Chapter 65

Behind the 8-ball

The question of what to do with the aluminum plant outside Columbia Falls, Mont., once it finally stopped smelting was decades old, as evidence from the CFAC v. ARCO case clearly revealed. Plant managers were plainly aware that one day the site might be declared a Superfund cleanup project. The matter became contentious once the reduction pots finally went cold and the site was placed on the Superfund priority list. Concerned about any taint a Superfund designation could bring to the region, with its tourist-resort dependent economy, and despite the presence of several Superfund sites already in the area, the Flathead County commissioners initially resisted the listing, as did the state's lone congressman, Rep. Ryan Zinke. Both sought a lesser designation, a bureaucratic trick that did not materialize. The Columbia Falls City Council and Sen. Jon Tester took the opposite position, seeking a Superfund designation and full cleanup.

Meanwhile changes were taking place at the site. Calbag came in from Portland, Ore., and cleaned up the main smelting facility, not only hauling off valuable steel columns and girders and giant aluminum buss bars, but also cyanide-contaminated spent potliner from the in-situ reduction pots, following strict Montana Department of Environmental Quality regulations. The basements were filled with clean gravel, the paste plant was demolished, equipment, vehicles and production materials were hauled away, and basically all that remained were the empty machine shop, a warehouse and engineering offices. Then on June 1, 2023, the U.S. Environmental Protection Agency announced its proposed action for cleaning up the Superfund site. The plan called for leaving contaminated material inside the West Landfill in place, including tons of spent potliner that was leaching cyanide into groundwater, as well contaminated material in the nearby Wet Scrubber Sludge Ponds, which contained large amounts of fluoride, and then surrounding both areas with a deep slurry containment wall. [1]

The proposed cleanup plan led to a resurgence of public opposition, including the formation of a grassroots organization, the Coalition For A Clean CFAC, which was affiliated with the longtime progressive organization Citizens For A Better Flathead. But with the EPA expected to issue a final decision the next year, effective resistance to the cleanup plan was going to be difficult if not impossible. Phil Matson, a research coordinator at the Flathead Lake Biological Station at Yellow Bay, and a founding member of the new coalition, conceded as much in a Feb. 15, 2024 email to Richard Hanners, the author of this history. "Indeed, we are also surprised at the plan to keep the waste in place, especially with an on-site rail yard not even being mentioned as an option for removal," Matson wrote. "The community was disenfranchised with the public process half a decade ago, but we are engaged now with momentum behind us. However, the public comment period is over and we are looking at it from behind the 8 ball." [2]

This kind of late-minute opposition to large environmental projects is not uncommon when the opponents are just common folk. Members of the public usually don't closely follow developments in projects like Superfund cleanups, which tend to be long and drawn out, and drowning in complex legalese and technical information. Often, as was the case in the fluoride air pollution story at the Columbia Falls aluminum plant in the 1960s and 1970s, it's the plant's next-door neighbors who carry the initial burden. Common folk become amateur experts in the issue, and even hire attorneys to sue the plant. But in the matter of how tons of contaminated material buried at CFAC were to be addressed, was a demand that it be safely hauled to an approved out-of-state landfill a little late? Or a bridge too far?

The river runs through it again

Before the Coalition For A Clean CFAC was created and comments poured in to the EPA regarding its cleanup decision, progress on other matters continued to be made. The cleanup of the South Percolation Ponds along the bank of the Flathead River at the south boundary of the CFAC smelter facility was the first official remediation project taken at the Superfund site. According to a description in U.S. District Court Judge Donald W. Molloy's Aug. 25, 2021 ruling in CFAC vs. ARCO, work at the ponds began as a stopgap measure and then progressed to a long-term fix under an Administrative Order on Consent between CFAC and the EPA. The South Percolation Ponds were a series of three ponds. Wastewater entered the system from a concrete pipe at the west end of the system and flowed into subsequent ponds through an unlined ditch. The ponds received wastewater from the smelter facility's sewage treatment plant, contact chilling water from the Cast House, non-contact cooling water from the Rectifier Building and other equipment, wastewater from mold cleaning and steam cleaning in the Cast House, non-process wastewater from steam cleaning at the Fabrication Shop, and stormwater beginning in the early 1960s. [3]

As early as 1946, a side channel existed in the Flathead River where the ponds were constructed for the smelter plant. A dam was constructed at the eastern end of the channel in 1963. The river, however, began to naturally change its flow beginning in 2014, causing further erosion of the bank directly in front of the dam. Early signs of a significant problem were erosion at the toe of the dam and large mature trees beginning to fall into the river. CFAC began to perform regular visual inspections to monitor the dam and first informed the EPA of the pending problem in 2015. Aerial images in 2016 showed that the sandbar in front of the dam had disappeared, and the river was pushing directly against the face of the dam. The dam severely eroded during every subsequent season, and during the high-water seasons of 2016, 2017 and 2018, the Flathead River inundated the ponds and severely damaged the eastern end of the system. According to the Remedial Investigation report, the ponds held sediments contaminated with metals, including barium, which the EPA categorized as contaminants of concern. "Seasonal

erosion therefore represented a risk that the Flathead River could flood the ponds and wash these sediments into the main river itself," Molloy said. [4]

Following discussions with the EPA and the Montana Department of Environmental Quality and concurrence by the agencies about the need for a stopgap measure, CFAC installed a sheet-pile dam in August 2016 to protect the existing earthen dam. Concerned about whether further stabilization work was necessary, CFAC asked Roux to evaluate four alternatives, including a no-action option for the site. CFAC ultimately concluded that stabilization work was necessary and could not wait for completion of a full Remedial Investigation/Feasibility Study for the plant site. To additionally protect the steel-pile dam, CFAC constructed a rip-rap wall approximately 10 feet inland from the existing bank of the dam in 2017 and 2018. Costs for the work included $402,471 for engineering work by Morrison-Maierle, $325,256 for sheet-pile work by Montana Helical Piers and $977,533 for rip-rap work by Sandry Construction. The EPA was informed of the actions and said they understood the urgency due to the riverbank conditions and seasonal timeframe constraints. The MDEQ was also kept informed and expressed its own appreciation, Molloy said. At trial, Stroiazzo said he did not recall any criticism from the MDEQ or the EPA regarding the temporary early work of installing the steel-pile dam or rip-rap. [5]

The sheet-pile dam and rip-rap reinforcement were not sufficient to address the long-term risk posed by a strong high-water season that might cause the ponds to be washed away, thereby releasing the contaminated sediments into the Flathead River, Molloy said. On July 22, 2020, CFAC and the EPA entered an Administrative Order on Consent providing for the performance of an EPA-approved removal action by CFAC. The final remedy would involve excavation of the sediments, thereby eliminating any risk of the river being contaminated with barium or other metals classified by the Remedial Investigation report as contaminants of concern. [6]

The Hungry Horse News reported on the project one week later, noting that Stroiazzo called barium found in the sediment the main issue with the ponds. Barium was considered to have moderate ecological toxicity, according to the EPA. The plan called for beginning work in October, when the river was low and the ponds were empty. About 35,000 tons of sediment would be excavated and transported to the Industrial Landfill at the north end of the plant site. The concrete wastewater pipe at the west end of the system would also be taken out. Once the sediment was removed, the steel-pile dam and rip-rap would also be removed, allowing the Flathead River to return to its natural course. "This is a positive, proactive step to remove impacted sediments and restore the natural course of the Flathead River," Stroiazzo said in a Glencore press release. "From the data collected at the site, we know this is necessary. We were in a position to do the work now, and the agency supported that proposal." [7]

By early December 2020, the Hungry Horse News reported Sandry Construction was nearly done removing contaminated sediments from the settling ponds. The pond cleanup went well, according to Ken Champagne, the EPA's project manager for the

smelter site. The stormwater pipes and the steel-pile dam had not yet been removed. That work was slated for next spring, Champagne said. [8] Work at the South Percolation Ponds was completed March 19, 2021, six weeks ahead of schedule and years sooner than if the work followed the normal Superfund cleanup process, according to a Glencore press release. The sediments were excavated and hauled away in January, and removal of the sheet-pile dam and rip-rap began in February. “It was completed ahead of schedule,” Stroiazzo said. “This early action is a benefit to the Flathead River and is another example of meeting our commitment. Many thanks to our contractors — locals Sandry Construction, Morrison-Maierle and Roux Associates — for a job well done.” Stroiazzo noted that the Remedial Investigation showed the work on the ponds would have been necessary as part of the overall remedial efforts. “We knew the sooner we could address the situation, the better. The environmental agencies agreed and provided approval for us to move forward as an early action.” [9]

Meanwhile south across the Flathead River, steps were underway for the state to acquire 772 acres of CFAC property originally acquired by the Anaconda Aluminum Co. as a buffer for fluoride emissions from the aluminum smelter. The Anaconda Company had experienced lengthy and expensive environmental lawsuits in the Deer Lodge Valley beginning in the first decade of the 20th century because of air and water pollution emitted by its giant copper smelting plant at Anaconda, Mont. One solution to the problem was for the company to acquire impacted properties as well as land located between the smelter and potentially affected properties to buffer those properties from pollution. When the Anaconda Company began developing plans for a new aluminum smelter near Columbia Falls, it was well aware of potential air pollution by fluoride emissions. AAC installed advanced (for the time) emission-control equipment and studied the local weather patterns. AAC believed prevailing winds blew from southwest to northeast in the corner of the Flathead Valley where the smelter would be located.

But two years after the plant began operating with two potlines, it acquired surrounding land to buffer private lands from potential fluoride impacts. On Nov. 8, 1957, the Hungry Horse News reported that AAC had filed deeds at the Flathead County Courthouse for the purchase of 2,215 acres located north, west and south of the smelter, including a tract of land across the Flathead River. The purchase increased the plant's acreage from the original 750 acres to nearly 3,000 acres. Homes on the acquired properties were leased. In reporting this purchase, the Hungry Horse News discussed the Anaconda Company's efforts to control both water and air pollution elsewhere in Montana and concluded, "The 2,215 acres purchased may be a legal precautionary measure by Anaconda." [10]

The Flathead Land Trust, which led the fundraising effort to acquire the 772 acres across the river from the plant site for the proposed Bad Rock Canyon Wildlife Management Area announced in June 2021 that it had reached its fundraising goal of just under $600,000, pending an anticipated grant. The total cost of the project was about $7.1 million and Glencore had given the state until the end of 2021 to complete the project. The U.S. Forest Service’s Forest Legacy Fund had committed $4 million and the state had

committed an additional $2.5 million through its Habitat Montana program and the Aid in Wildlife Restoration program provided under the federal Pittman-Robertson Act. Flathead Land Trust director Paul Travis said the project had great community support. “The public and the community stepped up in a big way,” he said. “We’re just blown away.” [11]

The property was completely undeveloped, other than the power lines running across it and the river providing Hungry Horse Dam and BPA grid power to the plant site’s substation. With 1.6 miles of riverfront, the land served as a key wildlife corridor and supported large populations of bird and mammal life, including bears, deer, elk, bald eagles and other iconic species. CFAC in the past had allowed limited youth hunting on the property in an agreement with Montana Fish, Wildlife and Parks, which was expected to continue there as a Wildlife Management Area. The MFWP would own the land and manage it for wildlife. The state was expected to release an environmental assessment on the project in summer 2021 that would outline the state’s plans for future management. [12]

The Montana Fish, Wildlife and Parks Commission unanimously approved the project in late October 2021. The appraised value of the acquisition came to $7.26 million. If the project failed, officials noted, the property would most likely be sold, subdivided and developed into a high-density neighborhood that would directly impact the conservation value of the land. [13] The Montana Land Board unanimously approved the purchase on Nov. 8, 2021. The property was one of the largest intact riverfront properties in the Flathead Valley. Eleven local organizations, including the Flathead Land Trust and the Flathead Lakers, supported the project, as well about 250 individual donors, some of which gave as much as $75,000 toward the purchase. The project also had the support of the City of Columbia Falls and the Flathead County Commissioners. [14]

Meanwhile, the Gateway to Glacier Trail group had been working on establishing a biking-hiking path on the same property along the Flathead River. The group’s initial goals were to construct a safe off-highway path from Columbia Falls to the west entrance of Glacier National Park. Phase one of the project was completed in 2016, with 10 miles of paved paths for cyclists, walkers, runners and other recreationists along U.S. Highway 2 from Hungry Horse to West Glacier. With completion of a new bridge over the South Fork of the Flathead River west of Hungry Horse in fall 2018, a separated biking and walking path on the bridge provided access to the west side of the Flathead River. The group completed a one mile stretch of paved path from the east side of the U.S. Highway 2 bridge at River Road near the Columbia Falls city limits east to the Big Sky Waterpark area in 2020. The group planned to form an exploratory committee in 2022 to assess the status and feasibility of a potential U.S. Highway 2 reconstruction project that would include the Gateway to Glacier Trail segment from Columbia Falls to Hungry Horse. [15]

In May 2017, the Hungry Horse News reported that after two years of negotiations, the Gateway to Glacier Trail group had reached an agreement with Glencore for a license agreement to construct a biking and hiking trail through the company’s property on the opposite side of the Flathead River from the plant site. Gateway to Glacier Trail director

Seth Schnebel at the time said the license would run for 10 years and allow for a trail through a corridor of the property. In the event Glencore terminated the license, the company agreed to reimburse the group for the cost of constructing the trail, with a cap. Work on the trail could start as early as summer 2017, starting with a single-track trail and eventually raising sufficient funds for an 8-foot wide path. The three-mile-long trail route crossed some wet areas that would need special tread, and a bridge was needed to cross at least one creek, he said. “We are pleased to be able to work successfully with local citizens to make this happen,” Cheryl Driscoll of Glencore said. “The Gateway to Glacier Trail will be a great addition to the community. The trail is being developed by a passionate group of local citizens who deserve our support. Glencore and Columbia Falls Aluminum Co. are committed to being positive partners with our neighbors in the area, and this is one example of that commitment.” [16] The trail group reported on their website in June 2022 that a primitive three-mile trail through the property had mostly been completed by a professional trail builder, with some finishing touches to be added at a later date. [17]

Initial reaction to cleanup plan

With the Final Feasibility Study Report available to the public, despite its overwhelming size, objections to Glencore’s proposed cleanup plan soon followed. During a visit to Kalispell, Mont., on July 9, 2021, Sen. Jon Tester said he supported the Columbia Falls City Council over its concerns about the proposed cleanup plan. “I’ll be on the city council’s side on this stuff,” Tester said, adding that he intended to take a hard look at what the EPA proposed. Tester, a Democrat, played a key role in getting the CFAC site placed on the Superfund’s National Priority List. Rep. Ryan Zinke, a Republican and Montana’s lone congressman at that time, opposed the listing, insisting the CFAC cleanup should have state oversight only and that Superfund designation was unnecessary. With Montana gaining a second House seat under the 2020 census, Zinke, who briefly served as President Trump’s Interior Secretary, was running again for the House. [18]

The public learned Nov. 26, 2021, that an EPA decision on the cleanup plan had been delayed when the Hungry Horse News reported on a meeting between Columbia Falls City Manager Susan Nicosia and Glencore officials. “Our concern is the water [is made] clean,” Nicosia said she told company officials. Beth Archer, a community involvement coordinator for the EPA, said the agency expected to have a proposed action available for public review in fall 2021, but the EPA lacked contractor support to examine the feasibility study. The EPA hoped to have a contractor on board soon and have the proposed action released by the first or second quarter of 2022, she said. [19]

The delay was confirmed during a Feb. 22, 2022, presentation to the Columbia Falls City Council led by EPA remedial project manager Ken Champagne and representatives from the MDEQ. The EPA hoped to have a new contractor on board by March 2022. Amanda Bartley was introduced as the EPA’s new project manager for the CFAC Superfund site. The council was told that the EPA had heard concerns about threats to the city’s drinking

water and reassured the council that “protecting drinking water is of the highest priority.” The EPA told the council that the agency “will select a protective remedy, and continued groundwater monitoring will ensure that city drinking water wells will be safe into the future.” The EPA said data collected so far “show no impact off-site, including to city drinking water wells.” Both the EPA and MDEQ assured the council they “have the shared goal to clean up the site effectively so the remedy will protect the community for years to come while minimizing disruption to the community.”[20]

To help the local community understand the complex data and decisions involved in Superfund cleanup cases, federal law provided for ways to promote community involvement. These were noted in a 2017 EPA Region 8 document on community involvement for the CFAC Superfund site. According to the document, the EPA would provide support resources for a Community Advisory Group established by local community members along with a variety of technical assistance programs. “Technical assistance refers to the provision of services focused on increasing community understanding of the science, regulations and policy related to environmental issues and EPA actions,” the document stated. “To support healthy communities and strengthen environmental protection, EPA works closely with communities to make sure they have the technical help they need.” This could be accomplished by conducting a technical needs assessment; hiring a contractor at no cost to the community that provided scientists, engineers and other professionals to review and explain information to communities; connecting the community to colleges and universities for voluntary technical assistance; or providing grants to communities so they could contract on their own with technical advisers. The grant required a 20 percent match, which could be made through in-kind contributions.[21]

The EPA held two public meetings about its technical assistance programs in the Columbia Falls City Council chambers on Feb. 16, 2023. The results of a needs assessment were presented, which came from interviews with local residents and stakeholders, the Flathead County Health Department, the Columbia Falls City Council, the Montana Department of Environmental Quality, and Steve Wright of Glencore, CFAC’s parent company. The city council opted to hire a community representative under the EPA’s National Technical Assistance Services for Communities (TASC) program rather than apply for a technical assistance grant. According to Alison Frost of Skeo Solutions, which holds the federal contract for the EPA’s Technical Assistance Needs Assessment program, getting a third party in place soon could prove very beneficial to the community, as that person was typically a scientist with a background in the Superfund cleanup process. A record of decision on the cleanup proposals was expected by the end of 2023, following a 60-day comment period on the EPA’s proposed action, the Hungry Horse News reported. Project manager Matt Dorrington said the EPA would then enter into consent decree negotiations with both the site’s current owner, Glencore, and its former owner, ARCO.[22]

The EPA issued its proposed action decision on June 1, 2023, agreeing with the recommendation in the feasibility study to contain the West Landfill and Wet Scrubber Sludge Ponds with a bentonite and soil slurry wall ranging from 100 and 125 feet deep. In addition, eight pairs of extraction and monitoring wells would be drilled both within the slurry wall boundary and outside of it. Contaminated water could be treated on-site to remove fluoride, cyanide and arsenic. “If pumping is needed because groundwater elevations in the interior and downgradient monitoring wells indicate the slurry wall is not performing as designed, the groundwater extracted from the interior of the slurry wall will be treated and then discharged into infiltration basins,” feasibility study said. Contaminated soils at several locations would be scraped off and consolidated in either an existing landfill on the site or a new one. Soil contaminants included heavy metals, PCBs and polycyclic aromatic hydrocarbons. All told, the proposed action’s estimated cost was about $57 million. Design work would take six to 12 months, with construction completed in one or two seasons. Groundwater monitoring and potential treatment would last about 30 years, with a review of its effectiveness every fifth year. Alternatively, excavating 1.2 million cubic yards of contaminated materials and hauling the waste to an approved out-of-state landfill in Oregon could require 60,000 truck or train loads over four to five years. [23]

In the midst of this public process, a problem emerged which could hamper attempts to have the contaminated material in the West Landfill excavated and hauled away to an out-of-state landfill. According to the final 2021 remedial investigation and feasibility study, the possibility existed that poisonous cyanide gas could be released if spent potliner in the West Landfill was disturbed while it was being excavated. Knowledge about this threat to cleanup workers wasn’t really new in 2023 – it just hadn’t received sufficient public attention. Chris Peterson reported on the problem in an Oct. 3, 2022, article in the Hungry Horse News, noting that EPA officials cited the problem during a Sept. 14, 2022, public meeting at the Columbia Falls High School that presented information about the feasibility study. [24]

“It should be noted that spent potliner can be reactive with water in a way that produces toxic and explosive gases, which could further complicate this (excavation),” Peterson quoted the feasibility study. “Disturbance of the potliner-impacted material would release cyanide gas, a poison if inhaled. Swallowing cyanide via fugitive dust would also be toxic. Measures such as continuous air monitoring would need to be implemented during construction and, depending on the results of such monitoring, the need for enclosed work areas and/or limitations on exposed waste areas may need to be considered.” Peterson noted that while cyanide had been detected in groundwater, no cyanide gas had been detected in any of the monitoring wells near the landfill. He also noted that according to Beth Archer, an EPA community involvement coordinator, the EPA didn’t monitor for cyanide gas because the source of the cyanide was buried underground and the agency didn’t believe an exposure route existed. “Digging up the waste could release it, however,” Peterson wrote. [25]

Another side story emerged in spring 2023 with concerns about a public garbage dump that once existed about a mile north of the Columbia Falls city limits east of the North Fork Road. According to a Nov. 17, 1972, story in the Hungry Horse News, the dump was approved following a meeting between the Anaconda Aluminum Co., Flathead County and the Columbia Falls City Council, and AAC leased the 15-acre site to the county for $25 a year. Longtime residents recalled “there being a trench dug in the ground. People would pull up and throw their garbage into it,” Chris Peterson reported in the Hungry Horse News on April 14, 2023. “Townspeople at the time wanted a dump site that was closer to Columbia Falls so they didn’t have to drive 30 miles to Kalispell get rid of their trash.” EPA officials said they hadn’t investigated the public dump because it was outside the Superfund site’s boundaries, and that the public dump wouldn’t be cleaned up as part of the CFAC Superfund project. MDEQ and Flathead County officials said they had no records on the dump. Flathead County Public Works Director Dave Prunty noted that in past times public dumps existed all over the county. With growing interest in future residential development projects north of Columbia Falls along the North Fork Road, including on CFAC property, Peterson concluded that “at some point the dump may have to be addressed.” [26]

The EPA’s proposed cleanup plan for the Superfund site worried local residents in personal ways beyond concerns about impacts to the environment. Tests conducted during the studies leading up to the feasibility study showed little or no evidence of cyanide reaching the Flathead River, drinking water wells in Aluminum City or other properties near the plant. But there was a question of cancer clusters in Columbia Falls. When Kimberly Peacock, a cross-country runner at Columbia Falls High School, was diagnosed with acute lymphoblastic leukemia, she was the fourth student at the high school diagnosed with pediatric cancer in recent years and the third in two years. Gabby DeLorme, a 17-year-old Wildcat football player, was diagnosed with acute lymphoblastic leukemia in 2015. Paxton Fisher, an 18-year old Wildcat soccer player, died on April 18, 2017, following complications from adenocarcinoma, an aggressive esophageal cancer. Seventeen-year-old Taylor Peterson, an honor student at the high school, succumbed to jawbone cancer in 2012. On top of that, 22-year-old Michael Hader, a former Wildcat football player, was diagnosed with germinoma brain cancer in 2012 while studying and wrestling at the University of Great Falls. [27]

Kimberly Peacock’s mother, Heather Peacock, a pharmacist in Columbia Falls, had concerns about the apparent cancer cluster. “Of course, nobody can pinpoint what happened with Kimberly,” she said. “It might have been spontaneous, but with everything that has happened, it certainly makes you wonder: Is there something else going on in the community that we don't know about? I don't know how to necessarily address that.” [28] By 2023, with the EPA proposing to leave contaminated waste in place at the CFAC site, containing it with a slurry wall, Heather Peacock began to speak out. She and her family live a few miles from the Superfund site. “I think it’s a valid question for the future of our community,” Peacock said. “How does this affect our children?”

