA developed documents as listed within the Additional Information and Resources section of this document.
2. Complete appropriate Property Evaluation Notification Regulation (PEN) form. Review IC plan for the site to ensure any listed proprietary controls, government controls, enforcement tools, or informational devices have been adhered to prior to conducting work.
3. Property owners and/or contractors should notify ARP if suspected LA materials are encountered during renovation. Seal off the area with appropriate materials (i.e., poly sheeting).
4. During any renovation utilize point-of-cut ventilation (POCV) techniques with a HEPA vacuum at point of access and/or wet methods when cutting into any material to minimize dust generation, migration and exposure.
5. Do not attempt to vacuum known or suspected LA contaminated material without a device which contains a HEPA filter system.
6. Common dust or surgical masks are not effective against asbestos fibers! Wearing a respirator with a HEPA filter is the best way to avoid breathing asbestos fibers. However, they must be used properly, or exposure may still occur. For information on respirator requirements, visit OSHA's website: www.osha.gov/SLTC/respiratoryprotection.
7. See Attachment 1 for additional information and guidance regarding BMPs

2.3 Building Demolition

Building demolition is defined by any complete or partial removal, destruction, or dismantling of any building or structure.

BMP Guidance

Before Demolition

1. The property owner should contact the ARP to obtain most current information on where contamination was removed or may remain. Information is also be available from EPA developed documents as listed within the Additional Information and Resources section of this document.
2. Complete appropriate PEN form. Review IC plan for the site to ensure any listed proprietary controls, government controls, enforcement tools, or informational devices have been adhered to prior to conducting work.
   Check local, state and federal regulations regarding demolition ofbuildings.
3. Check with the local landfill to learn if inspection of your debris is required.
4. The entity performing demolition should develop a contingency plan for cases where contamination is encountered during activities.
5. Property owners and/or contractors should notify ARP if suspected LA materials are encountered during renovation. Seal off the area with appropriate materials (i.e., poly sheeting).
6. The entity performing demolition should arrange for offsite disposal of any materials prior to beginning demolition activities.
7. Common dust or surgical masks are not effective against asbestos fibers! Wearing a respirator with a HEPA filter is the best way to avoid breathing asbestos fibers. However, they must be used properly, or exposure may still occur. For information on respirator requirements, visit OSHA's website: www.osha.gov/SLTC/respiratoryprotection.
8. See Attachment 1 for additional information and guidance regarding BMPs

During and After Demolition

1. Wet building, structure, or area prior to and during demolition; there should be no offsite migration of dust during demolition activities.
2. If a change of condition occurs whereby LA contaminated material is observed, contact the property owner or entity responsible for O&M for advice on how to manage the material.
3. Keep contaminated material encountered during activities wet.
4. Keep all debris wet and covered with a tarp during transportation.
5. Dispose of debris according to local, state, and federal laws.

2.4 Excavation

Excavation for the purpose of this document refers to any action of cutting, digging, or scooping soil, debris, or other materials from the ground surface or below.

BMP Guidance

1. The property owner should contact the ARP to obtain most current information on where contamination was removed or may remain. Information is also be available from EPA developed documents as listed within the Additional Information and Resources section of this document.
2. Complete appropriate PEN form. Review IC plan for the site to ensure any listed proprietary controls, government controls, enforcement tools, or informational devices have been adhered to prior to conducting work.
3. Notify the Montana utility locate service (Montana 811) prior to any excavation activity. Do not attempt to excavate any area prior to all utilities having been marked.
4. Property owners and/or contractors should notify ARP if suspected LA materials are encountered during renovation.
5. When excavating, keep soil, debris, or other materials wet during work to minimize dust migration or potential exposure to LA.
6. Wear protective clothing while performing excavation activities (i.e., appropriate disposable protective clothing, gloves, and booties. Dispose of protective clothing appropriately.
7. Common dust or surgical masks are not effective against asbestos fibers! Wearing a respirator with a HEPA filter is the best way to avoid breathing asbestos fibers. However, they must be used properly, or exposure may still occur. For information on respirator requirements, visit OSHA's website: www.osha.gov/SLTC/respiratoryprotection.
8. If a change of condition occurs whereby LA contaminated material is observed, contact the property owner or entity responsible for operation and maintenance (O&M) for advice on how to manage the material.
9. See details regarding importing and exporting of materials Section 2.6 and 2.7.
10. See Attachment 1 for additional information and guidance regarding BMPs.

2.5 New Construction Projects

The following lists BMPs for any new construction projects planned by either the owner, tenant, or contractor involved in the overall construction of any new area located within OU4 and OU7. New construction refers to any site preparation for and construction of entirely new areas, new buildings, or new structures on the site which would cause a change of condition to the ground surface, regardless of size or scale.

BMP Guidance

1. The property owner should contact the ARP to obtain most current information on where contamination was removed or may remain. Information is also be available from EPA developed documents as listed within the Additional Information and Resources section of this document.
2. Complete appropriate PEN form. Review IC plan for the site to ensure any listed proprietary controls, government controls, enforcement tools, or informational devices have been adhered to prior to conducting work.
3. The entity performing new construction projects should develop a contingency plan for cases where contamination is encountered during activities.
4. Property owners and/or contractors should notify ARP if suspected LA materials are encountered during renovation.
5. Follow BMPs for importing and exporting of materials Section 2.6 and 2.7.
   See Attachment 1 for additional information and guidance regarding BMPs.

2.6 Importing of Materials

Importing of materials refers to the hauling or transporting of any material for use, placement or disposal within the boundaries of OU4 and OU7. Materials include, but are not limited to, soil, rock, mulch, organic or non-organic debris, or building materials.

BMP Guidance

1. The property owner or entity responsible for maintaining control of the site should ensure importation of any materials does not have the potential to increase risk of LA exposure.
2. The property owner or owner's contractor should contact ARP to get information on potential resources available for obtaining material.
3. Review IC plan for the site to ensure any listed proprietary controls, government controls, enforcement tools, or informational devices have been adhered to prior to conducting work.

2.7 Exporting of Materials

Exporting of materials refers to the hauling or transporting of any material for use, placement or disposal from OU4 and OU7 properties to another location. Materials include, but are not limited to, soil, rock, mulch, organic or non-organic debris, or building materials.

BMP Guidance

1. The property owner or entity responsible for maintaining control of the site should ensure exportation of any materials does not have the potential to increase risk of LA exposure to areas outside of their property.
2. The property owner or owner's contractor should contact ARP to get information on disposal of LA contaminated material and potential resources available for obtaining new fill material.
3. Review IC plan for the site to ensure any listed proprietary controls, government controls, enforcement tools, or informational devices have been adhered to prior to conducting work.
4. Check local, state and federal regulations regarding disposal or transportation of material.

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Section 3 Additional Information and Resources

The following resources are available to provide information to property owners, tenants, land users, or visitors while conducting activities within OU4 and OU7.

