

**THIRD FIVE-YEAR REVIEW REPORT FOR
LIBBY ASBESTOS SUPERFUND SITE
LINCOLN COUNTY, MONTANA**



Prepared by

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LIST OF ABBREVIATIONS AND ACRONYMS

ARP	Asbestos Resource Program
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BOH	Board of Health
BFPP	Bona Fide Prospective Purchaser
BNSF	Burlington Northern Santa Fe
CARD	Center for Asbestos-Related Diseases
DEQ	Montana Department of Environmental Quality
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FYR	Five-Year Review
GRZ	Geographic Removal Zone
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
IC	Institutional Control
ICIAP	Institutional Control Implementation Assurance Plan
LA	Libby Amphibole (Asbestos)
LASOC	Libby Asbestos Superfund Oversight Committee
NOEC	Notice of Environmental Condition
NOPEC	Notice of Potential Environmental Condition
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PRP	Potentially Responsible Party
RAL	Remedial Action Limit
RAO	Remedial Action Objective
RAWP	Response Action Work Plan
ROD	Record of Decision
ROW	Right of Way
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency is preparing this FYR pursuant to Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations Section 300.430(f)(4)(ii)) and considering the EPA’s policy.

This is the third FYR for the Libby Asbestos Superfund site (the Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

The Site consists of eight operable units (Table 1). This FYR addresses seven of the eight OUs. The FYR does not address OU3 because the EPA has not issued a Record of Decision for the OU and remedy construction has not yet started.

Table 1: OU Descriptions

OU	Description
1	Former Export Plant
2	Former Screening Plant
3	Former Libby Vermiculite Mine (the mine)
4	City of Libby Residential/Commercial Area
5	Former Stimson Lumber Company
6	Burlington Northern Santa Fe Railroad
7	City of Troy Residential/Commercial Area
8	Roadways

The EPA’s remedial project manager Dania Zinner led the FYR. Other participants included the EPA’s community involvement coordinator Beth Archer and contractor support from Skeo. The relevant entities such as the State of Montana Department of Environmental Quality (DEQ) and potentially responsible parties (PRPs) were notified of the initiation of the FYR. The review began on 9/30/2024.

The cleanups at OUs 1, 2, 4, 5, 6, 7 and 8 at the Libby Asbestos Superfund site are currently protective of human health and the environment. Institutional controls in the form of a utility locate program (Montana 811) and the Lincoln County Asbestos Resource Program are in place and apply to all OUs. Encroachment permits are also in place for OU8. More institutional controls including deed restrictions have been put in place for OU2, OU5, and OU6. Notices of potential environmental conditions have been put in property files for those properties who did not participate in the remedial action for OU4 and OU7. Once these properties have been sampled or cleaned up to sitewide ROD action levels, a withdrawal notice is placed in the property file with the Lincoln County Clerk & Recorder’s office.

Site Background

The Site is in and around the city of Libby and the nearby city of Troy in northwest Montana, 35 miles east of Idaho and 65 miles south of Canada (Figure 1). The Site lies in a valley carved by the Kootenai River. Gold miners discovered vermiculite in Libby in 1881. In the 1920s, the Zonolite Company formed and began mining the vermiculite in a large, surface mine located about 5 miles northeast of Libby. In 1963, W.R. Grace bought the Zonolite mining operations. The mine closed in 1990. While in operation, the Libby mine (OU3) produced up to 80% of the world’s supply of vermiculite. Vermiculite has been used in building insulation and as a soil conditioner. The vermiculite from the Libby mine was contaminated with a toxic and highly friable form of asbestos called Libby Amphibole (LA) asbestos. Historic mining, milling and processing of vermiculite at the Site are known to have caused releases of vermiculite and LA to the environment, the city of Libby and the city of Troy. In addition, vermiculite products and wastes containing LA were used in thousands of homes, businesses and public buildings across the Site. Vermiculite insulation, both commercially purchased and obtained otherwise, was used at a high rate in Libby buildings.

About 2,700 people live in Libby, which is the county seat for Lincoln County, Montana. About 950 people live in Troy, which is located 20 miles west of Libby. Areas of the Site outside the two communities are generally lightly populated, mountainous woodlands. Figure 1 shows the Site’s eight OUs. Table 1 describes the OUs.

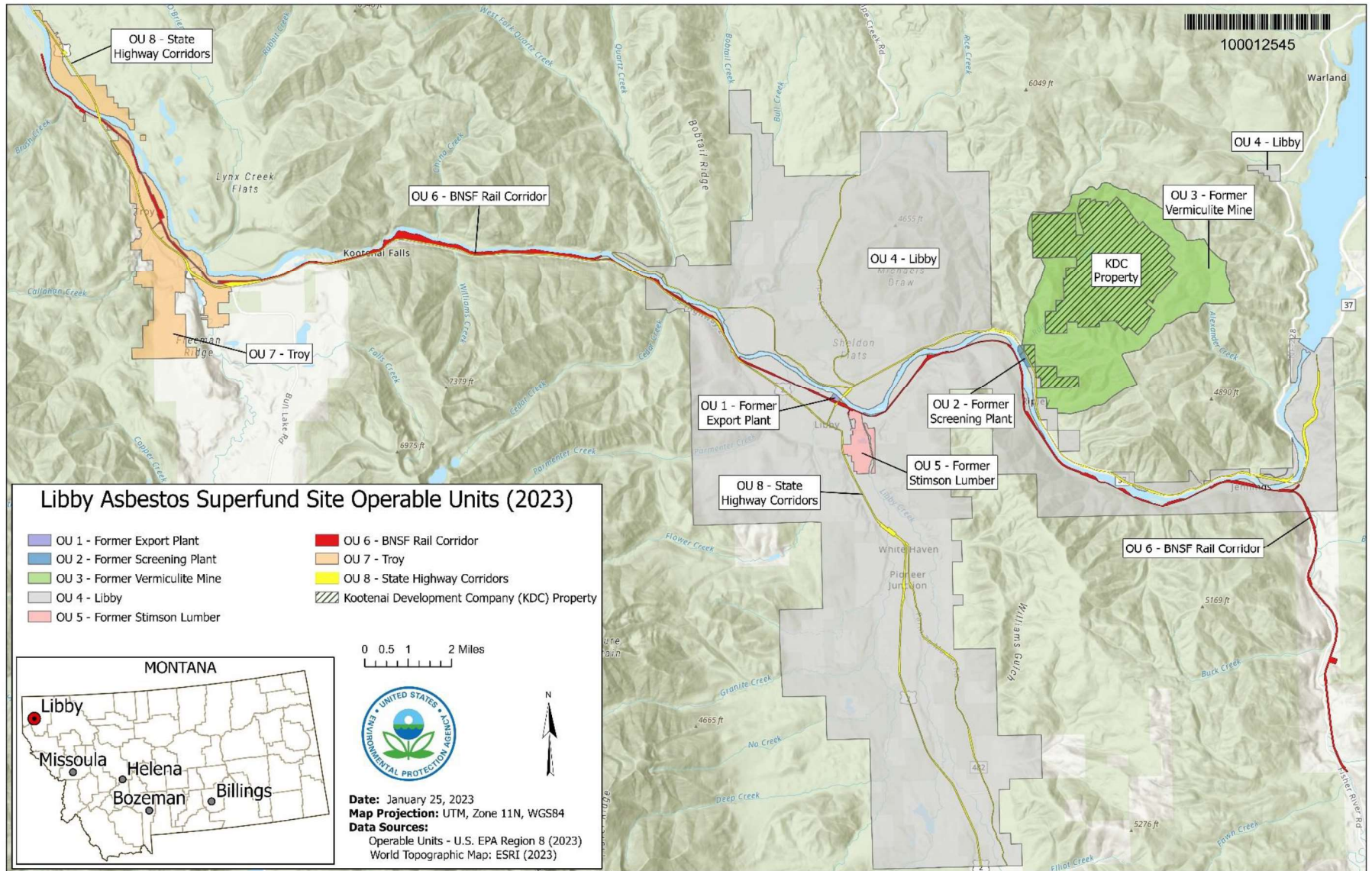
From 1963 to 1990, W.R. Grace used the Screening Plant (OU2) to screen vermiculite ore. The concentrated ore was then transported downstream to the Export Plant (OU1) for exfoliating, stockpiling and distributing vermiculite concentrate. Both OU1 and OU2 were used to sort vermiculite ore by size and load ore for transport by rail or truck to processing facilities nationwide. Within the Libby processing plant (OU1), ore was exfoliated by rapid heating and then sent to market on the Burlington Northern Santa Fe (BNSF) railway or on the roadways and highways (OU6 and OU8, respectively). Over the course of W.R. Grace’s operation in Libby, nearly 10 billion pounds of vermiculite and vermiculite ore were shipped from Libby. LA-containing vermiculite was used in homes, businesses and public properties in the city of Libby (OU4) and the city of Troy (OU7) as insulation and as soil and concrete additives. It was also unintentionally transported via mine workers on clothing and cars into businesses and homes in OU4 and OU7. Appendix C provides more detailed maps for each OU. Table 2 provides a description of each OU.

Table 2: Historical and Current Use and Reuse Status of Site OUs

OU	Historical Use	Current Use/Reuse Status
1	Former Export Plant. Consists of three areas: Area 1, Former Export Plant, Area 2, Riverfront Park, and Area 3, Highway 37 Embankments.	Riverfront Park and David Thompson Search and Rescue are located there.
2	Former Screening Plant. Consists of four subareas: Subarea 1, Former Screening Plant, Subarea 2, Flyway property, Subarea 3, Private Property, and Subarea 4, Rainy Creek Road Frontage.	Undeveloped parcel owned by Kootenai Development Corporation. Now also includes a formerly residential property where buildings are now used for business purposes and only house seasonal workers.
3	Former Libby vermiculite mine.	Mine area is closed and not in use. The remedial investigation was completed in 2016. The feasibility study is in progress.
4	Properties in and around Libby. Includes residential, commercial, industrial (not associated with former W.R. Grace operations) and public properties, including schools and parks in and around Libby, or those areas that have received material from the mine not associated with W.R. Grace operations.	In continued use as residential, commercial, industrial and public properties.
5	Former Stimson Lumber Company property.	In continued commercial and recreational use. The area is undergoing redevelopment. It consists of new

OU	Historical Use	Current Use/Reuse Status
		buildings, demolished buildings, several businesses, a public fishing pond and a Remote Control (e.g. RC car) racetrack.
6	BNSF railroad. Consists of 42 miles of rail line, rights of way and rail yards.	In continued use as a railroad Right of Way (ROW)/corridor.
7	Properties in and around Troy. Includes residential, commercial and public.	In continued use as residential, commercial and public properties.
8	Federal and state highway corridors. Consists of 30 miles of U.S. Highway 2, Montana Highway 37, and Farm to Market Road and River Road.	In continued use as roadways.

Figure 1. Site Map



FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Libby Asbestos		
EPA ID: MT0009083840		
Region: 8	State: Montana	City/County: Libby/Lincoln
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	Has the Site achieved construction completion? No	
REVIEW STATUS		
Lead agency: The EPA		
Author name: Dania Zinner		
Author affiliation: The EPA's Region 8		
Review period: 9/30/2024 – 6/1/2025		
Date of site inspection: 10/23/2024 and 10/24/2024		
Type of review: Statutory		
Review number: 3		
Triggering action date: 6/22/2020		
Due date (<i>five years after triggering action date</i>): 6/22/2025		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

LA asbestos is the only contaminant of concern at the Site. During remedial investigations, LA was observed in all media sampled: air (indoor, outdoor ambient and outdoor near disturbed soil), vermiculite insulation and bulk materials, indoor dust, soil (surface and subsurface), water, forest duff, tree bark and animal tissue.

A sitewide human health risk assessment was conducted in 2015. The primary exposure route of concern for LA is inhalation. The exposure scenarios are different for each OU but generally include residential or commercial exposure via disturbance of surface or subsurface soils with LA contamination or indoor exposure during active source disturbance activities, outdoor worker exposures during disturbance of subsurface soils with LA contamination, and forest worker or firefighter exposure near the mine (OU3). Several individual exposure scenarios do not result in unacceptable risk, but they have the potential to be important contributors to cumulative risk.

Following completion of the OU1 remedial action, the EPA conducted a post-construction risk assessment of the OU. The resulting cancer and noncancer risks were less than a level of potential concern for city workers,

recreational visitors, and search and rescue workers/volunteers at the David Thompson Search and Rescue building.

Following completion of the OU2 remedial action, the EPA conducted a post-construction risk assessment of OU2. The resulting cancer and noncancer risks were less than a level of potential concern for both Montana Department of Transportation workers and recreational visitors and trespassers. In 2015, the EPA conducted a Human Health Risk Assessment (HHRA) for OU4 and OU7. The risk assessment showed that all past removals remain protective (see Status of Implementation for removal information).

Most OU5 properties will be used for industrial and commercial purposes. Some commercial entities are active in OU5; these business operations were evaluated against the exposure scenarios presented in the sitewide HHRA. The soil exposure scenario at these businesses is most consistent with the OU5 (industrial) outdoor worker soil exposure scenario in the HHRA, given the minimal soil disturbance associated with these business operations. All buildings were evaluated or remediated to the remedial action level for interior exposure. The commercial entities in OU5 were therefore compared to the RAL for interior exposure inside these buildings and the industrial RAL for soil exposure outside these buildings. Should land use change in the future, soil exposures associated with a more conservative (i.e., commercial) exposure scenario will be re-evaluated, and any changes will be documented as appropriate. In addition, areas of OU5 will continue to be used for some limited recreational uses as they relate to exposure scenarios (e.g., fishing pond, motocross/RC track, walking path), which are included in the parks/schools land-use category. Note: The Libby Groundwater Site is co-located with OU5; however, it addresses different contaminants of concern and will be discussed in the Libby Groundwater Five-Year Review.

Response Actions

In response to local concerns and news articles, an EPA Response Team conducted an initial investigation in November 1999. The investigation consisted of an inspection of the mine and processing facilities, interviews with local officials and members of some affected families, an interview with a pulmonologist in Spokane, Washington, who specialized in the treatment of asbestos-related diseases, and the collection of a small set of environmental samples.

The initial investigation found many cases of asbestos-related diseases centered in and around Libby. In 1999, a pulmonologist in Spokane was treating more than 200 cases of asbestos-related diseases among people who had either lived in Libby or worked at the mine and had provided care to dozens more who had already died. The EPA's priority in Libby was to reduce risk as quickly as possible. Beginning in 1999, early removal activities focused on understanding the sources of contamination and removing source areas that presented the highest potential risk. These actions are discussed below. In 1999, the EPA opened the EPA Information Center in Libby. In 2002, to support the removal actions, a special cell was constructed in the Lincoln County Class II Landfill for the disposal of asbestos waste. In 2002, the EPA also began the HHRA process, initiated sampling and inspection of residential and commercial properties, and began removal actions in Libby homes and businesses.

In a January 2002 letter to the EPA, Montana's governor officially asked the EPA to add Libby's asbestos contamination to the Superfund program's National Priorities List based on the threat presented to human health and the environment. The EPA added the Site to the NPL in October 2002.

Removal Actions

Prior to the issuances of their respective RODs, the EPA performed multiple emergency response action removals (removal actions) throughout the Site. The RODs and respective remedial investigations include a full description of the removal actions conducted for each OU.

OU1

The Former Export Plant consists of three areas (Figure C-1 and C-2 in Appendix C). Area 1 is the Former Export Plant. Area 2 is Riverside Park. Area 3 is the Highway 37 embankments. The EPA conducted sampling events at all three areas. Based on the results, removal events were conducted as needed, and contaminated material was

taken off-site for disposal. Following each removal event, confirmation soil samples were collected from the floor of the excavation to ensure samples met the removal clearance criteria of less than 1% LA.

OU1 response action removals were conducted in Area 1 and Area 2 (Former Export Plant and Riverside Park, respectively). In Area 1, W.R. Grace conducted the removal actions from July 2000 to December 2002. Vermiculite, contaminated soil, dust and building debris were removed. Historic buildings were demolished and contaminated soil was removed. In Area 2, the EPA conducted the removal actions from October 2003 through July 2008. The EPA removed contaminated soil in Riverside Park to a depth of 12 inches below ground surface, except on the riverbank and embankment on the northeast side of City Service Road (6 inches bgs). The EPA placed rock cover in areas of observed vermiculite. Orange fencing was placed at depth to indicate the presence of vermiculite. In 2008, the EPA conducted a quick response removal event to assist the city of Libby with the construction of a new pavilion. Two areas were excavated to prepare the area for the placement of pavilion footers and to provide an access ramp. Based on investigation activities at Area 3 (Highway 37 embankments), no removal actions were conducted.

OU2

The Former Screening Plant consists of Subareas 1 through 4 (Former Screening Plant, Flyway, Private Property and Rainy Creek Road Frontages, respectively) (Figure C-5 and Figure C-6 in Appendix C). The EPA conducted sampling events at all of the areas. Based on the results, removal events were conducted. Following each removal event, confirmation soil samples were collected from the floor of the excavation to ensure samples met the removal clearance criteria of less than 1% LA.

The EPA, and in some instances, W.R. Grace, conducted removal actions at the four subareas of OU2. Removal actions were conducted seasonally from August 2000 through August 2006. In Subarea 1, the Former Screening Plant, most of the buildings were demolished, and the EPA removed the building demolition materials, vermiculite-contaminated soil, vegetative material and debris. In subareas 2, 3 and 4 (Flyway, Private Property and Rainy Creek Road Frontage, respectively), the following removal actions were conducted:

- Subarea 2: Excavation and disposal of vermiculite-contaminated soil in 2001 and 2004, and excavation within the Highway 37 right of way adjacent to Subarea 2, with disposal at the former mine in 2005.
- Subarea 3: Excavation within the Highway 37 ROW adjacent to Subarea 2, with disposal at the former mine in 2005.
- Subarea 4: Excavation along the North and South frontages in 2004 and excavation to locate and repair a damaged water line in 2005, with disposal at the former mine.

OU4

There are about 6,635 properties in OU4. Prior to the signing of the 2016 ROD, between 2001 and 2015, removals were completed at about 2,100 commercial and residential properties. A Class IV asbestos cell at the Lincoln County Class II Landfill was also constructed during this time for disposal purposes. The EPA subdivided OU4 into 24 Geographic Removal Zones (GRZs). Soil was disposed of at the former mine and contaminated building materials were disposed of in the asbestos cell at the Lincoln County Landfill.

OU5

The former Stimson Lumber Mill is a large property (over 400 acres) (Figure C-10 in Appendix C). Based on interviews and investigation activities, the EPA was aware of vermiculite and LA-containing soil present in surface areas at OU5 in the following areas: Former Expansion Plant, railroad spur and former tree nursery. Between 1999 and 2013, contaminated media were removed and buildings were demolished on various parts of the former Stimson Lumber Company property. Contaminated media were disposed of at the former mine or the asbestos cell at the Lincoln County Class II Landfill.

OU6

In August 2003, LA-contaminated soil was removed from the BNSF Libby Railyard (Figure C-14 and C-15 in Appendix C). LA asbestos was detected in all soil samples collected from the removal area. In fall 2004, the EPA contractor conducted a removal of about 15,000 feet of railroad track and 8,000 railroad ties to access underlying

LA-contaminated soil for removal and disposal of potential asbestos-containing material of the BNSF scale house and foundation. Clearance soil sampling was conducted until clearance levels were achieved. In 2005, two remaining areas with previously identified LA-contaminated soil were excavated. Confirmation samples indicated no detection of LA asbestos.

In 2010 and 2011, about 4 cubic yards of solid waste containing visible vermiculite was removed from an abandoned concrete structure east of the mainline in Troy. The structure was filled with concrete and covered with steel plates to prevent unauthorized access. More work took place in 2018 to further secure this structure from potential access by trespassers.

OU7

There are 1,477 properties and seven GRZs in OU7 (Figure C-16 in Appendix C). From 2008 to 2015, LA-contaminated material was removed from about 100 commercial and residential properties in Troy. Soil was disposed of at the former mine and contaminated building materials were disposed of in the asbestos cell at the Lincoln County Class II Landfill.

OU8

LA-containing vermiculite and soil are known to exist on the surface along the ROW of federal, state and local highways in OU8. A majority of the surface soil samples were non-detect, with the stretch of Highway 37 between Libby and Rainy Creek Road having the greatest concentration of samples with results of trace or less than 1%. The areas with samples with visible vermiculite were confined to areas east of Rainy Creek Road along Highway 37. These areas were addressed under response actions for other OUs.

Remedial Actions

The EPA selected the final remedies for OU1 and OU2 in 2010 and for OUs 4 through 8 in 2016. For each OU, the bulk of the work was conducted during the prior removal actions. The RODs established the final remedial action objectives and cleanup goals and identified any remaining areas of contamination.

OU1 and OU2

The EPA issued the OU1 ROD and the OU2 ROD in May 2010. The RAOs for OU1 and OU2 are as follows:

- Break the exposure pathways for inhalation of LA fibers that would result in unacceptable cancer risk or noncancer hazard.
- Control erosion of contaminated soil by wind and water from source locations to prevent exposures and the spread of contamination to unimpacted locations.
- Implement institutional controls to prevent uses of the Site that could pose unacceptable risks to human health or the environment or compromise the remedy.

The selected remedy for OU1 is:

- Containment via soil covers on about nine acres with a visible marker layer at the bottom of the cover to denote the extent of cleanup.
- Removal and off-site disposal of contaminated materials in the proposed utility corridor (about 22,000 cubic yards over 10% of Area 1 and Area 2).
- Institutional controls were envisioned to restrict the use of areas containing contaminated soil, including subsurface soil covered under previous response actions and subsurface contamination remaining below excavated areas (delineated by orange fencing at depth).

The selected remedy for OU2 pertained to two areas of remaining contamination in the upper 18 inches of soil. The first area was a single contaminated sample location in Subarea 2 (Flyway Property Subarea). The 2010 OU2 ROD specifies that this area will be excavated, and the contaminated material disposed of off-site. A visible marker was required to denote the extent of cleanup. The second area is along the embankment of Highway 37. The area could not be excavated previously due to concerns that excavation would damage the structural integrity of the highway. Institutional controls are in place including a deed restriction on the Flyway Property to restrict soil excavation without EPA and Montana approval.

OUs 4, 5, 6, 7 and 8

The EPA issued a combined ROD for OUs 4 through 8 in February 2016. Most areas in these OUs were remediated during removal actions (see above). However, at the time of the issuance of the 2016 ROD, there were remaining commercial and residential properties associated with OU4 and OU7 that were not yet remediated. The 2016 ROD called for remediation of these remaining properties and required institutional controls at all five OUs. The RAOs for OUs 4 through 8 are:

- 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 the EPA's acceptable risk range of 1×10^{-6} to 1×10^{-4} and cumulative noncancer hazard index 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 the EPA's acceptable risk range of 1×10^{-6} to 1×10^{-4} and cumulative noncancer Hazard Indices (HIs) that are at or below 1.

The selected remedy for the commercial and residential properties in OUs 4 and 7 is divided by media: contaminated soil and contaminated building materials. To guide the remedial actions at OU4 and OU7, two criteria types were used. RALs were used to define the condition when remedial action was needed due to LA contamination in soil or building material. The remedial clearance criteria were the condition that had to be met to deem a remedial action complete. The site-specific RALs and remedial clearance criteria were based on the type of contaminated media (building materials versus soil), land-use categories, depth of contaminated soil or accessibility of contaminated building material, use frequency of contaminated soil, and the identification of boundary conditions. Boundary conditions 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 these boundary conditions present. Appendix H, tables H-1 through H-4 provide a list of all RALs and clearance criteria.

The selected remedy for contaminated soil included the following components for residential and commercial properties:

- Contaminated soils at a property exceeding RALs for the land-use category will be excavated until remedial clearance criteria for surface soil and subsurface soil are met for the land-use category, or until a boundary condition is reached.
- If contaminated soil is left in place due to a boundary condition, a visibly distinct marker layer will be installed at the bottom of the excavation.
- Clean backfill will be installed to replace the excavated material. Backfill will be revegetated or otherwise restored to match the previous surface conditions.
- Excavated contaminated soil will be disposed of properly at a facility authorized for LA.
- Access controls such as temporary fencing and signage will be implemented during construction to warn of dangers or exclude access to areas being remediated. Post construction, access controls may be appropriate in public use areas where disturbance of backfill could occur.
- Remedy components will be monitored, maintained and adjusted as necessary so exposure to contaminated soil does not occur and backfill remains effective for eliminating migration of LA to the surface or other media.

The selected remedy included the following components for parks and schools, transportation corridors, and industrial parks where removal actions had previously been conducted:

- The remedy components will be monitored, maintained and adjusted as necessary so unacceptable exposures to contaminated soil do not occur and previously placed backfill remains effective for eliminating migration of LA to the surface or other media.

The selected remedy for contaminated residential and commercial building materials included the following components:

- Accessible contaminated building materials exceeding RALs will be removed until remedial clearance criteria for indoor non-living space or indoor living space are met.
- Removed building materials, primarily attic insulation, will be restored as needed to a functional condition.
- Contaminated building materials to remain in place will be addressed through encapsulation consisting of in-place sealing and covering.
- Interior cleaning, when required, will be performed using vacuum extraction to remove LA fibers previously released within buildings.
- Removed contaminated building materials will be disposed of properly.
- Access controls will be implemented during construction to warn of dangers or exclude access to areas being remediated. Post-construction access controls may be appropriate in public-use areas where disturbance of encapsulated areas could occur.
- Remedy components will be monitored, maintained and adjusted as necessary to mitigate exposure to or migration of LA to areas where they could become accessible.

The selected remedy included the following components in parks and schools, transportation corridors, and industrial parks where contaminated building materials had previously been removed:

- Remedy components will be monitored, maintained and adjusted as necessary to mitigate exposure to or migration of LA to areas where they could become accessible.

The selected remedy called for institutional controls (ICs) for all land use types. Institutional controls, including legal controls and risk communication controls, will be implemented sitewide and will be tailored to land uses as necessary to reduce exposure risks during and post-construction. The ROD noted that while the objectives for the institutional controls identified in the ROD were unlikely to change, the specific institutional controls had yet to be formally identified. The ROD indicated that the EPA and the Montana Department of Environmental Quality (DEQ) will work with the community to develop an Institutional Control Implementation and Assurance Plan (ICIAP) to help clarify the tools that will be used to implement the institutional controls. The EPA would then prepare an Explanation of Significant Differences (ESD) that would reference the ICIAP and identify the specific institutional controls.

The ROD stated that while the objectives for the institutional controls are unlikely to change, the specific sitewide institutional controls have yet to be formally identified. As discussed in the ROD, the EPA and Montana DEQ were expected to develop an ICIAP that would clarify which tools are anticipated to be used when implementing the selected institutional controls. The purpose of an ICIAP, coupled with an Operation and Maintenance (O&M) Plan, is to explain in detail how encounters with asbestos following cleanup will be managed. The EPA anticipated using a layering approach for institutional controls, meaning that multiple tools would be used to implement each selected institutional control to ensure each objective was met.

The OU4 and OU7 ICIAP was finalized in March 2020. The OU4 and OU7 ICIAP identified and documented activities designed to implement, maintain and enforce institutional controls at OUs 4 and 7, and specified the organizations responsible for conducting the institutional control activities. The ICIAP also helped to ensure that OU4 and OU7 institutional controls are implemented properly to protect the remedies in place and continue to operate as intended, particularly if land use was to change.

In May 2022, the EPA issued an ESD describing the specific institutional controls to be implemented for OU4 and OU7 to ensure the remedy remains protective in the future, as required by the ROD.

In May 2023, Montana DEQ consolidated the OU4 and OU7 ICIAP into a sitewide ICIAP that includes OU1, OU2, OU4, OU5, OU7 and OU8. Institutional controls are discussed further in the Institutional Control Review section below.