Peacock and others questioned if the slurry wall was adequate and called for hauling the waste to an out-of-state landfill. She wasn't alone. [29]

"People in Columbia Falls that I know are not worried about how many truckloads it takes to get this stuff out of Columbia Falls," former Columbia Falls City Councilor Dave Petersen said. What they were worried about was the possible failure of the slurry wall, he said. Nino Berube, an engineer who worked at CFAC for 25 years, was skeptical of the EPA's track record for delisting Superfund sites in Montana. He noted that since the EPA started working in Montana in the 1980s, a total of 17 sites were placed on the National Priority List and none were delisted. An early estimate by the EPA for hauling away the contaminated material would add $100 million to the cleanup cost over containment within a slurry wall. But some in Columbia Falls believed the extra cost was worth it if excavation and removal meant preserving the human and environmental health of the community. "The frustration with me is just, hell, I'll be dead and gone," Columbia Falls City Councilor Mike Shepard, a former CFAC employee, said. "The question is the decisions: Are they going to be right?" [30]

Experts, however, expressed confidence in slurry walls. James Thomasson, an engineer with All West Testing and Engineering, said slurry walls composed of concrete or cement mixed with other impermeable materials rarely failed if constructed correctly. "It essentially creates an impermeable layer almost as if you were placing a plastic sheet down to the bottom of the plume," he said. "The hope will be that they contain it in one place and it just doesn't go anywhere and they stop it in its tracks." The key to a successful slurry wall, Thomasson said, was its thickness. Slurry walls that weren't thick enough potentially could leak. The EPA would need to utilize the expertise of an environmental engineer to determine the proper thickness of the slurry walls at CFAC if the agency decides to go that route, he said. [31]

The first public views of the proposed cleanup plan came in public meetings held in June 2023. While CFAC officials endorsed the EPA's proposed action plan, Karmen King, a third-party analyst with Skeo Solutions, representing an EPA-funded program called Technical Assistance Services for Communities established to help communities dealing with Superfund sites, suggested during one meeting that the proposed action could be bolstered to protect ground and surface water both on and off the site. In her analysis of the proposed action, she suggested a slurry wall should be expanded to include the Center Landfill, just to the east of the Wet Scrubber Sludge Pond. The EPA's preferred cleanup plan called for capping the Center Landfill, a source of groundwater contamination, not containing it within a slurry wall. "It seems prudent to consider a more comprehensive encompassing slurry wall feature that could address all three of the significant groundwater contamination features," King said in her report on the proposed action. [32]

Glencore project manager John Stroiazzo disagreed, noting the company's environmental consultants looked closely at the Center Landfill during the feasibility study. In a later

email to the Hungry Horse News, Stroiazzo said, “The contribution of the Center Landfill to cyanide concentrations in groundwater is minimal, if any. Furthermore, historical documents indicate that the Center Landfill was constructed approximately 15 feet above the surrounding grade and the groundwater in that area ranges from 57 to 139 feet below the surrounding grade. Therefore, it is highly unlikely that material impacted by the center landfill extends to groundwater, so a slurry wall cutting off groundwater flow to the area under the Center Landfill wouldn’t have any impact on groundwater quality.” [33]

Under the technical assistance program, King’s suggestions were not formally presented to the EPA. It was up to members of the public to present them to the EPA. Other suggestions in her 10-page report dealt with properly controlling surface runoff so it didn’t compromise the nine landfill caps at the site, and addressing future and current impacts to wildlife. Concerned the slurry walls might alter groundwater flow, she suggested close monitoring at locations other than at the landfills. “The slurry wall will prohibit groundwater migration across the wall into the waste area, and act as an obstacle for groundwater movement, forcing the water to travel around and/or below the wall (if the wall is not tied adequately to the underlying bedrock),” she wrote. “This flow pathway may alter the effectiveness of using down gradient wells for monitoring, depending on the well development specifications. In addition, the altered flow pathway may create a new groundwater route that could encounter unknown, buried wastes, etc. It seems appropriate to ensure that the ‘groundwater effectiveness monitoring’ program should be robust enough to capture all possible future pathways, and to include a thorough list of all possible contaminants that may be encountered.” [34]

During the meeting, King did not suggest removing the waste entirely from the site. Former plant employees Nino Berube and Mike Shepard, however, argued during the meeting with the Technical Assistance for Communities staff that the waste should be removed entirely and more testing needed to be done. The men described a number of instances where contaminants were dumped at the site, a fire that burned for days releasing contaminants into the soil, rectifier equipment filled with mercury buried on-site, and dry wells buried under the paved employee parking lot. They also argued that if the plant owners could afford to transport potentially harmful substances to the plant site for decades, then they were certainly capable of paying to haul away the materials. Meanwhile at a CFAC liaison panel meeting, Columbia Falls City Manager Susan Nicosia asked when discussion should begin about redeveloping the site. The city was interested in using the 3,000-acre CFAC property outside the designated Superfund area for future housing. Stroiazzo noted during a tour of the site after the EPA meeting that a local company was keeping an aircraft in one of the plant’s remaining warehouses, and there had been a number of inquiries about the site. [35]

The devil in the details

The possible disappearance of a report related to the CFAC cleanup planning process was brought up at the June 28, 2023 public meeting with the EPA. Former CFAC engineer Nino

Berube said he accompanied CFAC and EPA officials on a three-hour tour of the smelter site in October 2015, after it was listed as a Superfund site, because he largely knew where contaminants on the site were located. The tour was tape recorded, he said, but a subsequent report about the tour was inaccurate and eventually lost. Berube said two weeks after the tour, company officials asked him to sign the report, but it included a disclaimer stating the report was protected by attorney-client privilege and not open to public scrutiny. Berube said he refused to sign it. At the meeting, Berube said he had recently asked for the document from John Stroiazzo. “I went to pick it up today and they can’t find it, surprise, surprise,” he said. Berube noted that with 7,000 pages of study results, he found it striking that company officials couldn’t find the one document that really gave investigators a good start on the project. He concluded by claiming the investigation and subsequent study were conducted by people unqualified for the task. [36]

Columbia Falls City Councilor Mike Shepard, who worked as a purchasing manager at the aluminum plant, brought up similar concerns at the meeting. “The thing that’s bothered me from day one… is no one knows what is in what dumps where,” he said. Things might get disposed of in the middle of the night, he said. Shepard called for more testing, noting that his late wife worked in the yard around their Columbia Falls home for years and died of a rare breast cancer. Heather Peacock brought up possible cancer clusters in the area, noting that her family was one of six in Columbia Falls that experienced pediatric cancer since 2011. “Of those six children, three have passed away,” she said. Her daughter survived. “We’re one of the lucky families, we still have our child, if you call going through pediatric cancer lucky,” she said. At the time of their daughter’s diagnosis in 2017, their pediatric oncologist remarked that “there’s something wrong up there,” meaning the Columbia Falls area. While official statistics for pediatric cancer cases at the time were not above normal rates, her child and others weren’t included in the numbers, Peacock noted. She concluded by expressing concern that if the slurry wall remedy failed, the remedial process would start all over again – a process that could take years. [37]

Former Columbia Falls City Councilor Dave Petersen addressed the fundamental issue of the proposed cleanup plan – community members wanted the waste removed entirely, he said. They didn’t want to deal with a site containing buried contaminants forever. It would be better to spend an additional $100 million now and have the waste removed than to keep it there, he said. “If the less expensive route is taken, (the waste) is still there,” he said. As for the high volume of truck traffic cited in the feasibility study needed for hauling the waste away, Petersen noted the community was used to truck traffic in town. The MDEQ representative at the meeting, however, disagreed with the naysayers. “We support this preferred alternative,” project manager Dick Sloan said. The EPA concluded the meeting by noting that a land-use plan for the 3,000-some forested acres surrounding the 960-acre Superfund site was in the works. [38] Following the meeting, the EPA announced the comment period for the proposed action would be extended to Aug. 31, 2023. [39]

Public opposition to the EPA's preferred action continued at the next public meeting in July, with concerns expressed about the Superfund site's legacy and possible future impacts on children and grandchildren. Karmen King, the scientist with Skeo Solutions providing technical assistance to the community, described the Superfund site as very complicated, with "little spots and pieces" created when waste was buried in a number of landfills around the plant. King said her greatest concern was future management of groundwater and surface water at the site. "We don't want groundwater to come in contact with the waste," she said. Phil Matson, a local resident and research coordinator at the Flathead Lake Biological Station, suggested that rather than contain the West Landfill and Wet Scrubber Sludge Ponds with slurry walls, it would be better to dig them up and remove the waste entirely. [40]

A former plant worker spoke up at the meeting, claiming he saw numerous steel barrels sunken in the Wet Scrubber Sludge Pond. "It used to be a catchall for the plant," the man said. Nino Berube pointed out that some day those drums would rust out, releasing whatever contaminants were inside. "They're going to start leaking one of these days," he said. Conceding that the Superfund site would likely end up being contaminated to one degree or another well into the future, King noted that adequate testing was paramount. King suggested that when people commented on the plan, they should request that a "full suite" of testing be conducted for water and other samples, not just cyanide and fluoride. While cyanide and fluoride currently are found at low levels in monitoring wells near the river, and no contamination has been detected in nearby residential drinking water wells, residents' concerns continued. "I want that stuff out of here," former Columbia Falls Mayor Gary Hall said. If the slurry walls failed to contain the contaminants leaching from the two landfills, then groundwater would need to be treated, making the area an industrial waste site in perpetuity, he said. [41]

During all this give and take, the Hungry Horse News continued to report on the aluminum smelter, just as founding editor and publisher Mel Ruder and his successors had since 1950, when the Hungry Horse Dam was still under construction and the idea of an aluminum smelter in the Flathead Valley was a speculative notion. To fully understand the cleanup debate, editor Chris Peterson looked to other shuttered aluminum plants in the Pacific Northwest to see what was done there. In June, he countered the argument made at a public hearing that if the plant's owners could afford to ship the raw materials to the site, then they could afford to ship the contaminated waste out-of-state. "But that hasn't been the strategy of cleaning up other aluminum plants in the Pacific Northwest," Peterson wrote. "At the Kaiser Mead plant near Spokane, Washington, the EPA capped landfills and consolidated waste. It continues to treat the groundwater for cyanide and fluoride. At the Martin-Marietta plant in Dalles, Oregon, it's a similar situation, with consolidated landfills and contaminated groundwater that's being treated. The Dalles site has been taken out of the Superfund listing, but monitoring continues." [42]

Peterson continued to make this argument in a July 5, 2023 article following another public meeting. "There is also apparently little precedent for hauling waste away from

defunct aluminum plants," he wrote. "The Hungry Horse News looked at both the defunct Martin-Marietta plant at Dalles, Oregon and the Kaiser Mead plant near Spokane, Washington. Both cleanups at those plants consolidated the waste on site and treated the groundwater, similar to what is proposed at CFAC. The biggest difference is the proposed use of the slurry wall at CFAC. The Dalles and Kaiser Mead do not have slurry walls." [43]

Peterson had published an article earlier in spring describing the cleanup work at the closed smelter in Spokane, Wash. "At Kaiser Mead, they treat the groundwater by pumping it to the surface and then through three different cells," he wrote. "Imagine a pond, but the pond is so full of rocks that there is no actual surface water." Bacteria on the rocks consumed the cyanide. After that, the contaminated groundwater was treated by electrocoagulation, with the groundwater flowing over electrically charged iron and aluminum plates to remove fluoride. "As for the spent potliner at the plant, it was consolidated and put in a lined and capped landfill," Peterson wrote. "The contamination continues at the site largely because of the years of dumping wastes into the ground. The Columbia Falls Aluminum Co. site has the same issues – there's high concentrations of contaminants not only from spent potliner, but also from wastewater that was pumped out of the plant for years." [44]

If Peterson sounded pessimistic, he left no doubt about his feelings in a July 5, 2023 opinion piece in the Hungry Horse News titled "CFAC promises to be a dump forever." Citing cleanup work done at the Kaiser Mead plant and the former Martin-Marietta smelter in Dalles, Ore., Peterson made the case that waste at both plants was not hauled away but was consolidated in on-site landfills that were lined and capped. "So I've sat through hours of meetings on the Columbia Falls Aluminum Co. cleanup and read through hundreds of pages of documents, and I've come to the following conclusion: It will always be a dump of some sort or another," he said. "I know many residents want to see the waste dug up and hauled away, but that just isn't going to happen, not because it shouldn't – it probably should, at least to some degree – but because the EPA hasn't made other plants remove waste." [45]

Peterson noted in his opinion piece that Kaiser declared bankruptcy before the cleanup process began, which limited financing needed for an effective cleanup and leaving a 24/7 groundwater treatment process in place that might last for decades. "CFAC could very well end up like Kaiser Mead," Peterson wrote. "Will the slurry wall work? I have no idea. But if it doesn't work, the EPA will have to come up with another plan, it concedes. The irritating thing about CFAC is that regulators knew 30 years ago that there was cyanide and fluoride in the groundwater, but little was done about it then. It's the legacy of aluminum production." Times were different when the aluminum plant first came to Columbia Falls, he noted. "Columbia Falls prided itself in being the industrial hub of the county, and the plant made a valuable product," he wrote. "It is important to keep in mind that some of the waste, most notably spent potliner, wasn't necessarily deemed toxic at the time it was dumped. But now we know it leaches some very toxic stuff. I think most of us know what a teaspoon of cyanide will do to you." [46]

Peterson published an opinion piece a month later in which he reminded readers that the Aug. 31, 2023 deadline for commenting on the EPA's preferred cleanup plan was fast approaching. His outlook remained pessimistic. "The cleanup plan mirrors other cleanup plans of aluminum smelters in the West, which is to say the waste is primarily left on-site in either existing approved landfills or old landfills that are improved to modern standards," he wrote. "These old plants become dumps ad infinitum. In CFAC's case, it seems like we're heading down the same path. I don't see the EPA making Glencore, CFAC's parent company, dig up the old landfills and leaking sludge ponds to haul the waste away. It should matter that they made about $1 billion on the plant and that former owner ARCO also made about $1 billion on the plant. But I still don't see it happening." He asked why the proposed slurry wall would only enclose the West Landfill and Wet Scrubber Sludge Pond, but not the other landfills. "After having sat through hours and hours of meetings,it's pretty clear that a lot of stuff was dumped in the landfills, and even after years of tests, we still don't know where certain parts of the old plant are buried – parts that contain mercury and other nasty stuff. So why not err on the side of caution and contain the whole thing?" [47]

Public opposition mounts

By December 2023, comments sent to the EPA about the proposed cleanup action at the CFAC site began to be made public. The EPA announced the comments, which filled a file folder with 715 pages, needed to be summarized and responded to by agency staff. According to EPA spokesperson Missy Haniewicz, the agency would review the proposed cleanup plan and consider new information or points of view expressed in the public comments. The EPA initially hoped to have that process completed by Christmas 2023, but review work continued after that. Ultimately, the EPA hoped to have a Record of Decision on the cleanup plan completed by March 2024. [48]

Former plant engineer Nino Berube submitted more than 50 pages of comments, citing concerns about landfills leaking cyanide and fluoride, as well as rectifier equipment containing mercury buried on-site. ARCO, which acquired the aluminum plant from the Anaconda Company in the late-1970s and was held responsible in federal court for 35 percent of the cleanup cost, questioned whether a slurry wall made of bentonite was the best approach for containing the waste. ARCO also claimed a diversion ditch from the Cedar Creek Reservoir that ran through Superfund site affected groundwater flowing through the problem landfills and should be addressed. ARCO noted that no borings or test wells had been conducted beneath the landfills, so previous investigations were incomplete and more data was needed to pinpoint the source of the groundwater contamination. Slurry wall construction was also bound to run into large boulders and areas filled with cobble stones, ARCO noted. "Simply put, constructing a slurry wall under these conditions will be extremely challenging and may be technically impracticable," ARCO stated. [49]

Numerous comments to the EPA addressed the alternative of excavating the West Landfill and Wet Scrubber Sludge Pond and hauling the waste out of state. “Leaving the waste in place next to the Flathead River is a recipe for disaster,” one comment stated. Others noted that while 1.2 million cubic yards of waste would need to be hauled off, 3 million cubic yards of contaminated material was hauled away from the Milltown Dam cleanup east of Missoula. Steve Wright, CFAC’s former environmental manager, noted that even if the landfill material was removed, downgradient soils contained cyanide and fluoride that leached out of the landfills over the decades. “Just excavating the landfills will not remove all the contamination between the landfills and the Flathead River, and it is not feasible to remove all the soils between the landfills and the Flathead River,” which was one mile away, he wrote. Wright encouraged the EPA to move forward with the preferred option of containment by a slurry wall and groundwater treatment. “It’s time to start the remediation process and ultimately remove CFAC from the Superfund CERCLA list,” Wright wrote. [50] The MDEQ also supported the EPA’s preferred cleanup option. In a May 12, 2023 email to EPA remedial project managers Amanda Bartley and Matthew Dorrington, MDEQ senior project manager Richard Sloan cited the agency’s close work with the EPA, CFAC and the community throughout the process in reaching its decision to back the EPA’s preferred alternative. [51]

Among the comments received by the EPA was a five-page letter from Peter Nielsen, a prominent environmental watchdog in Missoula. During his 37-year career in the Clark Fork watershed, he represented the Clark Fork Coalition, the Missoula Valley Water Quality District, the Missoula City-County Health Board, and both the city and county. The Clark Fork River had been impacted by 150 years of extreme pollution from the Butte-Anaconda copper mining and processing operations, impacts that extended 150 miles from the mines in Butte to the Milltown Dam east of Missoula. Nielsen also worked on numerous sites in the Missoula area impacted by timber plants. In his letter, he said he’d read the feasibility study and final report for the CFAC smelter plant and toured the site with members of the Clark Fork Coalition and American Rivers. “I do not support the proposed plan advanced by CFAC for this site,” he wrote. “I believe that this remedy falls short of CERCLA’s primary goals of long-term effectiveness and permanence. The proposed remedy does not make use of treatment techniques that would reduce the volume or toxicity of wastes at the site. Instead, it would impose responsibility to maintain a large volume of toxic materials at the site in perpetuity. It does not consider long-term impacts that could occur from flooding or seismic activity at the site.” [52]

Nielsen commended the recent restoration work completed at the South Percolation Ponds along the Flathead River, which returned the river to its natural channels. But, based on his experience working on similar environmental projects, he believed the process that led to the EPA’s preferred option was flawed, just as in other cases he worked on. “Frankly, I have seen this bias at all of the sites I have worked on, but in this case the bias is more blatantly apparent,” he wrote. “It seems to me that the company and its consultants have driven this process towards an in-place remedy, and at every turn have expressed their inherent bias toward that goal. The documents lean heavily on

potential negative impacts of removal options, stress the impacts of truck and train traffic on the community, and the risks to workers if the materials are excavated. At the same time, the documents overstate the long-term effectiveness and permanence of in-situ remedies they advocate. And the documents do not fairly assess the long-term impacts of in-situ storage of wastes at the site." [53]

Nielsen noted that an in-situ remedy at the Kaiser aluminum smelter in Tacoma, Wash., was rejected by the Washington Department of Ecology in 2016. The final remedy included excavation and shipping of spent potliner and other wastes to the approved landfill in Arlington, Ore. "There was no apparent crisis for the community involving too many haul trucks. There were no impacts associated with the reactivity of the wastes, no explosions, no cyanide poisoning of workers or neighbors or anything suggested by the consultants who prepared the CFAC proposed plan," Nielsen wrote. "It does make you wonder, if a state agency in Washington can require a permanent and effective cleanup at a former aluminum smelter, and can implement the remedy without negative impacts, then why can't the EPA and state of Montana handle the task at CFAC? The EPA and state should reexamine their thinking. Clearly the statements made by the company to justify their proposed in-place remedy are not fully reliable and accurate." [54]

Nielsen went on to cite the shortfalls of the proposed slurry wall containment for the CFAC landfills. He noted that the EPA's own consultant for the slurry wall, the 75-year-old environmental engineering and construction company CDM Smith, "strongly questioned the constructability of the slurry wall, citing the potential for large boulders to impede construction and require use of more expensive grouting techniques." CDM Smith had pointed to a site in Washington state where this same difficulty was encountered, Nielsen noted. The CFAC documents cited a national study of slurry walls, concluding that they posed no significant problems, Nielsen wrote, but "a closer reading" revealed that "many of the sites experienced failures, which when detected required extensive repairs." Nielsen noted that the proposed slurry wall at CFAC "will not be keyed into bedrock, which is about 300 feet below ground." Instead, the slurry walls would be keyed into less permeable glacial till at 125-150 feet below ground. "This will push the limits of the proposed methods of installation for the slurry wall, using the clamshell bucket excavation and hydro mill techniques proposed," Nielsen noted. [55]

Furthermore, the proposed slurry wall would be constructed in groundwater that fluctuated more than 25 feet in elevation. "The proposed slurry wall would need to be maintained in perpetuity," he wrote, although it would only enclose two of the seven landfills within the Superfund boundaries. He added that the cleanup documents did not specify if the responsible parties, ARCO and CFAC, would guarantee to finance the maintenance of the slurry wall, as well as the groundwater treatment system. "And what is the expected life of the slurry wall?" he asked. "30 years? 50 years? Will CFAC be around in 30-50 years to take care of this problem? Or will the EPA and the state require action by future innocent landowners?" In conclusion, Nielsen noted that the feasibility study failed to examine the treatment or recycling of spent potliner as an alternative.