Record of Decision for Libby Asbestos Superfund Site (EPA 2016)
This document discusses the final decision and explains the remediation plan at the end of the detailed investigation and evaluation of conditions at the Site.

Site-Wide Human Health Risk Assessment – Libby Asbestos Superfund Site (EPA 2015) The purpose of this document is to quantify potential human health risks from exposures to LA at the Site under current and future conditions. Results of this risk assessment are intended to help Site managers determine if past removal actions have been sufficient to mitigate risk, if additional remedial actions are necessary to address risks, and if so, which exposure scenarios would need to be addressed in future remedial actions.

Remedial Investigation Report – Operable Unit 4 (CDM Smith 2014)
This document describes the nature and extent of LA at OU4, focused primarily on investigative measures taken on the site to characterize the level of contamination.

Remedial Investigation Report – Operable Unit 7 (Tetra Tech 2014)
This document describes the nature and extent of LA at OU7, focused primarily on investigative measures taken on the site to characterize the level of contamination.

Remedial Action Completion Report – Operable Unit 4 and 7 (CDM Smith 2020a)
This document details the remedial actions and activities that have taken place at OU4 and OU7.

Final Institutional Control Implementation and Assurance Plan – Operable Unit 4 and 7 (CDM Smith 2020b)
This document identifies activities that are designed to implement, maintain, and enforce ICs at OU4 and OU7, and the organizations responsible for conducting these activities.

Operation and Maintenance Plan – Operable Unit 4 and 7 (CDM Smith 2020c)
This document presents the administrative, financial, and technical details and requirements for inspecting, operating, and maintaining the remedies placed at OU4 and OU7.

Lincoln County Asbestos Resource Program
418 Mineral Ave
Libby, MT 59923
(406) 291-5335
www.lcarp.org

The EPA Libby Asbestos Superfund Site website
http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0801744

Additional federal and state websites with information to assist with the managing of asbestos
https://www.epa.gov/asbestos/building-owners-and-managers

https://www.epa.gov/superfund/asbestos-superfund-sites

https://www.osha.gov/SLTC/asbestos/

http://deq.mt.gov/Public/asbestos

Section 4 References

CDM Smith. 2020a. *Final Remedial Action Completion Report, Operable Unit 4 and 7 – Residential, Commercial Properties, Parks, and Schools*, Libby Asbestos Superfund Site, Lincoln County, Montana. Prepared for the Environmental Protection Agency.

_____. 2020b. *Final Institutional Control Implementation and Assurance Plan, Operable Unit 4 and 7,* Libby Asbestos Superfund Site. Libby Montana. Revision 0, Prepared for the Environmental Protection Agency.

_____. 2020c. *Operations and Maintenance Plan,* Operable Unit 4 and 7, Libby Asbestos Superfund Site, Lincoln County, Montana. Prepared for the Environmental Protection Agency.

_____. 2014. Remedial Investigation Report, Residential and Commercial Properties, Operable Unit 4, Libby, Montana. Prepared for the U.S. Environmental Protection Agency.

EPA. 2015. *Final Site-wide Human Health Risk Assessment*, Libby Asbestos Superfund Site, Libby, Montana. November.

_____. 2016. *Record of Decision for Libby Asbestos Superfund Site, Libby and Troy Residential and Commercial Properties, Parks and Schools, Transportation Corridors, Industrial Park. Operable Units 4-8*, Lincoln County, Montana. December.

Tetra Tech. 2014. Final Remedial Investigation Report, Operable Unit 7 of the Libby Asbestos Superfund Site. Prepared for the Montana Department of Environmental Quality.

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Attachment 1 – BMP Handouts

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Reducing Asbestos Exposure

Libby Amphibole Asbestos

Libby amphibole asbestos (LA) is a naturally occurring mineral but should be handled with extreme care. Exposure to LA can lead to serious asbestos-related diseases, such as asbestosis, lung cancer or mesothelioma.

The health risk from exposure to all asbestos depends greatly on the amount of asbestos in the material you are disturbing and length of time that exposure lasts; therefore, precautions should be exercised to limit asbestos exposures.

Vermiculite

Vermiculite was mined in Libby, MT and was commonly used in and around homes in Lincoln County for a variety of reasons, including as a soil additive, construction aggregate and attic insulation. If vermiculite is present, it may contain LA.

If you encounter vermiculite on your property, it is possible that it is contaminated with asbestos. The disturbance of vermiculite that is contaminated with asbestos may cause the LA to become airborne. **Cover or wet the vermiculite and call the ARP Hotline**. The ARP will help determine if the vermiculite is contaminated with LA.

You may come into contact with asbestos on your property even if the EPA has investigated the property or completed a removal.

High efficiency particulate air, **HEPA**, filter vacuums are effective for asbestos containing vermiculite insulation. Never vacuum vermiculite with a regular vacuum. Also, use a HEPA vacuum for household cleaning and to remove dust from inaccessible areas, such as under carpets, appliances or furniture.

EDUCATION • RESOURCES • INITIATIVES
LINCOLN COUNTY
ARP
ASBESTOS RESOURCE PROGRAM

ARP Hotline – 406-291-5335

Call if you plan to remodel, demolish, excavate OR if you find vermiculite on your property. The Asbestos Resource Program (ARP) will send personnel out to inspect the situation, provide information, and make recommendations. The ARP may also serve as a liaison during those activities.

You may come into contact with Libby amphibole asbestos during:

Renovating – removing old carpets or drywall, installing ceiling fans or removing wall outlets, taking down walls, putting in windows

Routine landscaping – gardening, rototilling or mowing

Extensive digging – septic systems, sprinklers or water lines

Should I be worried about asbestos if the EPA has already been to my property?

Even though the EPA has visited your property, you could still come into contact with asbestos.

Call the ARP for more information on the investigation and removal activities completed by the EPA and for details about the asbestos that may remain on your property.

REMEMBER, regular dust masks are not effective in reducing exposure to LA.

Reducing Asbestos Exposure

Vermiculite in soil

Processed vermiculite often seen as insulation.

Additional Resources

Lincoln County Asbestos Resource Program
418 Mineral Avenue
Libby, MT 59923
406-283-2442
www.lcarp.org

United States
Environmental Protection Agency
Information Center
108 E. 9th St
Libby, MT 59923
406-293-6194
www2.epa.gov/region8/libby-asbestos

Montana
Department of Environmental Quality
Asbestos Control Program
406-444-5300

Steps to take while renovating or demolishing:

- **Do** contact the ARP Hotline before renovating or demolishing.
- **Do** check local, state and federal regulations regarding renovation and demolition of buildings.
- **Do** use point-of-cut ventilation techniques when pulling, cutting or accessing behind boards or wall coverings.
- **Do** use a HEPA vacuum at the point of access or disturbance to minimize dust migration and lessen potential exposure.

Demolition:

- **Do** use water to moisten the area being demolished to minimize dust.
- **Do** rinse off any equipment within the work area.
- **Do** keep all debris wet and covered with a tarp during transportation.
- **Do** dispose of debris according to local, state and federal laws including landfill specific requirements.