Status of Implementation

OU1

The EPA completed the remedial design and the Response Action Work Plan (RAWP) in May 2010 and Remedial Action Design Drawings in September 2011. The OU1 remedial action began in August 2011 and finished in June 2012. In most areas of OU1, remediation consisted of removing contaminated soil and installing an 18-inch-thick soil cover using clean soil. Confirmation samples were collected from the floor of the excavation, with each sample representing a maximum of 2,500 square feet. Samples were analyzed for LA content. Eight of the 241 confirmation samples collected indicated LA concentrations greater than or equal to 1%. In areas represented by these eight samples, an additional 18 inches of soil depth was excavated. Areas not capped with 18-inch-thick soil cover included:

- Road embankments, where 6 inches of soil was excavated.
- Roads, where paving was removed and replaced with road base.
- Riverbank areas that were capped with riprap.

Figure C-3 shows the remaining areas of contamination. Figure C-4 shows the remediated areas and capping treatment. Excavated soils were disposed of at the mine (OU3). Excavated areas were backfilled with clean soils. The OU1 Final Remedial Action Report was approved in July 2013.

The EPA deleted OU1 from the NPL on May 26, 2020.

OU2

The OU2 remedial design consisted of the RAWP, completed in May 2010, and evaluation of the seasonally flooded portion of the property investigated during the remedial investigation. Evaluation of the seasonally flooded portion of the Flyway property finished in July 2010. It consisted of visual inspection for vermiculite, collection of samples from activity-based sampling activities and analysis of the samples for LA. Based on this evaluation, it was concluded that remedial measures were not required in this portion of the Flyway property. The OU2 remedial action began on September 27, 2010, and finished on November 3, 2010. Remedial action consisted of excavation and backfill in an isolated portion of the Highway 37 ROW (depth of 6 inches) and the area surrounding a sample in the Flyway property (depth of 12 inches). The OU2 remedy components are shown in Figure C-7 in Appendix C. Four confirmation soil samples were collected from the bottom of the excavation at the Flyway property. All these samples were non-detect for LA. One confirmation soil sample was collected from each of the areas in the ROW. Samples contained less than 1% LA, which means that residual contamination will remain in these areas below the cap (Figure C-8 in Appendix C). All other ROW areas were non-detect for LA. Excavated soils were disposed of at the mine (OU3). Excavated areas were backfilled with clean soils. The OU2 Final Remedial Action Report was approved on May 15, 2012. The EPA declared OU2 operational and functional on August 1, 2013.

The EPA deleted OU2 from the NPL on April 10, 2019.

OU4 and OU7

As previously discussed, many response actions have been performed at OU4 and OU7 both prior to and following the finalization of the 2016 ROD. Construction activities were conducted in accordance with the OU4/OU7 RAWP. OU4 and OU7 consist of 8,112 properties (6,635 properties in OU4 and 1,477 properties in OU7). From 1999 to 2018, a contractor of the EPA conducted investigation and response activities in OU4 and OU7. The OU4 and OU7 Final Remedial Action Report was approved on June 25, 2020. State-led O&M began on July 1, 2020. An ESD was finalized on May 3, 2022, to memorialize ICs.

Contaminated Soil

An EPA contractor excavated contaminated soil that exceeded action levels until the clearance criteria for surface soil and subsurface soil were met. Trucks with covered beds transported most of the excavated soil to the mine (OU3) for disposal. In some cases, the EPA directed soils to be disposed of in the asbestos cell of the Lincoln County Landfill. To mitigate technical issues and limitations, the clearance criteria included boundary conditions

(building foundations, utilities, tree roots) that did not require complete removal of contaminated soil. The maximum excavation depth was established at 3 feet bgs. A delineation marker was used at the bottom of the excavation to mark areas where contaminated soil was left in place. Each property was backfilled and regraded after excavation activities in accordance with the resumption of the current use of the property. In general, common fill overlain by 4 inches of topsoil was used to restore yard areas, topsoil was used to restore gardens and flowerbeds, and structural fill was used to restore driving/parking surfaces.

Contaminated Building Materials

Accessible contaminated building materials were removed using pneumatic or mechanical means and disposed of in the Class IV Asbestos Cell at the Lincoln County Class II Landfill. Encapsulation was used when contaminated building materials were inaccessible. Encapsulation included in-place sealing and/or covering with a high-performance coating to prevent the release of LA fibers into indoor air. Typical inaccessible contaminated building materials included insulation in some portions of attics or openings such as outlets and light fixtures. A contractor of the EPA conducted indoor cleaning when needed to remove LA fibers previously released in a building.

Response actions at OU4 and OU7, both pre-ROD and post-ROD, met the performance goals for contaminated soil and contaminated building materials for residential/commercial and park/school land-use categories. The EPA conducted final inspections following the completion of restoration activities for each response action. For each OU, the EPA and Montana DEQ conducted a joint inspection following construction to determine that the remedy had been constructed properly. The operational and functional period began after the EPA's letter to Montana DEQ, signifying the start of the operational and functional period, on April 1, 2019. State-led O&M began on July 1, 2020.

OU5

Based on the investigation and removal activities performed prior to the ROD and documented in the 2013 Remedial Investigation Report, OU5 had already met the requirements of the ROD. The EPA reviewed the documentation of interior and exterior response actions and analytical data and determined actions at OU5 met the appropriate RALs. No design and construction activities were conducted.

Figure C-11 in Appendix C shows the LA and visible vermiculite present at the ground surface following the completion of investigation and removal activities. Figure C-12 and Figure C-13 in Appendix C show LA and visible vermiculite in subsurface soils from subsurface investigation and confirmation sampling at the floor of excavation. In the 2015 HHRA, exposures to outdoor workers and recreational users in OU5 were within the EPA's acceptable risk range for cancer (1×10^{-6} to 1×10^{-4}) and a noncancer Hazard Quotient (HQ) less than 1. An ESD was finalized on May 3, 2023, to memorialize ICs for this OU.

The EPA deleted OU5 from the NPL on August 16, 2024.

OU6

In 2016, during the Amtrak Depot renovation, contaminated building materials were removed and disposed of in the asbestos cell at the Lincoln County Landfill. Figure C-14 in Appendix C shows the response action zones and Figure C-15 shows the tested areas in the ROW. As reported in the 2015 HHRA, all results of the ABS activities resulted in no detection of LA asbestos. In 2016, a surface soil sampling effort was completed. The results were consistent with previous sampling results. In 2017, a test pit investigation was completed at the Stimson Spur to determine LA concentrations in surface and subsurface soils that may be disturbed by routine track installation activities. The track installation was finished in late 2017. In 2018, asbestos exposure monitoring was conducted. Fifty-nine personal air samples and 52 stationary air samples were collected during soil disturbing activities during a signal upgrade project. Except for a single sample, all results were non-detect (no LA detected). The LA detected in the one personal air sample was two orders of magnitude below the permissible exposure limit. On May 18, 2018, the EPA conducted the final inspection and walkthrough. BNSF, with EPA and Montana DEQ approval, finalized the Remedial Action Report on August 26, 2021, and PRP-led O&M for OU6 began on

October 1, 2021. An ESD to memorialize ICs for this OU was finalized on July 20, 2021. BNSF has submitted annual inspection reports to the EPA and Montana DEQ in September 2022, September 2023, and October 2024.

The EPA deleted OU6 from the NPL on August 17, 2022.

OU8

As discussed previously, response actions were performed for other (non-OU8) OUs that addressed contamination within the highway ROWs that are part of OU8. Those actions have been discussed in the remedial action reports for the OU in which the action was performed (the OU1, OU2 and OU4/OU7 remedial action reports). Figure C-17 and Figure C-18 in Appendix C show the sample results in surface and subsurface soil for OU8. In the 2015 HHRA, exposures from driving on roads in Libby and Troy, soil disturbance activities along the ROW, and recreation usage all resulted in estimated cancer risk within the EPA's acceptable risk range and a noncancer HQ less than 1. An ESD to memorialize ICs for this OU was finalized on August 27, 2020.

The EPA deleted OU8 from the NPL on September 14, 2021.

Institutional Controls Review

Institutional controls are required for OUs 1, 2, 4, 5, 6, 7 and 8, as indicated in their respective RODs and ESDs.

A 2023 sitewide ICIAP identifies and documents activities that are designed to implement, maintain and enforce institutional controls sitewide and the organizations responsible for conducting these activities. The ICIAP helps ensure that institutional controls are managed properly to protect the remedies in place and continue to operate as intended to prevent exposure to LA. All OUs, except for OU3, are in the O&M phase. Oversight of the institutional controls is the responsibility of Montana DEQ.

Overall institutional control objectives are:

- Soil – prevent LA fibers that may remain in soil in OUs 4 and 7 after meeting remedial criteria for the land use category from becoming a future source of unacceptable risks.
- Building Materials – prevent LA fibers that remain inaccessible building materials from becoming a future source of unacceptable exposure.
- 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.

Institutional controls in place at the Site include:

- Proprietary controls (OU2, OU5, OU6)
- Governmental controls (all OUs)
 - Property Evaluation Notification (PEN) regulation
- Informational devices
 - Publicly available O&M Plan
 - Riverfront Park excavation application
 - Montana Department of Transportation encroachment permit application
 - Deed notices (OU4 and OU7)
 - Notices of Environmental Conditions for properties that refused the EPA's cleanup action needed for said property.
 - Notices of Potential Environmental Conditions for properties that refused the EPA's inspection and/or sampling for said property.
 - Montana 811 utility locate service
 - Montana 811 is a Montana utility locate service. Montana state law (Montana Code Annotated Section 69-4-503) requires that all parties planning to excavate, drill or

- perform other subsurface activities notify the designated Montana 811 (one-call) notification center prior to starting these activities.
- Lincoln County Asbestos Resource Program (ARP). ARP includes:
 - Best management practice 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
 - Lincoln County departmental procedures – with review and LA information provided by ARP and Board of Health (BOH)

ARP was developed as a program to educate the public regarding the remaining risks of LA exposure, provide resources to manage the risks associated with LA exposure, and implement initiatives to reduce or prevent the risk of LA exposure. The ARP is notified by the Montana 811 call center for all activities planned within the site boundaries. The ARP has access to all property sampling information and cleanup history. Assistance in managing contamination may include providing resource materials and best management practices, making contractor referrals, and/or removing LA (or sources of LA) contamination. Resource material is provided via the ARP office and via a hotline. Homeowners and residents can call the hotline prior to remodeling their homes or if vermiculite is encountered on their property. The ARP can provide information on contamination present at the property, risk reduction and information on renovation and demolition requirements. The ARP is available for any persons interested in information regarding LA and/or resources available to minimize risks associated with LA in Lincoln County.

Systems Operations/Operation and Maintenance

In May 2023, Montana DEQ finalized a Sitewide O&M Plan that presents the administrative, financial and technical aspects and requirements for inspecting, operating and maintaining the remedial actions for OU1, OU2, OU4, OU5, OU7 and OU8. Montana DEQ is responsible for developing and implementing cooperative agreements with local agencies and stakeholders, managing the reimbursement program for O&M-related activities, and administering contracts (e.g., laboratory services), as necessary, to implement institutional controls and protect the physical remedy. Montana DEQ is also responsible for managing past and future information regarding property response activities and the presence of known remaining LA and LA source materials.

Prior to the 2023 Sitewide O&M Plan, individual OUs transitioned to the O&M phase after remedial action report finalization, a one-year operation and functional period, and transfer of O&M responsibilities to Montana DEQ. Montana DEQ's annual inspections of OU1, OU2, OU5 and OU8 began in June 2020. Annual inspections for OU4/OU7 began in June 2021.

The stated objectives of the annual inspections are:

- Observe and maintain the integrity of the engineered controls and physical remedies (e.g., protective covers or backfilled areas, encapsulated/sealed building materials, riprap) to maintain the protection of human health and the environment.
- Evaluate the implementation of institutional controls to ensure protectiveness, as described in Section 4.
- Provide timely reporting of observed conditions to facilitate prompt review and corrective measures, if any.

Monitoring protocol includes nonintrusive visual site inspections with limited sample collection to ensure integrity of the physical remedies and engineered controls. Results of Montana DEQ's annual inspections are described in the Data Review Section of this FYR Report.

BNSF is responsible for O&M activities on OU6. EPA approved BNSF's O&M plan for OU6 on July 7, 2021. Annual inspections began September 2022. Results are described in the Data Review Section of this Report.

III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determinations and statements from the last FYR Report as well as the recommendations from the last FYR Report and the status of those recommendations.

Table 3: Protectiveness Determinations/Statements from the 2020 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
1	Protective	The remedy at OU1 is protective of human health and the environment.
2	Protective	The remedy at OU2 is protective of human health and the environment.
4	Protective	The remedy at OU4 is protective of human health and the environment.
5	Short-term Protective	The remedy at OU5 currently protects human health and the environment because remedial actions have been completed, LA-contaminated soil and building materials were remediated to meet site-specific RALs and remedial clearance criteria, and some institutional controls have been implemented to protect the remedy. However, for the remedy to be protective in the long-term, the remaining institutional control, an environmental covenant, should be finalized.
6	Protective	The remedy at OU6 is protective of human health and the environment.
7	Protective	The remedy at OU7 is protective of human health and the environment.
8	Protective	The remedy at OU8 is protective of human health and the environment.

Table 4: Status of Recommendations from the 2020 FYR Report

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
5	An environmental covenant has not yet been filed for OU5.	Finalize and implement the remaining institutional control at OU5.	Completed	Montana DEQ finalized an environmental covenant pursuant to Montana Code Annotated 75-10-727 on July 5, 2022.	7/5/2022

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available by a newspaper posting in three newspapers: *The Western News* (8/13/2024), *The Montanian* (8/14/2024) and *Kootenai Valley Record* (8/14/2024); Appendix D). The notice stated that the FYR was underway and invited the public to submit any comments to the EPA. The results of the review and the report will be made available at the Site’s information repositories – the Lincoln County libraries in Libby and Troy. The Libby Branch is located at 220 West Sixth Street in Libby. The Troy Branch is located at 3rd Street and Kalispell Avenue in Troy.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy implemented to date. The interviews and community responses are included in Appendix E and summarized below.

Lincoln County Port Authority: The chair of the Lincoln County Port Authority Board shared that his overall impression of the cleanup is good, noting that the Montana DEQ has addressed a few issues. He is concerned that people who recently moved to the area may not be familiar with the Site and would benefit from targeted outreach. He also reported some vandalism at commercial buildings on the property and shared that there were some issues with the fencing company in 2023. He is satisfied with ARP's work at the Site and believes the impacted community can easily access information about site activities and institutional controls by calling ARP's local contact.

Chuck Ekstedt, City of Troy: Former Mayor Ekstedt believes the remedy is effective but is concerned about the quality of the cleanup and the lack of cooperation from property owners. He shared that community members noticed that the replacement soil brought in during cleanup is not as high quality as the topsoil that was removed, so people are hesitant to agree to have their properties remediated. He also indicated that property owners may not be informed of asbestos in their homes, noting that realtors may not disclose the information. He thinks information about site activities and progress is easy to find in papers and online. He indicated a need for more information on exposure pathways, specifically the distance that contaminated particles may travel and the potential impact on fishing.

Nate Gassmann, U.S. Forest Service: Mr. Gassmann is a district ranger at Canoe Gulch Ranger Station in Libby, Montana. He believes the cleanup has been effective and noted no issues or concerns for the EPA.

Kathi Hooper, Lincoln County Health Department and Board of Health: Ms. Hooper serves as the director of the Lincoln County Health Department. Her overall impression of the cleanup is positive, and she specifically highlighted work with ARP as a benefit to the community. She reported a complaint from the community about the quality of the replacement topsoil at cleanup areas. She shared concerns about the protectiveness of the remedy in cases of construction work where contractors are not incentivized to implement institutional controls in place for digging, as well as property owners who do not understand the risk and prefer to avoid delays from cleanup. She recommended providing trainings for contractors on institutional controls, to landfill gatekeepers on identifying vermiculite, and to realtors on disclosing asbestos to buyers. Ms. Hooper also shared concerns about mitigating exposure risks for firefighters that respond to fires at contaminated properties. She thinks information about site activities and progress is easy to find.

George Jamison, Libby Asbestos Superfund Oversight Committee: The Libby Asbestos Superfund Oversight Committee advises the Montana DEQ on the administration of the Libby asbestos cleanup trust fund and recommends tasks for the Superfund liaison. Mr. Jamison indicated that the cleanup has improved over time, noting that cleanup progress has improved trust among property owners who were previously reluctant to participate in the remedy. He shared that the excellent working relationship between LASOC, Montana DEQ and ARP is noticed in the community. As the work continues to improve, he believes property owners will be more likely to cooperate. Mr. Jamison shared concerns about meaningful public participation in the selection of a remedy for OU3, recommending that the EPA elicit feedback earlier in the process rather than waiting until the public comment period. He also suggested that the EPA provide the community with more advanced notice of meetings and use targeted outreach approaches to engage the public. Mr. Jamison indicated a need for more information about action levels and health impacts and asked whether action levels in the selected remedy were still appropriate or if the levels could be subject to change with additional investigations.

City of Libby: The City of Libby representative is satisfied with the effectiveness of the remedy but shared concerns about the maintenance. They shared concerns that contractors did not completely remove contaminated material from some commercial and residential properties and are worried that these areas will raise issues in the future. They also worry that the institutional controls in place to maintain the protectiveness of the remedy are not incentivized and, therefore, not properly implemented by contractors or other people that need to dispose of

contaminated material. They noted that many people are new to the area and are not adequately informed or concerned about the Superfund site and potential impacts.

Brent Teske, Lincoln County Commissioners: Mr. Teske is the commissioner for District 1 on the Lincoln County Board of County Commissioners and the former mayor of Libby, Montana. His overall impression of the cleanup is positive, sharing his perception that the air quality has improved and asbestos-related diseases have decreased. He shared complaints about the cleanup concerning the quality of the topsoil and challenges revegetating remediated properties. Mr. Teske also spoke to a situation where construction workers discovered vermiculite when excavating a sewer line. He noted that attendance at community events is generally low and believes that the EPA's announcements and site-related information is easily available and that the ARP community engagement work is effective.

Lincoln County ARP and Montana DEQ: Representatives from the Lincoln County ARP and the Montana DEQ spoke to the EPA about the remedy. The ARP and DEQ report working well together and described a "streamlined" approach to addressing community concerns and site activities. Their overall impression of the cleanup is good, though they shared concerns that property owners are still distrusting of the EPA and may not understand or are not concerned with the risks associated with asbestos exposure. They cited Notice of Environmental Condition/Notice of Potential Environmental Condition notices as effective outreach methods for contractors and residents. The ARP and Montana DEQ staff indicated that remedy maintenance is a challenge and that they exceeded their estimated workload for abatement and sampling. The ARP shared a concern about the sustainability of this increased workload. The staff identified developments, repairs and remodels as the largest challenges to maintaining the remedies at OU4 and OU7. They identified a gap in information sharing with new property owners, stating that community members are exposed to asbestos during interior remodeling projects and many of these exposures are not reported.

The ARP and DEQ staff recommended that database improvements in Response Manager (specifically tracking ownership changes, updating vacant properties as they are developed and updating address changes) would support the O&M program. They shared several questions about the conditions for issuing status letters and notices. Regarding information sharing at the Site, the agencies indicated that the information is available but that community members are indifferent and likely not seeking out site updates. Many community members believe the cleanup is complete. The ARP shared that targeted outreach to realtors, contractors, hardware/home improvement and lumber stores has been effective. The staff shared the impression that the public is moderately informed, and recommended targeting people who recently moved to the area and considering hard-copy mailers for outreach.

Lauren Knickrehm, BNSF: Ms. Knickrehm is the senior manager for environmental remediation at BNSF. She believes the O&M at OU6 has been effective and noted no issues or concerns for the EPA.

D.C. Orr, Resident: Mr. Orr is a longtime resident of Libby. He believes the cleanup was not conducted well and caused more exposure than it cleaned up. He believes the operations and maintenance program is no longer needed based on the low levels of exposure in the community now. He would like to see the EPA finish the project and leave town. He feels that community meetings are the best forum for sharing information with the public.

Brad Black, M.D.: Dr. Black is the former medical director of the Center for Asbestos Related Disease in Libby. He urges the EPA not to delist OUs 4 and 7 due to the ongoing impacts to the community and suggests that the EPA cannot determine if the remedy is protective due to new health findings in the City of Libby. He also urges the agency to extend the Public Health Emergency that supports the CARD clinic and ensures health coverage for those with asbestos-related diseases.

Bill Johnston, Resident: Mr. Johnston lived in Libby from birth (1957) to 1975. He urges the EPA to consider new information about the remedy protectiveness for OUs 4 and 7 and provide more time to consider additional

findings. He also urges the EPA to continue the Public Health Emergency status so asbestos victims can receive care.

Karen Lee Morrisette, M.D., M.P.H.: Dr. Morrisette is the current medical director of the Center for Asbestos Related Disease in Libby. She urges the EPA not to delist OUs 4 and 7 due to the ongoing impacts to the community and suggests that the EPA cannot determine if the remedy is protective due to new health findings in the City of Libby. She also urges the agency to extend the Public Health Emergency that supports the CARD clinic and ensures health coverage for those with asbestos-related diseases.

Jean C. Pfau, Ph.D.: Dr. Pfau is faculty at the Montana State University in the Washington-Idaho-Montana-Utah (WIMU) Regional Program in Veterinary Medicine. She urges the EPA not to delist OUs 4 and 7 due to the ongoing impacts to the community and the suggests that the EPA cannot determine if the remedy is protective due to new health findings in the City of Libby. She also urges the agency to extend the Public Health Emergency that supports the CARD clinic and ensures health coverage for those with asbestos-related diseases.

Jaime Szeinuk, M.D.: Dr. Szeinuk is a New-York-based, Northwell Health physician who specializes in Occupational Medicine. He urges EPA not to delist OUs 4 and 7 due to the ongoing impacts to the community and suggests that the EPA cannot determine if the remedy is protective due to new health findings in the City of Libby. He also urges the agency to extend the Public Health Emergency that supports the CARD clinic and ensures health coverage for those with asbestos-related diseases.

Gene Reckin: Mr. Reckin has lived in Libby for 46 years and retired in 2015 from teaching science in Libby Public Schools for 35 years. He is also a member of the Board of Directors of the Center for Asbestos Disease. He urges the EPA to maintain the current status of OUs 4 and 7 and also to continue the Public Health Emergency.

Data Review

The EPA has collected soil and contaminated building material data to support the pre-ROD removal actions and remedy implementation at OUs 4, 5, 6, 7 and 8 during this FYR period. These data are discussed in the Response Action and Status of Implementation sections of this FYR Report. No other data have been collected at the Site during this FYR period.

Annual Site Inspections and Institutional Controls Review

OUI, OU2, OU4, OU5, OU7, OU8

Montana DEQ is responsible for annual visual inspections, verifying that institutional controls are in place and provide protection as intended and for reporting the findings from the inspections. The applicable OUs for the annual inspection are OUs 1, 2, 4, 5, 7 and 8. This annual inspection consists of record reviews and non-intrusive visual site inspections. The most recent annual report available for this FYR was provided to the EPA in February 2025 and reported findings from the 2024 site inspections.

OU-specific results are summarized below. Overall findings of the 2024 annual inspection include:

- Minor areas of erosion or potential erosion were observed that may impact the integrity of the physical remedy and engineered control.
- No major issues were identified for maintaining the integrity of the physical remedies and engineered controls, and they seem to adequately minimize the potential for human exposure.
 - Minor issues were identified, and maintenance is recommended to ensure the remedy remains protective.
- Montana DEQ's evaluation of each of the institutional control instruments identified no major administrative or performance issues.

OU1

The annual inspection in OU1 included visual observations of any damage to the soil cap, the density of vegetation in the different areas, the integrity of the streambank along the Kootenai River and changes to site conditions. Overall, no issues were identified. The paved areas, riprap embankment and streambank were in good condition and no areas of notable erosion were observed. There were small patches of exposed soil along the most western boat ramp from people walking on the grass to access the boat ramp. These areas will continue to be monitored to assess and determine whether a response is warranted.

OU2

The annual inspection in OU2 included visual observations of the remedy effectiveness at the following subareas: the Former Screening Plant (Subarea 1), the Flyway (Subarea 2), Grace-owned property (Subarea 3), and the Rainy Creek Road frontages (Subarea 4). No issues were noted for these areas. The rip-rapped banks along the Kootenai River in Subarea 1 were intact, and there were no signs of bank erosion.

OU4/OU7

The annual inspection in OUs 4 and 7 included visual assessments of the integrity of engineered controls and physical remedies on private properties, record reviews, and interviews with property owners to ensure remedy effectiveness. Montana DEQ randomly selected 15 properties (13 Libby properties and 2 Troy properties) where an exterior removal had been performed by the EPA. Due to private property concerns, inspections of residential or commercial properties with interior removals were not considered. All observations were made from the road. Letters were sent to each address, prior to the visual inspections, informing the property owner that a visual inspection would be conducted from the public ROW and providing contact information if they had any questions. During the visual assessment, Montana DEQ noted it was difficult to adequately assess the integrity of the remedy from the street. Not all the randomly selected properties were observed due to visual barriers (e.g., fences) or because remediated areas could not be viewed from the street. As a result, some tasks were modified that are normally completed during the annual inspection to assess the integrity of the physical remedy and the effectiveness of the institutional controls. In future annual inspections, Montana DEQ intends to include observation of active construction projects to assess institutional control effectiveness.

In addition to the visual inspections, ARP conducted interviews for the properties to verify that the property owners are familiar with the Site, to ensure any remedy completed on the properties remains protective, and to ensure the owners are familiar with LA resources available. Of the 15 properties, owners had changed, did not have contact information available or did not respond to messages. Due to the low response rate, ARP contacted two more property owners. All four of the property owners who were interviewed were aware of the resources available and did not have any comments or issues with the remedy. Going forward, Montana DEQ intends to pursue other tools to evaluate property owners' understanding of the Site and property owners' responsibilities in ensuring that the remedy remains protective.

The annual inspections also included property file reviews for an additional 10 properties that were selected randomly. The purpose of the property reviews was to assess accuracy of the available property information and data records. In addition, the purpose is to verify whether activities on the property since O&M began are properly documented. No significant issues were identified. Additionally, 20 withdrawal notices were put in property files, which reduces the total number of refusals from 220 to 200, an approximately 10% decrease. (Note: This means that these 20 properties are either sampled or cleaned up to EPA's action levels.)

OU5

The annual inspection for OU5 included visual observations made throughout the OU to observe the integrity of the remedy at the fishing pond and the soil/gravel cap on the adjacent bark pile to verify the integrity of other areas where the EPA performed previous remedial actions. The property has changed, including development and new building construction as well as abatement and demolition of some existing buildings. These activities had been coordinated with ARP. (Note: Since the time of the inspection, ARP reported a building demolition that had not been coordinated with ARP, and ARP arrived after the time of demolition. The EPA sent a letter to the developer reminding them to ensure they coordinate with ARP for all construction activities occurring on OU5.)

Soil covers appear intact, and no erosion was identified during the inspection. Montana DEQ recommended monitoring and maintaining the covers and barriers, particularly the bark piles near the racetrack and fishing pond, to prevent exposure.

OU6

BNSF is responsible for annual inspections for OU6 to confirm that gravel backfill for ballast and ICs are in place and providing protection as intended. This FYR included review of annual inspection reports for 2022, 2023, and 2024. The annual inspections did not find any issues requiring maintenance or repairs and determined the ICs appear to be functioning as intended.

OU8

Visual observations were made to note any damage to the remedies for the Montana Highway 37 ROW adjacent to OU2, and other ROW areas along Montana Highway 37, U.S. Highway 2 and Kootenai River Road.

Because of the expanse of ROW contained in OU4 and OU7, not all areas of the ROW where remedial actions occurred were visited. Overall, no exposures to residual contamination were identified. However, on the south side of Highway 37 in the ROW adjacent to Subarea 2, there was extensive rilling. Montana DEQ recommended revegetating and maintaining the ROW slopes adjacent to OU2 to prevent exposure and further erosion that could impact the OU.