“Many such technologies are under development, but I don’t know enough about them to recommend one for further examination,” he wrote. [56]

The 715-page file that contained the bulk of the comments to the EPA about its preferred cleanup plan was made available to the public through a Freedom Of Information Act request. EPA Region 8 spokesperson Missy Haniewicz explained in an email to Richard Hanners, the author of this history, “The document you are referring to is not actually a document but a collection of public comments on the Proposed Plan. The release of the public comments doesn’t normally happen until the Record of Decision release, which includes the Responsiveness Summary (the Agency’s responses to the public comments). However, we received a FOIA request for the comments ahead of this normal schedule, so they were posted on the FOIA website.” [57]

Some of the 715 pages were duplicate documents or blank pages. Not counting unsigned submissions, a total of 98 individuals or groups commented on the EPA’s preferred cleanup plan. Many of the comments contained boilerplate repetitive text likely taken from a group-effort document. Some comments were technical in nature and aimed at specific text in the feasibility study or other Superfund-related documents. All individuals opposed containing the hazardous material within a slurry wall and instead requested that the material be removed from the Superfund site, with the exception of Glencore’s environmental consultant Roux Associates, Glencore project manager John Stroiazzo, former CFAC environmental manager Steve Wright, representatives of Glencore’s subsidiary CFAC, ARCO’s environmental consultants and Mike Ruis, a prominent developer in Columbia Falls and the Flathead Valley. [58] It should be noted that while public comments for Superfund cleanup proposals are not treated the same as in a democratic voting process, overwhelming numbers on one side could affect bureaucratic decisions through external political influences.

Several individuals who sent comments to the EPA owned property in Aluminum City. The subdivision near the CFAC plant’s boundaries dated back to September 1953, when the Fredricksen Real Estate company began selling lots for a residential project called Tracey's Aluminum City. The 12-block area on the North Fork Road included 144 small lots, all serviced by drinking-water wells. [59] In October 1970, the Kalispell law firm of McGarvey, Morrison, Hedman & White filed seven civil suits against the Anaconda Aluminum Co. on behalf Aluminum City residents, as part of a growing number of cases involving fluoride pollution, which killed trees and other vegetation in areas near the plant. [60] Drinking-water wells in Aluminum City were investigated by Glencore’s environmental consultant Roux Associates during development of the Superfund feasibility study for cleaning up the plant. Residents in the subdivision had expressed concerns that cyanide, fluoride and other contaminants in groundwater were migrating downgradient from the plant toward their drinking-water wells, but test wells later indicated groundwater did not flow from the plant in that direction. [61]

One of the those Aluminum City property owners commenting to the EPA was Rachel Potter, a botanist who led native-plant restoration work in Glacier National Park since the

early 1980s. She was a charter member of the Montana Native Plant Society and received Flathead Audubon's Lifetime Conservation Achievement Recognition award in 2023. [62] Potter noted in her comment to the EPA that the only drinking water available at the Aluminum City property where her daughter lived was from a well. "Ours and all other nearby wells should be tested at CFAC expense on a regular basis, and notifications made to area residents about any contaminants, not just those above current drinking-water standards," she wrote. "The site should be cleaned up completely, and all waste taken off the site," she noted. "I realize this is not going to happen, despite all the billions of dollars in profit made by current and past owners of the site. As a very minimum, the slurry wall needs to be constructed around the entire site, not just a portion of the area where waste was discarded. Groundwater monitoring needs to be stepped up, both in intervals between testing and number of test locations." [63]

Pat Wood, another Aluminum City homeowner, was an active commenter about the CFAC Superfund cleanup process. In one email, Wood referred to fines and restitution typically paid by convicted offenders and suggested that "Glencore et. al. should make restitution to the community for the damage they have caused to our air, water, lands and the market value of properties which have been affected adversely by being 'next to a Superfund site,' as my property, for one, has been described to me." Wood added that Glencore "should donate – not sell – the meadow lands to the west of the plant site" for a conservation easement. "Cleanup is one thing, but other types of criminal activity are usually assessed both a fine or jail time and restitution," Wood wrote. [64]

In an earlier email to the EPA, Wood described the proposed cleanup plan as no more than a "lick and a promise." He called for a plan to reduce or eliminate the inflow of surface water into contaminated areas, even if the cost was "astronomical." "The community has been endangered, devalued and threatened by the multiple owners of the CFAC site," Wood wrote. "I believe we deserve to be compensated for the loss of our quality of life, our assurance of a safe future and the peaceful enjoyment that has been stolen from our neighborhood." In another email, Wood referred to having "photos of escaping gases from the plant, and I feel certain that they contained some toxic substances that more than likely settled to the west of the plant site over my home." Wood was concerned that the EPA had drawn an "arbitrary red line around the main portion of the plant site for testing," but wasn't testing soils beyond that line. [65]

In another email to the EPA, Wood referred to Article IX Section 1 of the Montana Constitution, which guaranteed residents a "clean and healthful environment in Montana for present and future generations." Wood called the provision "a powerful statement about the high priority our state places on the environment. There again, is that just wishful thinking?" Wood described at length the need to practice conservation, providing buffer land around streams and establishing diverse habitat for wildlife. "The burning question in the case of the CFAC site," Wood wrote, "is can Glencore work together with conservationists, or will the pursuit of profit win out and lead to the destruction of the natural environment that has the potential to benefit the wildlife and the local population

in its natural state." Wood concluded by asking the EPA to "do anything and everything within its power to help preserve the natural beauty that we have here." As for redevelopment of the site after the cleanup, "More housing can be located just about anywhere, but it should not and cannot be at the cost of losing historical wildlife habitat and irreplaceable open spaces," Wood wrote. [66]

Mike Ruis, a prominent property developer in the Flathead Valley, was the lone local resident among those in the 715-page file to support the EPA's preferred cleanup plan. Ruis grew up in Columbia Falls, graduating from high school there before moving to San Diego in the late 1990s. [67] Ruis' start in the real estate development business was a classic bootstrapping anecdote. When he was a single father with three children, he scraped together enough money to buy the Nord Apartment Building on Nucleus Avenue in Columbia Falls, using a $6,000 bonus from his employer. Blanche Garrett, the building's owner, agreed to his low down-payment and owner financing at 10 percent interest for the $110,000 purchase. Ruis moved his family into one apartment, painted and installed new carpeting himself, and later sold the building for $320,000. He used his profit from the sale to buy some scaffolding and started American Scaffolding, a business that grew over the years into a multi-million dollar California-based venture, primarily involved in the construction of concrete reservoirs around the U.S. Ruis began to invest in Columbia Falls when he returned from California, just as a construction boom began in the valley. One of his early projects was the three-story 64-room Cedar Creek Lodge, a much needed hotel for the area, which he later sold to Xanterra Parks and Resorts. After that, he completed multiple mixed-use projects in the Flathead Valley, including a condominium/retail project at the former town square on Nucleus Avenue and an apartment complex in Kalispell called The Silos. He had a housing project underway in Whitefish as the CFAC Superfund's Record of Decision neared. [68]

In his comment to the EPA, Ruis began by conceding he wasn't a technical expert. "But it seems to me that the best way to deal with the Columbia Falls aluminum site is to solve the problem as quickly as possible with the least disruption to the community," he wrote. "It's just common sense to me that if the problems at the site can be solved without digging that mess up and hauling it through town to dump in someone else's backyard, that it should be done that way." Traffic in Columbia Falls was already bad without 70 more trucks passing through each day, he wrote, and hauling the waste on trains posed even more dangers. "We've had two trains dump their cargo into rivers in Montana this year, and those accidents would have been much worse if it were the hazardous waste from the aluminum plant that was dumped into the river." He also noted that excavating the waste from landfills and hauling it to an out-of-state landfill could take twice as long as the EPA's preferred plan. "That's a bad outcome for the environment and the community," he wrote. [69]

Cancer clusters and cleanup disputes

Many of the individuals who sent comments to the EPA about its preferred cleanup plan were professionals of one type or another. Anne Scott-Markle worked as a licensed professional clinical counselor since 1991 and brought her practice to a downtown office in Columbia Falls in 2000. In her email, Scott-Markle noted that she had attended one of the public meetings led by Karmen King, the scientist with Skeo Solutions hired to provide technical assistance to the community on the cleanup process, and she listed a number of concerns. Scott-Markle questioned the durability of the proposed slurry wall "for the wide range of climate conditions," and the duration of the monitoring period considering "the seriousness of the contamination." [70]

Scott-Markle also noted that "major" contaminated areas at the site should be studied further since the slurry wall would not contain the hazardous waste in those areas. "This precious wild river is at risk with your current plan to leave everything in place, even with the slurry wall," she noted. She also cited the unusual number of cancer cases in the area. "There have not been enough studies of the health consequences of this contamination," Scott-Markle said. "I know of an unusual number of young people's deaths and cancers that are anecdotally connected to CFAC, but I want studies – especially if the slurry wall is built so all the contaminants are still on-site." [71]

The Montana Department of Public Health and Human Services' Public Health and Safety Division was assigned the task of tracking cancer incidents, possible causes and statistics for the state. In their comment to the EPA on behalf of the agency, Dawn Nelson, a state toxicologist and environmental health-section supervisor, and Shuangying Yu, an environmental health risk assessor, recommended the EPA consider a total-risk approach as described in the EPA's Regional Screening Levels User's Guide when evaluating the impacts of carcinogenic polycyclic aromatic hydrocarbons. The DPHHS scientists noted that their agency evaluated cancer risks from PAH exposure using guidance from the federal Agency for Toxic Substances and Disease Registry. They noted that "PAH congeners with sufficient evidence for carcinogenicity are assigned a relative toxicity to that of benzo(a)pyrene (BaP)." [72] PAH-type compounds found in soils around the CFAC site and in lake sediments as far away as Glacier National Park were emitted from Soderberg-type carbon anodes in aluminum smelting pots and from the Paste Plant, where the smelter's carbon briquettes were made from combining coal tar pitch with petroleum coke.

Regarding plans to monitor groundwater performance at the Superfund site, Dawn Nelson and Shuangying Yu said it was important to test for nitrate, nitrite and manganese, as they had already been detected at elevated levels in on-site groundwater. "Infants' exposures to elevated nitrates and nitrites can cause methemoglobinemia (blue baby syndrome due to insufficient oxygen uptake from the blood), and manganese exposure at high levels may affect early brain development," they wrote. The scientists supported the EPA's proposed institutional controls to prevent human exposure to groundwater from the

plant site, but they suggested other potential uses also be prohibited, such as human drinking water, and agricultural, industrial and commercial uses “until preliminary remedial goals are met.” They also emphasized “the need to continue long-term monitoring of private residential wells in Aluminum City to ensure the residents are not exposed to site contaminants in the event of potentially ineffective remedy or changes in groundwater flow pathways.” [73]

Many of the comments sent to the EPA were less technical but still to the point. Gene and Linda Kopitzke noted that they lived “just west” of the Superfund site and listed 15 concerns. Most of them dealt with groundwater flow into the containment cell, surface-water flow across the site especially at times of high runoff, and plans to manage the flow in the Cedar Creek Reservoir overflow ditch, which ran through the Superfund site. They also asked about steps to remediate soil contamination so as to “eliminate bioaccumulation as a potential pathway of concern,” and they recommended test wells be installed west of the North Fork Road. They concluded, “We see no non-governmental oversight. Government has not always been truthful, so how are we supposed to know that what’s being done is actually being done?” [74]

Daniel Yuhas, whose parents worked as seasonal lookouts for the Flathead National Forest when he was an infant, and Jill Rocksund, a former principal for the Whitefish School District and the incumbent school-board chairwoman for the Columbia Falls School District, noted in their comment to the EPA that they lived a couple miles downstream from the Superfund site. They listed five concerns, focusing on how hazardous waste would remain on-site in the EPA’s preferred cleanup plan. “How will leaving this toxic waste in place, despite all the questions being raised during this comment period and previously, better protect the health, safety and welfare of current and future generations of residents of the Flathead, as well as the health of the Flathead River and Flathead Lake ecosystems?” they asked. “Leaving cost to the companies and government out of the evaluation criteria, how could that change the outcome of your recommendations for this cleanup proposal?” Yuhas and Rocksund wanted to know why “cost factors have been given greater weight than the health, safety and welfare of current and future generations.” They also pointed to the large amount of spent potliner and asbestos that was removed during earlier plant demolition and wondered why the large amount of landfill waste still at the site also could not be removed. “Please take care of the toxic waste at CFAC completely and finally by removing all toxic material to an off-site location,” they asked. [75]

In her comment to the EPA, Susan Wheeler listed 18 concerns and called the remedial investigation and proposed plan inadequate. Her concerns included the need to contain the Center Landfill in addition to the other two landfills, potential impacts from surface-water flow originating at the Cedar Creek Reservoir, the need to require water-treatment pumping more than seasonally, potential long-term impacts of groundwater on the stability of the slurry wall, the need for additional groundwater monitoring wells, potential bioaccumulation of PAH compounds found in soils, the future of known and unknown

wastes such as mercury buried outside the containment area, and the need for future inspections and maintenance of the West Landfill's cap. She suggested constructing a nearby wetlands to handle discharge from the groundwater treatment system, where additional treatment could take place naturally by plants. She also asked about the claim by Nino Berube that the report of a tour he took with company officials disappeared, and that the community liaison panel established by a public relations firm hired by Glencore had been described as a "rubber stamp." She also mentioned the "unusually high rate of pediatric cancer" in Columbia Falls, as well as the high rate of cancer among lab employees at the plant. "What is the threat of future human health issues that could occur from the carcinogens present on the property and potentially found in personal wells and the Flathead River in the future?" she asked. [76]

In her email to the EPA, Anne Wheeler recalled the aluminum smelter's air pollution history. "Many trees on Teakettle Mountain were killed by fluoride emissions from the plant many years ago," she said. "I am not aware of all the contaminants that may be on the plant but want the contamination located, identified and then removed from the site by rail cars. Rail cars were used to deliver aluminum to the plant for processing. I endorse the buried toxic contaminants be loaded into rail cars and transported away from the Flathead River and the CFAC plant site to an approved landfill built to handle such toxic materials." Once the hazardous waste was removed, the EPA should commit to monitoring the site, the surrounding area and private drinking-water wells near the site for at least 40 years, she said, "to ensure the restoration work done has been thorough and complete." She concluded, "Please leave our community safe. Please pursue the companies who are responsible for leaving these environmental messes and make them pay for the cleanup work." [77]

Betty Violette's comment to the EPA was short and simple. "I know this valley, having spent 50 years here," she began. "Ask anyone who lives near the plant and they know groundwater levels, historically. If you care about water quality in the Flathead drainage, you have to revisit your decision to leave the toxic material in place. The migration of the toxic waste material left in place to the Flathead River is inevitable. Sooner or later the people of the valley will again be left holding the bag and suffering the consequences of your poor decision." [78] K.C. Voermans' comment was also short and to the point. "I like fairness in life, and it is only fair that CFAC is held accountable for the restoration of this critical project," Voermans began. "It is not fair for a company to come in and create long-term pollution that will have long-lasting effects. They need to be held accountable and do whatever is necessary to make sure all the contaminants are contained and removed to an acceptable standard. Please do the right thing, listen to the experts and make sure this property is returned to a level that will no longer cause harm to those who live, visit and recreate there." [79] Likewise the comment sent to the EPA by Larry D. and Rebecca R. Williams, who lived within a mile of the aluminum plant site, was brief and focused. "We are concerned that the proposal to 'contain' toxic waste materials on-site is a stop-gap solution," they said. They cited the long history of pollution in the Clark Fork River, predominantly caused by the mining industry and which eventually required

removal of hazardous wastes to remediate the affected areas. “We ask, by this petition, that the EPA give greater weight to removal of contaminated waste rather than containment,” they concluded. [80]

The local environmental watchdog group Citizens For A Better Flathead also commented on the CFAC Superfund process. Formed in 1992, the organization’s ultimate mission was to protect the Flathead Valley’s “clean water, natural beauty and friendly communities through solid planning and policy solutions.” In addition to its six board members, the group maintained paid staff positions. Co-chair Mayre Flowers “has been the driving force” for the group since its inception, according to its website. “Her knowledge of community planning tools and advocacy for the legal principles that support sound planning and meaningful public participation have made CBF a respected leadership voice on these issues in the Flathead.” Flowers often appeared at planning board, city council and county commissioner meetings across the valley. [81] In January 2024, Citizens For A Better Flathead organized a petition drive urging the EPA to remove contaminants at the CFAC Superfund site rather than permanently contain them within a slurry wall. In alliance with the Upper Flathead Neighborhood Association and other groups, Citizens For A Better Flathead also helped organize a new grassroots group called Coalition For A Clean CFAC to achieve that purpose. [82]

The boilerplate text found in dozens of comments sent to the EPA may have originated with the Citizens For A Better Flathead petition drive because it repeated the same errors that Mayre Flowers included in her very own personal email to the EPA. In her argument comparing the removal of 3 million tons of contaminated sediment from the Milltown Reservoir on the Clark Fork River east of Missoula, Flowers noted that 1.2 million cubic yards or 1.3 million tons of “heavily contaminated waste” remained in the CFAC landfills and needed removal. A general rule of thumb is that to convert cubic yards to tons, multiply by 1.4, but that numerical constant varied depending on the type of material being judged – for example, cast iron versus bird feathers. In her comment to the EPA, Flowers noted that during the early stages of the CFAC cleanup, a total of 26,000 tons of spent potliner and another 2,750 tons of asbestos was removed. [83] But according to contemporaneous newspaper accounts based on information provided by Calbag, Tetra Tech, Roux Associates and other companies involved with the demolition or cleanup, a total of 207,940 tons of material was hauled away from the plant, including 26,000 tons of spent potliner from 451 in-situ reduction pots, 80,000 tons of carbon from in-situ anodes, and 425 tons of asbestos, which was a relatively lightweight material which was used for construction and was not a process material like alumina, cryolite, coal tar pitch and petroleum coke. [84]

Citizens For A Better Flathead’s 22-page comment with 35 numbered bullet points and 153 direct questions or requests was sent to the EPA by Mayre Flowers and sometimes referred to the author in first-person terms. The first bullet point questioned how the EPA addressed the alternative of removing all hazardous wastes from the CFAC Superfund site. “What documentation was done of dozens and dozens of aluminum smelters in the

U.S. and around the world that dug up and hauled away spent potliner over the past decades, and how was this information used and incorporated to identify a viable and best solution for the health, safety and welfare of not only Columbia Falls residents but those downstream as well, and for the long-term health and recovery of the ecosystem?" Citizens For A Better Flathead asked. "The problem of spent potliner disposal exists at every single aluminum smelter in the world. Many never dealt with it correctly, causing groundwater contamination. This problem was well known when Glencore decided to buy the Columbia Falls smelter in 1999. What factual basis is being used to not require removal of all toxins from the CFAC site and its full restoration?" [85]

Citizens For A Better Flathead pointed to the 300-acre Alcoa aluminum smelter facility on the Columbia River in Vancouver, Wash. as an example. Citing an EPA website, they noted that following dredging of PCB-contaminated sediments in the Columbia River, demolition of the plant facility and removal of contaminated soils, "The site's long-term remedy included excavating and disposing of 50,000 tons of spent potliner and reclaimed alumina," the watchdog group said. "If removal of 50,000 tons of spent potliner were possible here, what basis is there for assuming it is not possible at CFAC?" Citing a Hungry Horse News article, Citizens For A Better Flathead noted that the feasibility study didn't examine in detail the use of rail cars instead of trucks to ship the wastes. "Why not, and isn't this an option you should explore before a final decision on leaving in place or removing the toxic material at the site?" the watchdog group asked. "Were trains used to remove the spent potliner during the reported early stages of the cleanup of the CFAC site?" Citizens For A Better Flathead also criticized "lax state standards, inadequate fines for violations, use of 'mixing zones' to dilute accountability for what is being discharged without clear science to support such practices, ongoing impacts from lax stormwater containment or monitoring, and more." In light of the "mess and extensive contamination that now exists at the CFAC Superfund site," the watchdog group asked if current state and federal regulations had been evaluated as to their effectiveness in ensuring a proper and complete cleanup. [86]

Referring to Judge Donald Molloy's August 2021 ruling in CFAC v. ARCO, which provided estimates for the enormous profits made by both companies from operating the Columbia Falls aluminum smelter, including $659 million that Glencore made from selling unused electrical power back to the Bonneville Power Administration during the West Coast Energy Crisis, Citizens For A Better Flathead asked why these companies weren't being held financially responsible for the Superfund cleanup. The watchdog group also posed dozens of questions about slurry-wall research and how it applied to the EPA's preferred cleanup plan at CFAC – including initial structural design, groundwater and surface water flow impacts over time, expected lifespans of slurry walls, impacts of various types of contaminants on slurry-wall materials, the lack of a bottom lining for both the West Landfill and the Wet Scrubber Sludge Pond leaving toxic material exposed to rising and falling groundwater, and the need to include the Center Landfill with the West Landfill and Wet Scrubber Sludge Ponds inside the containment area. Other numbered bullet points addressed effectiveness and location of monitoring wells, the final disposition of the

cathode soaking pit contaminated with cyanide, possible mercury from rectifier equipment buried on-site, the need to investigate company records and depose former employees, possible past damage to the East Landfill cap, and impacts from fluoride and polycyclic aromatic hydrocarbon pollution prior to the installation of the plant-wide dry scrubber system. [87]

The Upper Flathead Neighborhood Association, which allied with Citizens For A Better Flathead to form the Coalition For A Clean CFAC, originated several years earlier in reaction to proposals for large high-density housing projects along U.S. Highway 2 east of Columbia Falls, the neighborhood group's official area of interest. Their stated mission was to "promote the protection of natural resources, water quality, bird and wildlife habitat and rural landscapes, and to maintain the quality of life and economic vitality in the Flathead Valley through citizen participation, education and land-use planning for sensible growth." Shirley Folkwein was president of the five-member board of directors. [88] Together with other groups, the Upper Flathead Neighborhood Association in 2021 challenged MDEQ's authorization for 48 individual septic systems on roughly half-acre lots about 600 feet east of the Flathead River. [89] Folkwein and sisters Luci Yeats and Ruth Clawson grew up on the Rogers farm east of the Flathead River. Their father, Ted Rogers, clearcut portions of the property to make room for a pasture in the 1950s, which the family much later replanted with saplings. Altogether, the family owned about 60 acres of farmland along Rogers Road and U.S. Highway 2. The sisters founded the Upper Flathead Neighborhood Association out of concern for large developments near the family farm. Citing information from the Flathead Land Trust, Folkwein said the Flathead Valley lost 71,200 acres of farmland and open space to housing developments from 1990 to 2016, and more development was coming. [90]