Steps to take while working outside of your home:

- **Do** water your lawn often, a healthy lawn reduces dust.
- **Do** rinse gardening tools outside within your work area after every use.
- **Do** wipe your feet and/or take your shoes off at the door and leave them outside, if possible. Try not to bring any contaminated clothing or material back inside.
- **Do** wash your hands outdoors after any yard work, if possible.
- **Do not** disturb areas where you can see vermiculite. If it is a place you intend to work in, cover the vermiculite and call the ARP Hotline.
- **Do not** dig, cultivate, mow, rake or rototill your yard or garden when it is dry and dusty.
- **Do not** bring dusty or dirty things inside.

CALL THE ARP HOTLINE IF YOU SEE ANY VERMICULITE ON YOUR PROPERTY, EVEN IF YOU ARE UNSURE.

Contractors & Tradesmen Working Indoors

What To Do If You Find Vermiculite and Asbestos In A Home or Business

Lincoln County Asbestos Resource Program (ARP) – (406) 291-5335

Revised: June 2019

Vermiculite in Libby & Troy

For several decades, vermiculite was commonly used in and around homes in Lincoln County for a variety of applications, including as a soil additive, construction aggregate, and attic insulation.

If vermiculite is present, it might contain Libby Amphibole (LA) asbestos which is toxic. Exposure to LA could lead to such serious diseases as asbestosis, lung cancer, or mesothelioma. It was not possible for EPA to remove (or to even know about) *all* the vermiculite in the area. In some cases, vermiculite might be intentionally left in sealed walls, home foundations, and other relatively inaccessible areas. Remodeling, repair, electrical, or plumbing work might uncover vermiculite that was otherwise sealed in place.
Always ask the homeowner if they know where you might find vermiculite.

It is possible that you might unexpectedly find vermiculite after starting your work, perhaps by cutting into a wall (drill a pilot test hole first) or uncovering something that previous investigations did not uncover or the homeowner did not know about. **You are strongly encouraged to not work with vermiculite or disturb it any way.**

Improper work practices can contaminate the interior of the home or building where you are working! It is your responsibility to know the state and local laws and regulations.

Raw and Popped Vermiculite Ore

Precautionary Steps to Take So You Can Get On With Your Job

If you encounter vermiculite, it is likely that you will be exposed to Libby Amphibole asbestos. If you choose to continue working, take the following minimal steps:

1. **Always notify the resident**. If they haven't already told you about it, they might not know.

2. **For very small quantities, such as a handful, or if you are unsure as to whether it's vermiculite or not,** you can call the **Asbestos Resource Program (ARP).** If you do not want to call the ARP, as a precaution, use a damp paper towel to scoop up the material into a sealable plastic bag or jar. Then use another damp towel to wipe down the area. Place the used paper towels in the container and throw everything away in a proper receptacle (a covered trash can is OK).

3. **Never vacuum vermiculite with a regular vacuum**. HEPA filter vacuums are effective on small quantities of vermiculite. Residents who had a cleanup completed were provided a HEPA vacuum.

4. **For larger quantities, such as what you might find in a breached wall, or if you are unsure as to whether it's vermiculite or not,** do not disturb the material. Do not vacuum large amounts of vermiculite - even with a HEPA vacuum. Isolate and cover the area and **call the ARP immediately**.

5. **No matter the volume or location of known or suspected vermiculite, contact the ARP** Please notify the ARP early to protect yourself and your workers and to ensure the most appropriate action is taken.

Libby Asbestos is toxic. It should be avoided or handled with extreme care. Exposure to Libby Amphibole asbestos has resulted in disease in workers and non-workers who have had contact with contaminated materials. Take care not to bring any contaminated clothing or material back to your home or business. Treat any asbestos containing material as regulated material and comply with all state and local regulations. The health risk from exposure to **all** asbestos depends greatly on the amount of asbestos in the material you are disturbing and how long the exposure lasts. **There is no known threshold risk level for asbestos-related materials, and any exposure will increase the risk of asbestos-related disease.** If you take the basic precautions outlined in this fact sheet, your risk from exposure will be less.

Who Can I Contact With Questions About Asbestos?

Common dust or surgical masks are not effective against asbestos fibers! Wearing a respirator with a HEPA filter is the best way to avoid breathing asbestos fibers. However, they must be used properly or exposure may still occur. For information on respirator requirements, visit OSHA's website: www.osha.gov/SLTC/respiratoryprotection.

ARP— (406) 291-5335

The DEQ or ARP might send personnel out to inspect a situation involving vermiculite or LA. That guidance might include advising the owner to allow a licensed asbestos contractor or inspector to take samples, conduct cleanup, or take other special measures to reduce the risk of asbestos exposure. A list of licensed contractors and inspectors can be provided by contacting DEQ or ARP.

Montana Department of Environmental Quality—Asbestos Control Program (406) 444-5300

Montana law requires that employers hire a licensed inspector to determine if asbestos is present before doing any work. Asbestos that is not associated with the Libby vermiculite mine is still regulated by the Montana DEQ. If non-Libby asbestos is found, it should be dealt with according to Montana regulations. Explore Montana DEQ's Asbestos web site at: **www.deq.mt.gov/Asbestos**

Please learn about the risks of asbestos exposure and basic precautions by reviewing the fact sheets available by contacting ARP or the website listed below:

- **Lincoln County Do-It-Yourselfers** – *Revised June, 2019*
- **Contractors & Tradesmen Working Outdoors** – *Revised June, 2019*
- **Demolition Activities** – Revised *June, 2019.*
- **Libby and Troy Residents: Vermiculite or Asbestos In or Around Your Home or Business** – *Revised June, 2019*
- **Yard Work and Gardening Activities** – *Revised June, 2019*

Explore the ARP web site and its links at: http://lcarp.org/

Contractors & Tradesmen Working Outdoors

What To Do If You Find Vermiculite and Asbestos Around A Home or Business

Lincoln County Asbestos Resource Program (ARP) – Libby (406) 291-5335

Revised June 2019

Vermiculite in Libby

For several decades, vermiculite was commonly used in and around homes in Lincoln County for a variety of applications, including as a soil additive, construction aggregate, and attic insulation.

If vermiculite is present, it might contain Libby Amphibole asbestos (LA). Exposure to LA could lead to such serious diseases as asbestosis, lung cancer, and mesothelioma. It was not possible for EPA to remove (or to even know about) *all* the vermiculite in the area. In some cases, vermiculite might be intentionally left in sealed walls, home foundations, and other relatively inaccessible areas. Construction, remodelling, or landscaping involving digging might uncover vermiculite following cleanup at a property.

Always ask the homeowner if they know where buried vermiculite might be. ARP might have information on the property based on the investigation, design, and cleanup that has been completed. When calling ARP, you will need to provide the address, location of the work, and the likely depth of excavation.

