ANACONDA ALUMINUM CO COLUMBIA FALLS REDUCTION PLANT

http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0800392

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Main Site Information

Site background

The Anaconda Aluminum Co Columbia Falls Reduction Plant, also known as Columbia Falls Aluminum Company (CFAC) Plant, is located two miles northeast of Columbia Falls in Flathead County, Montana. 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, CFAC bought the plant from Atlantic Richfield Company, which had acquired the facility from the plant's original owner, Anaconda Company, in 1977.

Topics in focus

On November 30, 2015, EPA and CFAC signed an Administrative Settlement Agreement and Order on Consent (36 pp; 2.4 MB, About PDF) to conduct a Remedial Investigation/Feasibility Study (RI/FS) to investigate the site for contamination and look at options for cleanup. The RI/FS work plan (511 pp, 158 MB, About PDF) is available to the public.

EPA's involvement at this site

A preliminary assessment (PA) of the CFAC site was performed on March 5, 1984, by Montana Department of Health and Sciences. The PA concluded that hazardous wastes generated onsite were spent halogenated and non-halogenated solvents. Solid wastes included spent potliners, basement sweepings and air-pollution-control dusts.

A site investigation (SI) by Ecology and Environment, Inc. was conducted in 1988 at the request of the EPA. The results of the SI indicated that high concentrations of polycyclic aromatic hydrocarbons occurred primarily in soils and sediments and that a release to groundwater and surface water of cyanide had occurred – both of which were attributable to plant processes.

On March 26, 2015, EPA proposed adding the CFAC site to the National Priorities List.

What is the current site status?

A Remedial Investigation/Feasibility Study is in progress at the site.

On November 30, 2015, EPA announced a final agreement to investigate contamination at the CFAC site. Under the terms of the agreement CFAC 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 results of the investigation will determine cleanup needs and identify potential cleanup options at the site.

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

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Stay informed and involved

The Columbia Falls Aluminum Company (CFAC) Community Liaison Panel serves as a forum for open discussion between members of the greater Columbia Falls community and representatives of CFAC and Glencore

What are the risks at the site?

Multiple potential sources of contamination that may pose risks to human health or the environment are located at the facility and include landfills and percolation ponds. 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 1955 through 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 (273, 427.5 MB, About PDF) 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.

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, groundwater migration will be evaluated during the remedial investigation process.

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.

Videos and podcasts

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Stay Updated

News

Wells drilled for cleanup effort at former Columbia Falls Aluminum Co. site

Tester still wants Superfund Cleanup

Montana DEQ launches Columbia Falls Aluminum Company Site Web page

Public participation opportunities

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Public information repositories

ImagineIF Library – Columbia Falls
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 Region 8 Headquarters
Superfund Records Center
1595 Wynkoop Street
Denver, CO 80202-1129
To request copies of documents call:
303-312-7273 or
800-227-8917 ext. 312-7273 (toll free Region 8 only)

Past meeting information

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Social media

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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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