Folkwein's three-page comment to the EPA paralleled points made by Mayre Flowers and Citizens For A Better Flathead. [91] Later, as New Year's Eve approached in 2023, Folkwein wrote to local newspapers on behalf of the Upper Flathead Neighborhood Association to protest the EPA's preferred cleanup plan and to announce the formation of a new grassroots organization to oppose the plan. "A growing number of Columbia Falls and Flathead-area residents are coming together to form the Coalition for a Clean CFAC," she wrote. "Our mission is to secure the comprehensive cleanup of the Columbia Falls Aluminum Company (CFAC) Superfund site for the health, enjoyment, and economic benefit of the local community and the protection of the Flathead watershed." Folkwein noted that, based on comments sent to the EPA and concerns expressed during public hearings, "the community has expressed our dismay that the EPA intends to leave the toxic waste in place." [92]

Folkwein went on to say, "Leaving the waste in place is not a solution. It imposes long-term risks and costs to our community and county that fail to meet federal Superfund goals for permanent solutions, and fails to reduce the volume of toxic waste that, over time, has the potential to affect water seeping to the nearby Flathead River as well as private wells. It fails to provide opportunities for economic reuse and ecological recovery

of the site." Folkwein added, "The option of off-site removal of toxic waste was never seriously considered as it was deemed too expensive, but no actual cost estimate was ever produced. The results of potential seismic and flooding events were not considered. It's time to insist these studies be done. Superfund sites don't have to become permanent waste dumps." [93]

Phil Matson, a local resident working as a research coordinator at the Flathead Lake Biological Station in Yellow Bay, was an early and outspoken member of the newly formed Coalition For A Clean CFAC. In his five-page comment to the EPA, Matson called the EPA's preferred plan "inadequate," noting that it "allows for the source of contamination to remain in place with a 'wait and see' mentality that is counterproductive to the overall well being of the community." He cited concerns and offered suggestions about designs for landfill caps and slurry wall containment, plans for groundwater monitoring and treatment, the scoring used to evaluate soil contamination, and basing soil remediation decisions on cost rather than effectiveness. He concluded by asking, "Will the EPA side on the voice of reason for the sake of humanity, including the current and future residents of Columbia Falls, by incorporating these requests into their preferred plan for cleanup of the CFAC Superfund site?" He also noted, "Trust in the government federal bureaucracy is waning rapidly. This is your chance to help improve the EPA's image and trust by going the extra mile to protect America's valuable natural resources and by allowing public oversight in the valuation process." He added, "I appreciate the EPA's initial willingness to claim the CFAC site under its jurisdiction, but I also implore them to go above and beyond their remediation status quo guidelines and embrace a more aggressive and expensive plan." [94]

ARCO, CFAC and TASC comment on plan

The Atlantic Richfield Company, by then obligated under Judge Donald Molloy's August 2021 ruling to pay 35 percent of the cleanup cost, submitted a three-page comment to the EPA on the preferred cleanup plan, written by Tim Hilmo, ARCO's liability manager. Attached was a 20-page technical report by environmental consultant Exponent sent to ARCO on Nov. 30. 2020, which was a response to the findings of the CFAC site's remedial investigation. "Atlantic Richfield agrees with the EPA's determination that off-site disposal of landfill wastes should be screened out as a remedial alternative for the reasons stated in the proposed plan," Hilmo wrote. ARCO, however disagreed with the preferred plan on two points. Citing the Exponent report, Hilmo noted that ARCO "questioned whether a remedy as extensive, technologically complex and costly as a fully-encompassing slurry wall is justified under applicable NCP (the National Oil and Hazardous Substances Pollution Contingency Plan) remedial alternatives assessment criteria." Hilmo supported that position by citing evidence described in the Feb. 21, 2020 remedial investigation report that "indicate groundwater contaminants at the site are not posing an imminent threat or unacceptable risk to human health or ecological receptors." Hilmo noted that the EPA responded to this point on May 12, 2021, and he wanted to restate ARCO's concerns on this topic. [95]

The second point of disagreement cited by Hilmo was regarding the potential influence of the Cedar Creek Reservoir overflow ditch on groundwater near the West Landfill, Wet Scrubber Sludge Pond and Center Landfill. Quoting from the June 29, 2023 comments on the proposed plan by the Technical Services For Communities (TASC) group, Hilmo noted that the ditch was located upgradient from the three landfills and was a well-established surface water channel. “It is not clear if surface water from this channel seeps into site groundwater and acts as a source of water to the groundwater resource,” the TASC group had said. “It seems important to ensure that the surface water within the Cedar Creek Reservoir overflow channel be actively managed to eliminate any hydrologic connectivity to site groundwater, and to ensure that there is no breach of surface water to the landfills (which could cause considerable issues if water were to come into contact with underlying, reactive waste within the West Landfill).” ARCO agreed with the TASC recommendation to manage the overflow ditch, Hilmo said. Noting that the overflow ditch was suspected of losing water during spring runoff, suggesting ditch water infiltrated the groundwater, Hilmo called for further evaluation of the overflow ditch, including groundwater modeling. [96]

The Columbia Falls Aluminum Co., a Glencore subsidiary, sent a 25-page comment to the EPA on the proposed cleanup plan with 27 specific points. In response to ARCO’s point that the complex and costly slurry wall plan wasn’t justified by the National Oil and Hazardous Substances Pollution Contingency Plan, CFAC cited evaluation criteria used in the feasibility study and cited NCP law that stated, “The remedy is cost effective if its costs are proportional to its overall effectiveness.” CFAC explained how evaluation criteria were used in the feasibility study to rank the alternatives discussed for each area within the Superfund site and concluded the decision conformed with NCP law. CFAC then discussed findings from the 2019 baseline ecological-risk assessment that found potential adverse ecological risks for three types of exposure areas within the Superfund site. “The risk assessment concluded that the North Percolation Ponds area, the main plant area, central landfills area, and the industrial landfills area could pose potential excess lifetime cancer risks or potential for non-cancer risks,” CFAC wrote. “Exposure to groundwater in the plume core could pose a risk to hypothetical future residential drinking water users.” This assessment was used to identify objectives and qualitative outcomes in the remedial investigation study. The preferred cleanup plan in the feasibility study called for new and refurbished caps for the landfills and a fully encompassing slurry wall to isolate the waste material and address the findings of the risk assessment, CFAC wrote. [97]

Citing NCP law, CFAC said no additional sampling was required to support the selection of the preferred cleanup plan. “The purpose of the remedial investigation under the National Contingency Plan is to ‘collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives,’” CFAC wrote. The site assessment in the remedial investigation work plan took into account 45 years of previous site assessments consisting of more than 16 separate investigations by the EPA, MDEQ and independent consultants, CFAC wrote. This included reviewing employee

allegations of improper waste disposal that were reported to the MDEQ, two preliminary site assessments by the EPA for placement on the Superfund's national priority list, and four years of semi-annual drinking-water well sampling in the Aluminum City subdivision. It also included reviewing years of plant operating records and as-built drawings for the East Landfill and West Landfill. The remedial investigation included 1,000 soil samples, 400 groundwater samples from 77 separate wells, 200 surface water samples, 70 sediment samples and 40 pore samples, as well as 100 off-site samples to establish background conditions. All told, the remedial investigation took five years to complete, beginning in 2015, and government reviewers provided more than 800 comments through 13 comment rounds. "Ultimately, all comments were resolved to the satisfaction of EPA, their contractors and MDEQ," CFAC wrote. [98]

Based on sampling from 77 monitoring wells, the "data clearly show that impacted groundwater has not migrated off the site and is not migrating toward adjacent communities, nor can it impact in any way the drinking water of the city of Columbia Falls," CFAC wrote. Furthermore, soil samples collected from 40 locations along the site perimeter found constituents of concern at either non-detect or trace levels comparable to background conditions. "These findings indicate there is no off-site migration of site constituents," CFAC wrote. The remedial investigation included baseline risk assessments for both human health and ecological receptors. "Both risk assessments were developed by expert risk assessors from the consulting firm EHS Support under the supervision and approval of EPA expert risk assessors," CFAC wrote. "The assessors determined that most of the site did not pose theoretical health risks above applicable risk standards," CFAC wrote. "The assessment did show that site constituents in four areas of the site – the North Percolation Ponds, the Main Plant Area, the Central Landfills Area and the Industrial Landfills Area – posed enough of a theoretical health risk to industrial workers or trespassers under applicable exposure scenarios to such constituents that those risks needed to be addressed in a feasibility study. All of those areas are posted with no trespassing signs, protected by fencing, and the public is not allowed access. Furthermore, the assessment did conclude that consumption of impacted groundwater over a lifetime could also pose a theoretical risk to human health in a hypothetical residential scenario, but there are no operating drinking-water wells accessing that groundwater." [99]

Measures called for in the preferred cleanup plan would address these human and ecological health risks, CFAC wrote, including reducing surface and groundwater infiltration to the West Landfill and Wet Scrubber Sludge Pond with new caps, a slurry wall and cap maintenance. CFAC noted that "removing the landfill caps and excavating that material will create human health risks that are nonexistent or are highly unlikely under the EPA preferred alternative," CFAC wrote. Workers excavating the material could be exposed to "toxic cyanide gas resulting from the cyanide in the landfill material coming into contact with rain water," CFAC wrote. "In addition, the EPA estimates that transporting this material to an off-site disposal facility will generate 'significant'

greenhouse gas and air emissions," CFAC wrote, with an estimated 60 million miles of total truck travel needed to transport 1.2 million cubic yards of waste material, not including another 380,000 cubic yards of underlying impacted soil. CFAC noted that NCP law states that "the costs of construction and any long-term costs to operate and maintain the alternatives shall be considered," CFAC wrote. The EPA estimated the cost of the preferred cleanup plan at $45 million, and the cost of excavation and on-site disposal in a properly built landfill at $165 million. The cost of excavation and removal to an off-site location was screened out, and the cost was not estimated. The EPA described the cost for the off-site disposal alternative "grossly excessive when compared to the overall effectiveness" of that alternative. [100]

CFAC noted the possibility of shipping accidents if the hazardous waste was excavated and removed. CFAC noted that the EPA underestimated those potential impacts because it underestimated the total volume of material needing to be shipped off-site. CFAC also compared impacts from the demolition work completed by Calbag, at four trucks per day over one year, to the removal of the hazardous dump wastes to an off-site location, at 70 trucks per day over four to five years. CFAC noted that it "received multiple complaints regarding the noise, dust and vibration" associated with materials shipped out during demolition. "While transport of the material via rail would reduce the risk of traffic injuries, it would not reduce the risk of significant community disruption and could increase the risk of impact to the environment," CFAC wrote. "There have been at least three freight car derailments in Montana in 2023, two of which resulted in material being spilled into rivers." CFAC concluded that if the EPA instead chose the alternatives of excavation and reburial on-site or excavation and removal off-site, "that remedy would not be consistent with the National Contingency Plan because it would not be effective in achieving ARARs (Applicable or Relevant and Appropriate Requirements) or reducing human health or ecological risk." [101]

Finally, CFAC claimed that a report by Skeo, the EPA contractor responsible for TASC duties, "was inaccurate and misleading and inconsistent with the EPA's obligation to effectively inform the public." CFAC noted that since the Skeo report "provided pre-drafted comments for members of the public to submit to the EPA as their own also raises the question of whether any such comments submitted in response to the report are a genuine reflection of the sentiments of the commenter or a response to a strong suggestion from a more knowledgeable and seemingly neutral third party." [102]

According to an EPA website, the Technical Assistance Services for Communities (TASC) program was intended to address a basic problem with large complex cleanup projects like Superfund sites. "EPA relies on community comments to understand local priorities and concerns during cleanup decision-making," the website explained. "However, understanding volumes of technical information related to cleanup efforts can be challenging for community members. Providing independent technical assistance to communities helps people better understand technical issues related to a cleanup and key considerations for a site's future use. With this assistance, communities are then in a

better position to share their concerns and priorities with EPA." The agency provided four ways to help communities dealing with Superfund cleanup projects – the Technical Assistance Needs Assessment Tool, the Technical Assistance Grant Program, the Technical Assistance Plan and TASC. The TASC program "provides services through a national EPA contract. Under the contract, a contractor provides scientists, engineers and other professionals to review and explain information to communities. TASC services are determined on a project-specific basis and provided at no cost to communities." [103]

The environmental consultant contracted with the EPA to assist the CFAC Superfund community was Skeo Solutions, a company involved in environmental and community development work for more than 20 years. According to Skeo's website in 2024, the company's staff totaled 73 people. Alison Frost was the project manager for the TASC work at CFAC. With a bachelor's degree in society and justice from the University of Washington, she managed Skeo's graphic design team and ArcGIS geographical database work, in addition to project management. Karmen King was the technical adviser for the TASC work at CFAC. With more than 33 years of experience in ecological risk assessment, contaminated waste characterization, regulatory compliance, and watershed science and toxicology, and a master's degree in environmental health and aquatic toxicity from Colorado State University, King served as a compliance and ecological risk expert for Skeo. [104]

The 10-page TASC report to the EPA about the preferred cleanup plan was written by Frost and King along with Skeo project manager Tiffany Reed, Skeo director of finance and contracts Briana Branham, and Skeo quality control monitor Bruce Engelbert. At the end of each numbered bullet point, Skeo added a suggestion in italics prefaced with the words, "The community may want to ask EPA..." This was because under the TASC contract, Skeo could only advise the community and not the EPA directly. Skeo began its report by noting that the Center Landfill was not included within the slurry wall containment area. "It seems prudent to consider a more comprehensive encompassing slurry wall feature that could address all three of the significant groundwater contamination features," Skeo wrote. Based on the statement of a community member, Skeo also expressed concern that "the remedial investigation sampling efforts may have missed buried wastes that may cause potential harm to human health and the environment." They expressed concern about surface water entering the containment cell and how water pumped out of the containment cell would be managed. [105]

Skeo also expressed concerns about how the Cedar Creek Reservoir overflow ditch might contribute to groundwater flow around the proposed slurry wall, and how the EPA's preferred plan would withstand potential long-term impacts from climate change. Noting that the slurry wall would prevent further migration of contamination in groundwater, Skeo expressed concerns about contamination in the groundwater plume already beneath the plant site and the future need for groundwater monitoring and sampling of residential drinking-water wells. The feasibility study had described potential gas production by the reaction of water with spent potliner in the landfills, and Skeo

expressed concerns about the landfill cap's ability to withstand impacts from this gas production. Noting that studies found groundwater depth fluctuating from 36 to 87 feet below grade within the West Landfill and from 57 to 139 feet within the Center Landfill area, Skeo suggested that groundwater monitoring efforts be increased from annually to quarterly. [106]

Polycyclic aromatic hydrocarbons (PAHs) and metals had been found in shallow soils at various places on the plant site. Skeo noted that PAH and some metals were known to bioaccumulate in plants and terrestrial food chains and suggested the EPA be asked if the preliminary remedial goals for soils were "sufficiently conservative." Skeo also suggested additional water-quality, river sediment and river aquatic monitoring along the Flathead River where wastewater ponds had been removed and contaminated groundwater seepage from the plant had been detected. Skeo also suggested monitoring of vegetation and wildlife at the plant site, as well as requesting information from the EPA about how future land-use decisions would accommodate the existing monitoring network. [107]

Steve Wright, the CFAC smelter's environmental manager from mid-1996 until his retirement in October 2022, submitted a one-page comment to the EPA about the preferred cleanup plan. A chemical engineer by training and a registered professional engineer in Montana, Wright said he lived within two miles of the plant site, so he was "very interested in remediation of the site." After reviewing the proposed cleanup plan, Wright said "EPA has chosen the best approach to manage the environmental liabilities of the site." Regarding the opinion of "vocal members of the community" regarding excavating the landfill waste and shipping it out-of-state, "Disadvantages of this opinion have been well described in the feasibility study and EPA documents," Wright wrote. "The landfills that leached cyanide and fluoride into the groundwater also contaminated the soil directly below and down-gradient of the landfills, Just excavating the landfills will not remove all the contamination between the landfills and the Flathead River, and it is not feasible to remove all the soils between the landfills and the Flathead River." [108]

As for concerns expressed at public meetings that a "Plan B" did not exist should the slurry wall fail, Wright said he didn't think these people had read the EPA documents. "In addition to the slurry wall, EPA proposed a groundwater treatment plant that could be used if it is determined the slurry wall is not operating effectively," he said. "Hopefully, the slurry wall will perform and the groundwater pump and treat system will not be needed." He encouraged the EPA to move forward with their preferred plan "as quickly as possible to return the property to use." The site had many positive attributes that could attract industry, he said, including a high voltage substation and railroad spur. "The demolition and RI/FS started in 2015," he noted. "It's time to start the remediation process and ultimately removed CFAC from the Superfund CERCLA list." [109]

Also included in the 715-page folder of comments to the EPA was a three-page report about slurry wall effectiveness written by Roux Associates, the environmental consultant hired by Glencore. The report included a table of 48 Superfund sites across the U.S. with

slurry wall containment features that underwent five-year reviews evaluated by Roux. The sites included four military facilities, numerous landfills, and several timber, petroleum and chemical plants. Two of the slurry walls dated back to 1982, and the newest were two built in 2005. The information came from cited and published literature and “supports the widespread utilization and effectiveness of slurry walls for the containment of waste and contaminated groundwater,” Roux said. [110]

Roux cited the EPA’s 1989 Record of Decision Annual Report on 26 sites where slurry walls were part of the remedial action. Of those, 22 indicated the containment area would also be capped. According to a 1992 EPA Engineering Bulletin, “Slurry walls are applicable at Superfund sites where residual contamination or wastes must be isolated at the source in order to reduce possible harm to the public and environment by minimizing the migration of waste constituents present.” Roux found 60 records of decision for Superfund sites in the U.S. that included a slurry wall remedy. They obtained 54 five-year review reports, but six of those slurry walls were never built, leaving 48 slurry walls to evaluate. Of those 48, the EPA’s five-year review found 36 were effective. One of those sites used a metal sheet-pile containment system rather than a soil-bentonite or cement slurry wall. Roux found that nine of the 48 slurry walls required follow-up investigation or additional study in order to fully demonstrate their effectiveness, but “EPA did not characterize these remedies as questionable or ineffective.” The EPA found in their five-year reviews that three of the 48 slurry wall remedies were ineffective. Reasons included lack of hydraulic control or contaminant migration across, through or under the slurry wall; or improper slurry wall construction, as the structure was not “keyed into the confining layer” and contaminants migrated outside the wall. [111]

Citing a 16-page 2007 report by J. Patrick Powers, et. al., titled “Construction Dewatering and Groundwater Control, New Methods and Applications,” Roux noted that slurry wall construction “is applicable in almost any ground condition, including stiff to hard clays, dense granular soils, and soils with natural and man-made obstructions.” Depths up to 150 feet “are practical using heavyweight clamshell equipment and rotary or percussion drilling equipment in medium to hard rock.” The Powers report concluded, “Other significant advantages include its versatility in construction in almost any ground condition and to greater depths than other cutoff methods. Slurry wall construction also produces reduced noise and vibration relative to other cutoff methods such as sheet piling.” [112]

Roux also cited a 2002 article by J.C. Evans in the journal WIT Transactions on Ecology and the Environment titled “Slurry Walls for the Rehabilitation of Land Disposal Sites,” published by the Wessex Institute of Technology in England. Slurry walls had been successfully used to mitigate subsurface contaminant migration and permitted safe reuse of sites, including a golf course at a former hazardous-waste land disposal site. In another case, a municipal and industrial waste landfill built on a former sand and gravel quarry was contained using a soil-bentonite slurry trench cutoff wall. Evans concluded that “the soil-bentonite slurry trench method of construction can provide an economical and

environmentally sound means to control subsurface contaminant migration from land disposal sites and, when combined with a properly designed and constructed cover, allows for site reuse." [113]

Lastly, Roux cited a 2007 report by the National Research Council titled "Assessment of the Performance of Engineered Waste Containment Barriers." The EPA, Department of Energy, National Science Foundation and Nuclear Regulatory Commission asked the National Academies to establish a committee to provide a technical assessment on engineered barriers evaluated over time. "Based on as much as 20 years of observations, the committee concluded that most engineered waste containment barrier systems that have been designed, constructed, operated and maintained in accordance with current statutory regulations and requirements have thus far provided environmental protection at or above specified levels," the report stated. "Extrapolations of long-term performance can be made from existing data and models, but they will have high uncertainties until field data are accumulated for longer periods, perhaps 100 years or more. We will never have all the long-term observations and data that we would like." The report added, "Long-term containment is difficult and requires high-quality engineering. Few significant failures have occurred and, in general, repair or limited reconstruction has been possible." The report concluded that, "Extensive experience using these types of walls for groundwater control in excavations, however, indicates that if properly designed and constructed, they provide excellent barriers against groundwater flow under heads ordinarily considerably higher than those likely to be encountered in waste containment applications." [114]

Institutional knowledge

It could be said that Glencore's consultants and representatives responded in kind to Nino Berube's sharp criticism of the company's Superfund investigation and the decades of careless waste disposal that led to a Superfund listing for the plant site. A significant portion of the 715-page file of comments to the EPA about the preferred cleanup plan were, in effect, a rebuttal to Berube's statements at public meetings, opinion pieces published in local newspapers, or allegations made to government officials. It's not unusual for vitriol to emerge in debates over environmental matters, and it can sometimes be directed at or by the large corporations under pressure to remediate sites and prevent further pollution. Clancy Gordon, a plant pathologist at the University of Montana, underwent sharp criticism, intense cross-examination and lengthy depositions when he publicly criticized the Anaconda Aluminum Co. and aluminum producers in the U.S. and Europe for uncontrolled fluoride emissions. Loren Kreck, a dentist in Columbia Falls, became a pariah in his own community for organizing a class-action lawsuit against AAC's fluoride pollution, even though several dozen lawsuits by individuals and businesses had already been filed and in some cases settled. Kreck was a mild mannered man who was more interested in wilderness experiences than politics. Gordon itched for a

fight against corporations that polluted, even egging them on. Berube may have fit into the latter case.