It is possible that you might unexpectedly find vermiculite after starting your work, perhaps by uncovering it while doing any major outdoor project. You are strongly encouraged to not disturb it in any way that might cause LA to become airborne.

Raw and Popped Vermiculite Ore

Precautionary Steps to Take So You Can Get On With Your Job

If you encounter vermiculite, it is likely that you will be exposed to Libby Amphibole asbestos. If you choose to continue working, take the following minimal steps:

1. **Always notify the resident**. If they haven't already told you about it, they might not know.

2. **Stop work to assess the volume** of vermiculite. Cover or wet down the material, if possible.

3. **For very small quantities** of vermiculite, such as a handful, it is recommended you wet the area and contact the **Asbestos Resource Program (ARP) for appropriate evaluation and assistance. If possible, leave it alone.** If the material is buried, leave it there. It's better to have it buried than at the surface.

4. **For larger quantities** of vermiculite such as when it was used as fill around pipes, around other structures, or as bulk fill (you may have sparkling soil) **do not to disturb the material – call the Asbestos Resource Program (ARP) immediately.**

5. **No matter the volume or location of known or suspected vermiculite, contact the ARP. Please notify us early to protect yourself and your workers and to ensure the most appropriate action is taken.**

Libby Asbestos is toxic. It should be avoided or handled with extreme care. Exposure to Libby Amphibole asbestos has resulted in disease in workers and non-workers who have had contact with contaminated materials. Take care not to bring any contaminated clothing or material back to your home or business. Treat any asbestos containing material as regulated material and comply with all state and local regulations. The health risk from exposure to **all** asbestos depends greatly on the amount of asbestos in the material you are disturbing and how long the exposure lasts. **There is no known threshold risk level for asbestos-related materials, and any exposure will increase the risk of asbestos-related disease.** If you take the basic precautions outlined in this fact sheet, your risk from exposure will be much less.

Who Can I Contact With Questions About Asbestos?

Common dust or surgical masks are not effective against asbestos fibers! Wearing a respirator with a HEPA filter is the best way to avoid breathing asbestos fibers. However, they must be used properly or exposure may still occur. For information on respirator requirements, visit OSHA's website: www.osha.gov/SLTC/respiratoryprotection.

ARP— (406) 291-5335

The DEQ or ARP might send personnel out to inspect a situation involving vermiculite or LA. That guidance might include advising the owner to allow a licensed asbestos contractor or inspector to take samples, conduct cleanup, or take other special measures to reduce the risk of asbestos exposure. A list of licensed contractors and inspectors can be provided by contacting DEQ or ARP.

Montana Department of Environmental Quality—Asbestos Control Program (406) 444-5300

Montana law requires that employers hire a licensed inspector to determine if asbestos is present before doing any work. Asbestos that is not associated with the Libby vermiculite mine is still regulated by the Montana DEQ. If non-Libby asbestos is found, it should be dealt with according to Montana regulations. Explore Montana DEQ's Asbestos web site at: **www.deq.mt.gov/Asbestos**

Please learn about the risks of asbestos exposure and basic precautions by reviewing the fact sheets available by contacting ARP or the website listed below:

- **Lincoln County Do-It-Yourselfers** – *Revised June 2019*
- **Contractors & Tradesmen Working Indoors** – *Revised June 2019*
- **Demolition Activities** – *June 2019*
- **Libby and Troy Residents: Vermiculite or Asbestos In or Around Your Home or Business** – *Revised June 2019*
- **Yard Work and Gardening Activities** – *June 2019*

Explore the ARP web site and its links at: http://lcarp.org/

Demolition Activities

What To Do If You Are Tearing Down Structures
That Contain Vermiculite or Asbestos

Lincoln County Asbestos Resource Program (ARP); Libby and Surrounding Area – (406) 291-5335

Revised: June 2019

Vermiculite in Libby & Troy

For several decades, vermiculite was commonly used in and around homes in Lincoln County for a variety of applications, including as a soil additive, construction aggregate, and attic insulation.

If vermiculite is present, it might contain Libby Amphibole asbestos (LA). Exposure to LA could lead to serious diseases such as asbestosis, lung cancer, and mesothelioma. It was not possible for EPA to remove (or to even know about) *all* the vermiculite in the area. In some cases, vermiculite might be intentionally left in sealed walls, home foundations, and other relatively inaccessible areas. Demolition of any existing structure in the Libby/Troy area might uncover vermiculite following cleanup at a property.

It is possible that you might unexpectedly find vermiculite after starting your demolition project. It is strongly recommended you not to disturb it in any way that might cause LA to become airborne.

Un-exfoliated

Exfoliated

Precautionary Steps to Take So You Can Get on With Your Job Before Demolition:

1. **Contact the Asbestos Resource Program (ARP) for a free assessment of the situation.**
2. Check **local, state and federal regulations** regarding demolition of buildings.
3. Check with the local landfill to learn if inspection of your debris is required.

During Demolition:

1. **Use water to moisten the area being demolished to minimize dust generation.** There should be no offsite migration of dust during demolition activities.
2. **Stop work to assess the volume** of vermiculite. Call the ERS immediately if something unusual is encountered.
3. **Utilize point-of-cut ventilation techniques** when pulling, cutting, or accessing behind boards or wall coverings, use a HEPA vacuum at the point of access or disturbance to minimize dust migration to lessen potential exposure.
4. **For a small quantity** of vermiculite, such as a very isolated area or a few random flakes, EPA recommends you wet and place it in a sealable plastic bag (remember to rinse any tools used to transfer vermiculite) and put the bag in the trash.

After Demolition:

1. **Keep larger quantities of vermiculite wet** – vermiculite that was used as fill around pipes, in walls, as bulk fill, etc.
2. Keep all debris wet and covered with a tarp during transportation.
3. Dispose of debris according to local, state, and federal laws.

Libby Amphibole asbestos (LA) should be avoided or handled with extreme care. Exposure to LA has resulted in disease in workers and non-workers who have had contact with contaminated materials. Take care not to bring any contaminated clothing or material back to your home or business. Treat any asbestos containing material as regulated material and comply with all state and local regulations. There is no known threshold risk level for asbestos-related materials, and any exposure will increase the risk of asbestos-related disease. The health risk from exposure to **all asbestos depends greatly on the amount of asbestos in the material you are disturbing and how long the exposure lasts. If you take the basic precautions outlined in this fact sheet, your project will be completed with minimal exposure to LA.**

Common dust or surgical masks are not effective against asbestos fibers! Wearing a respirator with a HEPA filter is the best way to avoid breathing asbestos fibers. However, they must be used properly or exposure may still occur. For information on respirator requirements, visit OSHA's website: www.osha.gov/SLTC/respiratoryprotection.

Who Can I Contact with Questions About Asbestos?

ARP for the Libby area – (406) 291-5335

The DEQ or ARP may send personnel out to inspect a situation involving vermiculite or LA. They might advise the owner to allow a licensed asbestos contractor or inspector to take samples, conduct cleanup, or take other special measures to reduce the risk of asbestos exposure. A list of licensed inspectors and contractors can be provided by contacting DEQ or ARP.