FYR Site Inspection

The FYR site inspection took place on 10/23/2024 and 10/24/2024. Participants included the EPA's Remedial Project Manager Dania Zinner, Ryan Burdge from the EPA's contractor Skeo, representatives from ARP (OU1, OU4/OU7 and OU5), KDC/W.R. Grace representative (OU2), property owner and developer representatives (OU5), and BNSF representatives (OU6). The purpose of the inspection was to assess the protectiveness of the remedy. For each OU, an inspection checklist and photos are included in Appendix F and Appendix G.

At OU1, site inspection participants observed the remediated areas, which include the Riverfront Park property, David Thompson Search and Rescue, and embankments along roadways. Participants observed the protective covers present on OU1 properties; the covers were in good condition and well vegetated. ARP is aware of and engaged in planned underground utility work in 2025.

At OU2, site inspection participants observed the associated subareas where covers were employed. In the past five years, W.R. Grace has purchased the formerly-privately-owned properties of OU2. All subareas appeared to be in good condition, with covers intact and well-maintained fencing.

ARP representatives led a tour of active construction and abatement projects in OU4, OU5 and OU7. ARP reported the projects are being handled appropriately through the institutional controls in place and that local contractors are well aware of the ARP program. ARP is not aware of any issues with property changes causing exposure to LA.

At OU5, site inspection participants observed the Former Stimson Lumber property, which is mostly owned by the Lincoln County Port Authority. OU5 includes various vacant structures and buildings as well as several businesses. At the southern end near the fishing pond, a new parking lot and bathroom have been constructed.

Site inspection participants observed select areas of the BNSF railroad (OU6) from Libby to Troy. They did not observe any issues. Site inspection participants traveled along portions of OU8 (roadways/highways) for site inspection and did not observe any issues.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

The remedies at OUs 1, 2, 4, 5, 6, 7 and 8 are functioning as intended by their respective decision documents. Status of properties are maintained by DEQ and ARP. Where access was granted or for soils and buildings requiring remediation, LA-contaminated soil and building materials were remediated to meet site-specific RALs and remedial clearance criteria. The site-specific RALs and remedial clearance criteria were based on the type of contaminated media (building materials versus soil), land-use categories, depth of contaminated soil or accessibility of contaminated building material, use frequency of contaminated soil, and the identification of boundary conditions. A sitewide HHRA in 2015 indicated that previous removal actions and the RALs and clearance criteria are protective. The remedial actions have been completed at OU1, OU2 and OU4 through OU8.

Institutional controls in the form of Montana 811 and the ARP have been implemented and apply to all OUs. The EPA recently sent a letter to encourage a developer in OU5 to coordinate with ARP more closely. Encroachment permits are also in place in OU8. Additional institutional controls are in place for OU4 and OU7, including the Property Evaluation Notification regulation and the notices of environmental conditions. An environmental covenant was filed for OU5 in July 2022.

OU1, OU2, OU4/OU7, OU5 and OU8 have transitioned into the O&M phase and a sitewide O&M Plan was finalized in 2023. Annual inspections are managed by Montana DEQ to assess property conditions and the effectiveness of institutional controls. These inspections and interviews with local stakeholders indicate the institutional controls are effective at minimizing potential exposure to LA materials. Multiple layers of institutional controls are in place to track response actions, to limit potential exposure of LA material and to inform the public of the resources available to respond to potential LA material. Montana DEQ and the EPA will continue to identify opportunities to optimize the annual inspections to maximize the scope of assessed properties and engaged property owners. BNSF is the lead on OU6 and is therefore responsible for O&M. EPA approved an O&M plan in July 2021. OU6 annual inspections conducted by BNSF did not reveal any issues with backfilled areas or ICs.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection still valid?

Question B Summary:

The exposure assumptions, cleanup levels and RAOs used at the time of the remedy selection are still valid. The EPA conducted an HHRA for the Site in 2015. The exposure assumptions have not changed and remain as inhalation and ingestion exposure routes under the current and expected future land use scenarios (non-OU3 areas): residential/commercial, industrial, transportation corridors and parks/schools. The RALs and clearance criteria are site-specific and based on land use (soil) and accessibility (building materials). The RAOs minimize exposure to LA-contaminated soil and building materials such that the resulting potential exposure results in cumulative cancer risks that are within or below the EPA's acceptable risk range of 1×10^{-6} to 1×10^{-4} and cumulative noncancer Hazard Indices (HIs) that are at or below 1. The site-specific RALs and clearance criteria selected in the RODs attain the RAOs for the current and future anticipated land uses for non-OU3 areas of the Site.

Several comments were received by the EPA that question the protectiveness of the existing remedy (Appendix E). These comments have been received from five persons with various associations with the Center for Asbestos-Related Diseases clinic in Libby, Montana. Three of the respondents are physicians who are current or former physicians at the CARD clinic, another is a current researcher from Montana State University, and the fifth commenter is currently on the Board of Directors for the CARD clinic.

These individuals expressed similar concerns about two major topics: 1) concern that the Libby amphibole asbestos toxicity value based on pleural plaques may not be the most sensitive clinical marker of toxicity based on new clinical evidence in the residential cohort, and 2) the EPA must establish a combined registry/database to collect and manage all of the clinical data that are currently being generated by clinics and researchers evaluating the exposed population in Libby and other locations. These commenters expressed concern that in addition to pleural disease, autoimmune diseases, coronary artery disease, pulmonary hypertension, and the effects of asbestos fibers entering the brain have been noted in the residential cohort. One commenter expressed concern about impacts to the CARD clinic, the potential impacts of rescinding of the Public Health Emergency and possible ensuing implications for patient care, and the potential discontinuation of clinical studies and information dissemination of findings at the Site. Additionally, one of the physicians noted that they had not seen any decrease in disease rate in Libby following remedy completion.

While these are all legitimate concerns and have merit for consideration, decades of research would need to be conducted to satisfactorily address some of these concerns. Based on the best available data and the current Libby amphibole asbestos toxicity factor, the current remedy for the Libby Asbestos Site is protective. The EPA plans to consult with the Agency for Toxic Substances and Disease Registry (ATSDR) and the Centers for Disease Control and Prevention on the concerns listed above.

While general exposure scenarios remain valid, land use changes do occur that require additional sampling and/or cleanup actions. These activities involve ARP, which works closely with community members and local contractors to ensure appropriate protective measures are implemented to allow such activities to occur safely. At OU5, Montana DEQ has noted that due to increased recreational use at the southern end of the property, more sampling and characterization of piles near the fishing pond, racetrack and parking areas may be warranted.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified by the FYR:
OU1, OU2, OU4, OU5, OU6, OU7, OU8

OTHER FINDINGS

Several additional recommendations were identified during the FYR. These recommendations do not affect current and/or future protectiveness.

- Montana DEQ has identified some challenges in annual visual inspections and will be updating protocols to maximize assessment of remedy and institutional control effectiveness.
- ARP has identified opportunities for improved outreach and communications as well as discrete situations where more attention may be needed to ensure no disturbance of LA materials (e.g., septic work). The EPA and Montana DEQ will consider if any more efforts are warranted.

- At OU5, Montana DEQ has noted that due to increased recreational use at the southern end of the property, more sampling and characterization of piles near the fishing pond, racetrack and parking areas could potentially be warranted in the future.
- Consult with the ATSDR and the Centers for Disease Control and Prevention on the concerns regarding LA toxicity value and the request for a registry of clinical data.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU1	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU1 is protective of human health and the environment.	

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU2	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU2 is protective of human health and the environment.	

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU4	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU4 is protective of human health and the environment.	

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU5	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU5 is protective of human health and the environment.	

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU6	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU6 is protective of human health and the environment.	

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU7	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU7 is protective of human health and the environment.	

Protectiveness Statement(s)

Operable Unit: OU8

Protectiveness Determination:
Protective

Protectiveness Statement: The remedy at OU8 is protective of human health and the environment.

VIII. NEXT REVIEW

The next FYR Report for the Libby Asbestos Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

- Annual Operations and Maintenance Report, Libby Asbestos Superfund Site, Operable Unit 6. Libby, Montana. Kennedy Jenks, prepared for BNSF Railway Company. September 2022.
- Annual Operations and Maintenance Report, Libby Asbestos Superfund Site, Operable Unit 6. Libby, Montana. Kennedy Jenks, prepared for BNSF Railway Company. September 2023.
- Annual Sitewide O&M Inspection Report, Libby Asbestos Superfund Site, Operable Units 1, 2, 4, 5, 7 and 8. Libby, Montana. Montana DEQ. February 2025.
- Annual Sitewide O&M Inspection Report, Libby Asbestos Superfund Site, Operable Units 1, 2, 4, 5, 7 and 8. Libby, Montana. Montana DEQ. February 2023.
- Annual Sitewide O&M Inspection Report, Libby Asbestos Superfund Site, Operable Units 1, 2, 4, 5, 7 and 8. Libby, Montana. Montana DEQ. February 2024.
- Annual Sitewide O&M Inspection Report, Libby Asbestos Superfund Site, Operable Units 1, 2, 4, 5, 7 and 8. Libby, Montana. Montana DEQ. February 2025.
- Explanation of Significant Differences for Libby Asbestos Superfund Site, Operable Units 4 and 7, Lincoln County, Montana. EPA. May 2022.
- Final Remedial Action Report, Libby Asbestos Superfund Site Former Export Plant Site, Operable Unit 1, Lincoln County, Montana. Prepared by USACE. July 8, 2013.
- Final Remedial Action Report, Libby Asbestos Superfund Site, Former Screening Plant and Surrounding Properties, Operable Unit 2, Lincoln County, Montana. Prepared by USACE. April 20, 2012.
- Final Remedial Action Report, OU5 Former Stimson Lumber Mill, Libby Asbestos Superfund Site, Lincoln County, Montana. Prepared by USACE. September 2016.
- Final Remedial Action Report, OU8 Highways and Roadways, Libby Asbestos Superfund Site, Lincoln County, Montana. Prepared by CDM. September 2017.
- Record of Decision for Libby Asbestos Superfund Site, Former Export Plant, Operable Unit 1, Lincoln County, Montana. EPA. May 2010.
- Record of Decision for Libby Asbestos Superfund Site, Libby and Troy Residential and Commercial Properties, Parks and Schools, Transportation Corridors, and Industrial Park, OUs 4 through 8, Lincoln County, Montana. EPA Region 8. February 2016.
- Record of Decision for Libby Asbestos Superfund Site, Operable Unit 2 - Former Screening Plant and Surrounding Properties, Lincoln County, Montana. EPA. May 2010.
- Sitewide Institutional Control Implementation and Assurance Plan, Operable Units 1, 2, 4, 5, 7 and 8. Libby Asbestos Superfund Site. Montana DEQ. May 2023.
- Sitewide Operations and Maintenance Plan, Operable Units 1, 2, 4, 5, 7 and 8. Libby Asbestos Superfund Site. Montana DEQ. May 2023.

APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

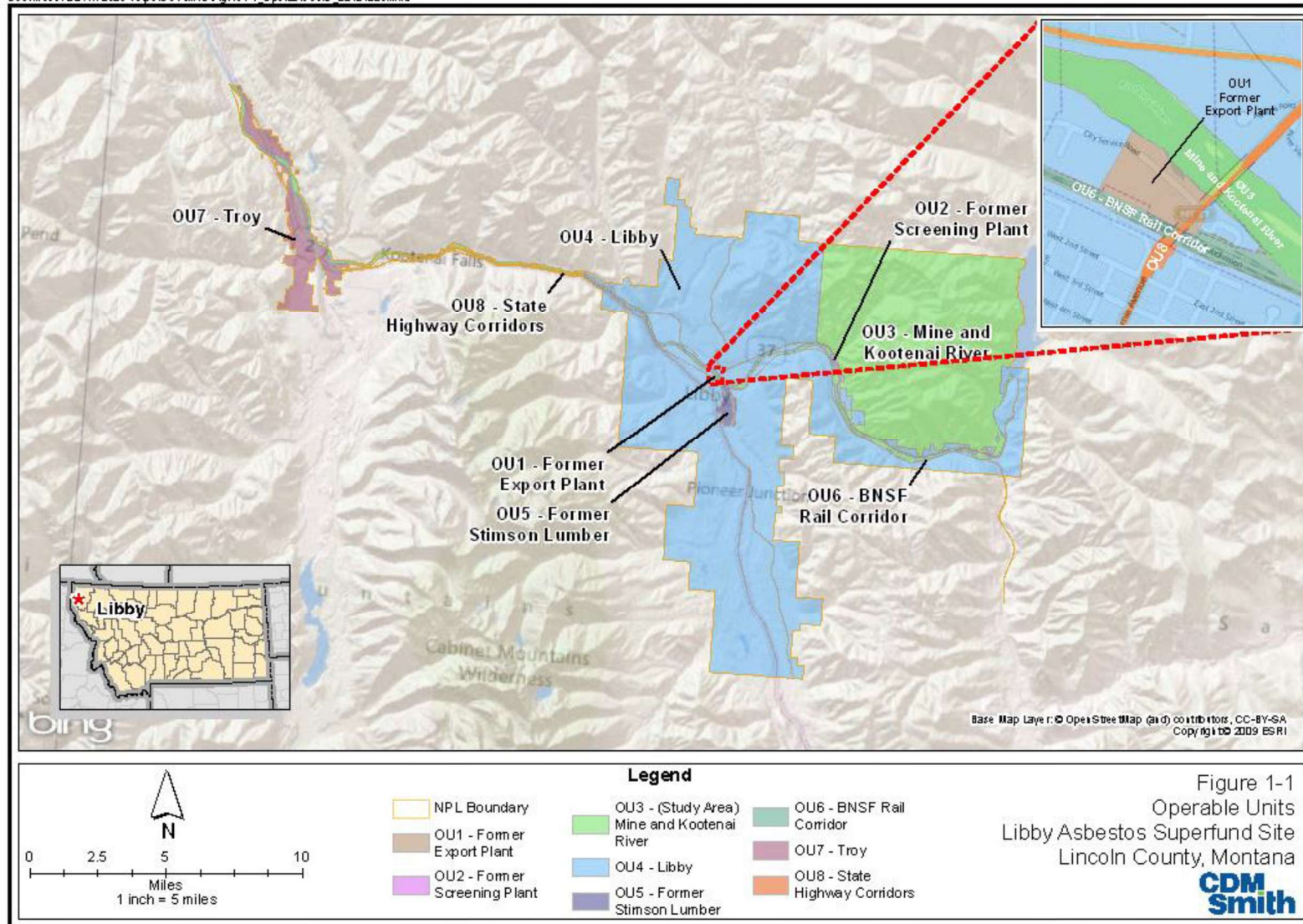
Event	Date
Hard rock mining began in Libby area	1880s
Prospector located vermiculite deposits	1900s
The Zonolite Company began vermiculite mining on Rainy Creek claims	1919
W.R. Grace bought the Zonolite Company, including the mine and associated facilities, and operated on-site until 1990	1963-1990
The Former Export Plant (OU1) was used for exfoliating, stockpiling and distributing vermiculite concentrate	
Concentrated ore produced by milling was transported to a screening plant (Former Screening Plant – OU2)	
OU2 was operated as a nursery	1993-2000
Ownership of OU1 was transferred to the city of Libby	Mid-1990s
The EPA opened an Information Center in Libby	1999
The EPA completed studies and investigations at OU2	1999-2008
The EPA completed studies and investigations at OU1	1999-2007
Removal of LA-contaminated media in OU5	1999-2013
Early OU1 and OU2 response actions were conducted	2000-2008
Removal of LA-contaminated media in OU4	2001-2019
W.R. Grace demolished Millwork West Company buildings on OU1	2001
The EPA built a special cell in the Lincoln County Class II Landfill for the disposal of asbestos waste	2002
The EPA added the Site to the NPL	October 2002
David Thompson Search and Rescue erected a building on the northwest portion of OU1	2004
The EPA conducted a response action and a supplemental response action at OU6	2004 and 2005
Removal of LA-contaminated media in OU6	2006-2018
Removal of LA-contaminated media in OU7	2008-2015
The EPA completed the OU1 Remedial Investigation/Feasibility Study Report	August 2009
The EPA completed the OU2 Remedial Investigation/Feasibility Study Report	August 2009
The EPA completed the OU1 ROD	May 10, 2010
The EPA completed the OU2 ROD	May 10, 2010
The EPA completed the OU2 remedial design	September 2010
The EPA completed the OU1 remedial design	August 2011
The EPA completed the OU2 Remedial Action Report	April 20, 2012
The EPA completed the OU5 Remedial Investigation Report	June 2013
The EPA completed the OU1 Remedial Action Report	July 8, 2013
The EPA issued the ICIAP for OU2	November 2013
The EPA issued the ICIAP for OU1 and updated the ICIAP for OU2	February 2014
The EPA completed the OU6 Remedial Investigation Report	April 30, 2014
The EPA completed the OU4 Remedial Investigation Report	June 25, 2014
The EPA issued the Feasibility Study Report for OUs 4 through 8	May 2015
The EPA signed first FYR Report for OU1 and OU2	June 22, 2015
The EPA updated the ICIAP for OU1 and OU2	August 2015

Event	Date
The EPA completed the OU1 HHRA	October 2015
The EPA completed the sitewide HHRA	November 2015
The EPA completed the OU4, OU5, OU6, OU7 and OU8 ROD	February 8, 2016
The EPA issued the ICIAP for OU5	August 2016
The EPA completed the OU5 Remedial Action Report	September 28, 2016
The EPA completed the OU8 Remedial Action Report	September 27, 2017
The EPA issued the ICIAP for OU8	September 2017
The EPA updated the ICIAP for OU2	January 2018
The EPA updated the ICIAP for OU2	March 2018
The EPA updated the ICIAP for OU1	July 2019
The EPA completed the OU4 and OU7 Draft Remedial Action Completion Report	November 2019
The EPA deleted OU2 from the NPL	April 10, 2019
The EPA deleted OU1 from the NPL	May 26, 2020
The EPA completed the OU4/OU7 Remedial Action Report	June 25, 2020
The EPA issued ESD for OU8	August 27, 2020
The EPA deleted OU8 from the NPL	September 14, 2021
The EPA issued ESD for OU6	July 20, 2021
The EPA issued ESD for OU4/OU7	May 3, 2022
The EPA deleted OU6 from the NPL	August 17, 2022
The EPA issued ESD for OU5	May 3, 2023
Montana DEQ finalized the sitewide O&M Plan with EPA approval	May 2023
The EPA deleted OU5 from the NPL	August 16, 2024

APPENDIX C – SITE MAPS

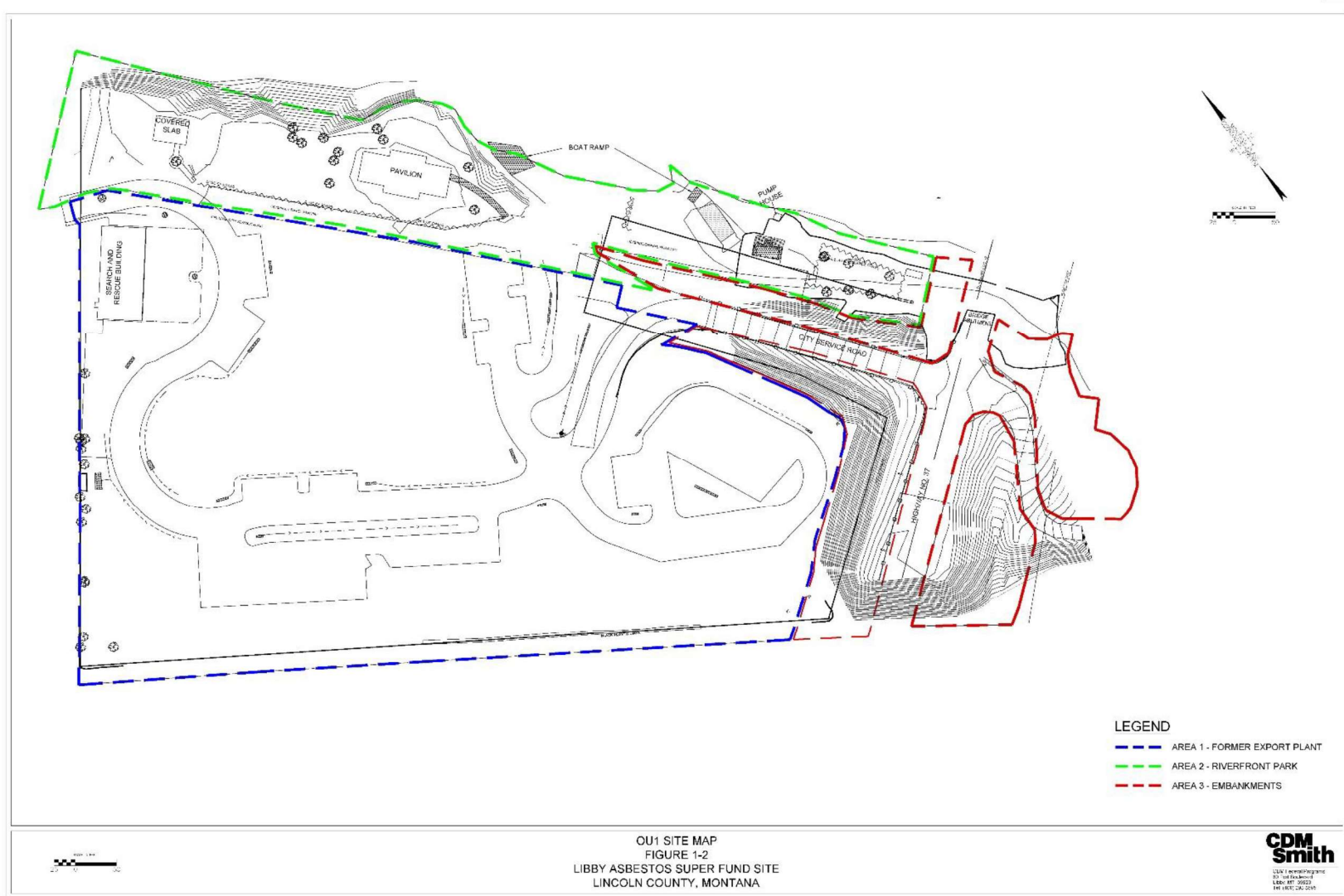
Figure C-1: OU1 Site Map¹

Document Path: R:\2603-A\ope\OU1\MXD\Figure 1-1 - Operable Units_20121003.mxd



¹ Source: OU-1 Remedial Action Report. 2013.

Figure C-2: OU1 Areas 1, 2 and 3²



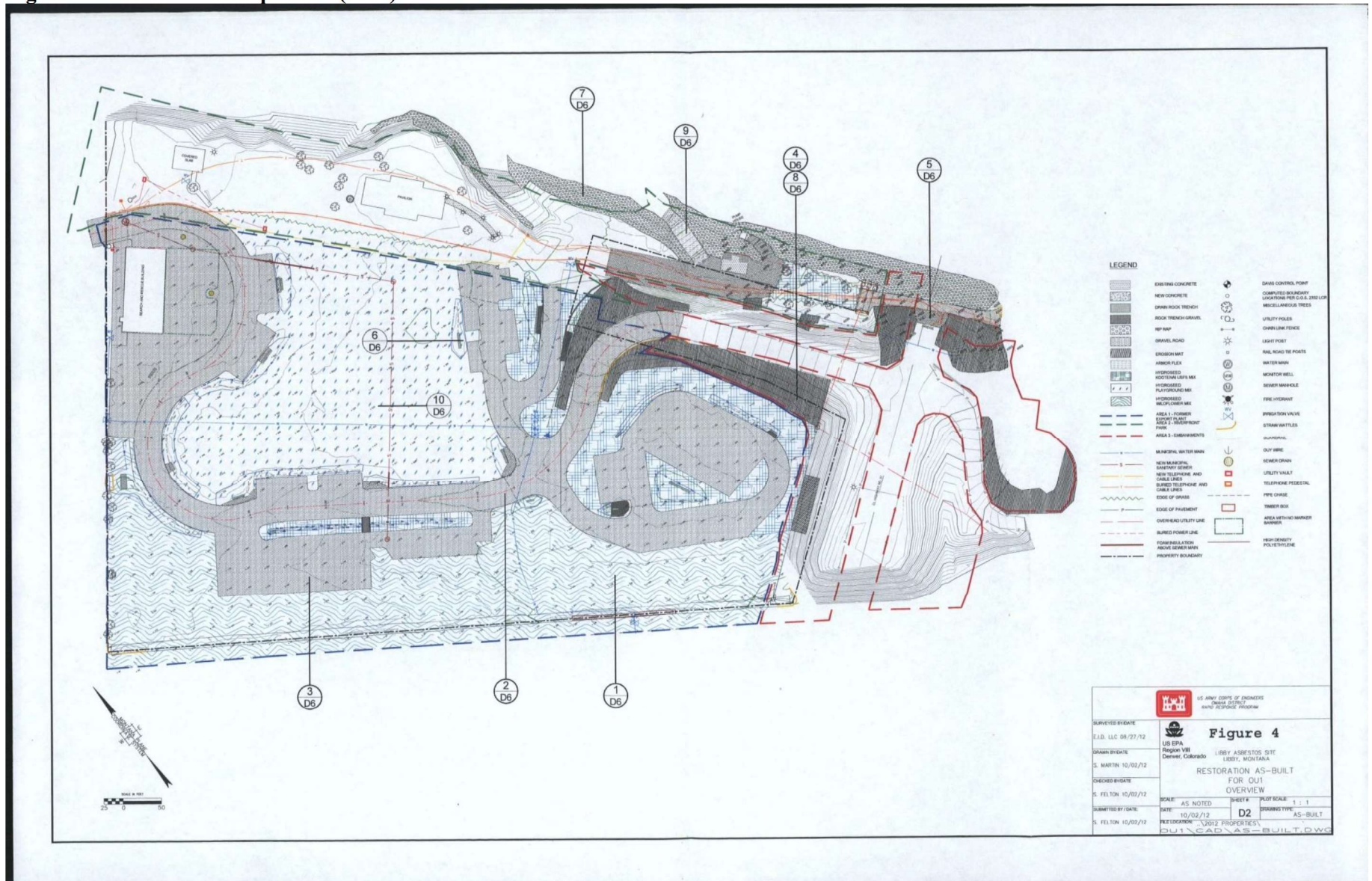
² Source: OU-1 Remedial Action Report. 2013.