The lengthy rebuttal to Nino Berube contained in the 715-page file of comments sent to the EPA began with a July 10, 2023 email from Glencore project manager John Stroiazzo to Berube containing 135 pages of various documents assembled in ten appendices. The first appendix was a May 22, 2003 report by CFAC environmental and laboratory manager Steve Wright under the title "Environmental Issues Investigation." The report was sent to MDEQ to address comments Berube had made about construction of certain on-site landfills. Wright began by explaining how difficult economic conditions in March and early April 2003 forced CFAC to reduce smelter operations from three potlines to one, from about 180 reduction pots to 60, and remaining staff at the plant needed to be reassigned to balance costs. At the time, Berube was CFAC's engineering superintendent, a 25-year veteran at the plant, and he was offered a foreman position within the single-potline operation – that is, moving from the comforts of a clean office in the engineering building to the hot, dusty and dangerous potrooms. [115]

"Mr. Berube did not view the offer positively," Wright said in his nine-page report, so his supervisor, John Hoerner, called for a meeting with general manager Steve Knight and smelter manager Shawn Wang on April 9, 2003. After a short discussion about personnel issues, Berube asked to speak alone with Knight, whereupon Berube began to describe several environmental issues to the general manager. "Mr. Berube explained that he would not use this environmental information against CFAC in exchange for Mr. Knight giving him increased retirement or severance benefits," Wright said. "As soon as Mr. Knight understood where this discussion was leading, he stopped the meeting and had Steve Wright, CFAC's environmental and laboratory manager, join the meeting with Mr. Berube." At that point, Berube described three environmental issues he considered significant problems, including the mixed-waste landfill (the West Landfill), spent potliner disposal at the plant and dry scrubber damper operations. The rest of Wright's report addressed each issue. [116]

Berube told Knight and Wright that the West Landfill was used for spent potliner and all plant waste from the start of plant operations in 1955 until the landfill was closed in the 1970s or 1980s, Wright recounted in his report. The West Landfill had been identified in the early 1990s as the source of cyanide contamination in groundwater during an intensive investigation by contractor Hydrometrics, working under MDEQ oversight. Berube noted that he had told Wright about this previously, which Wright agreed was true. After the West Landfill was identified as the source, Berube served as project manager to control the cyanide contamination. ARCO at the time was paying for the remediation, and ARCO sent Sandy Stash to the site along with a retired employee familiar with the landfill's history. [117] Stash joined ARCO in 1981 after graduating from the Colorado School of Mines with a degree in petroleum engineering. Besides assignments around the world, she headed up ARCO's cleanup effort of the Butte-Anaconda copper mining and smelting Superfund site that stretched 150 miles from Butte to Milltown, east

of Missoula. Stash told newspapers in July 2003 that her biggest challenge was facing Butte and Anaconda residents still angry about how ARCO abruptly shut down operations in Butte and Anaconda 20 years earlier, and how it took a while for ARCO to acknowledge its role in polluting the region and its responsibility to those communities. [118]

According to Wright's report, the former plant employee told Stash and the rest of the group that the West Landfill began as a gravel pit used during construction of the plant. The employee said the company stopped using the pit as a gravel source once groundwater began seeping into the bottom. The pit was never filled over but instead was used as a landfill for construction debris and, after the smelter began operations, for plant wastes including spent potliner, the source of cyanide. Berube told Knight and Wright that he believed the West Landfill was sitting in water at least part of the year. "The same hydrostatic pressure that feeds lakes, such as the Many Lakes area, also feeds water into the landfill," Wright reported Berube saying. "Nino believes this constant flushing of water into the landfill is the reason the groundwater monitoring has shown no improvement in cyanide levels since the landfill cap was installed." Berube believed a new impervious landfill cap was the wrong solution to preventing further groundwater contamination. "He believes it was a political solution – the cheapest option to satisfy the state of Montana, but not a true solution to control the source of cyanide in the groundwater. Nino believes previous CFAC management lied to ARCO and the state of Montana – stating the landfill cap would solve the problem." The new cap for the West Landfill was completed in about November 1994. [119]

According to Wright's report, Berube ordered test pits dug through the existing clay-gravel cap during construction of the new cap. "The test pits immediately filled with water," Wright said. Knowing this was a bad sign, Berube reported the news at the time to CFAC environmental manager Don Ryan and CFAC plant manager John Cook. "Nino said he was told to be quiet about this observation and not tell ARCO or the state of Montana, because the cost of a complete cleanup would bankrupt the company," Wright said. "This has really bothered Nino, because he believes the installation of the impermeable cap is not the correct solution to the landfill/cyanide problem. The cap prevents surface water from contacting the landfill wastes, but does nothing to prevent groundwater from leaching cyanide from the spent potliner." Berube also noted to Knight and Wright that the test pits "indicated the presence of a black layer of soil/oil on top of the landfill," Wright said. "Nino believes this is a layer of high PCB-laden oil used for dust control. Nino said it was standard practice for the facility to use old PCB-laden transformer oil as dust control agents throughout the plant." [120]

Following this discussion between Berube, Wright and Knight, Wright began an investigation into Berube's claims, including interviewing Dick Sauerbier and Don Ryan. Sauerbier worked on constructing potlines 4 and 5 in 1966-1967 before going to work at the smelter as an hourly heavy-equipment operator, a job he still held in 2003. According to Sauerbier, the West Landfill was capped in 1994 and was known to leak. The West Landfill began operation in 1967 after the company closed another landfill closer to the

plant and south of the closed Wet Scrubber Sludge Pond. “When they were constructing potlines 4 and 5, they took truckloads of construction debris up along the north dike of the scrubber sludge pond, and just dumped the debris right over the north side of the scrubber sludge pond dike,” Wright recounted Saurbier’s explanation. “This was the start of the landfill.” Sauerbier couldn’t recall ever seeing water collecting in the bottom of the landfill, adding “we wouldn’t be dumping waste into a mud puddle.” The landfill soon turned into a general landfill for plant operations. Sauerbier said the landfill pit was never dug out, and the waste was just placed on top of the existing grade. The waste included wet spent potliner taken from the cathode soaking pit. “The water would run off the spent potliner and collect in the corner of the landfill, Wright said. Sauerbier recalled telling Don Ryan that the well located at the southwest corner of the landfill had the highest levels of contamination. [121]

Wright also interviewed Don Ryan about Berube’s claims. Ryan worked at the plant from 1974 until he retired in 1996, serving as laboratory superintendent and environmental superintendent during that time. “Don said groundwater is prevalent everywhere along the base of Teakettle Mountain, especially during spring runoff,” Wright said. The issue of groundwater in the West Landfill was often discussed by Hydrometrics and MDEQ, Ryan noted. “The DEQ knew groundwater was present, but believed surface water percolation was a bigger contributor to groundwater contamination,” Wright said. “Don thinks the DEQ actually recommended capping the landfill. It was agreed by CFAC and DEQ that Hydrometric’s design for a landfill cap was the best solution.” A trench was dug around the landfill to intercept runoff and divert it away from the landfill. “Don recalled that water was found when digging the trench, but it wasn’t any surprise,” Wright said. [122]

Ryan noted that groundwater-sampling results significantly improved after the cap was installed. Ryan also said it was “blatantly untrue” that he ever told Berube to keep quiet about an environmental issue, nor did he ever hear anyone else tell Berube to keep quiet about an environmental issue. Evidently irritated by Berube’s claim, Ryan offered to come to Kalispell or Helena to be deposed, Wright said. Ryan didn’t like his name being brought up in this context. Wright concluded that Berube’s version of the West Landfill’s early history conflicted with Sauerbier’s recollection. Wright found Sauerbier’s version “more credible than Nino’s version for the simple reason that Dick is the person who drove the truck that emptied waste into the landfill. Nino’s version is third-hand by an unidentified party.” Furthermore, Ryan refuted Berube’s claim that he was told to keep quiet about water in the West Landfill. And lastly, the West Landfill “was thoroughly investigated by Hydrometrics with MDEQ oversight, and the information is in MDEQ files, Wright said. [123]

In his May 22, 2003, report, Wright also investigated Berube’s claims about improper disposal of spent potliner at the plant site. Berube possessed digital photographs of carbon chunks laying on the ground north of production well No. 5, which he believed was spent potliner. Berube claimed that “around the time of the land-ban for spent potliner, CFAC buried some spent potliner in this area, and then buried asbestos-related material

on top of the spent potliner, and labeled the landfill as an asbestos landfill to cover up the fact that spent potliner is buried there," Wright said. "Nino said he can't prove this went on, but that the carbon pile sure disappeared quickly. Contractors were working overtime in order to dispose of spent potliner just up to the land-ban date." Berube claimed cyanide found in production well No. 5 originated from this buried spent potliner. Berube said he didn't know the exact date when this spent potliner was buried, before the land-ban or after, but the spent potliner was buried as part of a cleanup to comply with the land-ban and was buried illegally. [124]

Wright interviewed Sauerbier and Ryan about this matter. Ryan said he recalled seeing spent potliner on the ground in a small gully north of the production-water head tanks, where an asbestos landfill was located. Ryan said a small pile of spent potliner was in that area in the late 1970s or early 1980s, but "most of it was removed and placed in other landfills." Ryan recalled that during construction of the asbestos landfill in the late 1970s or early 1980s, three or four trenches were dug, but he didn't recall seeing any spent potliner remnants placed in the asbestos landfill. "He may have, but it would have been small pieces of potliner debris that didn't get moved to the other landfill," Wright said. "He said you can still see orange stains in the area from the decomposition of the bricks used in potliner construction." Remembering back to when he started work at the smelter in 1974, Ryan recalled seeing spent potliner from perhaps five or six reduction pots placed in the gully north of the head tanks. But he thought this potliner was hauled to another landfill, the one nicknamed Mount Sneddon after Robert Sneddon, the plant's general manager at the time. Ryan suggested small remnants of spent potliner could still be in the gully north of the head tanks. An engineered landfill was constructed in the 1980s to hold spent potliner, which "was built to the standards of the day for a hazardous waste landfill," Wright said in his report. According to Ryan, "The regulations were in flux, and CFAC thought they might be able to continue land-filling spent potliner on-site in an engineered landfill, depending on how the regulations were written." [125]

Ryan recalled spent potliner being listed as a hazardous material in 1985 or 1986, by which time the pile Berube claimed to have seen near the asbestos landfill had been cleaned up. "Don said there was never any reason to hide anything about spent potliner," Wright said in his report. "He's not sure why Nino thinks this is an issue." Ryan recalled that asbestos was a big issue at the time, and CFAC was trying to remove as much of it as possible. Wright concluded his investigation by noting that Berube didn't provide specific dates yet believed the spent potliner was buried illegally. Sauerbier and Ryan were able to provide more specific dates about when the potliner from north of the head tanks was removed, and their dates roughly agreed. Wright said research by Cathy Laughner, a CFAC attorney, found that spent potliner was listed as a hazardous waste by the federal government effective March 14, 1989 and by the Montana government effective March 14, 1991. "Since all the dates referenced by Don Ryan and Dick Sauerbier are prior to the date when spent potliner became a listed hazardous waste, it does not appear that any potliner was buried illegally," Wright concluded. Wright noted that he

visited the area documented in Berube's photographs and found "visible pieces of carbon on the ground in this area," along with "orange colored staining left from the decomposition of bricks." [126]

Glencore's consultants and representatives also rebutted a claim, made by Berube during a public meeting with the EPA held on June 28, 2023, that minutes to a three-hour tour of the smelter site Berube took with CFAC and EPA officials in October 2015 had gone missing. During the meeting, Berube said he recently asked for the minutes from John Stroiazzo. "I went to pick it up today and they can't find it, surprise, surprise," he said at the meeting. In their rebuttal to Berube's claim, Glencore project manager John Stroiazzo included emails, minutes and an itinerary map for the tour that he sent to Berube, EPA project manager Mike Cirian and CFAC environmental manager Steve Wright on Nov. 3, 2015, shortly after the tour. The package of documents was put together by Mike Ritorto, a senior hydrologist for Roux Associates who accompanied the others on the tour. "We can discuss next week," Stroiazzo told Berube in an email with the tour documents. The next day, Stroiazzo re-sent the email after Berube said he didn't receive it, possibly because of the large map file. "I will call and follow up next week," Stroiazzo added. A few hours later, Stroiazzo re-sent the email with the map reduced to a smaller file size. "The minutes are the important item," Stroiazzo told Berube in the third email. [127] The gist of the document package was that Berube had been properly sent the tour minutes but he apparently lost them.

Appendix 2 to Stroiazzo's July 10, 2023 rebuttal to Berube included a letter from Greg Davis, an engineer with Hydrometrics hired by CFAC, regarding drinking-water sampling data from Berube's well and those of nine neighbors in Aluminum City conducted following a controversial sampling event in September 2015. According to Davis, Hydrometrics sampled ten residential wells that month and sent the samples to ALS Environmental in Salt Lake City to be tested for fluoride and total cyanide. Concentrations in all samples were below EPA drinking-water maximum contaminant levels for fluoride and cyanide, he said. [128] The point of this document was to show that Berube was wrong about contamination in groundwater at Aluminum City.

Appendix 4 in Stroiazzo's July 10, 2023 rebuttal to Berube included the four-page minutes to Berube's Oct. 9, 2015 meeting and plant site tour written by Michael Ritorto, based in part on an audio recording. The information from Berube was relevant to the Superfund site's remedial investigation and feasibility study work plan, Ritorto was told at the beginning. "Additional information was provided by Mr. Berube including, but not limited to, his relationship with past CFAC personnel and management, his personal feelings regarding past decision-making by CFAC, and his experience as an employee at CFAC," Ritorto said. Berube sent additional information in an Oct. 12, 2015 email. The tour began Oct. 9, 2015 at 8:15 a.m. in the CFAC conference room. Stroiazzo indicated the purpose of the meeting and tour was to receive input useful to the remedial investigation and feasibility study work plan based on Berube's historical knowledge as a former employee at the plant. After summarizing his work experience at the plant, Berube noted that he

had eleven concerns that he wanted to bring to the attention of the CFAC team, and he provided a map marked with locations he wanted to visit that day. [129]

The first stop on the tour was the plant's sewage treatment plant, which Berube said was constructed in the late 1950s. Its technology was outdated, he said, and he "suggested there were times when raw sewage was being passed through the plant." The second stop was along the Flathead River at the South Percolation Ponds, Outfall 009 and the Seep Area. The banks of the pond were covered with vegetation, but using a photograph Berube indicated a location on the north bank of the western-most pond where a seep of groundwater that migrated beneath the plant site might be found. Berube said he believed surface water from the Flathead River sometimes entered the ponds. The third stop was production wells PW-6 and PW-7, located near the Flathead River. Berube said the wells were 700 feet deep and capable of producing 2 million gallons per day. He said the area surrounding the two wells was inundated with water during the 1964 Flood, when the river level increased about 19 feet above normal high water. [130]

The fourth stop on the tour was along the Flathead River near the eastern end of the South Percolation Ponds. Berube pointed out concrete slabs he was told to place on the shoreline to increase stability. He discussed the historical flow path of the river and how it was diverted to create the South Percolation Ponds. The fifth stop was the operational loading and unloading area north of the Main Plant Area. Berube indicated the location where cathodes were loaded and unloaded. He also noted that water sometimes seeped through the basement floor of Potroom 8 and produced steam when it contacted hot spilt aluminum. The sixth stop was the South Asbestos Landfill. Berube said cathodes, or spent potliner, were sometimes staged at that location, and he suggested cathodes might be buried in the South Asbestos Landfill. [131]

The seventh stop on the tour was the Center Landfill, North Leachate Pond and East Landfill area. Berube suggested the cap for the Center Landfill was not very thick and had likely subsided over the years. He noted that the Leachate Ponds were capped in 1989. He also described seeing surface runoff from Teakettle Mountain and the North Leachate Pond entering the Cedar Creek Reservoir overflow ditch, which discharged into the Flathead River during high spring runoff. The eighth stop was the east side of the Wet Scrubber Sludge Pond and West Landfill. Berube said soft ground existed beneath the sludge pond and suggested contractors needed to be careful when digging on top of the pond. He said he witnessed test pits in the West Landfill fill with water from the bottom of the pits. He also recalled seeing steel drums buried in the southeastern portion of the West Landfill. Water next to the West Landfill had a black or red color and the consistency of coffee, he said. Berube also noted that oils from the rectifier were spread on plant roads to control dust. [132]

The ninth stop of the tour was a former residence once owned by the Dehlbom family. Berube recalled seeing man-made pits on the property that contained oils and other wastes. He showed the group photographs of the former pits and noted that CFAC

performed cleanup measures at the Dehlbom property in around 2002-2003 after Mr. Dehlbom passed away. The tenth stop on the tour was the Northwest Percolation Pond. Berube indicated that coal tar pitch and other materials were placed in the pond, which may have resulted in contaminants entering the groundwater. [133] Berube emailed Stroiazzo three days after the tour to thank Stroiazzo for allowing him to tour the plant with the company officials. “We were going so fast from site to site to get you guys to your planes at 1:00 that I missed a couple things,” Berube noted. He used the rest of the two-page email to describe those items of concern. [134]

First, Berube noted in the email, PCB-contaminated oil from the rectifier was not only used for dust suppression on plant roads but also on the West Landfill cap. “At least a quarter mile of county road north of Glacier International Airport was dug up and rebuilt after it was determined that oil sold by the plant to a private individual was used for dust suppression in front of his property,” Berube said. CFAC tried to segregate oils containing PCBs at a concentration greater than 50 parts per million, “but we were not totally effective,” he said. “In the 60s, 70s and 80s, we generated so much of this oil that we couldn’t get rid of it fast enough, so it went on roads and was sold to private companies and individuals for their private use (dust suppression generally).” CFAC installed a waste oil incinerator in the 1990s but, he noted, “Many barrels of oil that contained PCBs as well as all the other liquid pollutants generated on-site were put back in 55-gallon drums, and they found their way into at least 2 of the 4 landfills on the CFAC site.” [135]

Berube next addressed the 11-acre West Landfill and adjacent Wet Scrubber Sludge Pond in his email. He noted that Don Ryan’s “lack of recollection, while not surprising at his age, is concerning to me, however, since there were 3 of us who personally witnessed standing water in the test holes I had to dig for Hydrometrics.” In addition, Ryan and plant manager John Cook were provided “a very detailed memo from me listing what we witnessed and some very specific recommendations and predictions about the effectiveness of a cap on this site,” Berube said. He said Sandy Stash and a team of ARCO attorneys and engineers flew to the plant on a helicopter in spring 1994 to review Hydrometrics’ design plans for the West Landfill cap and to walk the site to be capped before ARCO would approve funding for the project. [136]

Berube said he walked at the back of the ARCO group alongside an elderly man who turned out to be the same man who signed off on many of the plant’s hand-drawn blueprints from the 1950s. “I immediately changed the discussion to one of ‘how did we get such a mess up on this dump/sludge pond site,’ and he told me this story,” Berube recalled. The landfill and sludge pond area served as a gravel pit for the cement plant during the initial construction of the plant. “The area had been mined to a depth 10 to 20 feet below the now current natural grade in the area,” Berube said. “One spring morning, they came to work and found all of the equipment in the gravel pit sitting in 3 feet of water. They were forced to source gravel and crush in another area of the plant property. The water eventually filled the pit with 15 feet or more of water depth.” Much later, after the water receded and disappeared from the hole, the pit “became a natural spot for

dumping construction wastes and eventually operating wastes from the plant once it started operation in 1955," Berube said. [137]

When officials from Hydrometrics and CFAC were applying for a permit to install the West Landfill cap, Berube continued in his email, they told the state government that high cyanide and fluoride levels found in test well No. 17 would drop to the levels of wells on the south side of the plant "in 3 to 5 years based on computer simulations." He added, "From my point of view, the simulations were fairly accurate if you look at the flow of leachate from the engineered landfill from 1989, when it was capped, until 1994, when this leachate pond liner was breached and filled with gravel," he said. "Unfortunately it didn't work out this way at the mixed-waste landfill (West Landfill) as TW17 (test well No. 17) is virtually at the same high contamination levels in 2014 as it was in 1994 when the cap was placed." Berube noted that he informed Don Ryan and John Cook about this in a letter he wrote 21 years ago. "The cap wouldn't work because water is entering the dump and sludge pond area from below, and not as rain and snow," Berube concluded. [138]

Airing the dirty laundry

Appendix 5 in Stroiazzo's July 10, 2023 rebuttal to Berube included a 30-page memorandum Berube sent to the EPA, before the agency issued its decision on the remedial investigation-feasibility study and announced its preferred cleanup plan. Berube's comments on the RI/FS came in the form of an undated letter addressed to "Robert," but the date must be prior to March 2017, when two engineers from CDM Smith responded to it. Berube began by noting that he had located two of four former CFAC employees who he felt could contribute valuable information to the EPA. "There was a hesitancy to jump right in that was best described by the old adage 'no good deed goes unpunished,'" he noted. "One item I did hear repeated several times was the fact that EPA has made minimal effort to actively find ex-CFAC employees who could help with their task of identifying decisions and places where high probability activity occurred. Along with this sentiment was one that seems to coincide with the above concern. It was a question in folks' minds about why EPA is taking such a docile role in dealing with CFAC. They wondered why all the newspaper quotes made it sound like EPA was so happy with CFAC and Glencore because they were cooperative, as opposed to doing their job of protecting people and the environment from pollutants they have already identified at the site." [139]

Berube went on to emphasize the need for the EPA to speak to former CFAC employees to gain a fuller understanding about how the smelter plant operated. "This lack of basic understanding, in my opinion, is a prime reason in why the state of Montana was never able to properly discharge their obligation to minimize the levels of air, water and soil pollution. It is a prime component of why the EPA is involved with another national priorities listed site in the state of Montana," he said. Berube claimed information published by the EPA, its contractors, CFAC and Roux Associates "has been very general in nature and in many instances has misleading or incorrect descriptions of site features

and technical aspects of the operation." He noted that it was important for the EPA to understand "the chemistry of the operations, its outputs, the engineered facilities and SOPs (standard operating procedures) used for control and disposition of all wastes generated to run and support the operational process." [140]