Montana Department of Environmental Quality - Asbestos Control Program (406) 444-5300

Montana law requires that employers hire a licensed inspector to determine if asbestos is present before doing any work. Asbestos that is not associated with the Libby vermiculite mine is still regulated by Montana DEQ. If non-Libby asbestos is found, it should be dealt with according to Montana regulations. Visit Montana DEQ's Asbestos web site at: **www.deq.mt.gov/Asbestos**

Please learn about the risks of asbestos exposure and basic precautions by reviewing the fact sheets available by contacting ARP or the website listed below:

- **Lincoln County Do-It-Yourselfers** – *Revised June 2019*
- **Contractors & Tradesmen Working Indoors** – *Revised June 2019*
- **Contractors & Tradesmen Working Outdoors** – *Revised June 2019*
- **Libby and Troy Residents: Vermiculite or Asbestos in or Around Your Home or Business** – *Revised June 2019*
- **Yard Work and Gardening Activities** – *Revised June 2019*

Explore the ARP web site and its links at: http://lcarp.org/

Indoors:

DO wipe your feet and/ or take your shoes off at the door and leave them outside, if possible.

DO wash your hands after gardening, playing outdoors, or doing other messy things.

DO vacuum frequently, and only use a HEPA* vacuum.

*High Efficiency Particulate Air

13

DO call the ***Asbestos Resource Program (ARP)*** if you see ANY vermiculite on your property **Libby (406) 291-5335.**

If you are unsure about material you are bringing onto your property, call the ARP to have it sampled first.

DON'T bring dusty or dirty things inside.

DO keep your pets clean.

DO use a HEPA vacuum to remove dust from clothing, furniture, drapes, etc.

Photo of raw (left) and processed (right) vermiculite. *View samples at the EPA Info Center.*

Don't

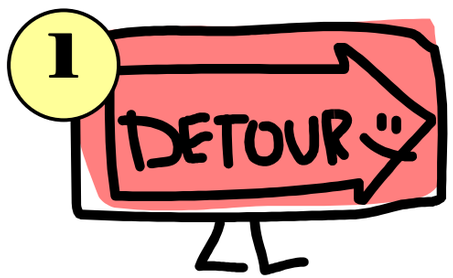
let an unwanted visitor into your home!!

13 simple steps to protect yourself and your loved ones from Libby Amphibole Asbestos (LA)

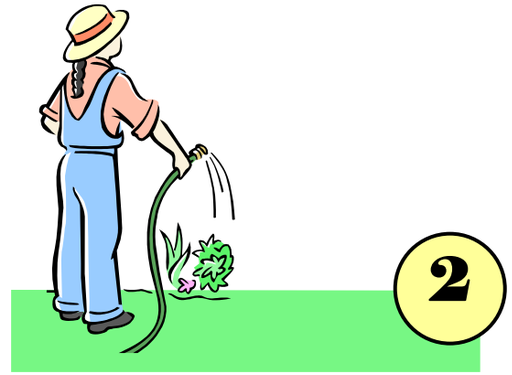
Reducing contact with disturbed, contaminated soil is important in reducing your exposure to LA. LA poses the greatest threat when it is airborne.
For a lower risk of exposure, focus on keeping contaminated soil from being disturbed in your yard and trapped in your home.

This flyer gives some common sense tips on avoiding exposure to LA on your property.

Outdoors:



DON'T disturb areas where you can see vermiculite *(see picture on back)*. Find other places to play or garden.

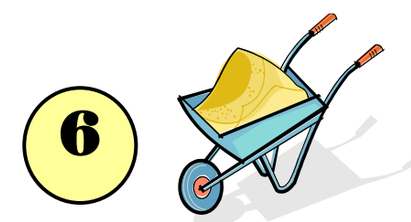


DO water often. A healthy lawn reduces dust and contact with bare soil.

DO mow your lawn when it's damp – not when it's dry and dusty.

DON'T dig, cultivate, or roto-till your garden soil when it is dry and dusty, and do suppress any dust with water.

DO rinse off gardening tools outside.



DON'T buy or accept free topsoil or fill from an unknown source. If you are unsure, call the ARP.

Libby and Troy Residents

Vermiculite or Asbestos
In or Around Your Home or Business

Lincoln County Asbestos Resource Program (ARP) • 406-291-5335

Revised: June 2019

Vermiculite in Libby & Troy

Vermiculite was used in a variety of forms for decades in and around Libby homes as a soil additive, a lightweight aggregate for concrete, and attic insulation, among other things.

If vermiculite is present, it may contain Libby asbestos. It will take several years to complete the cleanup and people may encounter vermiculite during that time. Vermiculite will continue to be discovered from time to time even after a cleanup has been completed at a property. It was not possible for EPA to remove (or to even know about) all the vermiculite in the area. Vermiculite may be left in sealed walls, home foundations, and other relatively inaccessible areas.

Some encounters with vermiculite will be small and may include:

- **minor renovations –** removing old carpets, installing ceiling fans, or removing wall outlets
- **minor landscaping –** replacing bedding for plants and mowing

There will be times when a large pocket of vermiculite is discovered. Such situations may include:

- **intrusive digging** – septic systems, sprinklers, and water lines.
- **major renovations –** taking walls down, putting in windows, etc.
- **fires –** fire-fighting and subsequent cleanup.

Protect Yourself

Hiring a licensed asbestos contractor to clean up vermiculite spilled while doing home improvements is recommended to minimize your exposure.

Take Steps to Avoid Exposure

1. For a small quantity, such as a handful of vermiculite, wet wipe it and throw it away. For a small quantity of vermiculite in surface soil, such as a very isolated area or a few random flakes, we recommend you wet it and have it removed by contacting the **Asbestos Resource Program (ARP)**. **If possible, leave it alone.** If the material is buried, keep it that way – it's better buried than at the surface.
2. HEPA filter vacuums are effective on small quantities of vermiculite indoors. **Never vacuum vermiculite with a regular vacuum.** HEPA vacuums and wet wiping can be used periodically to remove any small amounts of asbestos containing dust that is introduced into your home or to vacuum dust from previously inaccessible locations such as under recently removed carpets, appliances, and furniture.
3. For larger quantities of vermiculite, such as what you may find in a breached wall, do not disturb the material. **Do not vacuum large amounts of vermiculite – even with a HEPA vacuum.**
4. Dry mowing or rototilling in yards and gardens, where vermiculite is found may cause asbestos to become airborne. If possible, sprinkle your yard or garden with water before mowing or tilling.
5. If you encounter a large amount of vermiculite in soil that cannot be avoided, such as when it was used around pipes, around other structures, or as bulk fill – you may have

sparkling soil – **do not disturb the material. Contact ARP for appropriate evaluation and assistance.**

6. If you are planning on remodeling your home, find out if there is vermiculite in the attic or walls, or any of the materials that will be taken out, disturbed, or are likely to create dust. You can call the ARP (406-291-5335), if you are unsure. You should also be aware of specific regulations regarding remodeling, demolition, and disposal that may impact your work, especially big projects.

