

Site -Specific Justification for the Partial Deletion
from the National Priorities List of Operable Unit 1 (OU1), Former Export Plant,
of the Libby Asbestos Superfund Site

Purpose

The U.S. Environmental Protection Agency (EPA) Region 8 is proposing the deletion of Operable Unit 1 (OU1), Former Export Plant, of the Libby Asbestos Superfund Site from the National Priorities List (NPL). A Notice of Intent to Partially Delete (NOIPD) (the proposed rule-making) is expected to be published in the Federal Register opening the public comment period in the near future. The document provides justification for the partial deletion. Other documents which provide support for the partial deletion are located in the deletion dockets in the information repositories noted in the proposed rule-making.

Partial deletion of the OU from the NPL does not itself create, alter, or revoke any individual's rights or obligations. Partial deletion of an OU from the NPL does not in any way alter the EPA's right to take enforcement actions, as appropriate. The NPL is designed primarily for informational purposes and to assist the EPA management. Section 300.425(e)(3) of the NCP states that partial deletion of an OU from the NPL does not preclude eligibility for future response actions, should future conditions warrant such actions.

Determination that the Site Meets the Criteria for Deletion

The EPA has consulted with the Montana Department of Environmental Quality (DEQ), Lincoln County Commissioners, and the City of Libby on the proposed partial deletion of OU1 of the Libby Asbestos Site from the NPL. Through the five-year review, the EPA has also determined that the response actions taken are protective of public health and the environment and, therefore, taking of additional remedial measures is not appropriate.

The implemented remedies achieve the degree of cleanup or protection specified in the 2010 OU1 Record of Decision (2010 OU1 ROD).

All selected removal and remedial action objectives and associated cleanup goals for OU1 are consistent with agency policy and guidance. The proposed partial deletion meets the completion requirements as specified in OSWER Directive 9320.2-22, Close Out Procedures for National Priority List Sites.

All response activities at OU1 of the Site are complete and the Operable Unit poses no unacceptable risk to human health or the environment. Therefore, the EPA and Montana DEQ have determined that no further response is necessary at OU1 of the Site.

Agency Concurrence

EPA requested concurrence from Montana DEQ to partially delete OU1 from the NPL in a letter dated July 23, 2019. Montana DEQ issued a concurrence letter on August 27, 2019. The EPA headquarters concurred on the Libby Asbestos Superfund Site Operable Unit 1 - Notice of Intent to Delete on November 14, 2019.

Community Involvement

Public participation activities have been satisfied as required in CERCLA Section 113(k), 42 U.S.C. 9613(k) and CERCLA Section 117, 42 U.S.C. 9617. During the development and implementation of the remedy for this operable unit, comment periods were offered for the

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proposed plan, the five-year review, and the EPA conducted other public meetings. The documents that the EPA relied on for the partial deletion of OU1 from the Libby Asbestos Superfund Site are in the docket and are available to the public in the information repositories. A notice of availability of the Notice of Intent for Partial Deletion will be published in the Western News, the Kootenai Valley Record, and The Montanian to satisfy public participation procedures required by 40 CFR 300.425 (e) (4).

The State, the Lincoln County Commissioners, and the City of Libby are supportive of the partial deletion of OU1. The State signed a letter of concurrence on August 27, 2019.

Site Background and History

The Libby Asbestos Superfund Site, CERCLIS No. MT0009083840, is located in the City (and valley) of Libby, Lincoln County, Montana in the northwest corner of Montana approximately 35 miles east of Idaho and 65 miles south of Canada. The Site was proposed for inclusion on the NPL on February 26, 2002 (67 FR 8836) and listed on October 24, 2002 (67 FR 65315). The Site has eight operable units (OUs). The OUs are as follows: Operable Unit 1 (OU1), Former Export Plant; Operable Unit 2 (OU2), Former Screening Plant; Operable Unit 3 (OU3), Former Vermiculite Mine; Operable Unit 4 and Operable Unit 7 (OU4/OU7), Residential/Commercial Properties of Libby and Troy, Montana; Operable Unit 5 (OU5), Former Stimson Lumber Mill; Operable Unit 6 (OU6), Burlington Northern and Santa Fe (BNSF) Rail Corridor; and Operable Unit 8 (OU8), Highways and Roadways. The OUs pertain to distinct geographical areas corresponding to areas of responsibility for the identified responsible parties and/or to distinct sources of contamination.