Berube provided a numbered bullet list of "key decisions CFAC's handful of owners and managers made over its 64 years of existence that need to be screened for investigation and potential remedial change." They included 1) diverting the Flathead River's original course in the 1950s and placing operational water-supply wells and wastewater percolation ponds on the man-made island; 2) allowing fluoride and cyanide to flow unabated to the Flathead River for 35 to 64 years; 3) allowing spent potliner to be stored underground or on land surfaces where leaching could take place; 4) allowing fluoride-contaminated materials to be stored underground or on land surfaces where leaching could take place; 5) allowing heavy metals and organic-contaminated cooling water to be re-injected into underground aquifers; 6) unsupervised in-holdings causing environmental damage; 7) using rectifier transformer oil, air-scrubbing oil and waste motor oil for dust suppression on roads and dump surfaces; 8) not segregating wastes in company landfills, and not providing a waste manifest to identify what and where waste materials were buried; 9) not providing a transparent process when preparing the plant for sale in the 1990s; 10) using single-shell tanks to store waste oil, hydraulic fluids, fuel, rectifier waste oil and solvents, maintenance fluids and oil-burning incinerator feeds in underground storage tanks; and 11) an "apparent conscious decision" by the EPA and CFAC not to include input from former CFAC employees from the 1960s through 1990s into the remedial investigation process. "By understanding why these decisions were made and how the plant carried out these seemingly simple directions, you stand the best chance of identifying where things went and what state they currently exist in," Berube said. "That I hope is the focus of the RI (remedial investigation)." [141]

Berube provided in the letter to "Robert" a detailed explanation of the processes that converted alumina into aluminum, including weights of various raw materials and amounts of electrical power consumption, and information about the design of reduction cells and air pollution equipment. "The final piece of the puzzle is the human factor, because someone had to control this entire process in every detail," he said. "This means there was a permanent human presence 24/7 at this facility for over 60 years now. This number varied from a handful at the end of the plant's life to a maximum of 1,300 during the late 1970s and early 1980s. Most of the 60-year life, the manpower contingent number was in the area between 500 and 900 employees." With an average of 598.6 reduction pots operating at one time out of 600 spaces, the smelter was capable of producing an average of 1,036,775 pounds of aluminum per day, or 189,000 tons in a year. To accomplish that, the plant took in 30,600 tons of coal tar pitch and 158,400 tons of petroleum coke to make the 113,400 tons of carbon consumed in the reduction pot anodes. Cryolite, which formed an electrolytic bath in the reduction pot that contained dissolved alumina, was lost in the process as pot gas passing through the plant's dry

scrubbers. Berube noted that in 1992, the CFAC smelter lost 144.5 tons of cryolite to the surrounding air shed and property. [142]

Carbon needed to remove oxygen atoms from the alumina molecule, as the anode burned away inside the electrolytic bath, was produced in the Paste Plant by mixing 23-27 percent coal tar pitch and 73-77 percent petroleum coke at 118 degrees Celsius. Coal tar pitch was a byproduct of the steel industry. Pitch gases were emitted when coal was heated to produce coke and were captured as pitch liquid. “It is composed of over 10,000 individual identifiable chemicals,” Berube said. “This material is contaminated with all manner of heavy metal and many inorganic impurities, such as sulfur and arsenic. Over the years, the attempt has been made to regulate what and how much of these products escape the control process.” The emitted materials were broadly categorized as poly-organic materials (POM), polycyclic aromatic hydrocarbons (PAH), benzo-a-pyrene compounds (BaP) or by other names. “The truth in all of this is that, between the organics, inorganics and heavy metal contaminants, coal tar pitch is a dangerous ecological entity,” Berube said. “Since the 1980s, the entire Paste Plant was a required respirator area, with the exception of the control room, and the potlines were a required respirator area above the anode casing, with the strong wording that these areas have a potential cancer-causing problem because of the coal tar pitch chemicals.” [143]

Petroleum coke was a byproduct of the oil refining industry. It was formed after a refinery extracted “all the easy-to-get hydrocarbons from the crude oil.” What remained was a heavy, impurity-concentrated sludge that was fed to an oven to remove volatile organic materials, leaving “a contaminated carbon source we know as petroleum coke,” Berube explained. “As with coal tar pitch, petroleum coke keeps the contaminants in its original source material, whether it is crude oil or coal. Over the years, CFAC has used many different sources of coal tar pitch and petroleum coke.” Berube noted that cooling water, used to scrub away off-gases from the five mixers and the extruded briquets at the Paste Plant, was discharged near the Paste Plant facility and should be investigated. Citing CFAC’s 1997 Montana wastewater-discharge permit, 66,700 gallons of water from the mixer-fume scrubber and 591,000 gallons of water from briquet cooling were discharged daily at the Paste Plant. Another 1.2 million gallons per day came from air-compressor cooling equipment. This combined wastewater flowed to the Northeast Percolation Pond, then on to the Northwest Percolation Pond, where it was directly injected into the groundwater. Berube suggested the EPA should look at regulatory information for similar carbon-producing operations, citing Reilly Chemical in Salt Lake City and Koppers in Cleveland, in order to quantify the risk these discharges posed. [144]

Berube noted that the plant’s sewage-treatment plant equipment was outdated, “and the grandfather clause was used by almost every owner to justify continued daily use of an inadequate sewage treatment facility.” As the plant’s labor force declined during curtailments and line shutdowns near the end of the historical smelter operations, the sewage treatment facility broke down, forcing the company to hire local septic companies to haul the wastewater away. Berube also discussed the plant’s water system. “The

drinking water system built for this small city of people is also a problem," he said. Production wells No. 3, 4 and 5 were contaminated over the years, and production wells No. 6 and 7 were so shallow they likely were taking water from the Flathead River, he said. Regarding the plant's landfills, "We really don't know what, where and how much of any material placed in these facilities exist," he said. "They were created in an era of out-of-sight, out-of-mind, and this is a dangerous philosophy for constructing under-supervised and under-protected dump sites." [145]

Taking note of the reference to wildlife at the plant in the Phase 1 site characterization study addendum, Berube noted, "This property is a big-game winter range and hosts a fair number of animals all year. It is used as a calving ground by deer and elk in the spring on the well island south of the plant and the open grass area by the current industrial dump, as personally witnessed. There are both black and grizzly bears on this site in the spring and fall, and a wolf pack uses this area now. This property is a valuable habitat for many animals, big and small. In addition, the Forest Service has asked the company to give permission to fertilize the face of Teakettle Mountain to improve winter forage conditions, and Montana Fish and Game has asked the company to relocate bighorn sheep to this mountain. All requests were refused because of fear of fluoride in vegetation and potential noticeable effects on animal dentition." [146]

Berube also provided background history about the Cedar Creek Reservoir overflow ditch, which ran near the plant's landfills area. Before the reservoir dam was constructed in the 1960s, Cedar Creek flooded the area nearly every spring, he said. By retaining flood waters and safely diverting them to the Flathead River, housing development became possible in the area north of Columbia Falls. Reservoir overflow water ran in the ditch roughly from April through June. "This ditch is in good condition, but from personal knowledge it has breached at least twice that I'm aware of, by being over-topped because the reservoir had to release a large but handleable volume," he said. "Its location upgradient of all potline structures and dumps should be carefully studied, as it is an outflow stream and can discharge huge amounts of water with the head pressure associated with water coming off the side of a mountain directly to the water table under this entire site." [147]

Berube disagreed with one of the remedial investigation's findings about the North Percolation Ponds, which took in 591,000 gallons per day of cooling water from the Paste Plant, 1.2 million gallons per day of cooling water from the air compressors, and 66,700 gallons per day of wastewater from the wet scrubber system, before it was replaced with dry scrubbers. The one-foot deep black material seen by investigators at the Northeast Pond was not "soil," Berube said – it was coal tar pitch fines, petroleum coke fines and volatile organic compounds scrubbed from the mixer off-gas. Furthermore, the black material was not one foot deep, he said – it was "closer to 15 feet deep in the center of the pond." He also noted, "There is no vegetation growth in either of these ponds because chemicals in the water sterilized this soil." Because of the carcinogenic nature of chemicals from the Paste Plant, Berube recommended closer study of these ponds. He

suspected the Northwest Percolation Pond might refill in the next few springs because the design for the caps placed on the landfills and percolation ponds “never considered underground water, just precipitation.” Berube also noted concerns about the West Percolation Pond, which he said was 29 feet deep with a pipe running through it. Old drawings didn’t show it, and Berube wondered if the West Percolation Pond ended up under the large paved parking lot constructed in 1978, when employment increased to 1,300 at the plant. “Wastewater from the plant laboratory’s hoods and sinks, containing a wide variety of hazardous chemicals, went to the West Percolation Pond until the late 1990s, he noted. [148]

More work also needed to be done to investigate the potline buildings, Berube said in his letter to “Robert,” noting “There has been no effort made to sample the area under the main production building, and this is concerning as the potline basements are highly contaminated with fluoride as a minimum.” In 2002, spilled oil was discovered in an electrical conduit tunnel that ran under the site where a maintenance garage existed before Potline 3 was built in 1965, Berube said, possibly caused by leaking single-wall waste-oil tanks from that time period. He noted that around 2003, triple-wall fuel tanks were installed in the area north of the main plant buildings, and engineering files could provide information about what was found and in what condition. Berube also noted that a major diesel fuel spill occurred at the face of the former coal tar pitch unloading shed, where the plant locomotive was refueled with diesel. [149]

Regarding the switchyard south of the rectifier building, Berube said several spills of PCB-laden oil occurred there. “Operating parameters allowed this transformer oil to be contaminated way above the current 50 parts per million threshold for classifying it as hazardous waste,” he noted. One transformer caught on fire around 1990 and released a cloud of burning transformer oil for several hours. “One major concern at the time was how much dioxin was produced in this cloud,” he said. Berube noted that the report on this fire located the transformer in the West Rectifier Yard, when it was actually in the East Rectifier Yard south of Potroom 8. “The ground mat under this area is extremely dangerous,” he said. Rectifying technology used by the plant to convert AC to DC when the smelter began operating in the 1950s relied on mercury rectifiers, not solid-state diodes. Berube noted that “Calbag had to decontaminate the east rectifier station as part of decommissioning this facility.” He wondered if the old mercury-based rectifying equipment “was probably dumped in one of the out-of-sight, out-of-mind dumps on the north end of the plant. Mercury is a very mobile and dangerous substance. Where is it if it existed at all?” Berube also noted that the area chosen by the remedial investigators to determine background information for soil sampling was a poor selection. The top 12 to 18 inches of the natural topsoil in that particular area was removed down to the underlying gravel in 1994 to provide material to cover the West and East Landfills, he said. As for the remedial investigators’ passive soil-gas screening, Berube explained that benzene was commonly used by the laboratory to conduct carbon studies and analysis,

and trichloroethene was commonly used by electrical crews in the rectifier building and maintenance areas for cleaning equipment parts. [150]

Questions, answers and speculation

Appendix 6 in Stroiazzo's July 10, 2023 rebuttal to Berube included a response to Berube's undated letter to "Robert." Written by Scott Adamek and Sean Coan of CDM Smith, the response was originally emailed to EPA project manager Mike Cirian on March 2, 2017. Founded in 1947, CDM Smith was a privately-owned global engineering and construction firm with more than 5,000 employees. Adamek was a capital project engineer in the remediation division, and Coan was a project engineer and geologist at the company. [151] CDM Smith was contracted by the EPA to review Berube's comments in the "Robert" letter. Adamek and Coan began by noting that Berube's description of the aluminum smelting process was irrelevant to the remedial investigation and feasibility study. Fugitive fluoride emissions from past aluminum smelting operations had been addressed in the Phase 1 site characterization study and would continue to be evaluated, they noted. Berube's statement that a "review of operating records is key to the investigation" was deemed irrelevant because the purpose of the remedial investigation was "to determine current conditions." [152]

Adamek and Coan agreed with Berube's concern that places where reduction pots were destroyed could be a significant source of cyanide, but noted that the issue had been investigated in the Phase 1 site characterization study. Regarding Berube's concern that polycyclic aromatic hydrocarbons might be found near buried piles and wastewater streams involved in carbon-handling processes, Adamek and Coan said these locations were known and a plan to investigate PAH materials was already approved by the EPA. For this reason, additional investigation of the North Percolation Ponds would be done through groundwater and surface-water sampling, along with porewater sampling during the Phase 2 site characterization study. Regarding Berube's concern about possible undocumented or unaccounted waste dumps at the plant site, that issue would be addressed with a "robust soil and groundwater sampling program which covers a wide spatial area within the site," and the data would be evaluated during the Phase 2 site characterization study as necessary. [153]

Adamek and Coan agreed with Berube's concerns about the Cedar Creek Reservoir overflow ditch occasionally spilling over during high springtime runoff, potentially flooding the landfill and percolation ponds area. They noted that the matter had been addressed in the conceptual model within the Phase 1 site characterization study and warranted further discussion. Furthermore, "The overflow ditch is owned by the city of Columbia Falls, and further discussion with the city is also warranted." The seeps near the South Percolation Pond, where groundwater migrating beneath the plant site potentially drained into the Flathead River, were known to the remedial investigators, were cited in CFAC's Montana Pollutant Discharge Elimination System permit, and were continually monitored, Adamek and Coan said. [154]

Adamek and Coan noted that Berube's concern that the bottom elevation of the West Landfill and Wet Scrubber Sludge Pond should be investigated had been addressed in the Phase 1 site characterization study and would be further investigated in the remedial investigation and feasibility study. Berube's request that the depth and nature of the black "soil" in the Northeast Percolation Pond be investigated had been done during the Phase 1 site characterization study. The also noted that Berube's concerns about the West Percolation Pond being moved or covered over with a paved parking lot had been investigated as part of the Phase 1 site characterization study. The presence of fluoride and oils in the potline building basements, as Berube described, would be investigated under Calbag's waste management plan for demolition of the plant's operational buildings and by Roux's additional sampling and analysis plan. The rectifier yard, where Berube believed PCB contamination might be found, had been investigated as part of the Phase 1 site characterization study. And Berube's concern about the need for additional soil gas screening had been identified in the remedial investigation and feasibility study work plan, and it had been evaluated in the Phase 1 site characterization study, CDM Smith concluded. [155]

From an historical perspective, Adamek and Coan's dismissal of Berube's description of historical plant operations as "irrelevant" to the remedial investigation and feasibility study merits further discussion. While writing off Berube's words may have possessed a certain kind of logic, to focus remedial investigations on the physical conditions at the site rather than how they got there, that attitude may have impacted the overall philosophical question of "how clean is clean." Financial accountability and allocation for the cleanup costs had already been determined in Judge Molloy's August 2021 ruling in CFAC v. ARCO. But the total cost of the cleanup had not yet been determined. The EPA pointed to administrative rules governing how a remedial investigation and feasibility study addressed cost estimates when justifying the agency's decision to support leaving the West Landfill and Wet Scrubber Sludge Pond waste in place, contained by a slurry wall and cap. But the historical production numbers provided by Berube clearly showed that the smelter plant's various owners had brought millions of tons of hazardous materials to a wet and porous location in Montana. The ethical question then became, why shouldn't the owners be required to remove those materials after they were done making money smelting aluminum?

Appendix 7 in Stroiazzo's July 10, 2023 rebuttal to Berube included a two-page op-ed piece by Berube published in the May 24, 2017 Hungry Horse News. In the op-ed piece, Berube sharply criticized the public process being used to involve the community in the cleanup effort. "There's a real problem with Columbia Falls Aluminum Co.," he began. "CFAC-Glencore have used the 'Columbia Falls Liaison Panel' to present only the company's side of the story. The Hungry Horse News did a good job of covering the last community meeting in April, and published the presented data accurately. Unfortunately, it's only CFAC propaganda. CFAC had a canned presentation to convince the general population that the problems at CFAC site are small, known and in a very specific

location, far away from anything else. CFAC and EPA know that the published picture does not fully depict the pollution levels and direction of the plume movement." [156]

Berube went on in his op-ed piece to describe in detail results from investigations in 1993 and well sampling data from 2013. "The real question that remains today is where and how many plumes exist?" he asked. "A better effort is needed to quantify the data before telling the community the good news: 'It's not flowing toward town but into the Flathead River.'" Berube summed up the overall cleanup effort this way: "There are no written goals for this site at this time because this suits the interests of CFAC and the EPA. It hurts the people of Columbia Falls and Flathead County, as we will be left with whatever these entities decide. We as a community need to provide written goals; otherwise it's nearly impossible to accomplish anything, and we will have no say for the future." He recommended disbanding the community liaison panel. "We have a good core of 30 or so folks who have attended nearly every meeting, but we are rubber-stamping CFAC's easiest and cheapest path forward, as they only give us their side of the story." [157]

Appendix 7 also included an undated four-page response to Berube's op-ed piece written by Roux Associates. The first point in the response addressed Berube's criticism of the sampling data, noting that Berube did not take into account plans for future sampling. "It was clearly presented in the Phase 1 Data Summary Report and discussed with the public that there are four rounds to be collected," Roux said. Berube's claim that water quality data from the plant's five production wells "were removed from the sampling plan without discussion is false," Roux said. Investigators at Roux had proposed omitting the five production wells from the Phase 1 sampling data because "electricity to the wells had been terminated as part of the plant closure process. This proposal was approved by EPA," Roux said. [158]

Berube's claim that a 2013 sampling event provided evidence an underground plume of contaminated groundwater was moving toward Aluminum City "is false," Roux said. The 2013 data was presented in an April 2014 site reassessment report, which "does not identify a plume of pollution moving towards Aluminum City,"Roux said. Additional sampling "from monitoring wells immediately next to Aluminum City have been non-detect for cyanide," Roux said. Berube's claim that the groundwater table sometimes rose higher than the bottom of the West Landfill was not supported by historical records for the site, Roux said. Roux also said Berube's claim in the op-ed piece that CFAC and MDEQ never followed up on data showing that groundwater pollution continued at the same level even after a new cap was installed on the West Landfill in 1994 was false, Roux said, noting that groundwater quality in the area was monitored on a semi-annual basis as part of the Montana wastewater discharge permit process. Furthermore, Roux said, "the trends in fluoride and cyanide concentrations are decreasing." Berube's claim that "very little was said" about the presence of polycyclical aromatic hydrocarbons at the plant site was false, Roux said. The Phase 1 site characterization study "clearly identifies PAHs as one of the primary types of COCs (chemical of concern) present at the site," Roux said. Lastly, Berube's claim that no written goals for the site existed was not

accurate. The CFAC site was placed on the National Priorities List and was being addressed as part of the federal Superfund cleanup process, Roux said. [159]

Stroiazzo also responded to Berube's op-ed piece with a letter to the Hungry Horse News. This was not included in Stroiazzo's July 10, 2023 rebuttal to Berube found in the 715-page file of EPA comments. "We were disappointed to see Mr. Nino Berube's recent comments published in your newspaper on May 24," Stroiazzo wrote. "We believe he is misguided in his assessment and using outdated data and assumptions to make erroneous conclusions." Stroiazzo suggested readers visit the www.CFACProject.com website for a point-by-point response to Berube's op-ed piece. "All of us involved in the CFAC remediation effort have been working together to assure the best possible result is obtained for the people in our area, always mindful of our responsibility to be protective of human health and the environment," Stroiazzo wrote, curiously calling the Flathead region "our area." CFAC hired the most well-qualified environmental engineers and remediation specialists, and all their work was supervised directly by the EPA and MDEQ. "As a member of the Community Liaison Panel established to assure the public has an active role in the remediation process, Mr. Berube should be aware of the work being done to identify all the contamination at the site and develop the appropriate strategies to address each and every one of these," Stroiazzo wrote. [160]

Appendix 8 in Stroiazzo's July 10, 2023 rebuttal to Berube included a 16-page letter with comments on the Phase 1 site characterization study that Berube sent to EPA project manager Mike Cirian on March 31, 2018. The EPA's responses to many of Berube's points were presented inside boxes placed along the margins. "My initial thoughts after reading this multi-thousand-page document is that it was nice to have the additional information about the plant, but it really didn't improve the knowledge base much because Glencore, with your and MDEQ's permission, allowed them to not include findings from earlier studies in 1993 and 2013," Berube began. The EPA responded in the margin notes that earlier studies were reviewed during preparation of the remedial investigation and feasibility study work plan. In response to Berube's claim that incomplete sampling data was being presented to the public, the EPA clarified where the data could be found and noted that the sampling documents were currently under technical review by the EPA. The EPA also said it was CFAC's and Roux's position that the Phase 1 and Phase 2 site characterization studies "are robust investigations that allow for proper evaluation of the current site conditions." [161]

Under the subheading "OUT OF SIGHT – OUT OF MIND," Berube wrote, "Plant management starting in the early 1950s and continuing until the 1980s intentionally fought all efforts to move plant wastes to public facilities and concentrated on building and utilizing 7 to 9 dump sites for all plant waste without creating any system to segregate or carefully catalog what was buried and where." The EPA noted Berube's claim that a second contaminated groundwater plume existed was not supported by four rounds of sampling data. Berube described instances of ammonia gas and hydrogen fluoride gas coming off spent potliner exposed to water, as well as "a series of self-

igniting fires in the west dump that were blamed on acetylene production when water was sprayed on spent potline and potline off-gas scrubber catch," and criticized the remedial investigation for not adequately addressing volatile organic compounds. The EPA's response was that CFAC and Roux believed their gas sampling data "were collected correctly." [162]

The EPA's response to Berube's criticism of the number and location of monitoring wells was that CFAC and Roux "believe the site well network is adequate to evaluate groundwater flow directions and groundwater quality at the site." Berube, as president of the Gadow Mutual Pump cooperative, which provided drinking water to some Aluminum City residents, noted that well users in Aluminum City "virtually begged you to do something to protect our water supplies since 2014." The EPA responded by noting that four monitoring wells existed along the Aluminum City boundary, and additional wells between Aluminum City and the plant site would be installed during the Phase 2 site characterization study. Regarding Berube's concern that mercury leaking from dumped rectifier equipment might have contaminated groundwater, the EPA said "mercury has been and will continue to be an analyte in the soil and water samples being collected at the site," as would other contaminants of potential concern, such as toluene, benzene, quinolene and xylene. Berube expressed surprise at the remedial investigators not finding PCBs in soil at the plant site, because rectifier transformer waste oil was routinely used for dust suppression on plant roads. The EPA responded that "there were some low level detections of PCBs in the grid sampling area around the roads immediately north of the Main Plant," and additional sampling was planned for the future Phase 2 site characterization study. [163]