7. Renters – You have a right to know about any adverse conditions at your rental. Ask your landlord about the presence of vermiculite. If you do not receive the information you request, contact the DEQ or ARP.

Libby asbestos is toxic. It should be avoided or handled with extreme care. The health risk from exposure to all asbestos depends greatly on the amount of asbestos in the material you are disturbing and how long the exposure lasts. Frequent exposures to high levels of asbestos for lengthy periods of time pose a significant risk. Little disturbance of small amounts of vermiculite insulation or other products containing a low level of asbestos poses a smaller risk, especially if you take basic precautions.

Who Can I Contact with Questions About Asbestos?

ARP for the Libby/Troy areas – (406) 291-5335

The ARP may send personnel out to inspect a situation involving vermiculite or LA. They might advise the owner to allow DEQ,ARP or a licensed asbestos contractor or inspector to take samples, conduct cleanup, or take other special measures to reduce the risk of asbestos exposure. A list of licensed inspectors and contractors can be provided by contacting DEQ or ARP.

Montana Department of Environmental Quality Asbestos Control Program (406) 444-5300

Montana law requires that employers hire a licensed inspector to determine if asbestos is present before doing any work. Asbestos that is not associated with the Libby vermiculite mine is still regulated by Montana DEQ. If non-Libby asbestos is found, it should be dealt with according to Montana regulations. Visit Montana DEQ's Asbestos web site at:

www.deq.mt.gov/Asbestos

Please learn about the risks of asbestos exposure and basic precautions by reviewing the fact sheets available by contacting ARP or the website listed below:

- **Lincoln County Do-It-Yourselfers** – *Revised June 2019*
- **Contractors & Tradesmen Working Indoors** – *Revised June 2019*
- **Contractors & Tradesmen Working Outdoors** – *Revised June 2019*
- **Yard Work and Gardening Activities** – *Revised June 2019*
- **Demolition Activities** – *Revised June 2019*

Explore the ARP web site and its links at: http://lcarp.org/

Lincoln County Do-It-Yourselfers

What to Do if You Find Vermiculite or Asbestos
In or Around Your Home or Business

Lincoln County Asbestos Resource Program (ARP)–Libby- (406) 291-5335

Revised: June 2019

Vermiculite in Libby & Troy

For several decades, vermiculite was commonly used in and around homes in Lincoln County for a variety of applications, including as a soil additive, construction aggregate, and attic insulation.

If vermiculite is present, it might contain Libby Amphibole asbestos (LA). Exposure to LA could lead to such serious diseases as asbestosis, lung cancer, or mesothelioma. Residents might encounter vermiculite even after a clean up was performed at a property. It was not possible for EPA to remove (or even know about) *all* of the vermiculite in the area. In some cases, it was intentionally be left in sealed walls, home foundations, attics, crawlspaces, and other relatively inaccessible areas.

Some encounters with vermiculite will be small in volume, such as a handful, and might include:

- **minor renovations,** such as removing old carpets or drywall, installing ceiling fans, or removing wall outlets
- **routine landscaping,** like gardening, rototilling, or mowing

There will be times when a large pocket of vermiculite is discovered, for example:

- **extensive digging** – for septic systems, sprinklers, or water lines
- **major renovations** - taking down walls, putting in windows, etc.
- **fires** - fire-fighting and subsequent cleanup

Protect Yourself

If you encounter vermiculite, it is likely that you will be exposed to Libby Amphibole asbestos. **If possible, leave it alone.** Hiring a licensed asbestos contractor to clean up vermiculite spilled while working on your home is strongly recommended to minimize your exposure. If you are unsure of what to do, call the **Asbestos Resource Program (ARP).** If you choose to continue working in contaminated areas, take the following steps:

Take Steps to Avoid Exposure

1. Keeping in mind that any amount of vermiculite may cause a significant exposure risk, for a small indoor quantity, such as a handful of vermiculite, use a damp paper towel to scoop up the material into a sealable plastic bag or jar. Then use another damp towel to wipe down the area. Place the used paper towels in the container and throw everything away in a proper receptacle (a covered trashcan is OK). For a small quantity of vermiculite in soil, such as a very isolated area or a few random flakes, it is recommended that you wet it and **call ARP**. **If possible, leave it alone.** If the material is buried, keep it that way - it's better buried than at the surface.
2. HEPA filter vacuum cleaners are effective on small quantities of vermiculite found indoors. **Never vacuum vermiculite with a regular vacuum cleaner.** HEPA vacuums and wet wiping can be used periodically to remove small amounts of vermiculite introduced into your home. Use a HEPA vacuum to remove dust from previously inaccessible locations such as under recently removed carpets, appliances, and furniture.

3. For larger quantities of vermiculite, such as what you may find in a breached wall, do not disturb the material. **Do not vacuum large amounts of vermiculite - even with a HEPA vacuum – leave the material alone and call the ARP.**
4. Dry mowing or rototilling in yards and gardens where vermiculite is found might cause asbestos to become airborne. We encourage sprinkling your yard or garden with water before mowing or tilling. **Consult with the ARP if you are unsure about the vermiculite content in your yard.**
5. If you encounter a large amount of vermiculite in soil that cannot be avoided, such as when it is used around structures like pipes or foundations, or as bulk fill – **do not disturb the material, call the ARP.**
6. If you are planning on remodeling your home, find out if there is vermiculite in the attic or walls (drill small pilot test holes) or in any other material that will be taken out, disturbed, or is likely to create dust. You can call the ARP, if you are unsure. You should also be aware of specific state and local regulations regarding remodeling, demolition, and disposal that may impact your work, especially on big projects.

Renters - You have a right to know about any adverse conditions at your rental. Ask your landlord about the presence of vermiculite. If you do not receive the information you request, contact the DEQ or ARP.

Libby Amphibole (LA) is toxic. It should be avoided or handled with extreme care. Exposure to Libby Amphibole asbestos has resulted in disease in workers and non-workers who have had contact with contaminated materials. There is no known threshold risk level for asbestos-related materials, and any exposure will increase the risk of asbestos-related disease. The health risk from exposure to **all** asbestos depends greatly on the amount of asbestos in the material you are disturbing and how long the exposure lasts. If you take the basic precautions outlined in this fact sheet, your risk from exposure will be less. It should be noted that regular dust or "painter's" masks are not effective in reducing exposure to LA.

Who Can I Contact with Questions About Asbestos?

ARP – (406) 291-5335

The ARP might send personnel out to inspect a situation involving vermiculite or Libby Amphibole asbestos. This guidance might include advising the owner to allow EPA or a licensed asbestos contractor or inspector to take samples, conduct cleanup, or take other special measures to reduce the risk of asbestos exposure. A list of approved asbestos inspectors and contractors is available by contacting DEQ or ARP.