Figure C-3: Locations of Residual Contamination (OU1)³



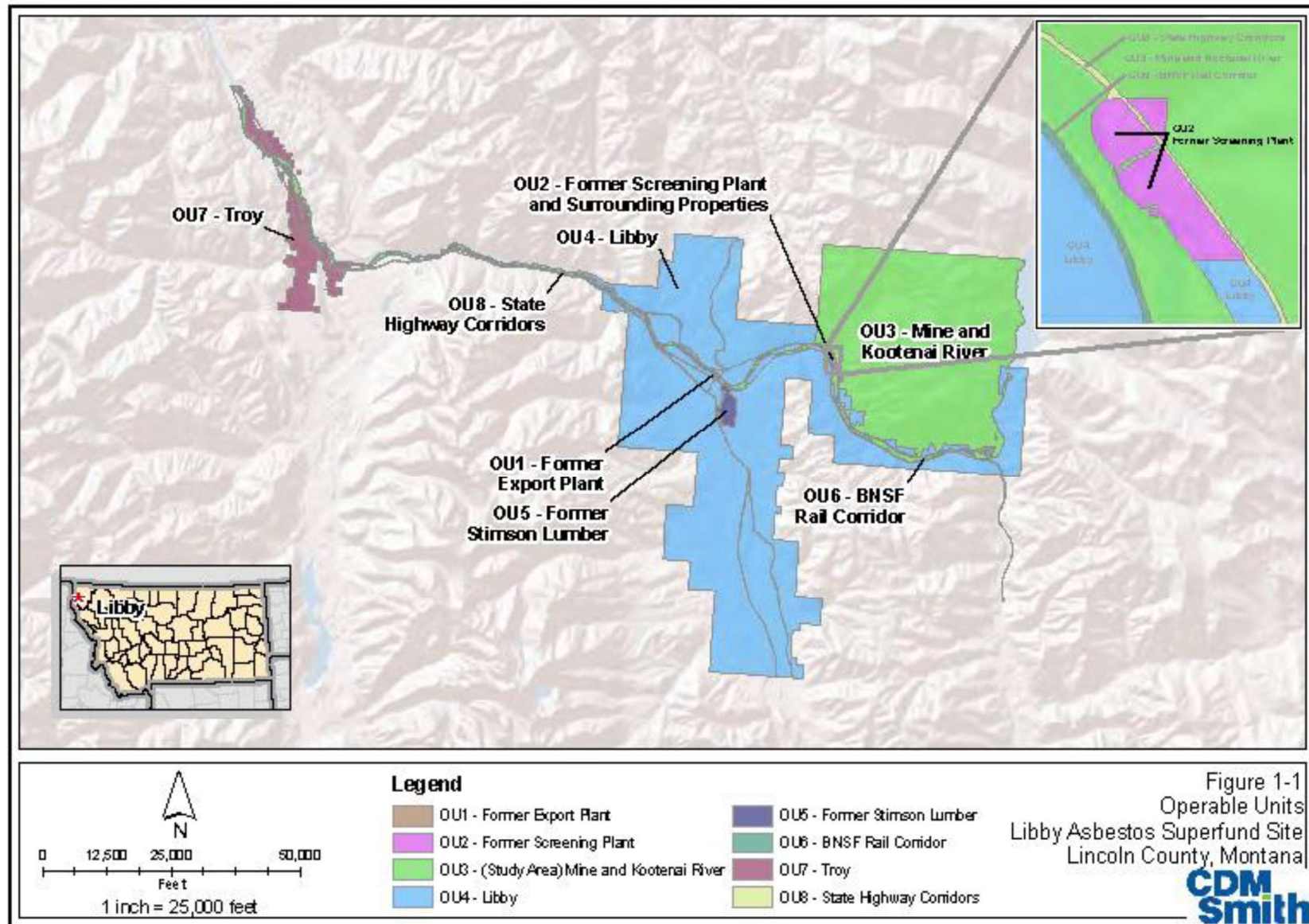
³ Source: OU-1 Remedial Action Report. 2013.

Figure C-4: Remedial Components (OU1)⁴



⁴ Source: 2015 FYR Report.

Figure C-5: Site Map (OU2)⁵



⁵ Source: OU-2 O&M Plan. 2015.

Figure C-6: Site Layout (OU2)⁶



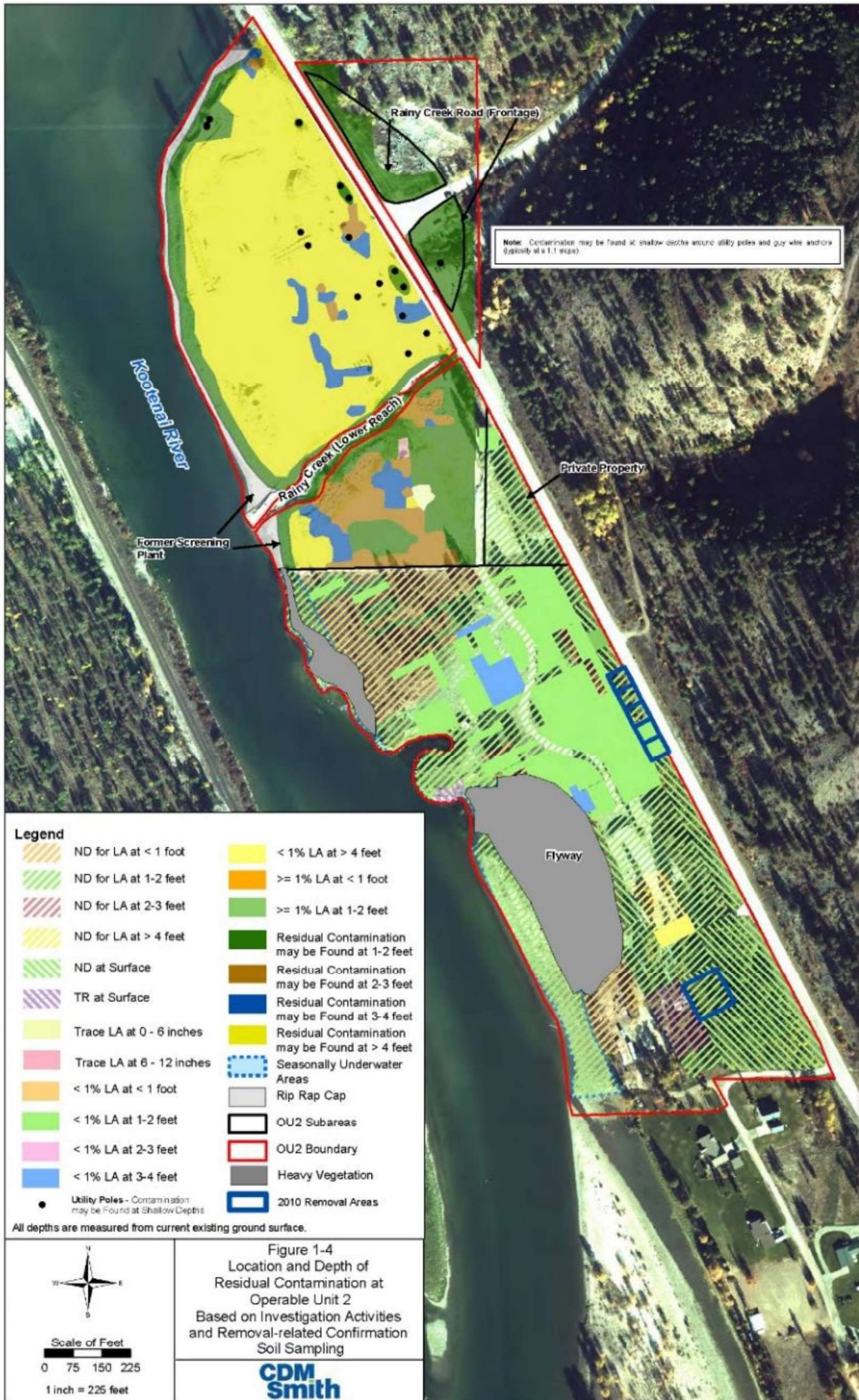
⁶ Source: OU-2 O&M Plan. 2015.

Figure C-7: Remedy Components (OU2)⁷



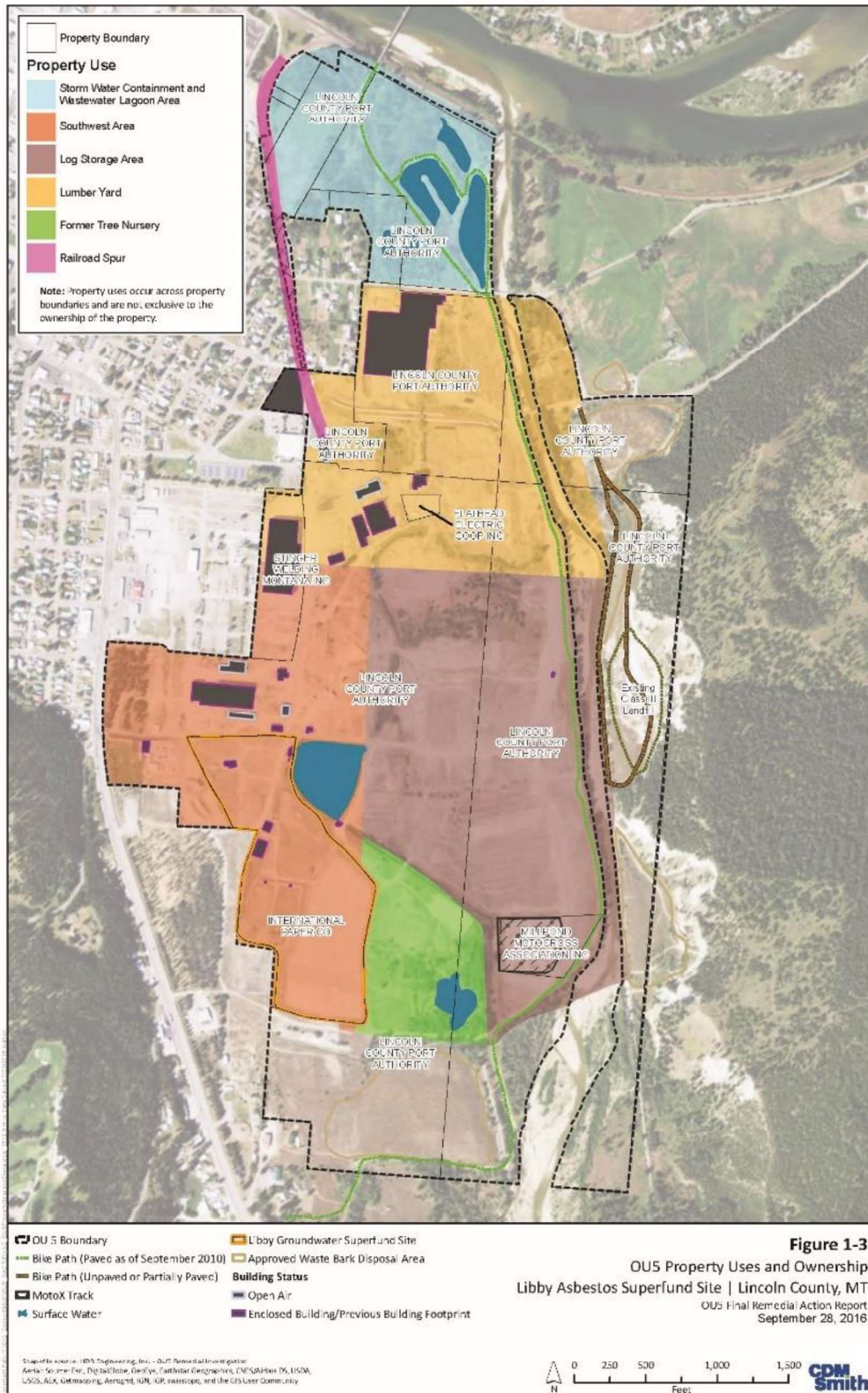
⁷ Source: OU-2 O&M Plan, 2015.

Figure C-8: Locations of Residual Contamination (OU2)⁸



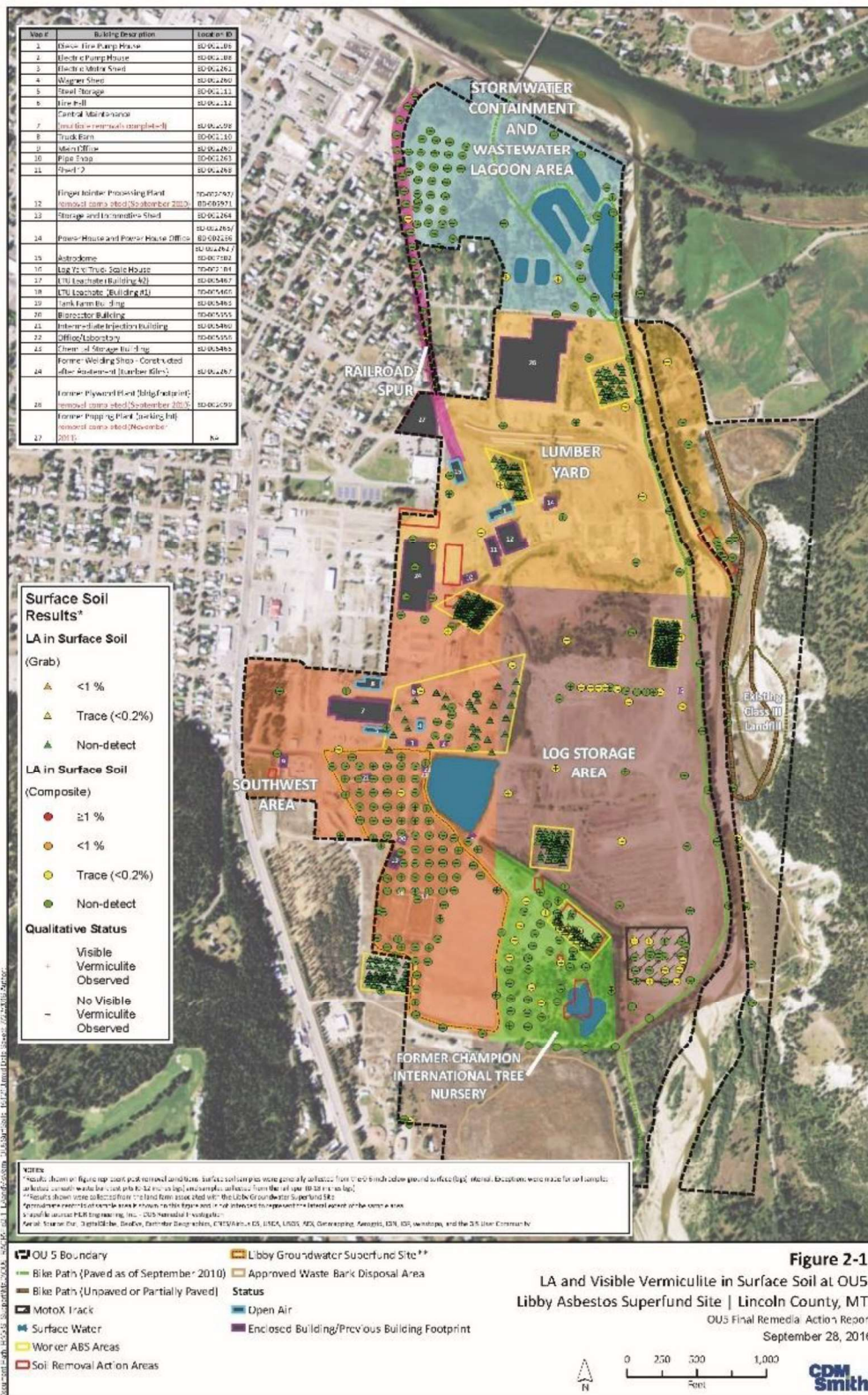
⁸ Source: OU-2 O&M Plan, 2015.

Figure C-9: Ownership and Land Use (OU5)⁹



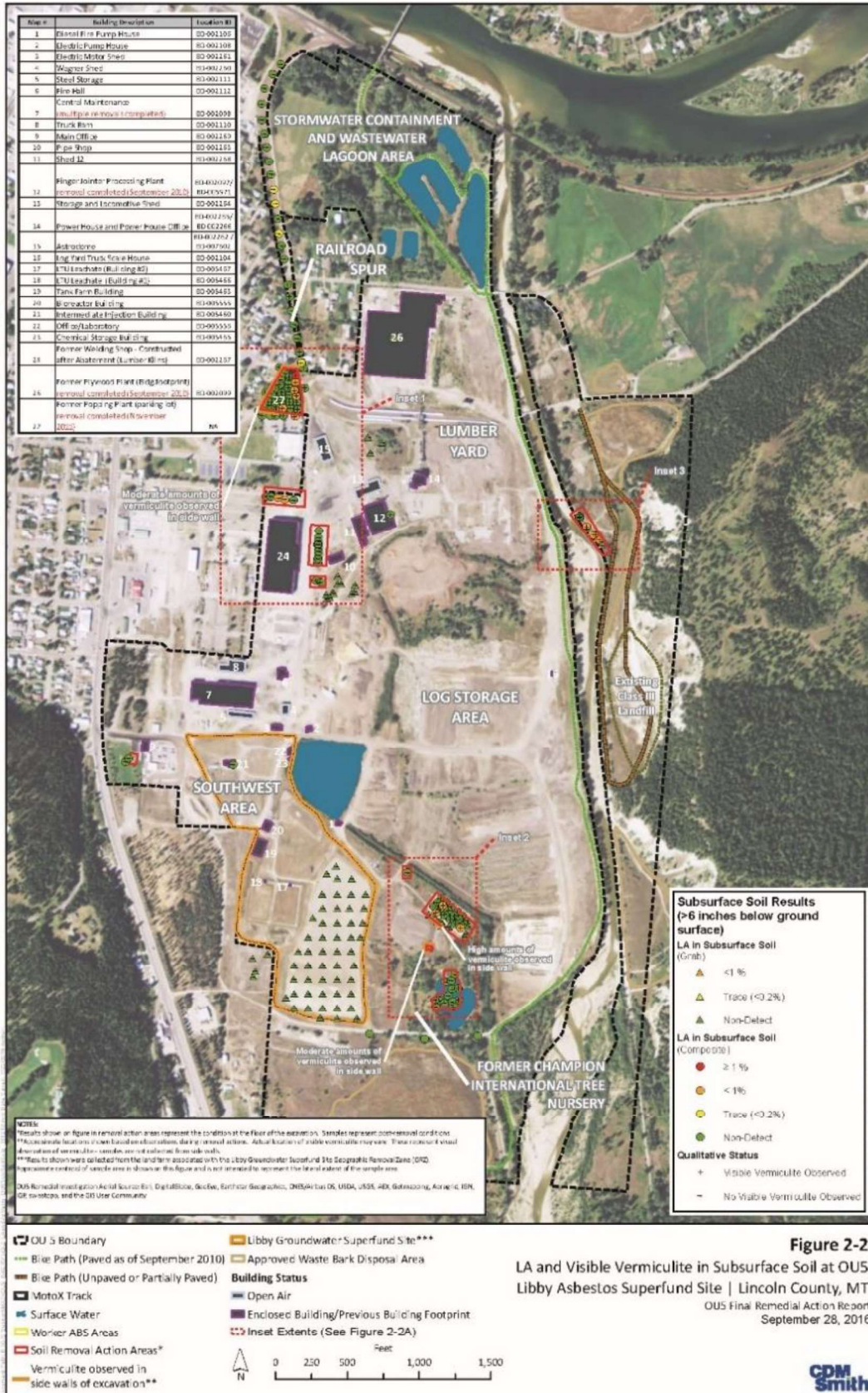
⁹ Source: OU-5 Remedial Action Report. 2016.

Figure C-10: Surface Soil LA and Visible Vermiculite Areas (OU5)¹⁰



¹⁰ Source: OU-5 Remedial Action Report, 2016.

Figure C-11: Subsurface Soil LA and Visible Vermiculite Areas (OU5)¹¹



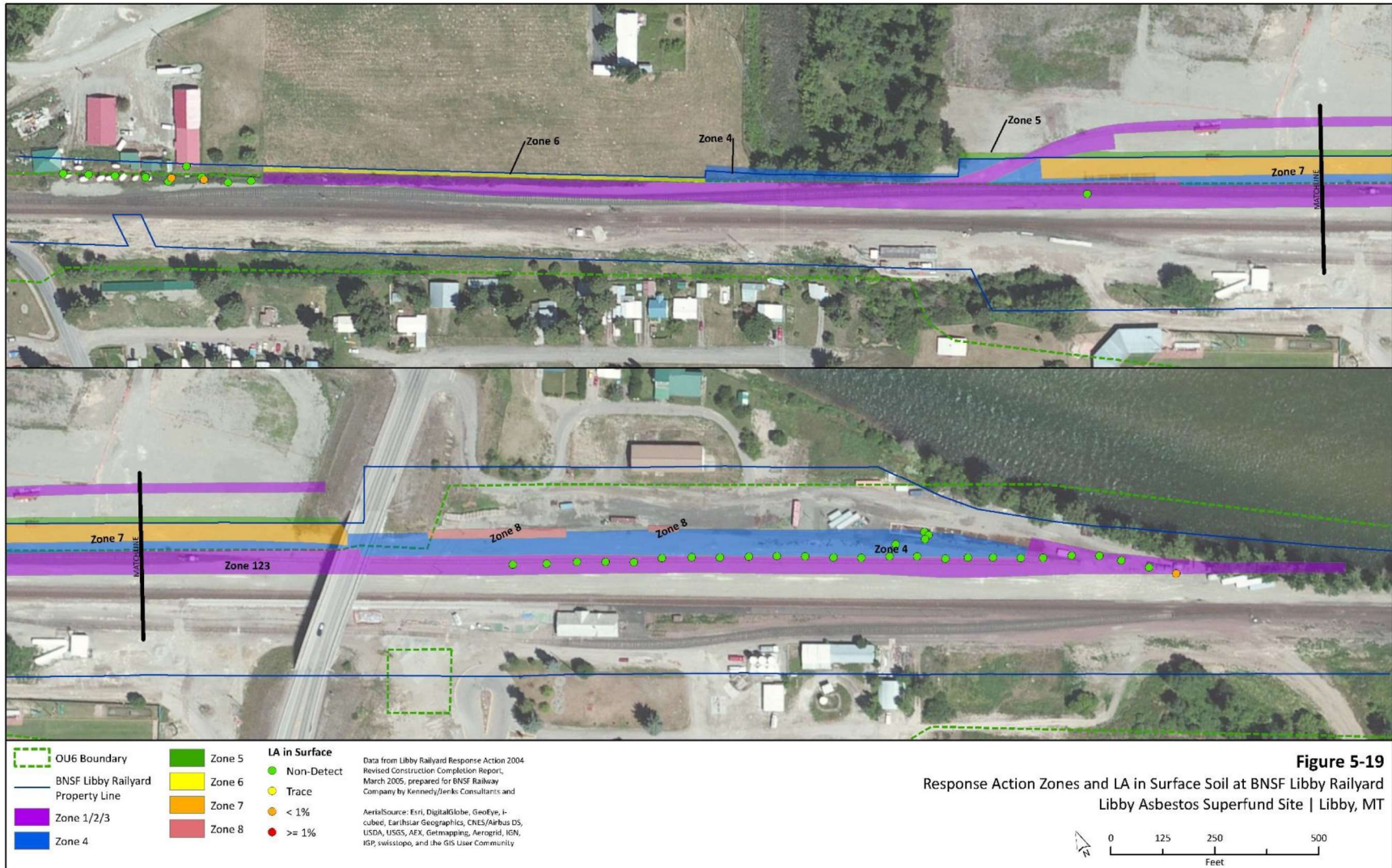
¹¹ Source: OU-5 Remedial Action Report, 2016.

Figure C-12: Subsurface Soil LA and Visible Vermiculite Insets (OU5)¹²



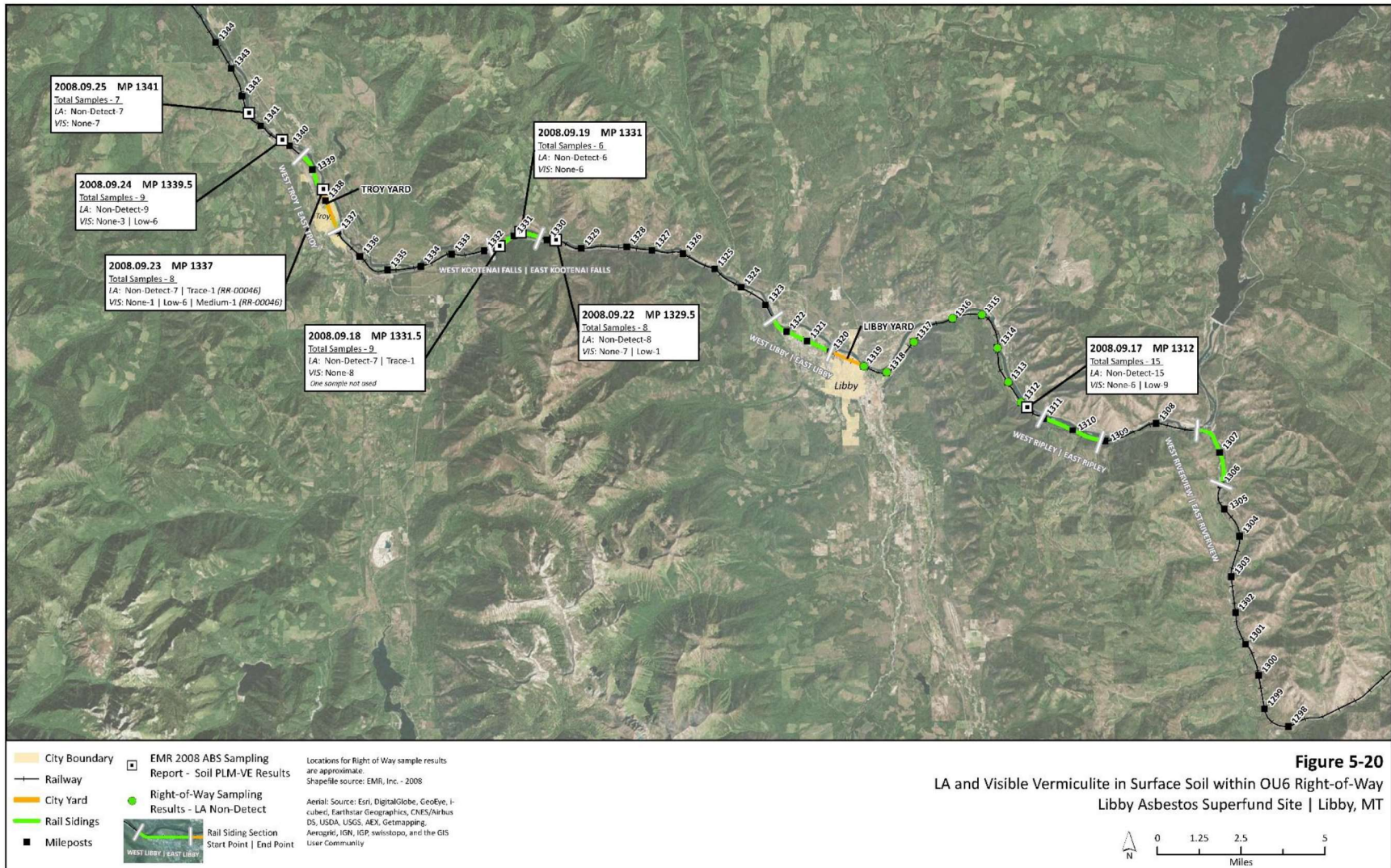
¹² Source: OU-5 Remedial Action Report, 2016.

Figure C-13: Response Action Zones and LA in Surface Soil at BNSF Libby Railroad (OU6)¹³



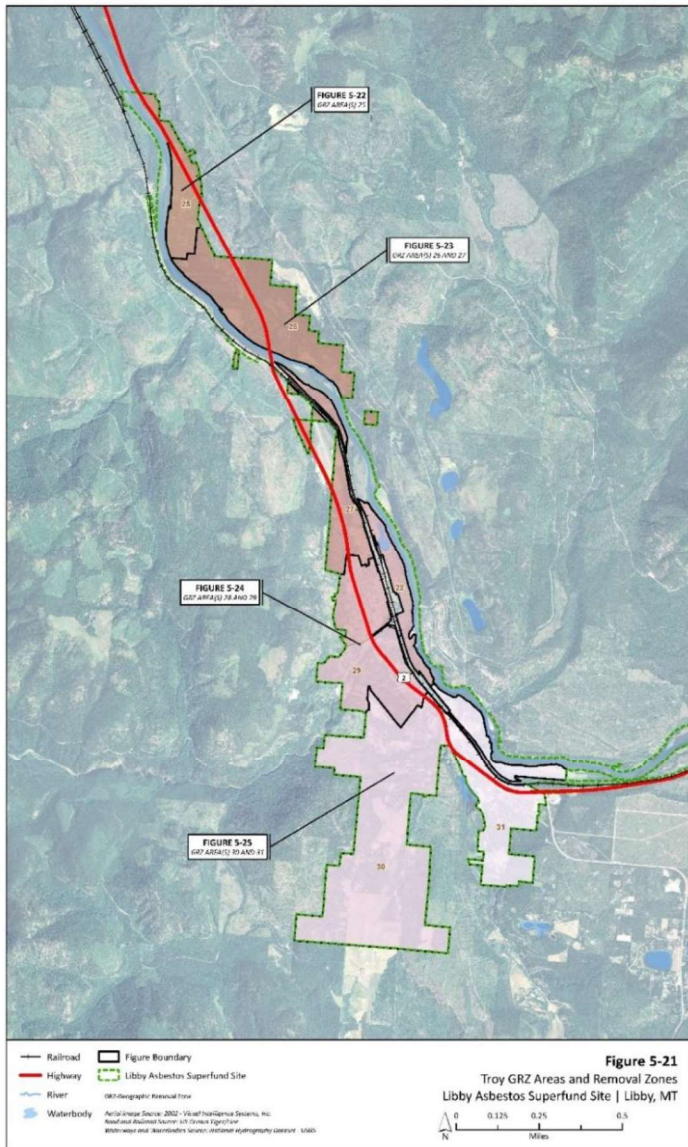
¹³ Source: 2016 ROD, OUs 4 through 8.