Berube summarized his overall concerns after noting numerous data gaps, some of which were specifically addressed by the EPA. "In conclusion, if you believe CFAC that only 2 insignificant data gaps exist, as they published in this document (the Phase 1 site characterization study), you and your technical staff should be removed from this project as you are in over your head and do not possess or have access to a technical understanding of what exists at this facility." He added, "Butte and Anaconda were owned by the old Anaconda Company, and mining and ore preparations done in Butte and the smelting in Anaconda have kept EPA in two communities for over 30 years now, trying to clean up the tag-along elements that came with copper. It is these tag-alongs that are the big problems in those two areas." Like the copper refinery and smelter in Great Falls, "CFAC is a smelter too," Berube said. "It produced aluminum, but the real pollution that is dangerous and hard to control came along as tag-along elements with the alumina ore, cryolite and the supplies of coal tar pitch, petroleum coke and coal. These are the pollutants that are spread all over the CFAC site and surrounding airshed." [164]

The Phase 1 site characterization study "is very incomplete in finding these elements and does nothing to address all of the chemical garbage that is sitting in the waste dumps," Berube said. "You intentionally prevented the direct sampling of these piles, and they

need careful scrutiny before any health risk assessment or Phase 2 discussion should ever be started." He concluded by saying, "Flathead Valley residents should not have to continue to live with environmental problems caused by CFAC owners that intentionally employed the out-of-sight, out-of-mind mentality to turn an island in the Flathead River into a sewer lagoon, build 7 to 9 dumps with no accountability for what they chemically contain, and what they are or will someday leak. Finally, we shouldn't have to live with the pollution that regulators allowed the owners to pump into the atmosphere to fall over a much wider area than just the plant's property." [165]

Appendix 9 in Stroiazzo's July 10, 2023 rebuttal to Berube included a June 18, 2018 email sent by MDEQ senior project manager Dick Sloan to Laura Jensen at Roux and Mike Cirian at the EPA. Sloan recalled a meeting between Berube, MDEQ brownfields coordinator Colleen Owen and himself at the MDEQ office in Kalispell, Mont. "We emphasized to Nino that the overall objective of the RI/FS and the risk assessments was to develop a timely remedial response plan to reduce the site risk to acceptable levels and to expedite beneficial future reuse of the property," Sloan wrote, adding, "It was also recognized that the site has a lot of significant history, however the current RI/FS and risk assessment work is focused on site remediation and redevelopment." [166]

The tenth and final appendix to Stroiazzo's July 10, 2023 rebuttal to Berube included a June 21, 2023 "memo to file" recalling a CFAC site tour Stroiazzo took with Berube that same day. Berube had requested the tour and had a prepared list of five specific questions. The first involved Columbia Falls city employees seen cleaning a grate in the Cedar Creek Reservoir overflow ditch. Berube said CFAC should take responsibility for this work, and Stroiazzo noted that the ditch was owned and operated by the city. Stroiazzo also noted that the city had lined the portion of the ditch upgradient and adjacent to the CFAC landfills. When they reached the southeastern corner of the plant property, Berube said he didn't believe the plume of contaminated groundwater was properly characterized for this location. Stroiazzo explained that the plume delineation was determined by sample data, meaning contaminants were not detected outside the plume area. Berube insisted the conclusion was incorrect, but "he had no supporting data," Stroiazzo noted. [167]

According to Stroiazzo's memo to himself, at a location called the Borrow Pit Area, where Calbag removed gravel for filling the potroom basements, Berube commented that surface grubbing and clearing was poorly done, and brush piles should have been piled and burned. "We drove to the perimeter of the pit," Stroiazzo said, but "no brush debris piles were found. I further explained that the borrow pit was permitted by the state, it was inspected and constructed in accordance with the requirements." Berube then suggested that repositories could be constructed inside the former potroom basements to hold the spent potliner currently in the landfills. "I suggested he take the idea to EPA," Stroiazzo said. Lastly, Berube suggested that former smelter employees be involved in providing information about site contamination. Stroiazzo replied that CFAC had engaged with some former employees and held many public meetings. He also noted that Berube

was accompanied on two site tours, and that Berube's views on potential areas of concern had been addressed by the EPA or CFAC in the remedial investigation. [168]

Allegations of incompetency and penny-pinching

On Aug. 29, 2023, Berube emailed 30 pages of comments on the EPA's preferred cleanup to Missy Haniewicz at the EPA. These comments were not part of Stroiazzo's July 10, 2023 rebuttal documents. Berube began by stating that the remedial investigation of the CFAC site "is inadequate and probably wrong." He added, "It's time to get an honest and accurate technical review of this plant site before it is pushed through the permanent EPA approval process. There are too many assumptions without technical, scientific backup." He cited unaccounted-for mercury-filled rectifier equipment, the "incompetence of how the Aluminum City water was not properly investigated," and the condition the island in the Flathead River south of the plant was left in. He explained that a groundwater study by Denver-based Weston Engineering in 2013 was used to get the CFAC site placed on the Superfund's National Priorities List. But Weston's report found that groundwater beneath the plant "flowed in three general directions," including "possibly west toward Aluminum City because of cyanide and fluoride being found in two of 30 wells in that area," Berube wrote. He added that the same 25 monitoring wells used by Weston were later used by Hydrometrics in 1993, when the company identified the West Landfill as the source of cyanide contamination and advised capping the landfill. "This flow was first reported to the EPA and state DEQ by ARCO Metals in 1984," Berube added. [169]

Berube recalled one of the first meetings of the Columbia Falls Liaison Panel, which Glencore's public relations contractor established with Glencore funding after the plant site was placed on the Superfund's National Priorities List. When Glencore and CFAC representatives on the panel were asked why they opposed MDEQ's leadership for the cleanup project and instead supported the EPA, Berube said, "They bluntly stated they chose EPA over the state of Montana because they felt they could complete the remedial investigation-feasibility study quicker and cheaper with EPA oversight. Not a stunning endorsement for accurately working to protect the people of the area and the environment in general. Not a good start with the liaison panel." Berube said he learned eight years later that the truth might be somewhat different – "the EPA demanded that Glencore would run the project because they were a potentially responsible party, and if they refused the EPA would bring immediate criminal proceedings against the parent company and its officers through the Department of Justice." [170]

Berube was concerned about Glencore's leadership role in the cleanup project. "They knew nothing of the site's history and issues," he wrote. "They bought the plant in 1999 not because they were an operating company, but because they were a paper-trading company in the commodities business." Glencore never had a permanent employee on site from 1999 to when the smelter shut down in 2009. "They ran it with a 3-person crew that visited the site for 2 to 3 days every 4 to 6 weeks," Berube said. "Since 1999, Simon Trenka, Michael Armbruster, Bob Pruzak and Matt Lucke were Glencore's head men at the

site, monthly. Did EPA interview these four to get background on what was done at the plant as part of the remedial investigation? No! You wouldn't have found out anything because they literally never ventured out into the plant. Why would EPA force this company to run the RI/FS? These men would have had to honestly say – we know nothing about the plant's history or its daily operation." Berube also criticized the EPA for not choosing ARCO to run the project, since ARCO "had plenty of experience" working with the EPA on the Butte-Anaconda Superfund site and "left Columbia Falls with a good reputation with the hourly and salaried staff." [171]

Berube went on to suggest that EPA project manager Mike Cirian "had a role in choosing Glencore to run the project," adding, "What other choice would he have had? Mike spent the approximate 15 years prior to 2013 running the Superfund site in Libby, Montana. He was assigned to the CFAC site while the Libby project was still going on from 2013 to 2019. He was not trained in the aluminum business and was only able to spend a day intermittently in the early years of his Columbia Falls assignment." Berube noted that it took him six months in 2015 to get Cirian and the lead engineer assigned by Glencore to tour the plant with him. "This was my first business meeting with Mike, and it was obvious he knew literally nothing about the site's history, how it operated, and what was being done in the operations of the facility. Nice guy, but with zero skill and knowledge about the site." Cirian's job was to follow the EPA's "nine-step procedure" for each site, Berube said. "That procedure, since 1980, when EPA came to Montana, has one successful completion of cleaning up a site in spite of reusing this procedure over and over in double-digit locations," Berube said. [172]

Berube continued to sharply criticize the cleanup process at the CFAC site. "Mike got zero help from the leaders of the Glencore Corporation in identifying what the actual concerns for the future safety of the area around the plant were," Berube said. "He followed EPA procedure and tried to get former CFAC employees and community leaders to step up and provide critical information about the plant. He got little support and concern from the city of Columbia Falls leadership. Quite literally nothing from the Flathead County, as the commissioner assigned to this project personally told me it scared him to drive through the plant gate, and he knew nothing of the plant's operation." Berube noted that managers at CFAC over the past 20 years "were conspicuous by their absence at all public events. And the hourly staff had a bad taste in their mouth from when CFAC threw them out of the plant on the last day of operation without doing anything to acknowledge their long service or help them financially." As a result, Cirian did not receive sufficient significant information to support writing and overseeing the RI/FS plan. [173]

Berube also had sharp words for Glencore project manager John Stroiazzo. "He was a new hire to Glencore when they purchased a Canadian mining company (Xstrata) in 2012-13," Berube said. "His first assignment was to run this RI/FS project despite working his entire life in Canada and not having any operational knowledge of an operating Soderberg aluminum facility or U.S. environmental laws." Stroiazzo had no knowledge of CFAC or its history, Berube said, and he commuted to Montana from Canada's maritime provinces.

“This further deepened the knowledge chasm about the facility,” Berube said. He noted that the only remaining CFAC employee, Steve Wright, joined the company as an environmental manager in 1995 or 1996. “Literally everything of critical environmental importance at the plant took place in 1994 or before,” Berube said. [174]

Berube also criticized CDM Smith, which the EPA hired as a technical review team. The firm was based in Helena “with no Flathead Valley branch, no familiarity with Flathead Valley geology, hydrology and aluminum plant operations,” and “was, again, not present.” Berube said he once asked the CDM Smith team leader at a public meeting if he or any of his team had ever been on the CFAC site “recently or while it was operating. He answered, ‘No,’ for his team.” And lastly, Berube had choice words for Roux Associates, the consultant Glencore chose to run the RI/FS project. Roux was “based in Long Island, N.Y., next to Glencore’s corporate headquarters in Stamford, Conn.,” he claimed. “The chief engineer for Roux was a gentleman with a master’s degree in alpine glaciation from the University of Miami. He had never been to Montana before being assigned this project lead. Again, no aluminum experience and no knowledge of the history or geology of this area.” Summing up, Berube concluded, “With this team, the chances of a successful plan and execution are not good.” [175]

According to Berube’s timeline, after two sets of water samples were collected and analyzed during low-water conditions in 2015 and 2016, Stroiazzo and Cirian went to the Hungry Horse News to publish their findings. “They appeared to want to set the public discussion and perception up on terms favorable to what they thought these first two samples showed,” Berube said. The claims made by Stroiazzo and Cirian included “1) The problems at CFAC were small; 2) The problems at CFAC were known; 3) The problems at CFAC were in a specific location; 4) The problems at CFAC were far away from anything else.” Berube added, “They high-lighted this last statement by proclaiming the plume is not flowing toward town but into the Flathead River. Great news! Right!” Berube was curious why the EPA and Glencore set the narrative so early. “Rather than tell people about studies that identified up to 3 plumes, they combined this prior knowledge and created one plume that covered two of the three possible plumes under one bigger roof,” Berube said. He wondered how these “grand projections” could be established using only two sets of 40 groundwater samples. “Was it by inventing a narrative that was in both their interest – or is it science-based and protective of the Flathead Valley?” he asked. [176]

Berube continued his 30-page comment to the EPA by discussing in detail various studies and well samples across the plant site and in Aluminum City. He suggested that the EPA “rethink your hydrology knowledge of the site” and even drill monitoring wells across the Flathead River to show how groundwater flowed in the area. He also asked about the missing rectifier equipment, “12 total – 12 feet tall, 10 feet wide, 20 feet long, that are filled with thousands of liquid mercury-filled switches.” He recalled Cirian saying to him in 2017, “I’ll only look for them if you tell me exactly where they are at,” with Cirian quickly adding, “Check that! I will never drill a hole in a closed dump.” Berube was concerned that the mercury-filled rectifier equipment was still buried somewhere on the plant site.

He also recalled March 2017 groundwater samples in Aluminum City that contained cyanide above the EPA standard, a new home built two miles north of the plant with a drinking-water well that contained cyanide far above the EPA standard in 2014, and water samples from riparian and backwater seep areas along the Flathead River with cyanide levels nearly eight times the EPA standard. Berube wondered about the impact of that much cyanide on a mammal weighing one-third of a pound to 20 pounds, such as a mouse or beaver. [177]

Berube provided 43 numbered bullet points with general questions correlating to the RI/FS document, the document's conclusions about landfills and percolation ponds history, dimensions, operations and types of waste contained in the landfills and ponds, the connectivity of the landfills and ponds to groundwater, and the lack of a local land-use plan. "Where are the county commissioners?" he asked. "Gone missing when they should be leading land-use planning." He warned about allowing Glencore or the EPA to dictate commercial or industrial zoning for the area. Berube also questioned the RI/FS conclusions about average groundwater depths, raised the possibility of a fifth seep existing north of the railroad tracks, raised the possibility that polycyclical aromatic hydrocarbons and metals might be found as deep as 22 feet and not just in shallow soils in select areas, and raised the possibility that the EPA violated the Superfund RI/FS process by completing the river channel restoration project at the South Percolation Ponds without holding a public meeting ahead of time. [178]

Berube questioned the EPA's decision to leave the hazardous wastes in place at the West Landfill and Wet Scrubber Sludge Pond, and he suggested a procedure for excavating the waste. This included separating chemical drums and maintenance or construction debris from spent potliner, crushing the spent potliner, and drying the spent potliner with heat and airflow before loading the material "into the existing fleet of unused rail car containers already in service." Waste in the chemical drums could be "combined and incinerated using a portable military incinerator," he said. Maintenance and construction debris in the landfills could be moved to an on-site corrective action management unit (CAMU) that met current industrial waste specifications, he said. The soil under the West Landfill and Wet Scrubber Sludge Pond could be mined and put into the on-site CAMU or just allowed to slowly decontaminate over time. "This is implementable technology," Berube said. Costs could be lowered by reducing the amount of waste needing to be shipped out of state. The soils beneath the landfill and pond could even be left in place to clean naturally once the waste material contributing to the contamination was removed. [179]

Berube noted that the EPA "states, in your RI/FS document, that as an organization they believe that 'it is best to leave toxic wastes in the dumps, rather than attempt to remove them.'" He added, "This statement explains why so few hazardous waste sites have been cleaned up in the 40 years EPA has been in existence. EPA follows a 9-step procedure religiously, at every site, that leads to a 'leave it in the ground' solution inevitably. They are using Mother Nature's slow and deliberate ability to clean itself up." Natural chemical

reactions and dilution processes underground can eventually reduce hazardous waste concentrations, and in rivers dilution and re-distribution in larger bodies of water downstream can “make them magically disappear.” [180]

The EPA’s proposed cleanup plan for the CFAC site was another example of “Just hide it and dilute it away over the decades,” Berube said, rather than excavate the waste and haul it out of state. “To accomplish this, they have to convince people that it is too risky or dangerous to touch the contaminants and scare you with statistics like car accidents, deaths, carbon footprints, toxicity if you breathe, eat or touch it, and much more so that you buy into their preferred alternative.” Berube then posed 125 detailed questions about landfills, sludge ponds and percolation ponds, remedial designs, completion schedules, follow-up groundwater monitoring, requiring Glencore to sign legally-binding documents protecting the city of Columbia Falls and the Aluminum City residents going into the future, and other items. “It is my hope and goal that you use your 40-plus years of experience with Superfund sites to put actual goals and timelines in this document so the community has a sense of your commitment to the residents of the area,” Berube said. [181]

A grassroots coalition emerges

Growing public opposition to the EPA’s preferred cleanup plan in Columbia Falls and throughout the Flathead Valley was no secret. Even before the Aug. 31, 2023 deadline for comments had passed, dissatisfaction with the Superfund cleanup process was evident. On June 30, 2023, the Missoulian reported on the local residents’ frustration, beginning with the story of a potential cancer cluster among the Columbia Falls youth. “When Heather Peacock’s high-schooler was diagnosed with pediatric cancer in 2017, she started to wonder about the prevalence of the disease among local youth,” the Missoulian reported. “Peacock and her family live a few miles from the Columbia Falls Aluminum Co. Superfund site, a 3,000-acre complex where deer forage, bears roam and toxic chemicals leach into the Flathead River. ‘I think it’s a valid question for the future of our community,’ said Peacock. ‘How does this affect our children?’” [182]

The EPA’s preferred $57 million cleanup plan called for building a slurry wall to enclose a landfill and a sludge pond and placing new caps on both, and installing a groundwater treatment plant, while hazardous materials at other parts of the plant site would be scraped away. Excavating wastes out of the dumps and hauling it away could add $100 million to the cleanup cost, according to EPA estimates. “But Peacock and her neighbors aren’t convinced those measures would effectively contain the cyanide and fluoride present on site. Some would like to see the EPA truck the chemicals out of C-Falls entirely.” Former Columbia Falls City Councilor Dave Petersen also weighed in on the EPA’s preferred plan. “People in Columbia Falls that I know are not worried about how many truckloads it takes to get this stuff out of Columbia Falls,” he said. “What they are worried about, however, is the possible failure of the slurry wall.” [183]

James Thomasson, an engineer with All West Testing and Engineering, told the Missoulian that slurry walls made from concrete or cement mixed with other impermeable materials rarely fail when constructed correctly. “It essentially creates an impermeable layer almost as if you were placing a plastic sheet down to the bottom of the plume,” he said. “The hope will be that they contain it in one place and it just doesn’t go anywhere and they stop it in its tracks.” The key to a successful slurry wall, he told the Missoulian, was its thickness. Slurry walls that weren’t thick enough could potentially leak, he explained. [184]

The Missoulian also spoke to Nino Berube, who criticized the EPA’s track record of delisting Superfund sites in Montana. Since the EPA started working in Montana in the 1980s, Berube noted, 17 sites were placed on the Superfund’s National Priorities List and none had been delisted. “The question I have is doing the same thing over and over and expecting a different result is not really a great way to go,” Berube said. “This is the definition of insanity.” The Missoulian also spoke to Columbia Falls City Councilor Mike Shepard, another former CFAC employee. “The frustration with me is just, hell, I’ll be dead and gone,” he said. “The question is the decisions: Are they going to be right?” [185]

As the Christmas holidays approached, and the Columbia Falls City Council was wrapping up its business for 2023, several local residents attended its final meeting of the year and requested support in persuading the EPA to adopt a different cleanup plan at the CFAC plant site. Resident Phil Matson suggested developing a land-use plan under the umbrella of the Superfund reclamation laws with the city as a partner. Mayor Don Barnhart noted how the city years ago spearheaded the Superfund push for the plant site while the county did little, and that the city had long supported a good cleanup plan. Barnhart suggested the residents approach the county commissioners about the EPA’s preferred cleanup plan, adding that the city was the one “that took the bull by the horns.” [186]

The formation of a new grassroots organization to argue for a different cleanup plan at the CFAC site was announced before the New Year in an op-ed in the Daily Inter Lake by Shirley Folkwein, representing the Upper Flathead Neighborhood Association. “A growing number of Columbia Falls and Flathead-area residents are coming together to form the Coalition for a Clean CFAC. Our mission is to secure the comprehensive cleanup of the Columbia Falls Aluminum Company (CFAC) Superfund site for the health, enjoyment, and economic benefit of the local community and the protection of the Flathead watershed,” she wrote. She described public opposition to the EPA’s preferred plan during public meetings, in letters to newspapers and in comments sent to the EPA. “Leaving the waste in place is not a solution,” she wrote. “It imposes long-term risks and costs to our community and county that fail to meet federal Superfund goals for permanent solutions, and fails to reduce the volume of toxic waste that, over time, has the potential to affect water seeping to the nearby Flathead River as well as private wells. It fails to provide opportunities for economic reuse and ecological recovery of the site.” She noted that removal of the hazardous wastes was never seriously considered by the EPA “as it was deemed too expensive, but no actual cost estimate was ever produced. The results of

potential seismic and flooding events were not considered. It's time to insist these studies be done. Superfund sites don't have to become permanent waste dumps." [187]

Soon after the new year began, several new players entered the CFAC Superfund discussion. On Jan. 8, 2024, staff at the Montana Department of Justice's Natural Resource Damage Program, acting on behalf of Gov. Greg Gianforte, joined with the Confederated Salish and Kootenai Tribes and federal trustees from the U.S. Department of Agriculture and the U.S. Department of the Interior to issue a notice of intent to perform a natural resource damage assessment of the CFAC site. Along with the notice, the federal trustees submitted a 34-page pre-assessment screen. Under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) law, the pre-assessment screen was a first step toward determining if the trustees could make a successful claim and whether they should proceed with a natural resource damage assessment claim. [188]

According to the screen, "When hazardous substances harm… natural resources or resource services that are held in trust for the public, federal and state laws provide mechanisms that authorize natural resource trustees to seek compensation from potentially responsible parties for those injuries." The determination would be based on five criteria, including whether a release of hazardous substances had occurred. "The trustees have determined that an assessment of natural resource damages is warranted," the screen concluded. Glencore project manager John Stroiazzo acknowledged that he was contacted by the Montana Natural Resource Damages Program and was invited to participate in the development of the assessment. "CFAC is now reviewing and studying the request," he said. "Since the onset of the project in 2013, CFAC has worked proactively and cooperatively with the regulatory agencies, meeting all of its requirements, delivering quality work on schedule, and has paid all costs." [189]

Kathleen Hausrath, the Montana Natural Resource Damage Program's lead counsel, said the process initiated by the trustees would not affect ongoing Superfund work at the CFAC site. "This natural resource damage assessment is separate from the EPA's proposed remediation plan to clean up the CFAC Superfund site," she said. "The natural resource damages are the residual of the impact from the hazardous substances that will not be addressed by a final cleanup remedy." Hausrath noted that the trustees had legal authority under CERCLA to recover damages from the responsible parties for injuries to natural resources resulting from releases of hazardous substances. The damages recovered by the trustees "must be used to restore the injured resources, ideally to their 'baseline' conditions." If that wasn't possible, the damages recovered by the trustees "can be used to replace or acquire the equivalent of the injured resources." The responsible parties for these damages were determined in Judge Donald Molloy's August 2021 ruling in CFAC v. ARCO, which found CFAC responsible for 65 percent of past and future cleanup costs and ARCO responsible for 35 percent. Since its inception in 1990, the Montana Natural Natural Resource Damage Program had recovered more than $275

million in damages at sites around the state. “The trustees reviewed available data in a pre-assessment screen and concluded that soils, groundwater, surface water, sediments and biological resources have been exposed to and adversely affected by the hazardous substances released from the site,” the pre-assessment screen said. [190]

The Coalition For A Clean CFAC sent a four-page letter to the EPA and MDEQ expressing concerns about the preferred cleanup plan for the CFAC site on Jan. 18, 2024. The letter was signed by Mayre Flowers, Shirley Folkwein, Phil Matson, Peter Metcalf, Nicole Bond, Becca Wheeler, Jim and Heather Peacock, Larry D. Williams and Rebecca R. Williams. Citizens For A Better Flathead, representing more than 3,000 residents in Flathead County, along with the Upper Flathead Neighborhood Association, representing about 200 residents in the Columbia Falls area, along with other residents in the county and former employees at the CFAC smelter plant, “have come together to form the Coalition For A Clean CFAC,” the letter began. “Our mission is to secure the comprehensive cleanup of the Columbia Falls Aluminum Company Superfund site for the health, enjoyment and economic benefit of the local community and the protection of the Flathead watershed.”