Montana Department of Environmental Quality Asbestos Control Program (406) 444-5300

Montana law requires that employers hire a licensed inspector to determine if asbestos is present before doing any work. Asbestos that is not associated with the Libby vermiculite mine is still regulated by Montana DEQ. If non-Libby Asbestos is found, it should be dealt with according to Montana regulations. Explore Montana DEQ's Asbestos web site at: **www.deq.mt.gov/Asbestos**

Please learn about the risks of asbestos exposure and basic precautions by reviewing these fact sheets (available by contacting ARP) or the website listed below:

- **Contractors & Tradesmen Working Indoors** – *Revised June 2019*
- **Contractors & Tradesmen Working Outdoors** – *Revised June 2019*
- **Libby and Troy Residents: Vermiculite or Asbestos In or Around Your Home or Business** – *Revised June 2019*

Explore the ARP web site and its links at: http://lcarp.org/

Yard Work and Gardening Activities

What To Do If You Are Working In Your Yard and Come Across Soil That Contains Vermiculite or Asbestos

Revised: June 2019

Vermiculite In Libby & Troy

For several decades, vermiculite was commonly used in and around homes in Lincoln County for a variety of applications, including as a soil additive, construction aggregate, and attic insulation. If vermiculite is present, it might contain Libby Amphibole asbestos (LA).

Exposure to LA could lead to serious diseases such as asbestosis, lung cancer, and mesothelioma. It is not possible to remove (or to even know about) *all* the vermiculite in the area.

It is possible that you might unexpectedly find vermiculite after starting your yard work or gardening activities. If you do, you are strongly encouraged to not disturb it further and cause LA to become airborne.

Precautionary Steps To Take While Working In Your Yard

The Do's:

1. **Do** water often. A healthy lawn reduces dust and contact with bare soil.
2. **Do** mow your lawn or roto-till your garden when it's damp—not when it's dry or dusty.
3. **Do** rinse off any rental equipment within your work area before returning the equipment.
4. **Do** rinse off gardening tools outside within your work area after every use.
5. **Do** wipe your feet and/or take your shoes off at the door and leave them outside, if possible.
6. **Do** wash your hands outdoors after any yard work, if possible.
7. **Do** call the **Lincoln County Asbestos Resource Program (ARP)** **at no cost to you** if you see ANY vermiculite on your property, even if you are unsure. While waiting for ARP to arrive, take precautions to not disturb the area.

The Don'ts:

1. **Don't** disturb areas where you can see vermiculite. If it's a place you intend to work in, cover the vermiculite and call **ARP**.
2. **Don't** dig, cultivate, mow, rake or roto-till your yard or garden when it's dry and dusty.
3. **Don't** bring dusty or dirty things inside.

The photo on the immediate right is an example of raw vermiculite in soils. When heated, vermiculite exfoliates (or pops), forming a lightweight material ideal for packing, insulation, and as a soil additive as shown in the far right photo.

Cautions regarding Libby Amphibole:

- LA should be avoided or handled with extreme care.
- Exposure to Libby Amphibole asbestos has resulted in disease in workers and non-workers who have had contact with contaminated materials. Take care not to bring any contaminated clothing or material back to your home or business.
- Treat any asbestos containing material as regulated material and comply with all state and local regulations.

There is no known threshold risk level for asbestos-containing materials, and any exposure will increase the risk of asbestos-related disease. The health risk from exposure to **all** asbestos depends greatly on the amount of asbestos in the material you are disturbing and how long the exposure lasts. If you take the basic precautions outlined in this fact sheet, your project will be completed with minimal exposure to LA.

Who Can I Contact With Questions About Asbestos?

Lincoln County Asbestos Resource Program (ARP) – (406) 291-5335
Montana Department of Environmental Quality –
Asbestos Control Program (406) 444-5300

Please learn about the risks of asbestos exposure and basic precautions by reviewing the fact sheets available by contacting ARP or the website listed below:

- **Lincoln County Do-It-Yourselfers** – *Revised March2019*
- **Contractors & Tradesmen Working Indoors** – *Revised March 2019*
- **Contractors & Tradesmen Working Outdoors** – *Revised March 2019*
- **Libby & Troy Residents: Vermiculite or Asbestos In or Around Your Home or Business** – *Revised March 2019*
- **Demolition Activities** — *Revised March 2019*

Explore the ARP web site and its links at: http://lcarp.org/

Appendix D

OU4/OU7 ICIAP Responsiveness Summary

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OU4/OU7 ICIAP RESPONSIVENESS SUMMARY

1.0 PUBLIC AND STAKEHOLDER COMMENTS ON THE DRAFT FINAL OU4/OU7 INSTITUTIONAL CONTROL IMPLEMENTATION AND ASSURANCE PLAN

A total of 134 comments were received from 15 stakeholders specific to the Final Draft Operable Unit 4/7 (OU4/OU7) Institutional Control Implementation and Assurance Plan (ICIAP) for the Libby Asbestos Superfund Site (Site). The number that each party submitted is summarized below.

- 10 citizens – 21 comments
- Senator Mike Cuffe – 3 comments
- City-County Board of Health for Lincoln County, Institutional Control Steering Committee, Lincoln County Asbestos Resource Program (Submitted collaboratively) – 109 comments
- Montana Department of Environmental Quality (DEQ) – 1 comment

Out of 134 comments received on the Draft Final OU4/OU7 ICIAP, a majority of the comments were from the City-County Board of Health for Lincoln County, Institutional Control Steering Committee, Lincoln County Asbestos Resource Program (ARP) who jointly provided comments and were editorial in nature regarding specific text within the document. Those editorial suggestions were considered and revised as appropriate to text within the final ICIAP. The remainder of the comments received primarily fall within the following categories: Length of comment period, responsiveness, remaining risk/fire impacts, funding, restrictiveness. A list of the most common comments are presented within this section. A summary of the response to these comments is provided in Section 2.

<u>Frequent Comments</u>

1. Length of public comment period/Responsiveness from agencies/public awareness
2. Remaining Risk from Libby amphibole asbestos (LA) Exposure/Wildfire/Structure Fire Impacts
3. Funding/financial burden of institutional controls (ICs)
4. Restrictiveness of ICs

2.0 RESPONSE TO COMMENTS NARRATIVE

2.1 Length of Public Comment Period/Responsiveness from Agencies/Public Awareness

The agencies received a number of comments concerning a lack of responsiveness by the agencies (U.S. Environmental Protection Agency [EPA], DEQ and various Lincoln County managers). The formal public comment period is designed to collect all comments, and then provide a comprehensive response after the end of that period. The *Record of Decision for Libby Asbestos Superfund Site, Libby and Troy Residential and Commercial Properties, Parks and Schools, Transportation Corridors, Industrial Park, Operable Units 4-8, Lincoln County, Montana* (ROD) clarified that a public comment period would be made available once ICs for the Site had been identified and incorporated into an ICIAP document. Since the ICIAP and the operations and maintenance (O&M) plan are closely related, any comments received during both comment periods were considered in finalizing these plans. The public comment period of 60 days was announced in

three local newspapers. The EPA published a fact sheet summarizing information in the ICIAP and provided contact information on how to formally submit comments in the local newspapers, the fact sheet, and on the EPA website. Additionally, EPA agreed to assist in hosting a public meeting following completion of the ICIAP and O&M plan, to discuss additional questions and concerns from the community.