Figure C-14: LA and Visible Vermiculite in Surface Soil with ROW (OU6)¹⁴



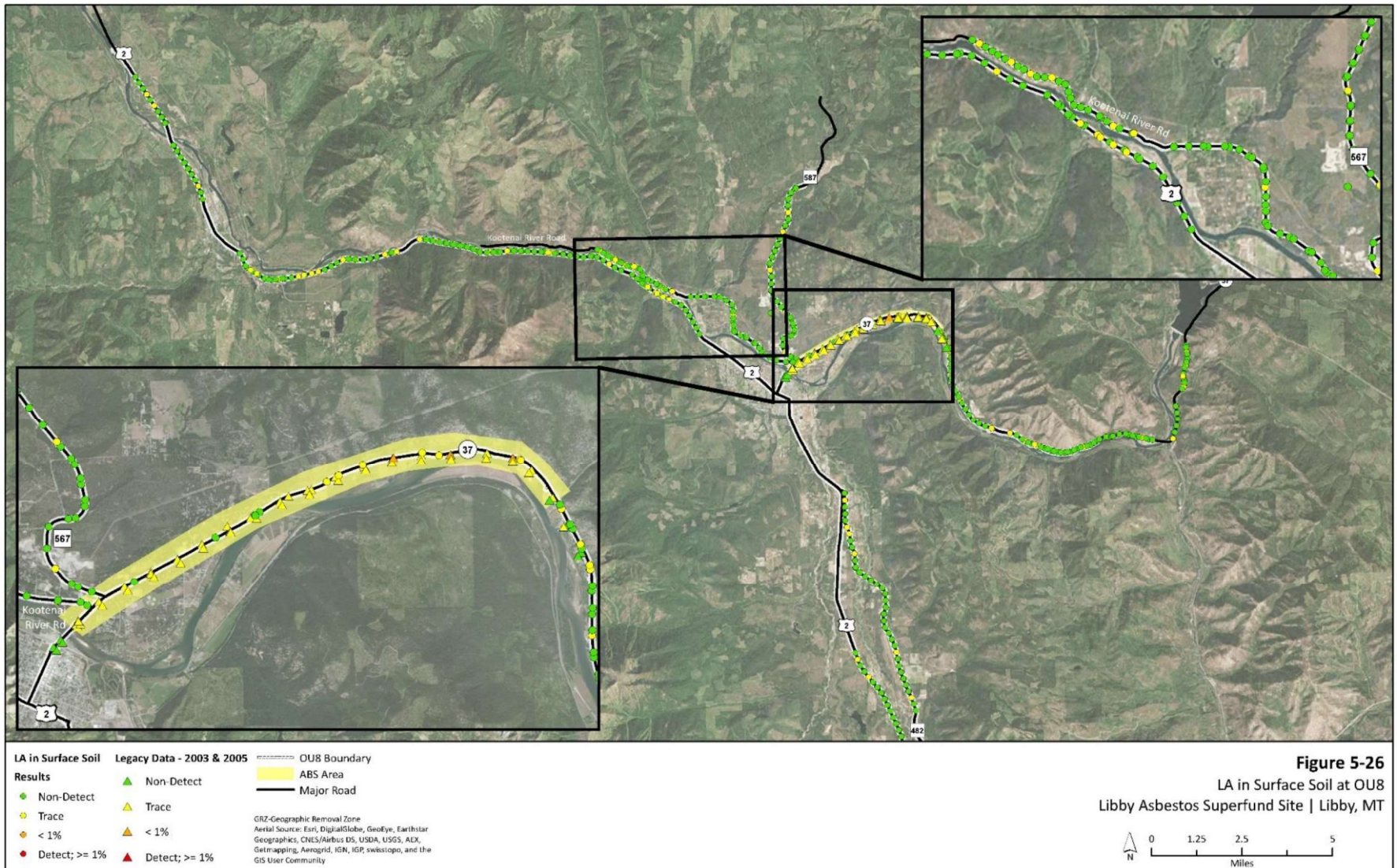
¹⁴ Source: 2016 ROD, OUs 4 through 8.

Figure C-15: GRZ Areas and Removal Zones (OU7)¹⁵



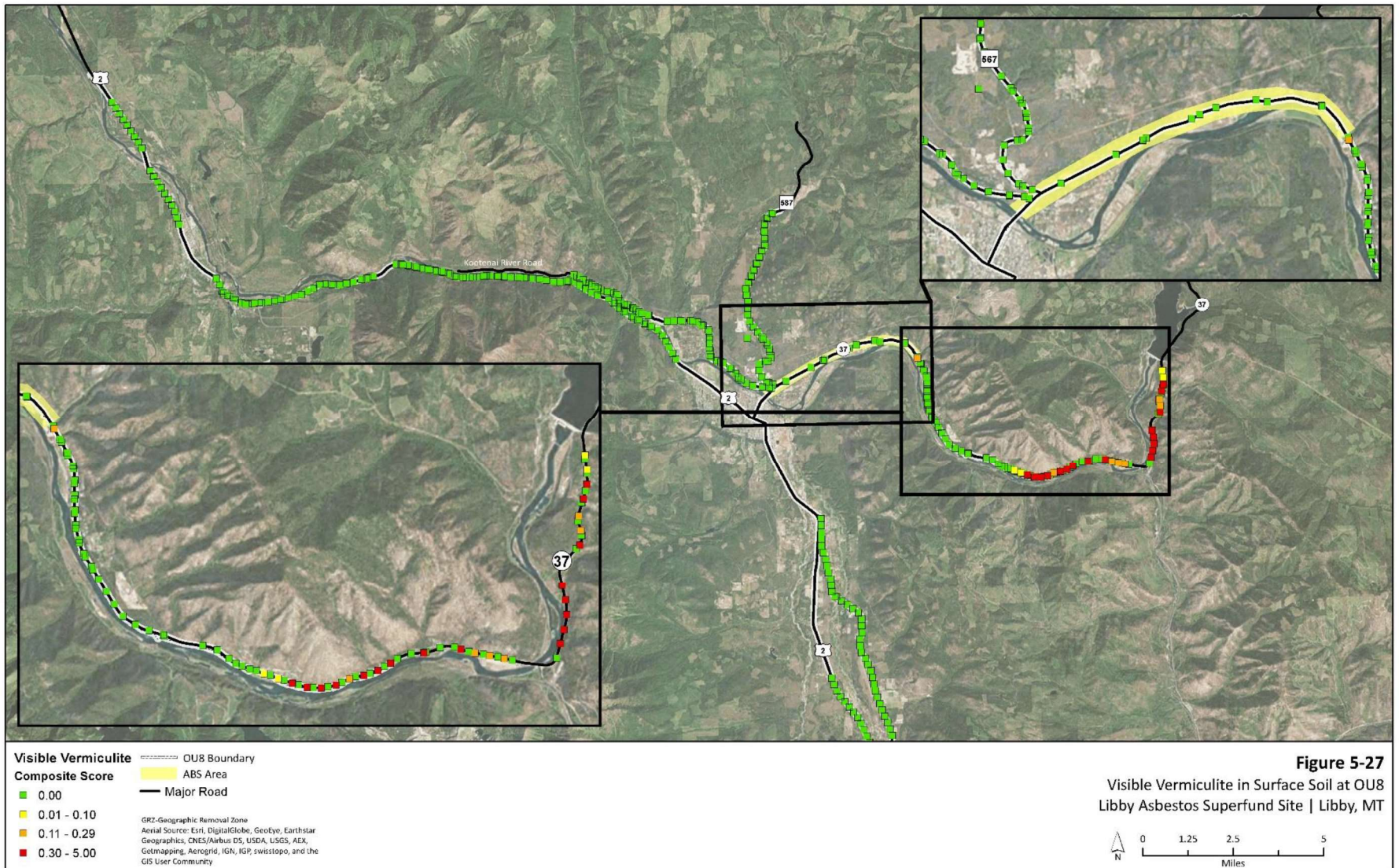
¹⁵ Source: 2016 ROD, OUs 4 through 8.

Figure C-16: LA in Surface Soil (OU8)¹⁶



¹⁶ Source: 2016 ROD, OUs 4 through 8.

Figure C-17: Visible Vermiculite in Surface Soil (OU8)¹⁷



¹⁷ Source: 2016 ROD, OUs 4 through 8.

APPENDIX D – PRESS NOTICES

The Western News

Tuesday, August 13, 2024 | A7

WOLF

from A1

compared to 144 over the same period in 2023.

Both trends indicate a moderate decline in wolf numbers FWP biologists expect to be illustrated in the 2024 wolf report that will come out during the summer of 2025.

The estimated statewide wolf population for 2023 was 1,096, just one less than the 2022 estimated population and slightly below the 10-year average of 1,140 wolves but well above recovery thresholds. The number of wolf packs was 181, spread over 85,000 square miles. Total wolf harvest for the 2023-2024 wolf season was

266 wolves, which was an increase from 258 taken during the 2022-23 season.

Livestock conflicts, confirmed livestock losses and wolf removals were all down considerably in 2023, according to the report. Wildlife Services confirmed the loss of 32 livestock to wolves, including 23 cattle and eight sheep; one livestock guard dog was also killed by wolves. This total was lower than numbers from 2012 to 2022.

"Moving forward with proposed wolf regulations, we will continue to provide the Fish and Wildlife Commission with our best science and lessons learned from Montana wolf management to date," Kujala said.

At the Aug. 16 Fish

and Wildlife Commission meeting, FWP will propose wolf and furbearer regulations for the 2024/2025 seasons. The proposed total wolf harvest quota is 334 wolves, up from 313 for the 2023 season.

The Montana Fish and Wildlife Commission will review and make a final decision on the proposed furbearer and wolf trapping and hunting seasons at its Aug. 16 meeting, except wolf trapping dates and where they will apply. Those will be decided by the commission at its October meeting.

The annual wolf report can be found on FWP's website at: final-2023-wolf-report.pdf (mt.gov)

JAILED

from A1

Dreiland reported McQueen had two partner or family member assault convictions in 2006 and 2012 and criminal mischief convictions in 2006 and 2011.

According to a 2011 Daily Inter Lake story, McQueen was arrested for allegedly kicking in the door of a neighbor's apartment and demanding the residents turn their television's volume down.

According to court documents, Kalispell Police Department officers responded to Glenwood Drive after a report of a burglary. When they

arrived, three men told them that McQueen, their neighbor, had kicked in the front door of their apartment and threatened to beat them up "if they did not turn down the volume of their television."

Two of the men picked up shotguns and McQueen left the apartment, according to court documents.

McQueen allegedly refused to come to the door when officers attempted to contact him. After being granted a warrant, officers entered the residence and took him into custody "after being forced to Tase him several times because he refused to comply with

arrest instructions," according to court documents.

As he was being lifted from the floor, he allegedly spit in the face of one of the officers.

In the most recent incident, McQueen is being held on held \$75,000 bail in the Lincoln County Detention Center. Court documents indicate he is to appear in justice court Aug. 14 for a preliminary hearing.

A conviction for partner or family member assault may result in a 3-year prison term. A conviction for criminal mischief may result in a 6-month term in the county jail.



EPA Region 8 Announces the Third Five-Year Review for the Libby Asbestos Superfund Site

EPA, in cooperation with the state of Montana, is conducting the third five-year review of the Libby Asbestos Superfund site in Lincoln County, Montana. Five-year reviews evaluate remedies to determine whether they remain protective of human health and the environment. This five-year review will be released in 2025.

Vermiculite mining operations just outside of Libby resulted in asbestos contamination in the towns of Libby, Troy, and surrounding areas. Since 2014, EPA has been working to understand and address this contamination. The site is broken into eight areas or Operable Units. Seven of the eight operable units have been remediated, or cleaned. This review will evaluate if the remedies put in place for those areas continues to protect human health and the environment.

Operable Unit 3, the former mine area, is the only operable unit that has not yet been cleaned, so a remedy for that unit cannot be evaluated in this five-year review.

We want to hear from you! Community members are encouraged to share information that may be helpful in the five-year review process. Community members who have questions or who would like to be interviewed are asked to contact EPA by **January 1, 2025**.

Beth Archer
EPA Community Involvement Coordinator
Phone: 720-512-1917

Email: archer.elizabeth@epa.gov

More information is available online:
www.epa.gov/superfund/libby-asbestos.

JAIL ROSTER & SHERIFF'S CALL REPORT

Lincoln County Jail Roster

Submitted By Lincoln County Sheriff's Office



Inmate Offense Roster Monday, August 5, 2024

All charges are misdemeanors unless specified as a felony. This list of inmates reflects solely those detained on the date listed above and does not reflect those who have since been arrested or released.

Adamson, Jeffrey W. Charged with felony all other offenses. LCDC.

Boothman, John W. Charged with felony counts intimidation and all other offenses. NCL, LCJC.

Brown, Mallory N. Charged with felony indecent exposure, simple assault, disorderly conduct. LCJC.

Calbazana, Catherine C. Charged with disorder-

ly conduct. BCC.

Dunsting, Dusty H. Charged with felony drug narcotic violations, aggravated assault, drug equipment violations, all other offenses. LCJC.

Duran, Sabrina J. Charged with all other offenses. LCJC.

Ewing, April L. Charged with felony all other offenses. LCJC.

Glase, Joshua M. Charged with felony not classified. LCDC.

Gordon, Dillon E. Charged with simple assault. LCJC.

Hagen, Iven J. Charged with not classified. LCJC.

Hammers, Amanda J. Charged with all other offenses. LCJC.

Harden, David M. Charged with not classified.

Hosko, Cody

Charged with felony indecent exposure. LCJC.

Johns, Coby J. Charged with disorderly conduct. LCJC.

Jungst, Jesse J. Charged with felony drug narcotic violations, all other offenses, drug equipment violations. LCJC.

Lee, Timothy J. Charged with five felony counts of destruction, damage vandalism, pocket-picking, three counts embezzlement, motor vehicle theft, two counts burglary breaking and entering, trespass of real property, and all other offenses. LCJC.

Mee, Dalton D. Charged with all other offenses. LCJC.

Nelson, Dakota L. Charged with felony pocket-picking, all other offenses. LCJC.

Orsborn, TY R. Charged with felony all

other offenses. LCDC.

Palmer, Helen K. Charged with three counts felony aggravated assault, traffic offense.

Parisi, Kenneth T. Charged with felony all other offenses.

Pillans, Michelle L. Charged with felony all other offenses. LCJC.

Sauls, Joshua J. Charged with felony murder and negligent manslaughter. LCJC.

Styles, Rochelle D. Charged with not classified. NCL.

Varner, Stephanie L. Charged with felony all other offenses. LCDC.

Wood, William I. Charged with all other offenses. LCDC.

Sheriff's Call Report

Submitted By Lincoln County Sheriff's Office

Trespassing: Call reported at 12:49:26 officers T Miller, B. Fisher responded to Mineral Ave. Troy, MT.

Citizen Dispute: Call reported at 09:22:14 Officer S. Power responded to Minnesota Ave. Libby, MT.

Assault: Call reported at 16:22:26 Officers S. Power, J. Hyslop responded to Minnesota 9th St. Libby, MT.

Citizen Dispute: Call reported at 10:46:20 Officer S. Power responded to Utah Ave. Libby, MT. Landford/Renter Dispute.

City Ordinance Violation: Call reported at 13:36:03 Officer S. Power responded to Main Ave. Libby, MT. City Code Violation.

Traffic Stop: Call reported at 08:09:29 officers D. Breiland, C. Thomas, C. Dewitt, E. Huff responded to US Hwy 2 Libby, MT. Officers conducted a traffic stop and issued a citation.

Order of Protection Violation: Call reported at 19:06:21 Officer J. Urabco, C. Thomas responded to 9th St. Libby, MT. Officer received a report of a possible restraining order violation.

Report Includes: All reported dates between 08/08/00 & 07/08/24 and 12:00:00 7/14/24. All arrests, all responsible officers, all involved officers, all dispositions, all incidents, all crimes, all agencies, all responding officers.

CARD
Center for Asbestos Related Disease

You may be Eligible for a Free Asbestos Health Screening

Documentation of having lived, worked or played in the Libby, Montana area for at least 6 months at least 10 years ago is required to qualify.

Testing is available both locally and from a distance

For more information, please call toll free 1-855-891-CARD (2273) or visit us online at www.libbyasbestos.org.

Winter Hours:
Starting January 1st, 2024 to March 31st, 2024 CARD will be open Monday-Wednesday and closed Thursdays and Fridays.
(Monday: 8 am to 5 pm) (Tuesday: 2 am to 5 pm)
(Wednesday 8 am to 2 pm)
Funded by grant #5 W61515000295 from the CDC/ATSDR

Libby Vendors Market

Fridays: 2:30 - 6:30 p.m.

HWY 2 & Commerce Way

FVCC Lincoln County Campus

EPA United States Environmental Protection Agency

EPA Region 8 Announces the Third Five-Year Review for the Libby Asbestos Superfund Site

EPA, in cooperation with the state of Montana, is conducting the third five-year review of the Libby Asbestos Superfund site in Lincoln County, Montana. Five-year reviews evaluate remedies to determine whether they remain protective of human health and the environment. This five-year review will be released in 2025.

Vermiculite mining operations just outside of Libby resulted in asbestos contamination in the towns of Libby, Troy, and surrounding areas. Since 2014, EPA has been working to understand and address this contamination. The site is broken into eight areas or Operable Units. Seven of the eight operable units have been remediated, or cleaned. This review will evaluate if the remedies put in place for those areas continues to protect human health and the environment.

Operable Unit 3, the former mine area, is the only operable unit that has not yet been cleaned, so a remedy for that unit cannot be evaluated in this five-year review.

We want to hear from you! Community members are encouraged to share information that may be helpful in the five-year review process. Community members who have questions or who would like to be interviewed are asked to contact EPA by **January 1, 2025**:

Beth Archer
EPA Community Involvement Coordinator
Phone: 720-512-1917
Email: archer.elizabeth@epa.gov
More information is available online: www.epa.gov/superfund/libby-asbestos.

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Obituaries

Larry Glenn Stroklund



Larry Glenn Stroklund, 76, passed away Monday, August 5, 2024, at his home in Libby, MT. He was born November 10, 1947, in Devils Lake, ND to Glenn and Marjorie (Feldman) Stroklund. Larry spent his early years growing up on the family farm near Cando, ND. He graduated from Egeland High School in 1965 and went on to attend Minot Teacher's College in Minot, ND for two quarters. After being drafted, he enlisted in the US Army in September of 1967, to be an Airborne Ranger. He became a Green Beret and Airborne Ranger during his first three years in the Army. He was promoted to Staff Sergeant (E-6) with only 2 1/2 years in the service. He subsequently re-enlisted and was soon selected for officer candidate school (OCS). He graduated from OCS and was promoted to 2nd Lieutenant on September 24, 1973, as a Platoon Officer. He retired as a promotable Major with 21 years of service, in

medal; Army achievement medal; good conduct medal; national defense service medal; Vietnam service medal; armed forces reserve medal; NCO ribbon; Army service ribbon; overseas service pin; as well as the Master Parachutist Badge; Ranger Tab; Special Forces Tab; and two excellence in competition marksmanship badges.

While in Libby, Larry became very active in veteran organizations. He was a life member of the American Legion, National Rifle Association, and Veterans of Foreign Wars. He was the post adjutant and finance officer for the local American Legion Post #97 for 25 years. He also was the American Legion District #4 Commander from 1997 to 2000. He then served as the Western Montana Zone Commander in 2000 and 2002, and then again in 2015 and 2017. Larry served as the Montana White Cross Chairman for 5 years, starting in 2002. He received a national appointment to the American Legion Force Structure Committee in 2015. He held many positions in the Libby VFW over the years, with the most notable as the Commander of the Cooties for three years, beginning in 2012. Larry was also a Boy Scout Troop assistant scoutmaster from 1995 to 1999; helping his son, Christopher, become an

Eagle Scout in 1997. In addition, he served as a Montana Fish Wildlife and Parks Hunter Safety Instructor for 20 years. Larry was active in the community with other volunteer projects. He loved his roses and was a member of the local garden club, Avid Gardener. Larry was preceded in death by his parents, Glenn and Marjorie; nephew, Tyler Smith; and grandson, Elijah Cardon.

Survivors include his wife, Mary Beth; children: Amiea (Barry) Craig and Christopher (Bernadette) Stroklund; stepdaughters: Brandee (Joe) McCleaming and Suzanne (Matt); stepson Chris (Sharia) Candow; grandchildren: Ashlynn, Adian, Ayva, Cayden, Ryan, Addison, Alan, Alyah, Eric, Aurora, Eric and Arva; sisters: Myrna Arlene Sulling, Faye Adell Stevens, Daphne Lou (Dick) Smith, and Sharon Marjorie (Bill) Hart; numerous nieces and nephews; his American Legion family; his VFW family; and his many friends.

There will be a visitation from 1-7 p.m., Monday, August 19, 2024, at Schnackenberg Funeral Home Chapel in Libby. Graveside services with Military Honors will be 2:00 p.m., Tuesday, August 20, 2024, at the City of Libby Cemetery. Online memories and condolences may be shared by visiting www.schnackenbergfl.com.

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Kootenai Valley Record
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Ray Eudell Knight



Ray Eudell Knight, 68, of Troy, MT, passed away at his home on Saturday, August 3, 2024, of natural causes. He was born October 29, 1955, in Provo, UT, to Ray Newell and Lador Knight. Growing up, Ray raised and trained horses and enjoyed bronc riding. He still enjoyed rodeos. Ray was a boiler maker and pipe welder by trade. His work allowed him to travel the world. He loved to fish, hunt and camp. Ray loved his children and

family and will be truly missed by everyone who knew and loved him.

Ray was preceded in death by his parents, Ray and Olwin Knight.

Survivors include his children: Chance Knight of Roosevelt, UT, Jesse Knight of Roosevelt, UT, Kenny Nicole Knight/Winn of Hot Springs, MT and Kaylyn Lader Knight of Kalspell, MT; grandchildren: Tyler Knight, Deegan Knight, Jax Knight, Carter Knight, Oakley Knight, Ariah Erny, Ava Erny and Reese Kulland; sisters: Lonna Fox and Karen Rich; and brother Scott Knight.

There will be a visitation 1-7 p.m., Tuesday, August 13, 2024, at Schnackenberg Funeral Home in Libby. Graveside services will be 11 a.m., Wednesday, August 14, 2024, at the Troy Cemetery. Arrangements are under the care of Schnackenberg

Funeral Home of Libby. Online condolences and memories may be shared by visiting www.schnackenbergfl.com.

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Sweet Pea - Female
Sweet Pea here. I am a spicy girl who needs a quiet home with a human who knows how to bring out the best in a cat who fights when frightened. I would require a lot of patience and respect but eventually I believe I would like people. I have shown that I am interested in playing but I just can't relax here. A real home would make all the difference!
For further information on all of the animals available for adoption, call KPPFL at 293-5735.
The KPPFL Shelter is located in Libby on County Shops Road, and is open for visitors from, Tues. - Sat. 12:00 p.m. - 5:00 p.m. Closed Sun., Tues., Thurs., Sat.
Adoption fee is \$100 for dogs, and \$60 for cats. All animals are spayed/neutered, vaccinated, and microchipped.
VISIT US ON FACEBOOK, PINTEREST, ADOPT-A-PET, or email us at kppflshelter@libby.gov

EPA United States Environmental Protection Agency
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We want to hear from you! Community members are encouraged to share information that may be helpful in the five-year review process. Community members who have questions or who would like to be interviewed are asked to contact EPA by January 1, 2025:
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Email: archer.elizabeth@epa.gov
More information is available online:
www.epa.gov/superfund/libby-asbestos

APPENDIX E – INTERVIEW FORMS

Libby Asbestos Site Superfund Site	Five-Year Review Interview Form
Site Name: <u>Libby Asbestos Site</u>	EPA ID No.: <u>MT0009083840</u>
Interviewer Name: <u>Beth Archer & Dania Zinner</u>	Affiliation: <u>EPA</u>
Subject Name: <u>redacted</u>	Affiliation: <u>Lincoln County Port Authority</u>
Subject Contact Information:	
Time: <u>TBD</u>	Date: <u>06/11/2024</u>
Interview Location: <u>TBD</u>	
Interview Format (circle one): <u>In Person</u>	Phone Mail Other:
Interview Category: Local Government	

1. What is your overall impression of the activities at the Site?

Pretty good, initially the cleanup was not what they wanted. DEQ came back and were able to go back and do some things at the commercial properties. There had been issues with maintaining the remedy as it had been implemented (spray foam) but DEQ was able to remedy this

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Pretty good now, there had been a misunderstanding with the two superfund sites groundwater/asbestos. Now it's pretty clear what is what.

a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

They've always been really good about calling; sometimes doing walk throughs is helpful depending on schedules

b) How do you learn about what's happening at the Site now?

People call

c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

Working closely with Mandy; issues with putting in new fences last year. Told the fence company they had to meet with Mandy so she could show them what to look for, that all worked out well.

Getting the information out there to people

People moving into the area and not knowing about the site; not sure how to address it beyond land sales. Could behoove the EPA to share a construction document with for the whole area once that's complete

ARP do so well as a local contact

3. What is your assessment of the current performance of the remedy in place at the Site?

I think its fine now that they've remedied the remedy (commercial spray foam, big maintenance building, should have been removed rather than encapsulated)

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?
*No other than comments on any construction project, could have done things differently
Soil was compacted too much during the residential material (but this switched during the course of the cleanup)*
5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
Vandalism at some commercial buildings isn't uncommon, might not disturb the remedy but folks are accessing places they shouldn't access
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
They are pretty well informed with ARP being here; they just have to pick up a phone and call. Great that they are a part of UDIG, can get clarification if you can dig or not
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
There have been great people to work with and not so great people to work with; keep in mind what local folks say and don't automatically shrug it off
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
No

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth ArcherAffiliation: EPASubject Name: Chuck EkstedtAffiliation: City of Troy Mayor**Subject Contact Information:**Time: 9:00 a.m.Date: 06/11/2024Interview Location: Troy City HallInterview Format (circle one): In Person Phone Mail Other:Interview Category: **Local Government**

1. What is your overall impression of the activities at the Site?

From what I can tell, the cleanup that was completed was effective; there are problems with refusals. After people die there will be that issue. I am concerned that the realty community may not be disclosing asbestos status to new buyers.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Seems pretty good at the places it's been cleaned up; the dirt that's been brought back isn't the same quality as what was there before (topsoil). Some people who didn't need a cleanup are happy they didn't need one.

a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

Keep track on the construction, demolition going on. Building permits are watched over, not sure about the county. Some things are getting torn down without anyone knowing about it. It's likely that there are buildings that fall through the cracks that don't apply for permits.

b) How do you learn about what's happening at the Site now?

Usually through the internet, emails, newspaper. Once in a while I hear about it from the Asbestos Resource Program.

c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

*Everyone around it gets told about it; project going on knows about it. A concern I've heard about is what is the magic caution tape; what stops the asbestos from floating over to a neighboring house?**Another concern I've heard is about fishing on the river, is it a problem?*

3. What is your assessment of the current performance of the remedy in place at the Site?

It seems to be performing well, other than the complaint about the topsoil brought in to replace residential soil. I haven't heard anything on commercial properties.