Vermiculite was discovered 7 miles northeast of Libby, Montana in 1881 by gold miners. In the early 1920s, Mr. Edward Alley began initial mining operations on the vermiculite ore body. Full-scale operations began later that decade under the name of the Universal Zonolite Insulation Company (Zonolite). This ore body contained a mixture of amphibole mineral fibers of varying elemental composition (e.g., winchite, richterite, tremolite) that have been identified in the Rainy Creek complex near Libby comprising Libby amphibole asbestos or (LA). Unlike the commercially exploited chrysotile asbestos, the LA material has never been used commercially on a wide scale, and, for the mine's operating life, it was considered a byproduct of little or no value. The commercially exploited vermiculite was used in a variety of products including insulation and construction materials, as a carrier for fertilizer and other agricultural chemicals, and as a soil conditioner. The vermiculite ore was mined using standard strip-mining techniques and conventional mining equipment. The ore was then processed in an onsite dry mill to remove waste rock and overburden material. Once processed, the ore was transported down from the mine to the former Screening Plant (OU2), which sorted the ore into five size ranges. After the sorting process, the material was shipped to various locations across the United States for either direct inclusion in products or for "expansion" prior to use in products. Expansion (also known as "exfoliation" or "popping") was accomplished by heating the ore, usually in a dry kiln, to approximately 2000°F. This process explosively vaporizes the water contained within the mica structure, causing the vermiculite to expand by a factor of ten to fifteen. This produces the vermiculite material most commonly seen in stores and sold as soil conditioner for gardens and greenhouses. In 1963, Grace purchased Zonolite and continued vermiculite-mining operations in

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a similar fashion. In 1975, a wet milling process was added that operated in tandem with the dry mill until the dry mill was taken off line in 1985. The wet milling process was added to reduce dust generation by the milling process. Expansion operations at the former Export Plant (OU1) ceased in Libby sometime prior to 1981, although this area was still used to bag and export milled ore until mining operations were stopped in 1990. Before the mine closed in 1990, Libby produced about eighty percent of the world's supply of vermiculite.

The Site was placed on the NPL in response to media articles, which detailed extensive asbestos-related health problems in the Libby population. The EPA arrived on-site in 1999 and since then the EPA has conducted sampling and response action activities to address highly contaminated areas in the Libby Valley. While at first the situation was thought to be limited to those with direct or indirect occupational exposures, it soon became clear there were multiple exposure pathways, and many persons with no link to mining-related activities were affected. Typically, the amphibole asbestos contamination found in the Libby Valley comes from one or some combination of source materials (e.g., vermiculite insulation, processed vermiculite ore, mine wastes). Asbestos from these source materials has been found in interior building dust samples and local soils, which in turn act as secondary sources. Response actions to clean up the Site have been ongoing since 1999.

The background and history, the Remedial Investigations and Feasibility Studies (RI/FS), Removal and Response Actions, Selected Remedies, Cleanup Standards, and Operation and Maintenance activities for OU1 are discussed below.

OU1 Background and History

Operable Unit 1 (OU1) consists of the former export plant. OU1, located just north of Libby, Montana on the Kootenai River next to Highway 37, is now known as Riverfront Park. A map of OU1 is attached and can also be found in the docket at www.regulations.gov under Docket ID no. EPA-HQ-SFUND-2002-0008. OU1 was historically owned and used by W.R. Grace for stockpiling, staging, and distributing vermiculite and vermiculite concentrate to vermiculite processing areas and insulation distributors outside of the City of Libby. OU1 is known as the former Export Plant. OU1 has been separated into distinct impacted areas that include the former Export Plant (Area 1), the Riverfront Park (Area 2), and the embankments of Montana Highway 37 (Area 3). The Highway 37 right-of-way (ROW) adjacent to OU1 was included due to its proximity to OU1 and the known contamination in the ROW. The OU1 total acreage is approximately 17 acres.

OU1 Remedial Investigations and Feasibility Study (RI/FS)

The State, the EPA and certain Potentially Responsible Parties (PRPs) conducted various studies and investigations to evaluate the nature and extent of contamination generally at the Site. Remedial Investigations (RIs) began in 1999 within the Site, including the export and screening plants and highly contaminated areas with exposure pathways such as residential/commercial properties and schools. Various removal actions were conducted starting in 2000 through 2008 where source areas were excavated and were disposed of at the former vermiculite mine (OU3). The Former Export Plant Remedial Investigation (2009 RI) evaluated the human health and environmental impacts of the former screening plant and surrounding properties.

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In 2009, the OU1 Remedial Investigation (2009 RI) confirmed that OU1 had been mostly cleaned up by prior removal actions and that only a few more locations (approximately nine acres) needed to be remediated to meet the EPA's clean-up criteria and to break the exposure pathway to LA.

The EPA released the OU1 Feasibility Study (FS) in 2009 and a proposed plan (for a Record of Decision) in September 2009.

OU1 Selected Remedy

The EPA issued the Record of Decision (ROD) for OU1 (2010 OU1 ROD) on May 10, 2010. The selected remedy in the 2010 OU1 ROD was narrowly focused on breaking the exposure pathway to LA in a few locations on OU1 as most of the former export plant was already remediated by prior removal actions. Other surrounding contaminated geographical areas were addressed as part of remedial actions taken at other operable units. Thus, the 2010 OU1 ROD identified three remedial action objectives (RAOs) of breaking the exposure pathway for inhalation of LA fibers, controlling erosion of contaminated soil to prevent exposures and spread of contamination, and implementing controls to prevent uses of the site that could pose unacceptable risks to human health.

