ANACONDA ALUMINUM CO COLUMBIA FALLS REDUCTION PLANT

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Main Site Information

Site background

The Anaconda Aluminum Co Columbia Falls Reduction Plant, also known as Columbia Falls Aluminum Company Plant, is located two miles northeast of Columbia Falls, Mont. It covers approximately 960 acres north of the Flathead River, a fishery that includes the federally designated threatened bull trout and the federally sensitive westslope cutthroat trout. EPA's initial site evaluation indicates that ground water and surface water at the site contain various contaminants of concern, including cyanide, fluoride, and various metals.

The Columbia Falls Aluminum Company Plant operated between 1955 and 2009 and created significant quantities of spent potliner material, a federally listed hazardous waste, as a byproduct of the aluminum smelting process. Spent potliner material is known to contain cyanide compounds that can leach into groundwater.

In 1985, Columbia Falls Aluminum Company bought the plant from Atlantic Richfield Company, which had purchased the facility from the plant's original owner, Anaconda Company, in 1977.

Topics in focus

On, March 26, 2015, the EPA proposed adding the Anaconda Aluminum Co Columbia Falls Reduction Plant (also known as Columbia Falls Aluminum Company Plant), near Columbia Falls, Mont., to the National Priorities List (NPL) making it eligible for additional study and cleanup resources under EPA's Superfund program. The proposal was followed by a 60-day public comment period. EPA is currently reviewing comments received during the public comment period.

EPA's involvement at this site

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What is the current site status?

One November 30, 2015, the U.S. Environmental Protection Agency (EPA) announced a final agreement to investigate contamination at the Columbia Falls Aluminum Plant, also known as the Anaconda Company Columbia Falls Reduction Plant site, in Flathead County, Montana. Under the terms of the agreement, the site's current owner, Columbia Falls Aluminum Company, will conduct a comprehensive investigation of soils, river sediments, and ground and surface water to determine the nature and extent of contamination at the site. The company will reimburse EPA for its future costs in overseeing the investigation.

The results of the investigation will determine cleanup needs and identify potential cleanup options at the site. EPA representatives will attend a community meeting in Columbia Falls on January 21, 2016, from 6:00 to 8:00 p.m. at the Columbia Falls High School cafeteria to discuss the agreement, address questions, and outline next steps, including opportunities for public involvement.

What is being done to protect human health and the environment?

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Stay informed and involved

EPA representatives will attend a community meeting in Columbia Falls on January 21, 2016, from 6:00 to 8:00 p.m. at the Columbia Falls High School cafeteria to discuss the recently signed agreement, address questions, and outline next steps, including opportunities for public involvement.

What are the risks at the site?

Multiple potential sources, including landfills and percolation ponds, are located at the facility. A byproduct of the aluminum reduction process is spent potliner material, which is known to contain cyanide and flouride compounds that can leach into groundwater. Spent potliner material was disposed on site from approximately 1955 to approximately 1985. Other landfills and ponds have been used to dispose of various waste streams throughout the lifespan of the plant.

Sampling and monitoring

Investigation Results

A Site Reassessment was completed for the Columbia Falls Aluminum Reduction Plant site in April 2014. EPA collected environmental samples in September and October 2013 as part of the Site Reassessment. Results from that report are summarized here. The full report for this investigation is available in Site Documents below. The assessment and report is organized such that sources are evaluated to determine associated contaminants and then compared to analytical results for potential receptors, including surface water and groundwater down gradient of the source areas.

Landfill Sources

Samples were not directly collected from landfills at the site to avoid compromising the integrity of the covers. In lieu of direct sampling, EPA sampled monitoring wells previously installed in locations down-gradient and up-gradient of the landfill and sludge pond sources to determine if contaminants have been released to groundwater.

Multiple contaminants were detected in groundwater above background concentrations, including cyanide, fluoride, and metals, such as aluminum, arsenic, chromium, copper, iron, lead, nickel, selenium and vanadium, among others.

Percolation Pond Sources

Waste sediment and surface water samples were collected from two percolation ponds for a common hazardous constituent analysis to determine contaminants present in the ponds at the site. Multiple contaminants were detected in the water and sediment samples, including: cyanide and fluoride; semi-volatile organic compounds, such as anthracene, benzo(a)pyrene, chrysene, fluoranthene, and pyrene, among others; metals, including aluminum, arsenic, chromium, copper, iron, lead, magnesium, manganese, nickel, sodium, vanadium and zinc, among others; and pesticides.

Groundwater Migration Pathway

As discussed previously, landfill sources were indirectly evaluated by comparing down-gradient groundwater samples to up-gradient, background groundwater samples. This evaluation confirms that contaminants discussed previously have been released to groundwater at the site. Groundwater samples collected from monitoring wells at the facility contained multiple contaminants, including cyanide, fluoride, arsenic, chromium, lead, and selenium, with concentrations above federal drinking water standards. Although the groundwater at the facility is not used for drinking purposes, the groundwater has the potential to migrate.

Three rounds of domestic well sampling have occurred. As part of the Site Reassessment sampling event conducted in September and October, 2013, five residential wells were evaluated to determine if groundwater near the facility has been impacted. Cyanide was detected in one well southwest of the facility and one well to the north of the facility. The detections of cyanide were below EPA's Maximum Contaminant Levels (MCL) for drinking water and the State of Montana's Numeric Water Quality Standards. When compared to EPA's Risk-Based Screening Levels, however, the concentrations of cyanide in both water samples were higher than the EPA Tapwater Risk-Based Screening Level. The screening concentration is a conservative value that EPA considers to be protective for humans over a lifetime. Exceeding these values does not necessarily indicate that a health affect will occur, but that a more detailed assessment may be warranted. No other contaminants were detected above the regulatory benchmarks or risk-based screening levels in residential wells during the first round of sampling. As part of subsequent sampling events, in April 2014 and November 2014, 20 residential wells and 10 residential wells, respectively, were sampled. For all residential wells in both subsequent sampling events, there were no contaminants detected above the regulatory benchmarks or risk-based screening levels, including cyanide.

Surface Water Migration Pathway

Surface water and sediments from the Flathead River and Cedar Creek were collected for a common hazardous constituent analysis. Similar to the groundwater analysis, downstream samples were compared to background samples to determine if there is an observed release of any contaminants. In Cedar Creek, there were observed releases of copper, cyanide and potassium. In Flathead River, there were observed releases of cyanide, manganese, sodium, zinc and fluoride.

This stretch of the Flathead River is used by anglers. Fish tissue samples were not collected as part of the site reassessment. With the limited amount of data captured as part of this sampling event, it is unknown if bioaccumulation of these contaminants is a concern.

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Public information repositories

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130 6th Street West
Columbia Falls, MT 59912
406-892-5919
Hours:
Monday 10 a.m. – 6 p.m.
Tuesday–Wednesday 10 a.m.–7 p.m.
Thursday 10 a.m.–6 p.m.
Friday 12 p.m.–6 p.m.
Saturday 12 p.m.–4 p.m.
Sunday closed

EPA Superfund Records Center
Montana Office
10 West 15th Street, Suite 3200
Helena, MT 59626
406-457-5046
866-457-2690 (toll free)
Hours: M-F, 8:00 a.m.-4:30 p.m.

Past meeting information

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Site Facts

Site institutional control information (HQ Coordination Required)

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Additional site contacts

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Other Site Activities

Enforcement information

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Community resources

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Emergency response and removal program

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Green remediation information

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Redevelopment activity (HQ Coordination Required)

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Renewable energy activity

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