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

Topsoil and gardens are not great, cleaning up the houses is not a big complaint.

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?

Not that I know of.

6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
From what I can tell, they should be able to get it in the papers and if they want to know that they can find it. People that complain don't go and find the information, you just have to look for it and read.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
I don't know enough about it to be able to recommend anything, other than the topsoil complaints I've been hearing.
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
Yes

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form****Site Name:** Libby Asbestos Site**EPA ID No.:** MT0009083840**Interviewer Name:** Beth Archer**Affiliation:** EPA**Subject Name:** Nate Gassmann**Affiliation:** USFS**Subject Contact Information:****Time:** 5:20 p.m.**Date:** 06/10/2024**Interview Location:** City Court; Ponderosa Room**Interview Format (circle one):** In Person Phone Mail Other:**Interview Category:** Federal agency

1. What is your overall impression of the activities at the Site?
There's been definite progress on cleanup and completion.
2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
Seems to be a lot of progress being made to clean site.
 - a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?
n/a
 - b) How do you learn about what's happening at the Site now?
I receive EPA emails/notices.
 - c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?
Maintain website with information.
3. What is your assessment of the current performance of the remedy in place at the Site?
Cleanups for those OUs that have been cleaned seem very effective.
4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?
Only for the continued actions for cleanup within OU3.
5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
No.
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
n/a
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
Strong working relationship between all responsible parties for the site is benefiting the site overall; I hope this continues.
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
Yes

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth ArcherAffiliation: EPASubject Name: Kathi HooperAffiliation: Lincoln County Health
Department and Board of
Health**Subject Contact Information:**Time: 8:00 a.m.Date: 06/11/2024Interview Location: Lincoln County Health DepartmentInterview Format (circle one): In Person Phone Mail Other:Interview Category: Local Government

1. What is your overall impression of the activities at the Site?

I've been involved in a lot of aspects of the site through ARP, I've personally had houses that were cleaned. I appreciate having ARP here with local contacts, it's a huge positive. Having people who are here and known in the community to respond is very beneficial.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

There are certainly areas where the remedy hasn't been protected, one of the programs is septic. We have seen instances where people dig, and if they see something they ignore it because they don't want to get slowed down. There should be more outreach and reassurance for contractors, maybe more training. Regarding the landfill, I'm always surprised when there's a new gatekeeper and they can't recognize vermiculite. I recommend more training as part of O&M.

We see public meetings where no one comes, you can only do so much to put information out there.

- a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

Education (for contractors dealing with the septic systems, landfill gatekeeper)

I'm surprised how many people have moved in and are totally unaware; realtors may not be disclosing information. We used to have meetings with realtors, I could add asbestos as a topic

- b) How do you learn about what's happening at the Site now?

Emails, updates from ARP (primarily because of the landfill cell); it's working well for me.

- c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

I think EPA has made a great effort to keep people involved, it is a challenge when there are infrequent newspapers that not everyone reads. It's a challenge in all things, EPA has made a big effort to have information available and to show up.

3. What is your assessment of the current performance of the remedy in place at the Site?

It's not well protected at times for the residential area (OU4), people don't really see the risk and don't want a delay when they find it. We have issues with people leaving it at greenbox drop sites.

I love Riverfront Park, it's beautiful and well maintained.

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

The complaint I continue hearing is that the topsoil quality wasn't good and only grows weeds.

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
Plywood plant catching fire, concerned about asbestos exposure for firefighters; seems like there could be a risk to volunteer fire people. I'm not aware of additional issues.
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
I think the information is readily available if residents seek it out.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
*Having ARP here is very helpful; great to walk them across the street and they get their questions answered. Having ARP at community events and health fairs; ARP is trying to provide information
When interior of my house was cleaned, the process was slow and frustrating. The crew went above and beyond to do the cleaning; personal experience with the interior cleaning was positive.
I wish the public was more interested.*
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
Sure.

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth ArcherAffiliation: EPASubject Name: George JamisonAffiliation: Libby Asbestos Superfund Oversight Committee**Subject Contact Information:**Time: 1:30 p.m.Date: 06/11/2024Interview Location: ARP OfficeInterview Format (circle one): In Person Phone Mail Other:Interview Category: Local Government

1. What is your overall impression of the activities at the Site?

What activities---past, present, future? Which OUs? *Except for OU3, the past activities (remediation) are concluded; time will tell whether the RA was appropriate and protective. For OU3, there is no basis to form an opinion regarding proposed remedies.*

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Cleanup: Except for OU3, it is history. It has been apparent that the conduct of the cleanup, especially in the early years, created mistrust in the community and reluctance of property owners to participate in sampling, etc. As the cleanup progressed, trust seemed to improve. OU3, see 2c below.

O&M: *see below*

a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

Improvements can always be made, especially as conditions and activities evolve at the site over time. Thanks in part to the collaborative O&M planning process enabled by the former EPA site manager, a successful program was established. Major improvements occurred in collaboration with DEQ under their current leadership. LASOC and ARP have an excellent working relationship with DEQ that is focused on maintaining the remedy and doing what is right for the property owners. As owners see that and word travels, it does more to enhance the program than news releases and PR. It is also important to note that there have been challenges related to overcoming a lack of trust from past contractor performance at the site. These are manifested in "refusals" and the "environmental condition" notices on property records. Dealing with these properties through LASOC and DEQ has been a major win for the project and community.

O&M funding: The EPA grant funding to DEQ flows to ARP for their program. In addition there are State funds that can be tapped given appropriate justifications through the LASOC/DEQ process. It is also important to LASOC and DEQ that EPA be reminded of the commitment made by Region 8 to the Montana Governor to reserve the unspent Grace remediation funds for use at the Site if there are future shortfalls in O&M, etc. This is an essential assurance that is relied on by LASOC and DEQ and must be preserved in the records of the Site. The concern described in 3. below related to possible shortfall in EPA O&M funds should be carefully noted.

b) How do you learn about what's happening at the Site now?

Through LASOC and interaction with ARP. Minimal reliance on EPA.

c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

Cleanup, OU3: Simply being “informed of activities” is not the same as providing for meaningful input. The updates have no substance. The selection of remedies for OU3 is of major importance to the community. For years, we have been informed that studies are continuing and there will soon be recommendations forthcoming for public input. For those same years, there have been requests to be included in the decision-making process as data is collected, options reviewed, etc. We are excluded owing to the “deliberative process” and the suggestion that the proceedings are complicated and beyond our comprehension. To the contrary, the County has demonstrated during O&M planning that we can be collaborative and trustworthy contributors, even when we disagree with the decisions. The general practice of relying solely on a comment period, generally results in concerns and comments being found to be non-persuasive. Meaningful prior input and collaboration benefit all parties. DEQ is aware of our interest in participation but must defer to EPA for this PRP-lead OU.

Response Planning, OU3 Fires: Developing and implementing the elements needed have been a slow process, and still seems incomplete. Responsibilities for air monitoring by the County ARP needs a stable funding mechanism and should not be the financial responsibility of the County or DEQ. Further, it is disturbing to know that the planning does not embody any definitive action levels based on air quality analyses that are specifically tied to detected levels of LA. While many in the community won’t be concerned, well-reasoned criteria should be agreed to in advance so that the County is not left holding the bag. That is an unfair expectation to be placed on a small local government agency. It is argued that there are no specific studies or data that apply, but that does not and will not provide a well-reasoned answer to the questions from the public about “am I safe?” or “what should I do?” These questions can also spread to surrounding counties in the event of a major incident. The County should be supported with the technical resources to be prepared to provide sound and reasonable guidance. If/when such questions arise, they will quickly rise beyond the County and DEQ to EPA for “answers.”

Site-related information in the future: LASOC is a good focal point, along with the Commissioners and the ARP staff. With LASOC, we have the benefit of structured collaboration and interaction with DEQ. It is suggested that EPA give more advanced notice of meetings, open houses, etc, such as using targeted emails, etc.

It should also be noted that there is a perceived notion that EPA is overly focused on delisting OUs. Given the ongoing strong O&M activities in Libby and Troy, and other Site issues, suggestions of delisting are premature. If for no other reason, it is for now the wrong signal to send to the community. There are also those who have long ago tired of hearing about the Site.

3. What is your assessment of the current performance of the remedy in place at the Site?

The instituted remedial actions seem generally to be maintained if that is the criterion for adequate performance. However, the clean-up criteria that continues to be applied complicates owner understanding of how their activities can significantly alter the status of their property. Activities that do not result in an outright change in land-use category (such as changes in how the property is used, grading or excavations, etc) may cause the property to no longer meet the original clean-criteria. Comfort letters add to a false sense of security, and the evolution of sampling/analysis methods and clean up criteria through the long site history are confusing and difficult to resolve. These circumstances are being addressed as they arise. It seems evident that the frequency of encountering these dynamic conditions was not fully anticipated and will likely impact EPA’s O&M budget. ARP can provide examples. This is the reality of not cleaning everything up to non-detect, as a result you have changing and evolved criteria that were applied and the criteria aren’t very straightforward. This is what you’re paying for on the back end and it’s going to degrade the remedy. Is the remedy complete??... Not if the site continues degrading. (This comment is particularly relevant to the following paragraph.)

At this point in the history of the Site, it should be asked whether the instituted remedy and the action level criteria still being applied in O&M are protective and appropriate. The 2014 Toxicological Review of LA and

the 2015 Site-Wide Human Health Risk Assessment established the basis for the selected remedy and action levels, but also acknowledged appropriate uncertainties. We are now 10 years further down the road. Given the magnitude of this Site and its status as a Public Health Emergency, it would seem appropriate to investigate whether the remedy is still considered appropriate...is it too strict or could it be loosened? This is an appropriate question not only for the Libby site, but for the numerous sites across the US where LA has been shipped and distributed. Near the end of the cleanup, it was informally proposed that follow-up studies, including future completed research along with epidemiology studies be applied to the Libby site, in concert with the ongoing CARD patient data. The then project toxicologist expressed interest, but we were advised that such activities exceeded the mandate of the EPA. That seems to say...institute the remedy selected at the time, and don't question it? While this may be the correct response for EPA, EPA could perform a great service to the benefit of the community, and future LA exposure sites, by proposing an appropriate agency to take up these questions. Suggestion- ATSDR, an LA registry. A specific response to this question is requested to be shared with LASOC and DEQ.

It is important to remember the vital roles of ARP and CARD. For property owners and patients, the face of this site is those two entities. EPA's support of DEQ in their O&M role is essential and is well placed. The DEQ/ARP teamwork has evolved into a trusting and productive relationship. CARD is a priceless resource of information and research material and topics that should not be ignored to the benefit of this Site and the many LA sites nationwide.

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?
Only about past behavior and performance of EPA's contractors ...generally related to reluctance to accept ARP help.
5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
Defer to ARP
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
See 2 above. Community appropriately informed about O&M, which is mainly facilitated by ARP outreach, the County's Property Evaluation Notification (PEN) regulations, and word of mouth. No meaningful information related to future remediation at OU3 is being provided. See above.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
See above. Participation in OU3, site studies re remedy, continued support of CARD and ARP.
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
Yes, if fully quoted.

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth ArcherAffiliation: EPASubject Name: RedactedAffiliation: City of Libby

Subject Contact Information:

Time: 12:30 p.m.Date: 06/11/2024Interview Location: City CourtInterview Format (circle one): In Person Phone Mail Other:Interview Category: Local Government

1. What is your overall impression of the activities at the Site?

It seems like people are just going about their normal lives, people are moving here, people aren't saying "I'd move here but..." I don't hear it dominating conversations except in certain targeted topic conversations.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Cleanup for the most part was fairly thorough – some residential/commercial cleanups knew that things were left behind and would be a problem and has become a problem and will be eventually.

Maintenance – this is a big question mark to me? What are we really asking? What barrier keeps people from disposing of things appropriately?

Reuse – park reuse seems to work well.

- a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

No feedback, there has not been a lot of continuity in the city to have a depth of knowledge on operations and maintenance.

- b) How do you learn about what's happening at the Site now?

Public conversations, being in close proximity to OU5, oversight of the park.

- c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

It's a big undertaking to communicate to the whole area; EPA does try to get information out for the OUs. It's so broad to almost be unanswerable, so many operable units it's almost impossible to keep everyone abreast of everything because we want to target it for each operable unit.

I think trying to keep doing what you're doing is good, people who are interested will pick it up and those who aren't won't. And sometimes people are only interested if it directly affects you; residential cleanup specific meeting you'd hear about stuff left in walls and how that's hazardous to health and a nuisance.

3. What is your assessment of the current performance of the remedy in place at the Site?

Residential cleanups are effective, however in certain instances contractors left material behind knowing it would likely become a problem in the future and it has become a problem.

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?
No.
5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
No, in general the park had some activity that we coordinated with ARP on but it's been step by step.

Port Authority development and home remodeling; you can't develop without encountering the possibility of asbestos.
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
No, because there are so many newcomers. They have come here with the expectation that it has been remediated and they don't have to worry about it. They don't concern themselves about learning more, they don't feel like there's anything to be informed about.

For people to be interested and concerned, they have to feel like it relates to them. If it's a vague thing they're not interested/concerned. They're only concerned if it feels like it truly affects them. I recommend bringing it down to the level of how it affects each individual.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
One of the things people really need to know is this isn't going to go away in 5 or 10 years, there are still problem spots. When they pop up, they need to be properly addressed.
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
No.

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth ArcherAffiliation: EPASubject Name: Brent TeskeAffiliation: County Commissioner

Subject Contact Information:

Time: 5:40 p.m.Date: 06/10/2024Interview Location: City Court; Ponderosa RoomInterview Format (circle one): In Person Phone Mail Other:Interview Category: Local govt

1. What is your overall impression of the activities at the Site?

In the beginning it was a new process/emergency, there were many evolutions as they figured out how to do the cleaning. Lots of residential properties were cleaned multiple times. They were changing the standards and had to reclean residential properties, process was finalized more as they got to the end of residential properties. Planting grass/getting grass to grow was a challenge throughout. Positive interactions with the project as Mayor of Libby.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

It's obvious that the work made a difference to air quality and exposure - made a huge difference. Feel a lot more comfortable now and continuing education is important. Amount of exposure now and asbestos related diseases have decreased.

- a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

*OUI hardpack has been a known issue; issues with longevity of the cleanup. Considerable number of residential properties that still can't grow plants in the topsoil
Sewer line in an alley had to excavate and saw significant amount of vermiculite; removing vermiculite from port fence line.
As we become aware of things, we're able to address them.*

- b) How do you learn about what's happening at the Site now?

EPA DEQ updates, ARP provides updates, LARP, USFS logging projects

- c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

*Hard to evaluate how the public is being involved, knows specifically when people are being updated for each operable unit.
Don't think there is anything more you can be doing on community involvement right now; if public is involved, they will search it out and participate.*

3. What is your assessment of the current performance of the remedy in place at the Site?

Remedies that I'm aware of (OUI, 4, 5) they are fairly successful, had the first failure in a long time. People are taking it seriously and there's enough information and ways forward (upcoming projects etc).

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

*Residents have voiced concerns with topsoil quality (inability to grow plants/grass)
ARP does a great job with the public, educating them on the issue and getting them help. LASOC gets funding approved and gets support to residents.*

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
Not that I'm aware of (if anything, potentially at OU3).
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
I think the community is as informed as they want to be; if they are looking for something they will seek it out. Not sure what else you can be doing; we have a variety of public meetings and events over the course of the year and attendance is low.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
Maintaining the quality of collaboration between the entities; government to government relationships can get a little messy. I think we're doing a good job right now and want to maintain that.
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
Yes

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth ArcherAffiliation: EPASubject Name: RedactedAffiliation: Lincoln County ARP & Montana DEQ**Subject Contact Information:**Time: 1:30 p.m.Date: 06/11/2024Interview Location: ARP OfficeInterview Format (circle one): In Person Phone Mail Other:Interview Category: **Local Government**

1. What is your overall impression of the activities at the Site?

The remedy in place appears to be adequate; my experiences of cleanup when I owned properties went well. Current activities are working well; we are gaining trust with the community and contractors. Notification methods work well if contractors and property owners follow the best practices. For those who don't submit Montana 811 tickets for excavations, and/or aren't aware of the PEN requirement for inquiries prior to remodeling or renovations, notification usually (but not always) comes after work activities begin. Occasionally, contractors and residents still voice their belief that LA isn't a concern to them, dislike the EPA and/or don't comply with BMPs. The NOPEC/NOEC notices that were placed on property titles by the EPA have proven to be beneficial in bringing those prior property refusals to the table for sampling investigations, so that the Site has a more complete accounting of Libby Amphibole asbestos that remains. ARP and DEQ are working well together, we can generally handle all the situations that come up, it's way more streamlined.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

The cleanup has had its problems, some of which we're still dealing with today. Mostly due to changes in work procedures (removing all visible, removing a percentage, lab methods) from year to year. Overall project was successful in limiting LA to community. Maintaining the site is a challenge; we are exceeding our original estimates workload; abatement and sampling has increased every year. I worry about the sustainability of trending upwards in how much work ARP is doing each year; are we done?

a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?

For the EPA to continue to provide funding that is adequate to cover costs for ongoing Site monitoring and remediation as needed, public outreach, sampling for land use changes, and NOPEC/NOEC/NUA properties. Database improvements, direction for changes to data tracking in Response Manager (we run into a lot of brick walls when what's in response manager doesn't line up with what you're seeing at a property), track ownership changes? NUA properties (listed as vacant) but now developed? Address changes and subdivided properties? Modifying reimbursements following remediations (paying a property owner who then pays the contractor – DEQ stated this is in progress) Clarification for what should be done for non-use areas that were never sampled; how do we issue a status letter? Needs to be sampled to get the information we need. If the owner refuses to get the sampling done, do you put a NOPEC on them?

b) How do you learn about what's happening at the Site now?

Emails from EPA, public notices, news, Hotline, PEN, Udig.

- c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

I am unaware of the success of the EPA's efforts in reaching the public with information about activities on the Site. It is my overall impression that information regarding Site activities is only a concern when those activities directly affect the parties involved, or if a party takes an interest in making the EPA accountable for past or future endeavors within the Site. Some residents are concerned and cautious, others indifferent. I believe that there is still confusion on behalf of the public on whether the Site has been "cleaned up" when residents encounter remaining vermiculite in their remodel and landscaping activities. Providing site-related information to the public can be challenging. Targeting contractors, realtors, hardware/home improvement and lumber stores with information from LCARP has been beneficial. An informational mailer about the Superfund Site, BMPs would be a good option as well for LCARP to consider. If involved parties include DEQ and ARP, then yes we are well informed. If it is the general public, no. Lots of people still ask if EPA has left town, has the site been cleaned up.

ARP is taking the lead on outreach and keeping the public informed and is doing a fantastic job.

3. What is your assessment of the current performance of the remedy in place at the Site?

The current performance of the remedy in place works well, but hinges on the abilities of residents to maintain the remedy. Property disturbances either by developments, repairs, and remodels is by far the biggest challenge to the remedy for OUs 4 and 7 and the remedy is currently degrading even with the best efforts of ARP. There is no mechanism in place if people buy a property and remodel, tearing down walls in the house. As an example, a resident's home was remodeled and they removed the walls (due to water damage). Workers removed the walls and people were exposed to it and didn't contact ARP; people might move in and not hear about it. The biggest concern to me is remodeling; if its in the exterior its typically lower numbers. Interior numbers are more concerning.

Disturbances and repairs are now being implemented largely by residents and contractors unfamiliar with the Site and the methods used by EPA contractors to put the remedy in place (eg community members impacted depth soil or trace soil on the surface, don't know what running into orange fencing means, people not calling in UDigs, hauling soil to neighbors, getting cross contamination). Site primers, BMPs and site-specific instructions provided by LCARP/MT DEQ have been successful in most instances.

We can only address what we're informed of. We have properties that didn't meet removal criteria at the time; what happens if a future property owner gets the clean letter and moves contamination around and now does it meet the cleanup criteria? What do we do in those situations? We have also seen when residents will dig a contaminated area and spread it over the yard; how do we respond to this?

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

Inquiries and/or complaints from residents and property owners (if applicable) usually center around inconsistencies in the message from the EPA and/or remediations completed over the last 20 years. Most frequent inquiries and/or complaints most often stem from the EPAs request for additional property sampling (criteria change), poor topsoil performance (inability to grow grass/plants), the EPA ROD 25% rule (soils contaminated with LA only removed if found to be greater than 25% of frequent use areas), residents whose properties were designated as non-use or un-developed at the time of EPA sampling and therefore not sampled, are unable to obtain a DEQ Status Letter and must go through the same process as NOPEC/NOEC refusals in order to obtain one; contaminated soil being left at the surface and now new people move in and mow their yards without wetting it down. Confusion between regulated and non-regulated asbestos sampling requirements (ARP only deals with unregulated asbestos).

We have concerns about local fill material not being tested and possibly unknowingly cross contaminating their property. There are several areas in yards where property owners recently bought the fill material and it had to be removed.

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
Unexpected emergency/quick response actions resulting from property disturbances by property owners, and contractors. Mine tailings have been used as road base. City or sub-contractor gets into water main replacements, typically below 3 feet; emergency responses are needed to handle this. Found insulation around mains. ERs are typically areas that weren't tested (below sampling) or couldn't be reached during the cleanup.

Some buildings have graffiti or get the windows broken.

6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
It is my impression that the public is moderately informed regarding the Site's activities and remedial progress. From an advertising or public information standpoint, it is my understanding that 30% of an areas' population is always changing (people moving in/moving away) and that it can be a challenge to determine what information is reaching people's ears and eyeballs. I believe newspapers are not as effective in reaching younger residents, social media isn't always successful due to the reach of newsfeeds and censorship from content moderation. As I stated earlier, targeting contractors, realtors, hardware/home improvement and lumber stores with information has been beneficial for LCARP. A mailer would be a good option to consider.

I recommend EPA sends their own mailer about the completion of the Five-Year Review, what it says, refer to ARP for questions on the site currently.

7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
I recommend doing an ambient air study in 2029 for a whole summer to compare air concentrations to background; confirm effectiveness of the remedy.

8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
No.

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Beth Archer & Dania ZinnerAffiliation: EPASubject Name: Lauren KnickrehmAffiliation: BNSF Sr. Manager
Environmental Remediation**Subject Contact Information:**500 Depot Street,
Whitefish, MT 59937Time: 14:00Date: 7/10/2024Interview Location: Whitefish, MontanaInterview Format (circle one): In Person

Phone

Mail

Other: written
responses submitted
via email**Interview Category: Potentially Responsible Party**

1. What is your overall impression of the activities at the Site?

With regards to remedial activities at the Libby Operable Unit OU 6 (OU6), activities are typically limited to annual inspections of the soil containment remedy component and O&M as-needed based on those inspections. When soil disturbing work needs to occur related to infrastructure projects, the process in place to properly manage soils for the institutional controls (ICs) component of the remedy has been effective.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

a. Can you think of anything that could be improved with the operations and maintenance (O&M) program?
No.

b. How do you learn about what's happening at the Site now?

From EPA's website for the Site.

c. Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?

EPA has contacted me directly about adding BNSF points of contact to its Libby Asbestos Response Plan in the event of a wildland fire at OU3. Otherwise, I have not been informed of activities at the Site since assuming my role at BNSF in May 2022.

3. What is your assessment of the current performance of the remedy in place at the Site?

The existing soil containment and ICs remedy for OU 6 is protective of human health and the environment. The soil containment continues to perform well and is in good condition. For the ICs component of the remedy, BNSF identifies and coordinates any soil disturbing activities planned within OU 6 for both internal BNSF projects and external third-party projects (e.g., utility pole installation).

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

I am not aware of any complaints received associated with the cleanup.

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?

I am not aware of any problems with unusual or unexpected activities at the Site.

6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?

Yes, the EPA RPM is an effective communicator.

7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?

No

8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?

Yes

Libby Asbestos Site Superfund Site**Five-Year Review Interview Form**Site Name: Libby Asbestos SiteEPA ID No.: MT0009083840Interviewer Name: Dania Zinner, Beth ArcherAffiliation: EPASubject Name: DC OrrAffiliation: Resident

Subject Contact Information:

Time: 2:30 p.m.Date: 01/08/2025Interview Location: City CourtInterview Format (circle one): In Person Phone Mail Other:Interview Category: **Resident**

1. What is your overall impression of the activities at the Site?

What happened in Libby was earth moving 101, I worked in construction for years. The synopsis of what they did here was that they were horrible at what they did. We found out they were spreading decontamination back to town. They were covering loads with loose tarps which doesn't stop asbestos fibers. They created more exposure, especially in the early years, than they deleted. The cleanup personally when they came to my house, they broke my foundation and never paid for it. The crews were inexperienced. I am convinced that they created more exposure pathways than they got rid of.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

I know about the O&M program, but I have not seen them releasing information. I find them helpful but I don't see where they're even needed at this point, what little exposure we have from here on out are miniscule. People who worked in the mine had huge occupational exposures; EPA never clarified the difference between exposures from going in their attics to working at the mine.

- a) Can you think of anything that could be improved with the operations and maintenance (O&M) program?
If they really have information they could share it. I think it could be scrapped all together. The contractors already know what they're dealing with, they can clean it up themselves.

- b) How do you learn about what's happening at the Site now?
I learn nothing about what's going on with the Libby Asbestos site now. I know there's stuff going on at the mine, you never hear about it other than some mentions from people who work up there. We don't hear about other work in Libby. The contractors that find it on their projects do not call ARP, they just hope they can hide it.

- c) Has the EPA kept involved parties and surrounding neighbors informed of activities on the site? How can the EPA best provide site-related information in the future?
We had great success with the public meetings. When there's someone in front of us that we can ask a question of, we can pin them down when they lie to us. Public meetings where you can hold people accountable.

3. What is your assessment of the current performance of the remedy in place at the Site?

Basically the same thing. I'm retired and am not moving dirt anymore, when they find it on the job (in walls etc) it gets buried somewhere and gets put in plastic bags that goes to the landfill. It really is a joke. No one is worried about it. Everyone understands that the sensationalism was designed to make Dr. Brad Black and CARD rich by defrauding the government/Medicare.

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?
I know that stuff (asbestos) is being mishandled.
5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?
If I am, I won't tell you.
6. Do you feel the community is well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
I think I've answered that EPA moved out so we're not informed of what's going on here. The information we do get is about the CARD clinic, misdiagnoses. I'm one of them. I was told I have lung disease by the CARD clinic but it was actually heart problems. That is what the community talks about. Our county health officer was more interested in filling his pockets than protecting human health. Brad Black knew about the problems in Libby in 1979. Why is ATSDR still dealing with the CARD clinic? They're a bunch of criminals.

Requesting a public meeting for the five-year review.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
No, I think EPA should get out of town and leave us alone. You've done enough damage.
8. Do you consent to have your name along with your responses to this questionnaire in the FYR report?
Absolutely.



Department of
Microbiology &
Cell Biology

Dear Beth Archer,

November 30, 2024

This letter is in response to the EPA's Five-Year Review of the Libby Asbestos Superfund Site and the proposed future de-listing of OU4 (Libby residential area) and OU7 (Troy residential area). I write to you as an immunotoxicologist who has worked for over 20 years on the health effects of amphibole asbestos, particularly Libby Asbestos (LA). We have published extensively on the association between LA exposure and autoimmune disease. Because the risk of autoimmune and autoinflammatory disease was not considered in the 2015 Site-Wide Human Health Risk Assessment which established the basis for the selected remedy and action levels for the remediation, **it is not possible at this time to determine whether or not the remedy is protective.** Through this letter, I provide evidence that strongly a) contraindicates the de-listing of the residential operational units, and b) supports extension of the Public Health Emergency that currently supports the only clinic in the US that specializes in asbestos related diseases, that manages an extensive health screening program, and that ensures health coverage for those people with asbestos related diseases through special provisions of the Affordable Care Act. To remove these critical services would be not be in the best interests of these communities nor the general public, which benefit tremendously from the knowledge and resources gained from these programs.