The original remedy selected in the 2010 OU1 ROD consisted of the following remedial components: 1) Excavation and offsite disposal of top layers of soil in certain areas plus removal and replacement of riprap on the river; 2) Installation of a protective cover of clean soil; 3) Implementation of Institutional Controls (ICs) such as a utility location service and community awareness programs to prevent exposure to contamination in the subsurface and the spread of contamination; and 4) Perform operations and maintenance of the remedy to maintain integrity of the covers, backfilled areas, and riprap.

Because the selected remedy in the 2010 OU1 ROD left wastes in place, ICs are critical to the protection of the remedy. The objectives of ICs for OU1 are as follows: 1) Notify future landowners of the presence of subsurface contamination and IC requirements; 2) Mitigate the potential for inhalation exposures to LA fibers; 3) Control dispersion/erosion of contaminated soil to prevent the spread of contamination; 4) Implement controls to prevent uses of the site that could pose unacceptable risks or compromise the remedy; and 5) Implement controls to prevent uses of the site that could spread contamination to un-impacted or previously remediated locations. The properties that comprise OU1 are owned by the City of Libby and the State of Montana.

OU1 Cleanup Standards

The OU1 remedy was one of the first source control remedies at the Site that addressed breaking the exposure pathway to a highly contaminated area of the site but did not contain numeric cleanup standards because toxicity values for Libby amphibole asbestos had not been finalized at that time. Numeric cleanup standards for site-wide soil contamination were established in the OUs 4-8 Record of Decision. A post-construction risk assessment for OU1 was released in December 2014 confirming that the remediation met cleanup standards.

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OU1 Response Actions

The EPA issued a Unilateral Administrative Order (UAO) to Grace on May 23, 2000, based on the finding of LA at levels of concern in air and site soil. The UAO required that Grace temporarily relocate the onsite business (Millwork West), clean five onsite historic buildings and the building's contents, excavate and dispose of vermiculite and LA-contaminated soil and debris, and restore the property. The structures were ultimately demolished because they were in poor condition, did not meet current building code requirements, and could not be decontaminated. Grace performed additional removal actions on OU1 throughout 2001 and 2002. The EPA conducted various quick response removal actions from 2003 to 2008.

Remedial activities began in summer of 2011 with excavation of the areas investigated where the exposure pathway needed to be broken including along the Highway 37 ROW. Materials were excavated from OU1, disposed offsite at the former vermiculite mine (OU3), and confirmation sampling was performed at depth. Clean cover was placed as backfill at depths of six inches to 25 inches depending upon location and these areas were hydroseeded (vegetated) to prevent erosion. In some areas, up to 36 inches of soil was removed, replaced with clean backfill, and revegetated. A total of 25,656 cubic yards of contaminated soil was removed from OU1 and disposed of at the former vermiculite mine (OU3). EPA Region 8's Remedial Action Report describing these response actions was signed on July 8, 2013. Additional confirmation activity-based sampling was conducted in summer of 2013 to confirm the effectiveness of the remedy. The OU1 post-construction risk assessment (December 2014) and the site-wide risk assessment (November 2015) both confirmed that the remedy at OU1 is protective of human health and the environment. The City of Libby placed an environmental covenant on its property in OU1 on June 19, 2019 that meets the IC objectives specified above. All remedial components described in the 2010 OU1 ROD have been implemented.

OU1 Operation and Maintenance

The State operations and maintenance (O&M) responsibilities are defined in the OU1 O&M Plan (July 2019). The City of Libby's responsibilities are further defined in the environmental covenant (June 2019) for the City of Libby's Riverfront Park property.

Montana DEQ requirements for O&M includes conducting an annual inspection, preparing an annual report, maintaining the cover, and evaluating/updating institutional controls (ICs). Current annual inspection reports and associated data are available by contacting EPA Region 8 or Montana DEQ.

In regard to ICs, an environmental covenant for the City of Libby's property within OU1 was recorded with the Lincoln County Clerk and Recorder on June 19, 2019. The environmental covenant provides the following Use Restrictions: 1) No excavation, construction, or disturbing soil on the property without written approval from the EPA and Montana DEQ, 2) Prior to disturbance activities, a written plan must be approved by the EPA and Montana DEQ that describes measures to be taken to ensure the health and safety of workers and restoring the integrity of the cover material, and 3) Restrictions on residential use unless a written plan is approved by the EPA and Montana DEQ.

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Five-Year Review

The remedies at the entire Site, including OU1 require ongoing five-year reviews in accordance with CERCLA Section 121(c) and Section 300.430(f)(4)(ii) of the NCP.

In the statutory 2015 five-year review dated June 22, 2015 conducted for OU1 and OU2 for the Site, the OU1 remedy was determined to be protective since all required institutional controls were in place. There were no issues or recommendations in the 2015 Five-Year Review for OU1.

Pursuant to CERCLA section 121(c) and the NCP, the EPA will conduct the next five-year review by June 22, 2020 to ensure the continued protectiveness of remedial actions where hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

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Operable Unit 1
Libby Asbestos Project
Lincoln County, Montana

Map Date: 1/19/2017

Coordinate System:
NAD 1983 StatePlane Montana FIPS 2500
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Survey Feet

Operable Unit Boundary

0 250 500 Feet