2.2 Remaining Risk from LA Exposure

The human health risk assessment (HHRA) was comprehensive and is the basis for determining what level of contamination posed an unacceptable risk at the Site. EPA developed a remedy, remedial action levels, and clearance criteria in the ROD that are intended to be protective of human health and the environment. ICs are a large component of the remedy listed within the ROD, and were established in part to address residual risks to human health presented in the HHRA. EPA reviewed the work completed within OU4 and OU7 and found the remedy to be complete. Over 8,000 properties were evaluated and more than 2,600 had a response action completed. The IC program was developed with the goal of requiring minimal restrictions and to provide assistance and information to educate the public and protect the remedy to guard against areas becoming re-contaminated.

Periodic monitoring includes annual inspections, which involves interviews, record reviews, and site inspections. Asbestos health surveillance is outside the scope of EPA and DEQ, and thus is outside the scope of the ICIAP. Ambient air monitoring at the Site was conducted from 2006 to 2013 by EPA and DEQ (from 2009 to 2013). As presented in the HHRA, exposures to LA in ambient air do not result in an unacceptable risk and are not likely to contribute significantly to cumulative risk. Additionally, all ambient air data was collected during a time when removal of LA contamination was taking place on the Site; thus, the available data represent a worst case scenario under current conditions. Future ambient air monitoring is not anticipated, but could be re-evaluated if annual inspections or five-year reviews conclude that it is warranted.

Because there are no identified ICs specific to recreational users or visitors, the ICIAP has been revised to remove specific language on the responsibly of “recreational users and visitors”. LA awareness level training and information of best management practices is available upon request by ARP to contractors, property owners, tenants, and members of the public and identified as such in the ICIAP. The HHRA did not identify unacceptable exposures for recreational users or visitors within OU4 and OU7.

Structure fires within OU4 and OU7 are considered an unscheduled event and will be managed under O&M on a case by case basis if LA contamination could present a potential for exposure from the property or within a structure. Training regarding the awareness of LA has been provided by the EPA and future opportunities will be available upon request by ARP to local volunteer fire departments during O&M. As presented in the HHRA, as evidenced through both simulated and authentic wildfire events in a worst-case scenario (i.e., a wildfire within OU3), outdoor air exposures would not present an unacceptable risk to residents within OU4 and OU7. Risks not

associated with OU4/OU7 (e.g., wildland firefighters, logging) will be addressed as part of the Record of Decision for OU3.

2.3 Funding/Financial Burden of ICs

Funding for ARP during O&M will be directed through DEQ and not EPA. Grant funding in the past is beyond the scope of the ICIAP. The ICIAP discussed educational components that will be in place during O&M and ARP will be the primary facilitator in providing education and information to the public during O&M. ARP is a program set up for O&M at the Site, was funded through a cooperative agreement grant with EPA during remedial action and will be funded similarly during O&M by DEQ though a cooperative agreement utilizing available O&M funds.

EPA set up a settlement fund for the Site. From the settlement fund, $11 million was placed into a separate interest-bearing account dedicated to helping to pay for future sitewide (all OUs except OU3 and OU6) O&M. Currently, the funds in that account are nearly $12 million. The cost of the sitewide O&M program will be evaluated through a cost-risk analysis to help minimize uncertainty associated with those costs. O&M settlement funds are administered by EPA to DEQ through a cooperative agreement grant and are subject to EPA eligibility requirements. EPA will administer O&M settlement funds for costs associated with LA and LA-source materials where property owners have provided and will continue to provide access for associated investigations and/or response actions; the property owner has not actively participated in a for-profit enterprise of distributing, treating, storing, or disposing of vermiculite; and property owners will take appropriate precautions in handling any LA source materials in and around their home, avoiding where possible activities which may spread LA source materials to other locations without first consulting with DEQ and/or ARP.

In addition to this settlement fund, under Montana Code Annotated 75-10-743(10)(c) and 75-10-704(4)(j)(I), starting July 1, 2018, DEQ receives an appropriation of $600,000 annually from an orphan share transfer. The subsequent Montana Code Annotated 75-10-1601 provided a framework on how this money could be used and established a permanent trust fund to pay exclusively for costs to the state of cleanup and long-term O&M for Libby. From this account, $480,000 is allocated annually for oversight and support of the advisory team (i.e., Libby Asbestos Superfund Oversight Committee). As of September 2019, the trust fund balance was $852,536. DEQ also received approximately $5 million as part of the bankruptcy settlement with Grace. Under recommendation by the Libby Asbestos Superfund Oversight Committee and approval by DEQ, these funds could also be used to support O&M activities in Libby and Troy, particularly those situations where EPA administered funds are precluded from being used. If other currently available and planned funding resources are depleted, remaining EPA-held "remedial action settlement funds" may be made available to the State of Montana and Lincoln county to be used for O&M activities related to encounters with LA within OU4 and OU7.

The primary criterion for ARP assistance is that a property owner is conducting an activity that would impact the LA remedy on a property, and the property owner is coordinating this activity

with ARP. Random sampling and updates are not anticipated unless conditions warrant a re-evaluation or a property condition changes and is coordinated through ARP.

The intent of ICs is to minimize the potential for human exposure to contamination and protect the integrity of the remedy. The ICs have been developed to minimize the financial burden of addressing LA as long as the proper steps are taken with ARP and DEQ. Any LA identified during the Property Evaluation Notification (PEN) process, with an ARP developed and DEQ approved statement of work, would be included as appropriate for financial reimbursement, upon evaluation by ARP and authorization by DEQ. Public information sheets will be available during O&M to describe the financial reimbursement program and to guide homeowners through this process.

2.4 Restrictiveness of ICs

There are no environmental covenants being placed on properties in OU4 or OU7 nor is there expected to be any placed into the future. Deed notices have been placed on properties that refused access to ensure that future purchasers are aware of the existing or potential environmental conditions relating to LA. On November 18, 2019, EPA sent a letter to the Lincoln County Board of Commissioners, known Lincoln County realtors, title companies, appraisers, and others within Lincoln County involved in property transactions which discussed the transition to O&M for OU4 and OU7 and how future communication regarding property status will be handled by DEQ.

Because the PEN is a regulation instituted by the City-County Board of Health for Lincoln County, any comments received regarding the regulation were forwarded to ARP and the IC Steering Committee representative to address. A link was provided within text of the final OU4/OU7 ICIAP to direct readers to the current version of the PEN regulation.