1. Much new information has come to light regarding LA in the last 10-12 years. **These new understandings make it currently impossible to say whether the site is safe.** The critical new information includes the following:

- a) The frequency of autoimmune disease diagnoses in the Libby/Troy area is almost triple the expected US prevalence. And the frequency of specific systemic autoimmune diseases, such as systemic lupus erythematosus, is increased 5-10 fold over expected US prevalence values. (Source: CARD/ATSDR Screening Program reports).
- b) The EPA established a reference concentration for Libby Amphibole based on pleural disease outcomes that is significantly lower than standards that had previously been based primarily on cancer outcomes. However, no reference concentration has been established for autoimmune disease.
- c) The lamellar pleural thickening, the basis of the LA-specific RFC, has been shown over the last 5 years to occur much more frequently than previous believed, due to new technologies for detection. Screening data show that diagnoses of this disease have not significantly declined in the last 5 years.
- d) Other newly discovered health outcomes that have not previously been part of the risk assessment for Libby MUST now be taken into account. These include pulmonary hypertension, coronary artery disease, and effects from fibers accumulated in the brain. This requires an entirely new risk assessment before the site can be determined to have been remediated to a safe level.



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Mountains & Minds

2. All of the health outcomes for LA are long-term, with long latency (up to 40 or more years from exposure) and with few or no treatments, making them life-long diagnoses. They can have severe morbidity and mortality, with tremendous health care costs. They are also difficult to diagnose, and this problem has hindered the ability to truly evaluate the magnitude of health impacts because cases are missed or mis-diagnosed, or the link is not made between the exposure and the outcome. Because of these challenges, it is not possible/practical to use simple, rapid health assessment tools.

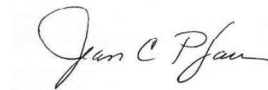
3. It is essential to measure what people are currently breathing. This is partly because we now know that most of the LA fibers are smaller than 5 micrometers in length, making them impossible to see by light microscopy, which is typically used for exposure assessment. It is also now known that these very short fibers contribute substantially to health outcomes throughout the body. Personal monitors must now be implemented for many work and play settings in the Libby/Troy Units, and they must be evaluated by electron microscopy to determine the true exposures that include tiny fibers.

4. A comparison MUST be made between the health of the community before and after remediation. Based on preliminary screening data, health improvement is insignificant. To accurately assess this, two things are required: 1) a registry of data that can be searched by exposure, dates, and health outcomes, and 2) expansion of the Screening Program to include people who arrived in Libby after the remediation.

a) Much of the data needed for this work is available, including serial CT scans, autoimmune screening, coronary artery calcification data, lung disease data: but it is spread out at different institutions. A concerted effort is needed to compile all of the data into a complete LA registry. ATSDR is the perfect site for this valuable and essential tool.

b) A registry would assist in identifying at risk populations, potentially improve treatment with early diagnosis and monitoring, improve delivery of health care to those in need – particularly in those with disease processes that may not yet have been identified as being associated with LA, and determine the need for further intervention at the site.

Sincerely,



Jean C. Pfau, Ph.D.
Faculty, WIMU Regional Program in Veterinary Medicine

Jaime Szeinuk, Doctor in Medicine and Surgery

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36 Malvern Lane
Scarsdale, NY 10583-6809

December 2, 2024

Ms. Beth Archer
Community Involvement Coordinator
US Environmental Protection Agency (EPA)
E-mail: archer.elizabeth@epa.gov

Respected Ms. Archer,

This letter is in response to the EPA's Five-Year Review of the Libby Asbestos Superfund Site and the proposed future de-listing of OU4 (Libby residential area) and OU7 (Troy residential area). I write you as an Occupational Medicine physician who has worked, studied and published for over 20 years of the health effects of Libby Amphibole asbestos (LA).

I have had the honor to be part of a research group that has published extensively on the health effects of exposure to LA. Our group has made ground-breaking discoveries on those health effects, particularly highlighting the differences between human disease that results as a consequence of exposure to LA and the more "classical" disease that results from exposure to the regulated asbestos fibers, including other amphiboles and serpentine asbestos.

One of the most important and newer facts we have identified is the risk of autoimmune and inflammatory disease that results from exposure to LA. This fact was not fully known and explored in 2015 and, as such, it was not considered in the 2015 Site-Wide Human Health Risk Assessment which established the basis for the selected remedy and action levels for the remediation. Based on our research, we are convinced that **it is not possible at this time to determine whether or not the implemented remedy up-to-date is fully protective of the health effects of LA**. Through this letter, I provide evidence that strongly a) contraindicates the de-listing of the residential operational units, and b) supports extension of the Public Health Emergency that currently supports the only clinic in the US that specializes in asbestos related diseases, that manages an extensive health screening program, and that ensures health coverage for those people with asbestos related diseases through special provisions of the Affordable Care Act. To remove these critical services would be not be in the best interests of these communities nor the general public, which benefit tremendously from the knowledge and resources gained from these programs.

1. Much new information has come to light regarding LA in the last 10-12 years. **These new understandings make it currently impossible to say whether the site is safe**. The critical new information includes the following:

a) The frequency of autoimmune disease diagnoses in the Libby/Troy area is almost triple the expected US prevalence. And the frequency of specific systemic autoimmune diseases, such as systemic lupus erythematosus, is increased 5-10 fold over expected US prevalence values. (Source: CARD/ATSDR Screening Program reports).

b) The EPA established a reference concentration for Libby Amphibole based on pleural disease outcomes that is significantly lower than standards that had previously been based primarily on cancer outcomes. However, no reference concentration has been established for autoimmune disease.

c) The lamellar pleural thickening, the basis of the LA-specific RFC, has been shown over the last 5 years to occur much more frequently than previously believed, due to new technologies for detection. Screening data show that diagnoses of this disease have not significantly declined in the last 5 years.

d) Other newly discovered health outcomes that have not previously been part of the risk assessment for Libby MUST now be taken into account. These include pulmonary hypertension, coronary artery disease, and effects from fibers accumulated in the brain. This requires an entirely new risk assessment before the site can be determined to have been remediated to a safe level.

2. All of the health outcomes for LA are long-term, with long latency (up to 40 or more years from exposure) and with few or no treatments, making them life-long diagnoses. They can have severe morbidity and mortality, with tremendous health care costs. They are also difficult to diagnose, and this problem has hindered the ability to truly evaluate the magnitude of health impacts because cases are missed or mis-diagnosed, or the link is not made between the exposure and the outcome. Because of these challenges, it is not possible/practical to use simple, rapid health assessment tools.

3. It is essential to measure what people are currently breathing. This is partly because we now know that most of the LA fibers are smaller than 5 micrometers in length, making them impossible to see by light microscopy, which is typically used for exposure assessment. It is also now known that these very short fibers contribute substantially to health outcomes throughout the body. Personal monitors must now be implemented for many work and play settings in the Libby/Troy Units, and they must be evaluated by electron microscopy to determine the true exposures that include tiny fibers.

4. A comparison MUST be made between the health of the community before and after remediation. Based on preliminary screening data, health improvement is insignificant. To accurately assess this, two things are required: 1) a registry of data that can be searched by exposure, dates, and health outcomes, and 2) expansion of the Screening Program to include people who arrived in Libby after the remediation.

a) Much of the data needed for this work is available, including serial CT scans, autoimmune screening, coronary artery calcification data, lung disease data: but it is spread out at different institutions. A concerted effort is needed to compile all of the data into a complete LA registry. ATSDR is the perfect site for this valuable and essential tool.

b) A registry would assist in identifying at risk populations, potentially improve treatment with early diagnosis and monitoring, improve delivery of health care to those in need –

particularly in those with disease processes that may not yet have been identified as being associated with LA, and determine the need for further intervention at the site.

Our group believes that similar health effects to those that are caused by exposure to LA could result from exposures to other non-yet-classified asbestiform fibers which exist throughout the entire United States. Therefore, the continuation of the Superfund programs and the implementation of a registry are crucial in preserving the health not only of the Libby area, but could potentially result in health benefits in other parts of our country.

In conclusion, I strongly believe that de-listing the Libby Asbestos Superfund Site may result in serious health consequences not only to the people who have been exposed to LA but to those who are potentially exposed to other naturally occurring and not-yet-classified amphiboles. I urge you to please consider extending the Superfund for the future to come.

Respectfully,

A handwritten signature in black ink, appearing to read "Jaime Szeinuk". The signature is written in a cursive style with some loops and flourishes.

Jaime Szeinuk, MD
Attending Physician

Dear Beth Archer,

Email to: archer.elizabeth@epa.gov

This letter is in response to the EPA's Five-Year Review of the Libby Asbestos Superfund Site and the proposed de-listing of OU4 (Libby residential area) and OU7 (Troy residential area). I write to you as the former Medical Director of The Center for Asbestos Related Disease (CARD) for over twenty years, a current member of its Board of Directors, and the Lincoln County Public Health Medical Officer since before the extent of the public health emergency due to Libby Amphibole (LA) was known. Over the years, I have seen firsthand the ongoing impacts on my family, friends, and community. CARD provides an invaluable service to the local community through asbestos related disease (ARD) screening and monitoring, as well as outreach, education, and research on LA. Its presence is crucial in monitoring for sentinel events that might signal new exposures and in advancing the science of LA. Based on the currently known evidence listed below, I do not believe it is possible at this time to determine whether or not the remedy is protective. Through this letter, I provide evidence that strongly a) contraindicates the de-listing of the residential operational units, and b) supports extension of the Public Health Emergency that currently supports the only clinic in the US that specializes in asbestos related diseases, that manages an extensive health screening program, and that ensures health coverage for those people with asbestos related diseases through special provisions of the Affordable Care Act. To remove these critical services would be not be in the best interests of these communities nor the general public, which benefit tremendously from the knowledge and resources gained from these programs.

1. Much new information has come to light regarding LA in the last 10-12 years. **These new understandings make it currently impossible to say whether the site is safe.** The critical new information includes the following:

a) The frequency of autoimmune disease diagnoses in the Libby/Troy area is almost triple the expected US prevalence. And the frequency of specific systemic autoimmune diseases, such as systemic lupus erythematosus, is increased 5-10 fold over expected US prevalence values. (Source: CARD/ATSDR Screening Program reports).

b) The EPA established a reference concentration for Libby Amphibole based on pleural disease outcomes that is significantly lower than standards that had previously been based primarily on cancer outcomes. However, no reference concentration has been established for autoimmune disease.

c) The lamellar pleural thickening, the basis of the LA-specific RFC, has been shown over the last 5 years to occur much more frequently than previous believed, due to new technologies for detection. Screening data show that diagnoses of this disease have not significantly declined in the last 5 years.

d) Other newly discovered health outcomes that have not previously been part of the risk assessment for Libby MUST now be taken into account. These include pulmonary hypertension, coronary artery disease, and effects from fibers accumulated in the brain. This requires an entirely new risk assessment before the site can be determined to have been remediated to a safe level.

2. All of the health outcomes for LA are long-term, with long latency (up to 40 or more years from exposure) and with few or no treatments, making them life-long diagnoses. They can have severe morbidity and mortality, with tremendous health care costs. They are also difficult to diagnose, and this problem has hindered the ability to truly evaluate the magnitude of health impacts because cases are missed or mis-diagnosed, or the link is not made between the exposure and the outcome. Because of these challenges, it is not possible/practical to use simple, rapid health assessment tools.

3. It is essential to measure what people are currently breathing. This is partly because we now know that most of the LA fibers are smaller than 5 micrometers in length, making them impossible to see by

light microscopy, which is typically used for exposure assessment. It is also now known that these very short fibers contribute substantially to health outcomes throughout the body. Personal monitors must now be implemented for many work and play settings in the Libby/Troy Units, and they must be evaluated by electron microscopy to determine the true exposures that include tiny fibers.

4. A comparison MUST be made between the health of the community before and after remediation. Based on preliminary screening data, health improvement is insignificant. To accurately assess this, two things are required: 1) a registry of data that can be searched by exposure, dates, and health outcomes, and 2) expansion of the Screening Program to include people who arrived in Libby after the remediation.

a) Much of the data needed for this work is available, including serial CT scans, autoimmune screening, coronary artery calcification data, lung disease data: but it is spread out at different institutions. A concerted effort is needed to compile all of the data into a complete LA registry. ATSDR is the perfect site for this valuable and essential tool.

b) A registry would assist in identifying at risk populations, potentially improve treatment with early diagnosis and monitoring, improve delivery of health care to those in need – particularly in those with disease processes that may not yet have been identified as being associated with LA, and determine the need for further intervention at the site.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Black, M.D.", with a stylized flourish at the end.

Brad Black, M.D.

Dear Beth Archer,

Email to: archer.elizabeth@epa.gov

This letter is in response to the EPA's Five-Year Review of the Libby Asbestos Superfund Site and the proposed de-listing of OU4 (Libby residential area) and OU7 (Troy residential area). I write to you on behalf of The Center for Asbestos Related Disease (CARD) where I have served as a physician and current Medical Director. I daily see the tragedies of illness, death, and poverty that have resulted from the Libby Amphibole (LA) public health emergency. CARD plays a crucial role in the local community through asbestos related disease (ARD) screening and monitoring, as well as outreach, education, and research on LA. Its continued presence is crucial in monitoring for sentinel events that might signal new exposures and in advancing the science of LA. We are currently seeing younger patients in their 50's, 40's, and even 30's diagnosed with ARD. The link between autoimmune disease and ARD due to LA, made only in the last decade or so, suggests that there may be many more individuals exposed who have not yet been diagnosed with an ARD, but are likely to be in the future.

Based on the currently known evidence listed below, I do not believe it is possible at this time to determine whether or not the remedy is protective. Through this letter, I provide evidence that strongly a) contraindicates the de-listing of the residential operational units, and b) supports extension of the Public Health Emergency that currently supports the only clinic in the US that specializes in asbestos related diseases, that manages an extensive health screening program, and that ensures health coverage for those people with asbestos related diseases through special provisions of the Affordable Care Act. To remove these critical services would be not be in the best interests of these communities nor the general public, which benefit tremendously from the knowledge and resources gained from these programs.

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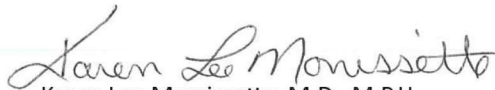
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Sincerely,



Karen Lee Morrissette, M.D., M.P.H.

Medical Director

The Center for Asbestos Related Disease, Inc.

From: [Gene & Nora Reckin](#)
To: [Archer, Beth](#)
Subject: Re: Libby Superfund Site
Date: Monday, March 3, 2025 7:28:31 PM
Attachments: [image001.png](#)

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

March 3, 20025

Elizabeth Archer

Re: Libby Superfund Site

Dear Ms. Archer,

My name is Gene Reckin. I have lived in Libby for 46 years and retired in 2015 from teaching science in Libby Public Schools for 35 years. I was a member of the Board of Directors of The Center for Asbestos Disease for 13 years. I am writing to you regarding the EPA five-year review of the Libby Asbestos Superfund Site and the proposed de-listing of both OU4 and OU7 as well as the termination of the Public Health Emergency.

As my cell biology professor told our class during undergrad years back in the 70's, every time his research answered a question it enabled him to ask at least 10 new ones. Much has been learned since EPA arrived on the scene over 20 years ago. I remember when Paul Peronard, the first site manager, said there wasn't a cleanup manual for this problem and that EPA would have to write one on the fly. I watched your clean-up strategies evolve and improve as you learned over time.

In that sense, health implications are no different from the cleanup process. When reference exposure concentrations were established to determine how 'clean' our environment needed to be to reduce risk to an acceptable level (realizing that zero is not attainable), so much was not known about the disease and therefore not considered when establishing those standards. But as research has moved forward, especially in the last 10 years, we have learned that asbestos related disease is much more than just a pleural disease. Autoimmunity, coronary artery disease, pulmonary hypertension, and the effects of asbestos fibers entering the brain are now on the radar and need to be investigated further. To do that we need support for research and a registry to house and make available the information gleaned from such research. It seems to me that ATSDR would be the logical choice to coordinate such an effort. We also need CARD to continue screening and data collection which has provided the lion's share of the information we now have. The medical community at large remains unaware and un-trained, save for the direct connection between asbestos and mesothelioma, regarding asbestos related disease. Much education is needed which CARD can help provide.

With the declaration that the cleanup in Libby is 'complete' came the perception that the problem is over. It is not. Exposure will continue and with the long latency period of asbestos related disease the list of victims will continue to grow. And Libby is not the only place in America, nor the world for that matter, which still has asbestos in the environment as well as other disease-causing airborne particulates. What we can contribute to science at all levels regarding diagnosis, treatment and prevention of disease will help countless others in the future. Please consider maintaining the current status of OU4 and OU7 and the continuance of the Public Health Emergency. Our work is not done.

Most sincerely,

Gene Reckin

620 Florence Road
Libby, MT 59923
gnreckin@gmail.com

APPENDIX F – SITE INSPECTION CHECKLISTS

OU1 and OU2

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST																																																								
I. SITE INFORMATION																																																								
Site Name: Libby Asbestos Site	Date of Inspection: <u>10/23/2024</u>																																																							
Location and Region: Libby, Montana, 8	EPA ID: MT0009083840																																																							
Agency, Office or Company Leading the Five-Year Review: <u>The EPA</u>	Weather/Temperature: <u>40s, sunny</u>																																																							
Remedy Includes: (check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other: <u>Excavation, removal</u> </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls </td> </tr> </table>		<input checked="" type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other: <u>Excavation, removal</u>	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls																																																					
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Attachments: <input type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached																																																								
II. INTERVIEWS (check all that apply)																																																								
1. O&M Site Manager <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 30%; text-align: center;">_____</td> <td style="width: 30%; text-align: center;">_____</td> <td style="width: 40%; text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____</td> </tr> <tr> <td colspan="3">Problems, suggestions <input type="checkbox"/> Report attached: _____</td> </tr> </table>		_____	_____	_____	Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____			Problems, suggestions <input type="checkbox"/> Report attached: _____																																													
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3. Local Regulatory Authorities and Response Agencies (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply. <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Agency _____</td> <td style="width: 15%;">_____</td> <td style="width: 15%;">_____</td> <td style="width: 15%;">_____</td> <td style="width: 15%;">_____</td> </tr> <tr> <td>Contact</td> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Phone</td> </tr> <tr> <td colspan="5">Problems/suggestions <input type="checkbox"/> Report attached: _____</td> </tr> <tr><td colspan="5"> </td></tr> <tr> <td>Agency _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Contact</td> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Phone</td> </tr> <tr> <td colspan="5">Problems/suggestions <input type="checkbox"/> Report attached: _____</td> </tr> <tr><td colspan="5"> </td></tr> <tr> <td>Agency _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Contact</td> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Phone</td> </tr> <tr> <td colspan="5">Problems/suggestions <input type="checkbox"/> Report attached: _____</td> </tr> </table>		Agency _____	_____	_____	_____	_____	Contact	Name	Title	Date	Phone	Problems/suggestions <input type="checkbox"/> Report attached: _____										Agency _____	_____	_____	_____	_____	Contact	Name	Title	Date	Phone	Problems/suggestions <input type="checkbox"/> Report attached: _____										Agency _____	_____	_____	_____	_____	Contact	Name	Title	Date	Phone	Problems/suggestions <input type="checkbox"/> Report attached: _____				
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Problems/suggestions <input type="checkbox"/> Report attached: _____																																																								
4. Other Interviews (optional) <input type="checkbox"/> Report attached: _____																																																								
III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)																																																								

1.	O&M Documents	<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
		<input type="checkbox"/> As-built drawings	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
		<input type="checkbox"/> Maintenance logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
2.	Site-Specific Health and Safety Plan		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Contingency plan/emergency response plan		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
3.	O&M and OSHA Training Records		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
4.	Permits and Service Agreements				
	<input type="checkbox"/> Air discharge permit		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits: _____		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
5.	Gas Generation Records		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
6.	Settlement Monument Records		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
7.	Groundwater Monitoring Records		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
8.	Leachate Extraction Records		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
9.	Discharge Compliance Records				
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		<input checked="" type="checkbox"/> N/A
	Remarks: _____				
10.	Daily Access/Security Logs		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: _____				
IV. O&M COSTS					
1.	O&M Organization				
	<input type="checkbox"/> State in-house		<input checked="" type="checkbox"/> Contractor for state		
	<input type="checkbox"/> PRP in-house		<input type="checkbox"/> Contractor for PRP		
	<input type="checkbox"/> Federal facility in-house		<input type="checkbox"/> Contractor for Federal facility		

1. Implementation and Enforcement			
Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Type of monitoring (e.g., self-reporting, drive by): <u>Self-reporting</u>			
Frequency: <u>Annual</u>			
Responsible party/agency: <u>Montana DEQ</u>			
Contact _____	_____	_____	_____
Name	Title	Date	Phone
Reporting is up to date	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Reports are verified by the lead agency	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Specific requirements in deed or decision documents have been met	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Other problems or suggestions: <input type="checkbox"/> Report attached			
2. Adequacy <input checked="" type="checkbox"/> ICs are adequate <input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A			
Remarks: _____			
D. General			
1. Vandalism/Trespassing <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No vandalism evident			
Remarks: _____			
2. Land Use Changes On-Site <input checked="" type="checkbox"/> N/A			
Remarks: _____			
3. Land Use Changes Off-Site <input checked="" type="checkbox"/> N/A			
Remarks: _____			
VI. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1. Roads Damaged <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A			
Remarks: _____			
B. Other Site Conditions			
Remarks: _____			
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1. Settlement (low spots) <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Settlement not evident			
Area extent: _____		Depth: _____	
Remarks: _____			
2. Cracks <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Cracking not evident			
Lengths: _____		Widths: _____	
		Depths: _____	
Remarks: _____			

3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
4.	Holes	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Holes not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
5.	Vegetative Cover	<input checked="" type="checkbox"/> Grass	<input checked="" type="checkbox"/> Cover properly established
	<input type="checkbox"/> No signs of stress	<input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	
	Remarks: _____		
6.	Alternative Cover (e.g., armored rock, concrete)		<input type="checkbox"/> N/A
	Remarks: <u>Riprap is in good condition in OU1.</u>		
7.	Bulges	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident
	Area extent: _____		Height: _____
	Remarks: _____		
8.	Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident	
	<input type="checkbox"/> Wet areas	<input type="checkbox"/> Location shown on site map	Area extent: _____
	<input type="checkbox"/> Ponding	<input type="checkbox"/> Location shown on site map	Area extent: _____
	<input type="checkbox"/> Seeps	<input type="checkbox"/> Location shown on site map	Area extent: _____
	<input type="checkbox"/> Soft subgrade	<input type="checkbox"/> Location shown on site map	Area extent: _____
	Remarks: _____		
9.	Slope Instability	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map
	<input checked="" type="checkbox"/> No evidence of slope instability		
	Area extent: _____		
	Remarks: _____		
B. Benches <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)			
1.	Flows Bypass Bench	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
	Remarks: _____		
2.	Bench Breached	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
	Remarks: _____		
3.	Bench Overtopped	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
	Remarks: _____		
C. Letdown Channels <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)			

1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of settlement
	Area extent: _____		Depth: _____
	Remarks: _____		
2.	Material Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of degradation
	Material type: _____		Area extent: _____
	Remarks: _____		
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of erosion
	Area extent: _____		Depth: _____
	Remarks: _____		
4.	Undercutting	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of undercutting
	Area extent: _____		Depth: _____
	Remarks: _____		
5.	Obstructions	Type: _____	<input type="checkbox"/> No obstructions
	<input type="checkbox"/> Location shown on site map	Area extent: _____	
	Size: _____		
	Remarks: _____		
6.	Excessive Vegetative Growth	Type: _____	
	<input type="checkbox"/> No evidence of excessive growth		
	<input type="checkbox"/> Vegetation in channels does not obstruct flow		
	<input type="checkbox"/> Location shown on site map	Area extent: _____	
	Remarks: _____		
D. Cover Penetrations			
	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A	
1.	Gas Vents	<input type="checkbox"/> Active	<input type="checkbox"/> Passive
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition
			<input type="checkbox"/> N/A
	Remarks: _____		
2.	Gas Monitoring Probes		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition
			<input type="checkbox"/> N/A
	Remarks: _____		
3.	Monitoring Wells (within surface area of landfill)		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition
			<input type="checkbox"/> N/A
	Remarks: _____		
4.	Extraction Wells Leachate		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
			<input type="checkbox"/> Good condition

<input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
5.	Settlement Monuments <input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A Remarks: _____
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
2.	Gas Collection Wells, Manifolds and Piping <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
F. Cover Drainage Layer <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Outlet Pipes Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____
2.	Outlet Rock Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____
G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Siltation Area extent: _____ Depth: _____ <input type="checkbox"/> N/A <input type="checkbox"/> Siltation not evident Remarks: _____
2.	Erosion Area extent: _____ Depth: _____ <input type="checkbox"/> Erosion not evident Remarks: _____
3.	Outlet Works <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____
4.	Dam <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____
H. Retaining Walls <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Deformations <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Deformation not evident Horizontal displacement: _____ Vertical displacement: _____ Rotational displacement: _____ Remarks: _____

2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
Remarks: _____			
I. Perimeter Ditches/Off-Site Discharge		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Siltation not evident
Area extent: _____		Depth: _____	
Remarks: _____			
2.	Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
<input type="checkbox"/> Vegetation does not impede flow			
Area extent: _____		Type: _____	
Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident
Area extent: _____		Depth: _____	
Remarks: _____			
4.	Discharge Structure	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks: _____			
VIII. VERTICAL BARRIER WALLS		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident
Area extent: _____		Depth: _____	
Remarks: _____			
2.	Performance Monitoring	Type of monitoring: _____	
<input type="checkbox"/> Performance not monitored			
Frequency: _____		<input type="checkbox"/> Evidence of breaching	
Head differential: _____			
Remarks: _____			
IX. GROUNDWATER/SURFACE WATER REMEDIES		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps and Pipelines		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Pumps, Wellhead Plumbing and Electrical		
<input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A			
Remarks: _____			
2.	Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances		
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance			
Remarks: _____			
3.	Spare Parts and Equipment		
<input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided			
Remarks: _____			
B. Surface Water Collection Structures, Pumps and Pipelines		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A

1.	Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3.	Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____
C. Treatment System <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1.	Treatment Train (check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____ Remarks: _____
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3.	Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance Remarks: _____
4.	Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
5.	Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks: _____
6.	Monitoring Wells (pump and treatment remedy)

3.	O&M and OSHA Training Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
4.	Permits and Service Agreements			
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
6.	Settlement Monument Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
7.	Groundwater Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
8.	Leachate Extraction Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
9.	Discharge Compliance Records			
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
10.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
IV. O&M COSTS				
1.	O&M Organization			
	<input type="checkbox"/> State in-house	<input checked="" type="checkbox"/> Contractor for state		
	<input type="checkbox"/> PRP in-house	<input type="checkbox"/> Contractor for PRP		
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility		
	<input type="checkbox"/> _____			
2.	O&M Cost Records			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		
	<input type="checkbox"/> Funding mechanism/agreement in place	<input checked="" type="checkbox"/> Unavailable		
	Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached			
	Total annual cost by year for review period if available			
	From: _____	To: _____	_____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	

Remarks: _____			
3.	Land Use Changes Off-Site	<input checked="" type="checkbox"/> N/A	
Remarks: _____			
VI. GENERAL SITE CONDITIONS			
A. Roads <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Roads Damaged	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Roads adequate <input type="checkbox"/> N/A	
Remarks: _____			
B. Other Site Conditions			
Remarks: _____			
VII. LANDFILL COVERS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (low spots)	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Cracking not evident	
Lengths: _____		Widths: _____	
		Depths: _____	
Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
4.	Holes	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Holes not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
5.	Vegetative Cover	<input type="checkbox"/> Grass <input type="checkbox"/> Cover properly established	
<input type="checkbox"/> No signs of stress		<input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	
Remarks: _____			
6.	Alternative Cover (e.g., armored rock, concrete)	<input type="checkbox"/> N/A	
Remarks: _____			
7.	Bulges	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Bulges not evident	
Area extent: _____		Height: _____	
Remarks: _____			
8.	Wet Areas/Water Damage	<input type="checkbox"/> Wet areas/water damage not evident	
<input type="checkbox"/> Wet areas		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Ponding		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Seeps		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Soft subgrade		<input type="checkbox"/> Location shown on site map	Area extent: _____

Remarks: _____		
9.	Slope Instability <input type="checkbox"/> No evidence of slope instability Area extent: _____ Remarks: _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map
B. Benches <input type="checkbox"/> Applicable <input type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	Flows Bypass Bench Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay
2.	Bench Breached Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay
3.	Bench Overtopped Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay
C. Letdown Channels <input type="checkbox"/> Applicable <input type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
1.	Settlement (Low spots) Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of settlement Depth: _____
2.	Material Degradation Material type: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of degradation Area extent: _____
3.	Erosion Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of erosion Depth: _____
4.	Undercutting Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of undercutting Depth: _____
5.	Obstructions <input type="checkbox"/> Location shown on site map Size: _____ Remarks: _____	Type: _____ Area extent: _____ <input type="checkbox"/> No obstructions
6.	Excessive Vegetative Growth <input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow	Type: _____

<input type="checkbox"/> Location shown on site map Remarks: _____	Area extent: _____
D. Cover Penetrations <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Gas Vents <input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
2. Gas Monitoring Probes <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
3. Monitoring Wells (within surface area of landfill) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
4. Extraction Wells Leachate <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
5. Settlement Monuments <input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A Remarks: _____	
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
2. Gas Collection Wells, Manifolds and Piping <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3. Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
F. Cover Drainage Layer <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Outlet Pipes Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____	
2. Outlet Rock Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____	

G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Siltation	Area extent: _____	Depth: _____ <input type="checkbox"/> N/A
	<input type="checkbox"/> Siltation not evident		
	Remarks: _____		
2.	Erosion	Area extent: _____	Depth: _____
	<input type="checkbox"/> Erosion not evident		
	Remarks: _____		
3.	Outlet Works	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
4.	Dam	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
H. Retaining Walls <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident
	Horizontal displacement: _____	Vertical displacement: _____	
	Rotational displacement: _____		
	Remarks: _____		
2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
	Remarks: _____		
I. Perimeter Ditches/Off-Site Discharge <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Siltation not evident
	Area extent: _____	Depth: _____	
	Remarks: _____		
2.	Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
	<input type="checkbox"/> Vegetation does not impede flow		
	Area extent: _____	Type: _____	
	Remarks: _____		
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident
	Area extent: _____	Depth: _____	
	Remarks: _____		
4.	Discharge Structure	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident
	Area extent: _____	Depth: _____	
	Remarks: _____		
2.	Performance Monitoring	Type of monitoring: _____	

<input type="checkbox"/> Performance not monitored Frequency: _____ Head differential: _____ Remarks: _____	<input type="checkbox"/> Evidence of breaching
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
A. Groundwater Extraction Wells, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Pumps, Wellhead Plumbing and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____	
B. Surface Water Collection Structures, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____	
C. Treatment System <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Treatment Train (check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified	

<input type="checkbox"/> Quantity of groundwater treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____ Remarks: _____
2. Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3. Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance Remarks: _____
4. Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
5. Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks: _____
6. Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
D. Monitoring Data
1. Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality
2. Monitoring Data Suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining
E. Monitored Natural Attenuation
1. Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
<p style="text-align: center;">X. OTHER REMEDIES</p> If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.
<p style="text-align: center;">XI. OVERALL OBSERVATIONS</p>
A. Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>The remedy consists of excavation and off-site disposal of contaminated soil, encapsulation of contaminated building materials, and institutional controls. The implemented remedies at OU4 and OU7 appear to be effective and functioning as designed with no apparent issues that would impact the remedy. In OU4, property owners are using Montana 811 and ARP prior to performing work on their properties.</u>

B. Adequacy of O&M
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>No issues noted.</u>
C. Early Indicators of Potential Remedy Problems
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. <u>No early indicators of potential remedy problems were observed.</u>
D. Opportunities for Optimization
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>None at this time.</u>

Remarks: _____			
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
6.	Settlement Monument Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
7.	Groundwater Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
8.	Leachate Extraction Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
10.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
IV. O&M COSTS			
1.	O&M Organization		
	<input type="checkbox"/> State in-house	<input checked="" type="checkbox"/> Contractor for state	
	<input type="checkbox"/> PRP in-house	<input type="checkbox"/> Contractor for PRP	
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility	
	<input type="checkbox"/> _____		
2.	O&M Cost Records		
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	
	<input type="checkbox"/> Funding mechanism/agreement in place	<input checked="" type="checkbox"/> Unavailable	
	Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached		
	Total annual cost by year for review period if available		
	From: _____	To: _____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost
	From: _____	To: _____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost

Remarks: _____			
VI. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads Damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks: _____			
B. Other Site Conditions			
Remarks: _____			
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Area extent: _____		Depth: _____	
Remarks: _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
Lengths: _____		Widths: _____	Depths: _____
Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Area extent: _____		Depth: _____	
Remarks: _____			
4.	Holes	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Holes not evident
Area extent: _____		Depth: _____	
Remarks: _____			
5.	Vegetative Cover	<input checked="" type="checkbox"/> Grass	<input checked="" type="checkbox"/> Cover properly established
<input type="checkbox"/> No signs of stress		<input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	
Remarks: _____			
6.	Alternative Cover (e.g., armored rock, concrete)		<input checked="" type="checkbox"/> N/A
Remarks: _____			
7.	Bulges	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident
Area extent: _____		Height: _____	
Remarks: _____			
8.	Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident	
<input type="checkbox"/> Wet areas		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Ponding		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Seeps		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Soft subgrade		<input type="checkbox"/> Location shown on site map	Area extent: _____
Remarks: _____			
9.	Slope Instability	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map

D. Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Vents	<input type="checkbox"/> Active	<input type="checkbox"/> Passive
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
Remarks: _____			
2.	Gas Monitoring Probes	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
Remarks: _____			
3.	Monitoring Wells (within surface area of landfill)	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
Remarks: _____			
4.	Extraction Wells Leachate	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
Remarks: _____			
5.	Settlement Monuments	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A
Remarks: _____			
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Treatment Facilities	<input type="checkbox"/> Flaring	<input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance	
Remarks: _____			
2.	Gas Collection Wells, Manifolds and Piping	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance
Remarks: _____			
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A
Remarks: _____			
F. Cover Drainage Layer <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Outlet Pipes Inspected	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks: _____			
2.	Outlet Rock Inspected	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks: _____			
G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			

1.	Siltation	Area extent: _____	Depth: _____	<input type="checkbox"/> N/A
	<input type="checkbox"/> Siltation not evident			
	Remarks: _____			
2.	Erosion	Area extent: _____	Depth: _____	
	<input type="checkbox"/> Erosion not evident			
	Remarks: _____			
3.	Outlet Works	<input type="checkbox"/> Functioning		<input type="checkbox"/> N/A
	Remarks: _____			
4.	Dam	<input type="checkbox"/> Functioning		<input type="checkbox"/> N/A
	Remarks: _____			
H. Retaining Walls		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A	
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident	
	Horizontal displacement: _____		Vertical displacement: _____	
	Rotational displacement: _____			
	Remarks: _____			
2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident	
	Remarks: _____			
I. Perimeter Ditches/Off-Site Discharge		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A	
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Siltation not evident	
	Area extent: _____		Depth: _____	
	Remarks: _____			
2.	Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A	
	<input type="checkbox"/> Vegetation does not impede flow			
	Area extent: _____		Type: _____	
	Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident	
	Area extent: _____		Depth: _____	
	Remarks: _____			
4.	Discharge Structure	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A	
	Remarks: _____			
VIII. VERTICAL BARRIER WALLS		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A	
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident	
	Area extent: _____		Depth: _____	
	Remarks: _____			
2.	Performance Monitoring	Type of monitoring: _____		
	<input type="checkbox"/> Performance not monitored			
	Frequency: _____		<input type="checkbox"/> Evidence of breaching	

Head differential: _____ Remarks: _____
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Pumps, Wellhead Plumbing and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____
B. Surface Water Collection Structures, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____
C. Treatment System <input type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Treatment Train (check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____

Remarks: _____	
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3.	Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance Remarks: _____
4.	Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
5.	Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks: _____
6.	Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
D. Monitoring Data	
1.	Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality
2.	Monitoring Data Suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining
E. Monitored Natural Attenuation	
1.	Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
X. OTHER REMEDIES	
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.	
XI. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>The remedy consists of excavation and off-site disposal of contaminated soil, encapsulation of contaminated building materials, and institutional controls. The implemented remedy at OU5 appears to be effective and functioning as designed with no apparent issues that would impact the remedy.</u>
B.	Adequacy of O&M

	Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>Montana DEQ conducts annual inspections at OU5 in accordance with the O&M Plan.</u>
C.	Early Indicators of Potential Remedy Problems
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. <u>None at this time.</u>
D.	Opportunities for Optimization
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>None at this time.</u>

Remarks: _____			
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
6.	Settlement Monument Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
7.	Groundwater Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
8.	Leachate Extraction Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
10.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
Remarks: _____			
IV. O&M COSTS			
1.	O&M Organization		
	<input type="checkbox"/> State in-house	<input checked="" type="checkbox"/> Contractor for state	
	<input type="checkbox"/> PRP in-house	<input type="checkbox"/> Contractor for PRP	
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility	
	<input type="checkbox"/> _____		
2.	O&M Cost Records		
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	
	<input type="checkbox"/> Funding mechanism/agreement in place	<input checked="" type="checkbox"/> Unavailable	
	Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached		
	Total annual cost by year for review period if available		
	From: _____	To: _____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost
	From: _____	To: _____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost

Remarks: _____			
VI. GENERAL SITE CONDITIONS			
A. Roads <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Roads Damaged	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks: _____			
B. Other Site Conditions			
Remarks: _____			
VII. LANDFILL COVERS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (low spots)	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident
Area extent: _____		Depth: _____	
Remarks: _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Cracking not evident
Lengths: _____		Widths: _____	Depths: _____
Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident
Area extent: _____		Depth: _____	
Remarks: _____			
4.	Holes	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Holes not evident
Area extent: _____		Depth: _____	
Remarks: _____			
5.	Vegetative Cover	<input type="checkbox"/> Grass	<input type="checkbox"/> Cover properly established
<input type="checkbox"/> No signs of stress		<input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	
Remarks: _____			
6.	Alternative Cover (e.g., armored rock, concrete)		<input type="checkbox"/> N/A
Remarks: _____			
7.	Bulges	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Bulges not evident
Area extent: _____		Height: _____	
Remarks: _____			
8.	Wet Areas/Water Damage	<input type="checkbox"/> Wet areas/water damage not evident	
<input type="checkbox"/> Wet areas		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Ponding		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Seeps		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Soft subgrade		<input type="checkbox"/> Location shown on site map	Area extent: _____
Remarks: _____			
9.	Slope Instability	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map

D. Cover Penetrations				<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Gas Vents	<input type="checkbox"/> Active	<input type="checkbox"/> Passive		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition	
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A	
Remarks: _____					
2.	Gas Monitoring Probes				
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition	
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A	
Remarks: _____					
3.	Monitoring Wells (within surface area of landfill)				
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition	
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A	
Remarks: _____					
4.	Extraction Wells Leachate				
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition	
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A	
Remarks: _____					
5.	Settlement Monuments	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed	<input type="checkbox"/> N/A	
Remarks: _____					
E. Gas Collection and Treatment				<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Gas Treatment Facilities				
	<input type="checkbox"/> Flaring	<input type="checkbox"/> Thermal destruction		<input type="checkbox"/> Collection for reuse	
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance			
Remarks: _____					
2.	Gas Collection Wells, Manifolds and Piping				
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance			
Remarks: _____					
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)				
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A		
Remarks: _____					
F. Cover Drainage Layer				<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Outlet Pipes Inspected	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A		
Remarks: _____					
2.	Outlet Rock Inspected	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A		
Remarks: _____					
G. Detention/Sedimentation Ponds				<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A

1.	Siltation	Area extent: _____	Depth: _____	<input type="checkbox"/> N/A
	<input type="checkbox"/> Siltation not evident			
	Remarks: _____			
2.	Erosion	Area extent: _____	Depth: _____	
	<input type="checkbox"/> Erosion not evident			
	Remarks: _____			
3.	Outlet Works	<input type="checkbox"/> Functioning		<input type="checkbox"/> N/A
	Remarks: _____			
4.	Dam	<input type="checkbox"/> Functioning		<input type="checkbox"/> N/A
	Remarks: _____			
H. Retaining Walls		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A	
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident	
	Horizontal displacement: _____		Vertical displacement: _____	
	Rotational displacement: _____			
	Remarks: _____			
2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident	
	Remarks: _____			
I. Perimeter Ditches/Off-Site Discharge		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A	
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Siltation not evident	
	Area extent: _____		Depth: _____	
	Remarks: _____			
2.	Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A	
	<input type="checkbox"/> Vegetation does not impede flow			
	Area extent: _____		Type: _____	
	Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident	
	Area extent: _____		Depth: _____	
	Remarks: _____			
4.	Discharge Structure	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A	
	Remarks: _____			
VIII. VERTICAL BARRIER WALLS		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A	
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident	
	Area extent: _____		Depth: _____	
	Remarks: _____			
2.	Performance Monitoring	Type of monitoring: _____		
	<input type="checkbox"/> Performance not monitored			
	Frequency: _____		<input type="checkbox"/> Evidence of breaching	

Head differential: _____ Remarks: _____
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Pumps, Wellhead Plumbing and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____
B. Surface Water Collection Structures, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____
C. Treatment System <input type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Treatment Train (check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____

Remarks: _____	
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3.	Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance Remarks: _____
4.	Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
5.	Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks: _____
6.	Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
D. Monitoring Data	
1.	Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality
2.	Monitoring Data Suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining
E. Monitored Natural Attenuation	
1.	Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
X. OTHER REMEDIES	
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.	
XI. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>The remedy consists of excavation and off-site disposal of contaminated soil along the BNSF railways and institutional controls. The implemented remedy at OU6 appears to be effective and functioning as designed with no apparent issues that would impact the remedy.</u>
B.	Adequacy of O&M

<p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>No issues noted.</u></p>
<p>C. Early Indicators of Potential Remedy Problems</p>
<p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. <u>No early indicators of potential remedy problems were observed.</u></p>
<p>D. Opportunities for Optimization</p>
<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>None at this time.</u></p>

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST													
I. SITE INFORMATION													
Site Name: Libby Asbestos Site	Date of Inspection: 10/23/2024												
Location and Region: Libby, Montana, 8	EPA ID: MT0009083840												
Agency, Office or Company Leading the Five-Year Review: The EPA	Weather/Temperature: 40s, sunny												
Remedy Includes: (check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other: _____ </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls </td> </tr> </table>		<input type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other: _____	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls										
<input type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other: _____	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls												
Attachments: <input type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached													
II. INTERVIEWS (check all that apply)													
1. O&M Site Manager <table style="width: 100%; border: none;"> <tr> <td style="width: 30%; text-align: center;">_____</td> <td style="width: 30%; text-align: center;">_____</td> <td style="width: 40%; text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____</td> </tr> <tr> <td colspan="3">Problems, suggestions <input type="checkbox"/> Report attached: _____</td> </tr> </table>		_____	_____	_____	Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____			Problems, suggestions <input type="checkbox"/> Report attached: _____		
_____	_____	_____											
Name	Title	Date											
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____													
Problems, suggestions <input type="checkbox"/> Report attached: _____													
2. O&M Staff <table style="width: 100%; border: none;"> <tr> <td style="width: 30%; text-align: center;">_____</td> <td style="width: 30%; text-align: center;">_____</td> <td style="width: 40%; text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____</td> </tr> <tr> <td colspan="3">Problems/suggestions <input type="checkbox"/> Report attached: _____</td> </tr> </table>		_____	_____	_____	Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____			Problems/suggestions <input type="checkbox"/> Report attached: _____		
_____	_____	_____											
Name	Title	Date											
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone: _____													
Problems/suggestions <input type="checkbox"/> Report attached: _____													
3. Local Regulatory Authorities and Response Agencies (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply. Problems/suggestions <input type="checkbox"/> Report attached: _____													
4. Other Interviews (optional) <input type="checkbox"/> Report attached: _____													
III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)													
1. O&M Documents <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;"><input checked="" type="checkbox"/> O&M manual</td> <td style="width: 25%;"><input checked="" type="checkbox"/> Readily available</td> <td style="width: 25%;"><input checked="" type="checkbox"/> Up to date</td> <td style="width: 25%;"><input type="checkbox"/> N/A</td> </tr> <tr> <td><input type="checkbox"/> As-built drawings</td> <td><input type="checkbox"/> Readily available</td> <td><input type="checkbox"/> Up to date</td> <td><input checked="" type="checkbox"/> N/A</td> </tr> <tr> <td><input type="checkbox"/> Maintenance logs</td> <td><input type="checkbox"/> Readily available</td> <td><input type="checkbox"/> Up to date</td> <td><input checked="" type="checkbox"/> N/A</td> </tr> </table> Remarks: _____		<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	<input type="checkbox"/> As-built drawings	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Maintenance logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A										
<input type="checkbox"/> As-built drawings	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A										
<input type="checkbox"/> Maintenance logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A										
2. Site-Specific Health and Safety Plan <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Readily available</td> <td style="width: 25%;"><input type="checkbox"/> Up to date</td> <td style="width: 25%;"><input checked="" type="checkbox"/> N/A</td> </tr> <tr> <td><input type="checkbox"/> Contingency plan/emergency response plan</td> <td><input type="checkbox"/> Readily available</td> <td><input type="checkbox"/> Up to date</td> </tr> </table> Remarks: _____		<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Contingency plan/emergency response plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date						
<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A											
<input type="checkbox"/> Contingency plan/emergency response plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date											

3.	O&M and OSHA Training Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
4.	Permits and Service Agreements			
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
6.	Settlement Monument Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
7.	Groundwater Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
8.	Leachate Extraction Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
9.	Discharge Compliance Records			
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
10.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
IV. O&M COSTS				
1.	O&M Organization			
	<input type="checkbox"/> State in-house	<input checked="" type="checkbox"/> Contractor for state		
	<input type="checkbox"/> PRP in-house	<input type="checkbox"/> Contractor for PRP		
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility		
	<input type="checkbox"/> _____			
2.	O&M Cost Records			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		
	<input type="checkbox"/> Funding mechanism/agreement in place	<input checked="" type="checkbox"/> Unavailable		
	Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached			
	Total annual cost by year for review period if available			
	From: _____	To: _____	_____	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	

Remarks: _____			
3.	Land Use Changes Off-Site	<input checked="" type="checkbox"/> N/A	
Remarks: _____			
VI. GENERAL SITE CONDITIONS			
A. Roads <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Roads Damaged	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Roads adequate <input type="checkbox"/> N/A	
Remarks: _____			
B. Other Site Conditions			
Remarks: _____			
VII. LANDFILL COVERS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (low spots)	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Cracking not evident	
Lengths: _____		Widths: _____	
		Depths: _____	
Remarks: _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
4.	Holes	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Holes not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
5.	Vegetative Cover	<input type="checkbox"/> Grass <input type="checkbox"/> Cover properly established	
<input type="checkbox"/> No signs of stress		<input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	
Remarks: _____			
6.	Alternative Cover (e.g., armored rock, concrete)	<input type="checkbox"/> N/A	
Remarks: _____			
7.	Bulges	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Bulges not evident	
Area extent: _____		Height: _____	
Remarks: _____			
8.	Wet Areas/Water Damage	<input type="checkbox"/> Wet areas/water damage not evident	
<input type="checkbox"/> Wet areas		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Ponding		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Seeps		<input type="checkbox"/> Location shown on site map	Area extent: _____
<input type="checkbox"/> Soft subgrade		<input type="checkbox"/> Location shown on site map	Area extent: _____

Remarks: _____		
9.	Slope Instability <input type="checkbox"/> No evidence of slope instability Area extent: _____ Remarks: _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map
B. Benches <input type="checkbox"/> Applicable <input type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	Flows Bypass Bench Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay
2.	Bench Breached Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay
3.	Bench Overtopped Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay
C. Letdown Channels <input type="checkbox"/> Applicable <input type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
1.	Settlement (Low spots) Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of settlement Depth: _____
2.	Material Degradation Material type: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of degradation Area extent: _____
3.	Erosion Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of erosion Depth: _____
4.	Undercutting Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of undercutting Depth: _____
5.	Obstructions <input type="checkbox"/> Location shown on site map Size: _____ Remarks: _____	Type: _____ Area extent: _____ <input type="checkbox"/> No obstructions
6.	Excessive Vegetative Growth <input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow	Type: _____

<input type="checkbox"/> Location shown on site map Remarks: _____	Area extent: _____
D. Cover Penetrations <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Gas Vents <input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
2. Gas Monitoring Probes <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
3. Monitoring Wells (within surface area of landfill) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
4. Extraction Wells Leachate <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
5. Settlement Monuments <input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A Remarks: _____	
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
2. Gas Collection Wells, Manifolds and Piping <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3. Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
F. Cover Drainage Layer <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Outlet Pipes Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____	
2. Outlet Rock Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____	

G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Siltation	Area extent: _____	Depth: _____ <input type="checkbox"/> N/A
	<input type="checkbox"/> Siltation not evident		
	Remarks: _____		
2.	Erosion	Area extent: _____	Depth: _____
	<input type="checkbox"/> Erosion not evident		
	Remarks: _____		
3.	Outlet Works	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
4.	Dam	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
H. Retaining Walls <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident
	Horizontal displacement: _____	Vertical displacement: _____	
	Rotational displacement: _____		
	Remarks: _____		
2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
	Remarks: _____		
I. Perimeter Ditches/Off-Site Discharge <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Siltation not evident
	Area extent: _____	Depth: _____	
	Remarks: _____		
2.	Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
	<input type="checkbox"/> Vegetation does not impede flow		
	Area extent: _____	Type: _____	
	Remarks: _____		
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident
	Area extent: _____	Depth: _____	
	Remarks: _____		
4.	Discharge Structure	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident
	Area extent: _____	Depth: _____	
	Remarks: _____		
2.	Performance Monitoring	Type of monitoring: _____	

<input type="checkbox"/> Performance not monitored Frequency: _____ Head differential: _____ Remarks: _____	<input type="checkbox"/> Evidence of breaching
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
A. Groundwater Extraction Wells, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Pumps, Wellhead Plumbing and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____	
B. Surface Water Collection Structures, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____	
C. Treatment System <input type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Treatment Train (check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified	

<input type="checkbox"/> Quantity of groundwater treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____ Remarks: _____
2. Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3. Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance Remarks: _____
4. Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
5. Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks: _____
6. Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
D. Monitoring Data
1. Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality
2. Monitoring Data Suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining
E. Monitored Natural Attenuation
1. Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
<p style="text-align: center;">X. OTHER REMEDIES</p> If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.
<p style="text-align: center;">XI. OVERALL OBSERVATIONS</p>
A. Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>The remedy consists of excavation and off-site disposal of contaminated soil along roadways in OU1, OU2 and OU4/OU7 and institutional controls. The implemented remedy at OU8 appears to be effective and functioning as designed with no apparent issues that would impact the remedy.</u>

B.	Adequacy of O&M
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>O&M appears adequate.</u>	
C.	Early Indicators of Potential Remedy Problems
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. <u>No early indicators of potential remedy problems were observed.</u>	
D.	Opportunities for Optimization
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>None at this time.</u>	

APPENDIX G – SITE INSPECTION PHOTOS



OU1 public boat ramp at Riverfront Park. Minor cover disturbance from users cutting through grass.



OUI pavilion and parking at Riverfront Park



OUI embankment area



OU2 irrigation repair



OU2 rip rap along river



OU2 property and PRP field house



OU2 area



OU2 contractor on-site storage



Fencing and signage at OU4 construction project



Fencing and signage at OU4 construction project



OU4 property scheduled to be demolished and abated as part of redevelopment project



OU5 parking area and bathroom near fishing pond



OU5 fishing pond and walking path



Major Sponsors

- Local Trout Unlimited 
- Kootenai Fly Fishers 
- Jack Bakken 
- Rotary Club of Kootenai Valley 
- Lincoln County Road Department 
- Montana Fish, Wildlife and Parks 
- US Army Corps of Engineers 
- Lincoln County Port Authority 

Libby Fishing Pond Rules

- Pond is open for fishing April 1 through November 30. Paved trail is open year round.
- **Fishing Regulations:**
 - Catch and release for trout, except anglers 4 years of age or younger who may take 2 trout daily and in possession.
 - All other State Fishing regulations apply.
 - Barbless hooks or pinched barbs are preferred for easier release and minimizing impacts to fish.
- No cleaning of fish on or near the pond.
- No glass containers or alcohol permitted.
- Keep park clean. No littering.
- All dogs must be on leash.
- No unauthorized vehicles.
- No swimming, water, tubes or rafts allowed in the pond.
- Pond is fee day use only.
- No camping or fires.

OU5 fishing pond signage



OU5 redevelopment site



OU6 rail area

APPENDIX H – REMEDIAL GOALS AND CLEANUP CRITERIA

Table H-1: LA RALs for Contaminated Surface Soil, by Land Use Type and Use Frequency

Land Use Type	Use Frequency	RAL
Residential/Commercial	Frequent	LA present at levels greater than or equal to 0.2% (regardless of spatial extent). LA present at levels less than 0.2% if area is more than 25% of total soil exposure area at the property.
	Infrequent	LA present at levels greater than or equal to 0.2%.
Industrial	NA	LA present at levels greater than or equal to 1%.
Transportation Corridors	NA	LA present at levels greater than or equal to 1%.
Parks/Schools	NA	LA present at greater than or equal to 0.2%.
<i>Notes:</i> Source: 2016 ROD NA = not applicable for land use type		

Table H-2: LA RALs for Contaminated Building Materials, by Accessibility

Land Use Type	Accessibility	RAL
All	Accessible	Presence of accessible LA-containing vermiculite insulation in any quantity in living spaces, non-living spaces and/or secondary structures.
		Presence of accessible friable and/or deteriorated building materials containing greater than or equal to 0.25% LA.
<i>Notes:</i> Source: 2016 ROD		

Table H-3: LA Remedial Clearance Criteria for Subsurface Soil, by Land Use Type

Land Use Type	RAL
Residential/Commercial Parks/Schools	LA is not present or is present at levels less than 0.2% unless boundary conditions are reached.
Industrial Transportation Corridors	LA is not present or is present at levels less than 1% unless boundary conditions are reached.

Land Use Type	RAL
<p><i>Notes:</i> Boundary conditions 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 these boundary conditions present.</p>	

Table H-4: LA Remedial Clearance Criteria for Contaminated Building Material

Space Type	RAL
Indoor Non-living Space	<p>No accessible vermiculite remaining.</p> <p>Five clearance air samples, collected following leaf blower disturbances in the non-living space after remedial actions are complete, that have an average total LA air concentration less than 0.005 s/cc when analyzed by transmission electron microscopy using Asbestos Hazard Emergency Response Act counting rules (achieved analytical sensitivity of 0.005 structures per cubic centimeter of air).</p>
Indoor Living Space	<p>No accessible vermiculite remaining.</p> <p>Five clearance air samples, collected following leaf blower disturbances in the living space after remedial actions are complete, that have total LA air concentrations that are non-detect when analyzed by transmission electron microscopy using Asbestos Hazard Emergency Response Act counting rules (achieved analytical sensitivity of 0.005 structures per cubic centimeter of air).</p>
<p><i>Notes:</i> Source: 2016 ROD</p>	