The Coalition letter formally requested that the EPA “order a time-out to the proposed issuing of a Final Record of Decision on the CFAC Superfund site scheduled for an estimated time frame in March 2024,” and not to go forward with its preferred plan of leaving hazardous waste in place at the site. Noting that the public record would show that the local community and the Columbia Falls City Council all along opposed leaving the toxic waste in place, the feasibility study “never seriously considered this a viable option and instead it was deemed, and early on dismissed, as too expensive,” the letter said. “An actual cost estimate was never produced.” The letter requested that the EPA “produce a focused feasibility study evaluating realistic costs for the removal of acute and extremely hazardous wastes,” including spent potliner from the West Landfill and material in the Wet Scrubber Sludge Pond, to an approved out-of-state landfill. The letter noted that CFAC had a successful history of shipping highly toxic waste, such as spent potliner, to an approved out-of-state landfill by rail cars, and noted that other aluminum smelters, such as the former Alcoa facility in Vancouver, Wash., also successfully shipped toxic wastes by rail cars. [191]

The Coalition letter cited the 34-page pre-assessment screen produced by the Montana Natural Resource Damage Program as validation of the Coalition’s concerns about the EPA’s plan to leave waste in place at the CFAC site. “EPA has issued a proposed plan for a final cleanup in 2023,” the pre-assessment screen concluded. “The preferred alternative, however, will not return the site to baseline. Rehabilitation, restoration or replacement of natural resources is required to reduce future injuries and compensate the public for interim losses of natural resources and the services they provide.” The Coalition letter also asked the EPA to investigate additional alternatives for the cleanup at the CFAC site, such as treating the wastes on-site and consolidating them “into a ‘high and dry’ lined and capped landfill meeting state-of-the-art design and containment standards for toxic wastes.” Material excavated from the dumps that posed “low-level” hazards “could

perhaps be sent to the Flathead County landfill, if justified, in limited quantities, as this is a lined facility that sits some 300 feet above groundwater." The letter noted that the proposed slurry wall wouldn't stop groundwater that fluctuated up to 25 feet in depth from entering the landfill and carrying away hazardous contaminants. The letter also asked the EPA to consider an assessment of "climate vulnerability" for the CFAC site. [192]

The Coalition letter suggested the EPA neglected a step under the Superfund Redevelopment Initiative process established in 1999 to help communities return a site to productive use. According to the redevelopment initiative, "Regions should review the Superfund Land Use Directive and ensure that reasonable future land-use assumptions are incorporated into the development, evaluation and selection of response actions, where appropriate." The Coalition letter speculated on how this step was missed. "For whatever reason or set of reasons, be it the disbandment of the Glencore-created Community Liaison Panel once CFAC was designated as a Superfund site in 2016, the time-wait for site analysis that followed this, or the chaos of the Covid years where no one wanted to gather, a stakeholder process has never been held to engage the community in imagining potential reuses and future development at the 900-plus acre CFAC site," the letter said. "In our recent outreach in the community, this lack of a future vision for redevelopment is one that the community wants to see happen so that it can be considered prior to the final selection of cleanup and remedial processes." [193]

The EPA's preferred cleanup plan, leaving hazardous wastes in place behind a slurry wall and under a cap, "would indeed impose severe restrictions on future land uses at the site, with the need for deed restrictions limiting available land uses near the waste dumps, a groundwater control area banning drinking-water wells, and access control points such as fencing and warning signs; not the vision of a cleaned-up, economically revitalized property that the community so desires and deserves," the Coalition letter said. "A waste-in-place solution fails to provide the assurances the community deserves that there will not be on-going and worsening leaking of these toxic wastes to ground water and surface waters, as the waste plume grows and moves." [194]

The Hungry Horse News reported Jan. 31, 2024 on the establishment of the Coalition For A Clean CFAC and its petition drive. By that time, the author, Chris Peterson, had grown pessimistic about changes in the EPA's decision. When Peterson asked Mayre Flowers, a Coalition leader, about the idea of leaving the hazardous waste in place, she responded, "It makes no sense to leave it a possible source of pollution for hundreds of years." Missy Haniewicz, the EPA's Community Involvement Coordinator, said the Coalition's letter was included in the record of public comments even though it was received after the Aug. 31, 2023 commenting deadline. "All public comments received during or after the formal comment period will be addressed in the full Responsiveness Summary, which will be included in the release of the Record of Decision," she said. Furthermore, "There will be additional opportunities for community engagement during the Remedial Design process, including ways to give feedback, ask questions and learn more about the cleanup and the process. Following that, we will continue to offer opportunities for engagement during the

Remedial Action phase," she said. Flowers said Coalition organizers planned on promoting the petition soon, and once the public was informed, they could influence the EPA and MDEQ. "We need a grassroots effort," Flowers said. "There's still time to turn this thing around." [195]

The Coalition's petition to the EPA and MDEQ read, "I signed this petition to respectfully request that your agencies pause the decision-making process to fully and fairly evaluate the cost-benefits of removing (not leaving) the toxic waste at the CFAC (Columbia Falls Aluminum Company) Superfund site. No cost analysis was done by CFAC when they wrote the cleanup plan. CFAC simply dismissed this option as too costly, even though they acknowledged it would likely be a permanent and effective solution. We ask the EPA and DEQ to require an independent cost analysis be done to evaluate the permanence and long-term effectiveness of off-site removal. This is necessary to ensure the cleanup truly protects our water, our health, our community and our economy. CFAC and ARCO, and early on Anaconda Co., made many millions of dollars operating this aluminum smelter from 1955-2009 and provided good jobs. But the citizens of the Flathead watershed shouldn't be left with their toxic mess. The site must be fully cleaned up and restored for future beneficial uses." [196]

The Coalition addressed the Columbia Falls City Council during their regular meeting on Feb. 5, 2024 and warned them about the EPA's preferred plan and the upcoming Record of Decision expected in March. "Once that decision is issued, our opportunity to shape the cleanup and the future of that site is effectively over," Coalition founder Phil Matson said. "Right now the company who wrote the plan is driving this process, and it's important that we have an opportunity to ensure the EPA is actually listening to the local community." [197] In an interview with the Daily Inter Lake, Mayre Flowers explained the reaction of watchdog groups like Citizens For A Better Flathead. "I think we were all caught a little bit off guard when the proposal just said to keep the waste in place, which isn't a solution," she said. The EPA failed to provide to the community a robust and understandable plan, Flowers said. [198]

In response to Flowers' comment that her group was caught off guard, Richard Hanners, the author of this history, emailed background information to Columbia Falls City Councilor Mike Shepard as well as Peter Metcalf, at the Glacier Two Medicine Alliance, and Phil Matson, at the Flathead Lake Biological Station. Metcalf and Matson were founding members of the Coalition For A Clean CFAC. "On March 9, 2015, I learned that Calbag was negotiating a contract for the demolition (not cleanup) of the closed Columbia Falls Aluminum Co. smelter site," Hanners wrote. "Within fifteen minutes, I tracked down the future project manager in Georgia, where he was tearing down a coal-fired generating plant. We had an open and free discussion, even though the CFAC-Calbag demolition contract was not finalized and the project manager knew I worked for a newspaper in Flathead County. Over the phone, he speculated that Glencore, the site's owner, might seek to contain hazardous waste buried in CFAC landfills using the Corrective Action Management Unit, or CAMU, method." Documents explaining how

CAMUs enclosed hazardous waste on-site were attached to the email. “The conversation I had with the project manager over the phone could prove that Glencore sought to leave the waste at CFAC as early as six days before Glencore announced the permanent closure of the smelter and 15 days before the EPA proposed placing the CFAC site on its Superfund list.” [199]

Hanners concluded his email by asking, “Is this important? The public process for a Superfund cleanup is lengthy, complex and expensive, with dozens of consulting contractors and attorneys involved, using language few can fully comprehend. The scientific basis for such a process, however, could be used as a smokescreen for backroom dealing. Glencore, which has owned mines, refineries and smelters around the world, is quite familiar with this process and has a reputation to match.” [200] Metcalf replied the same day with questions about how spent potliner was shipped from the CFAC plant during operations to an out-of-state landfill – by truck or rail car? “We believe that full removal, especially shipping it to Arlington by rail, deserves a fair assessment,” he wrote. [201] Matson replied the next day. “The community was disenfranchised with the public process half a decade ago but we are engaged now with momentum behind us,” he wrote. “However, the public comment period is over and we are looking at it from behind the 8 ball.” He noted that the Coalition had started an online petition, mobilized community members, written letters to elected officials, the EPA, the MDEQ and the newspapers, and was in the process of applying for a technical assistance grant provided through the Superfund to assist communities in the cleanup decision-making process. [202]

The billion dollar cleanup

As the Coalition For A Clean CFAC began organizing, letters from the public opposed to the EPA’s cleanup decision continued to be sent to newspapers. In a Feb. 7, 2024 letter to the Hungry Horse News, Renee Metcalf wrote of a bright future for the CFAC site including “open space, light manufacturing, community gathering place, commercial use, wildlife corridor, affordable housing, trail network, concert venue – there are countless possibilities to consider.” But that all depended on a thorough cleanup at the site. “For the CFAC property to remain forever barricaded behind fences and unfit for human use would be a great tragedy,” she wrote. “The only reason that has been put forward by the EPA as the preferred plan is that the multi-billion-dollar company responsible for the cleanup does not want to pay to remove the toxic waste. Our community deserves a better solution!” [203]

The North Fork Preservation Association joined the Coalition For A Clean CFAC by February. Flannery Freund, the group’s president, made a plea for members to sign the Coalition’s petition as an alert in its Feb. 8, 2024 newsletter. “Alongside many Flathead conservation groups, we are asking our supporters and members to please sign the EPA petition to get CFAC and the main stem of the Flathead River cleaned up once and for all,” she wrote. “From headwaters to main waters, you can be a part of the bigger, cleaner picture.” [204] Founded in 1982 in response to plans for coal mining in the

headwaters area in Canada, the North Fork Preservation Association's mission "is to champion the exceptional biodiversity and wildness of the North Fork of the Flathead River watershed in Northwest Montana." The North Fork of the Flathead River was a federally-designated Wild and Scenic River. "This unique and pristine international watershed features spectacular, glaciated mountain peaks, wildflowers, open grasslands, a wide river valley, diverse wetlands and clear, clean water," the group's website states. "A rich complement of indigenous species still exists, including gray wolves, grizzly and black bear, mountain lions, lynx, wolverine, and the endangered bull trout." [205]

On Feb. 12, 2024, the Flathead County Board of Commissioners took a new stance by sending a letter to the EPA questioning its preferred cleanup plan. In the past, the board had resisted the idea of placing the site on the Superfund's National Priorities List, but as one observer noted to the author of this history, 2024 was an election year. In the letter, the board urged the EPA "to postpone its final determination on the cleanup of the Columbia Falls Aluminum Superfund site until a comprehensive evaluation is conducted. The evaluation must thoroughly assess the potential impacts on the pristine waters of the Flathead River, lakes and the Columbia River headwaters that could result from the retention of a million cubic yards of hazardous waste on-site. Additionally, it should entail a thorough cost analysis comparing the removal of waste versus capping and lining in place, with a focus on the implications for the next century and beyond." The letter was signed by Randy Brodehl, Pam Holmquist and Brad Abell. [206] The Coalition quickly thanked the commissioners online. "The Coalition For A Better Flathead strongly applauds the Flathead County Commissioners' leadership on this issue and for their important call for the EPA to take real care to protect the pristine waters of the Flathead and the Columbia River headwaters." [207]

The Coalition announced its petition drive exceeded 1,000 signatures on Feb. 28, 2024. "Additionally, the following organizations have joined the call for this timeout, including American Rivers, Flathead Lake Protection Association, Flathead Rivers Alliance, Flathead Lakers, Swan View Coalition, and West Glacier Community Preservation Association, with a number of others considering joining pending approval of their boards," the group said in an op-ed piece. "These organizations, collectively with the Coalition for a Clean CFAC, represent over 10,000 residents." The Coalition applauded the work of "the small army of volunteers" who collected the petition signatures. "Such grassroots outreach takes hours and hours of time – but we notified the EPA in a recent letter that we plan to come back to them over the next month with another 1,000 names and then another and another," the group said. "In this process of gathering signatures, we heard over and over from fellow volunteers that residents expressed overwhelming frustration that they had not been kept better informed about opportunities for public input and that more town halls and public information sessions should have been repeatedly held to engage and inform the public." [208]

Shortly afterwards, Sen. Jon Tester, a Montana Democrat who had long supported a thorough cleanup of the CFAC site, criticized the EPA's preferred cleanup plan during a

conference call with the press. Tester characterized the “waste in place” cleanup plan as “not much of a cleanup plan at all.” Tester told the reporters that the EPA wasn’t “listening to the people on the ground” when it came to cleaning up toxic waste dumps across Montana. He said he recently sent a letter to EPA officials expressing concern about the agency’s “waste in place” strategy for several Superfund sites in Montana, including CFAC. He said he hoped to get EPA Administrator Michael S. Regan to visit Montana and listen to community concerns, including those in Butte, Missoula and Columbia Falls, where Superfund sites existed. Meanwhile, the EPA planned to issue its Record of Decision for a cleanup plan at CFAC sometime in April. [209]

Carolina Balliew, the Section C Supervisor for EPA Region 8, sent a four-page letter to the Coalition For A Clean Flathead on March 7, 2024, responding to letters sent to her by the Coalition on Jan. 18 and Feb. 26. She began by explaining that each cleanup alternative analyzed in the feasibility study must meet threshold criteria established by law, including overall protection of human health and the environment, and compliance with applicable or relevant and appropriate requirements. The alternatives were evaluated with three primary balancing criteria – long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; and short-term effectiveness. Additional balancing criteria were then considered – implementability and cost. [210]

“Off-site disposal was screened out as a cleanup alternative because of its inability to meet remedial action objectives (what a protective cleanup is intended to accomplish), based on the evaluation criteria,” Balliew wrote. One reason it was screened out in the feasibility study was “because on-site containment options can achieve similar effectiveness with lower levels of risk, disruption and cost.” This was particularly true when considering excavation of the West Landfill. “Given great seasonal variations in the water table, excavation to depths more than 50 feet (which would be required by an off-site removal remedy) would create a large open pit where rainfall and ground water would infiltrate, making interaction with water and air inevitable and difficult to control – and therefore creating significant risks from cyanide gas and reactive gases,” Balliew wrote. “Excavation and handling of this material can pose serious risk to workers handling the material, and special precautions must be taken to pre-treat and transport the waste.” [211]

Furthermore, spent pot liner removed from the West Landfill would need to be shipped to a licensed Resource Conservation and Recovery Act Subtitle C landfill, and the nearest was out of state in Arlington, Ore., nearly 500 miles away, posing transportation difficulties. “Over 30 neighboring communities and communities en route would have an estimated 70 trucks and/or trains per day passing through for over four to five years, with associated noise, dust, congestion, traffic issues, and delays from railroad crossings,” Balliew wrote. She also noted that the carbon footprint created by 60 million truck-train miles “would be significant,” as would accident risks – “35 persons could potentially be injured, including one fatality, based on Federal Highway Administration statistics,” Balliew wrote. A screening-level cost analysis conducted by the EPA in advance of

releasing the proposed cleanup plan estimated the cost of excavating 1.2 million cubic yards of waste at the CFAC site and shipping it out of state at $624 million to $1.4 billion. [212]

In response to the Coalition's point about the need for land-use planning at the CFAC site once it was remediated, Balliew noted that "local authorities have not adopted a future land-use plan for the site, and land-use decisions fall within the purview of local permitting and zoning authorities, as well as the private property owner. In the absence of a definitive local plan, the Feasibility Study identifies potential future uses such as commercial, industrial and recreational. Superfund Redevelopment resources, tools and trainings can be accessed and utilized at any time by interested stakeholders and community members throughout the Superfund process." [213]

Balliew also responded to the Coalition's concerns about community engagement, noting that the EPA "maintained a strong presence in the Columbia Falls community through the course of Superfund site investigation, feasibility study, and Proposed Plan for the Site. Specifically, in the months leading up to the Proposed Plan, the EPA used multiple public information sessions, fact sheets, website updates, one-on-one discussions, and participation in local community events to share information about the Site with the community. The EPA also provided an independent technical assistance adviser through the Technical Assistance Services for Communities program to help the community better understand the technical issues and documents associated with the Proposed Plan." [214]

Carolina Balliew also sent a four-page letter on March 7, 2024 to the Flathead County Board of Commissioners in response to their Feb. 12 letter about the EPA's preferred cleanup plan at the CFAC site. "We appreciate that you want to ensure the future protectiveness of the Flathead River and you want the community to have an opportunity to provide input," Balliew wrote. "We share those same goals, and we want to see the cleanup progress to protect human health and the environment. In your letter, you outline three concerns." Regarding the commissioners' concern about potential impacts of the proposed cleanup plan to the Flathead River, lakes and the Columbia River, "the Proposed Plan would be protective of the Flathead River and downstream waters," Balliew wrote. The plan to enclose the West Landfill and Wet Scrubber Sludge Pond with a slurry wall and new caps, and construct a groundwater treatment facility "ranked highest when evaluating overall effectiveness, implementability and reduction of contaminant mobility," Balliew wrote. Regarding the commissioners' concerns about leaving waste in place at the CFAC site and how the Flathead community was engaged, Balliew used the same arguments and information provided in her March 7 letter to the Coalition. [215]

The Coalition For A Clean CFAC's steering committee traveled to Helena, Mont., on March 14, 2024 to meet with EPA and MDEQ leadership, including Carolina Balliew and MDEQ director Chris Dorrington. "It was a very productive meeting resulting in a newfound sense of cooperation and desire to work on a shared vision of success," Citizens For A Better Flathead reported in their newsletter. Coalition representatives also attended a

meeting of the Montana Legislature's Environmental Quality Council, which had scheduled an update on the proposed CFAC cleanup. The council was made up of twelve Montana legislators and four members of the public. EPA remedial project manager Matt Dorrington presented a summary of the EPA's preferred cleanup plan, followed by MDEQ remedial project manager Dick Sloan and Katherine Hausrath, an attorney for the Montana Natural Resource Damage Program. [216]

Four Coalition representatives provided public comments at the meeting, and the list of 1,400 petition signatures and 12 organizations representing 15,000 constituents was presented to the Council, the EPA, and the DEQ. "The response from the Environmental Quality Council members was encouraging, with the Council offering their help with our effort, as did individual members," the newsletter reported. The Council offered to draft a letter requesting a pause before the EPA considers issuing their Record of Decision on the proposed cleanup plan, as well as a letter of support to the Coalition for a Superfund technical assistance grant. "All parties are aware of the need for an agreed upon time-frame and shared vision regarding any pause in the process," the newsletter reported. "An exchange of ideas regarding this proposed pause are currently ongoing. We are very grateful that EPA and DEQ agreed to further explore this potential pause." [217]

The Montana Environmental Quality Council followed up on their promise on April 10, 2024 by voting unanimously to send letters to Congress and EPA Region 8 administrator KC Becker recommending a pause before making a final decision on the proposed CFAC cleanup plan. The Council's first letter suggested the cleanup plan fell short of the community's requests, and suggested the EPA consider removing toxic wastes rather than leaving them on-site at the CFAC site and containing them. The letter also asked the EPA to consider more local input. "We believe that additional time is needed to thoroughly assess the potential risks associated with the EPA's preferred clean-up alternative on this complex site and to explore an alternative (that) prioritizes off-site removal of contaminants," the Council said. "The Council believes that a made-in-Montana (or made-in-Columbia Falls) solution would foster a local sense of ownership and commitment, while adding flexibility and adaptability in case of changing circumstances." [218]

The Council's second letter supported the Coalition's application for a Superfund technical assistance grant. "The Council urges the EPA to approve the Coalition For A Clean CFAC's grant application and provide the necessary funding to support their important work," the Council said. "Investing in this study will enable their community to better understand and address the environmental challenges associated with cleanup of the CFAC plant and move towards a more sustainable and healthy future." Coalition board member Phil Matson said the pause was needed so the Coalition could finalize applications, hire an environmental consultant to review the remedial investigation and proposed cleanup plan, and involve the community in developing more ideas and strategies while continuing the process with the EPA and MDEQ. [219]

“We feel this Technical Assistance Grant will accomplish the goal of independent review and community engagement while keeping the timeline of the actual cleanup reasonable,” Matson told the press. “We all want to see the cleanup to take place sooner than later, but like I said, we only have one chance, and we need to do this right.” Matson acknowledged that the Coalition was facing deadline pressures, including the EPA’s plan to hold community meetings in Columbia Falls on April 24 and 25, which while valuable, could also be seen as a “rush to placate the community.” Matson added, “This two-day whirlwind tour is not in keeping with the community requests for open and independent analysis, and is not in line with the EPA’s own 2022 assessment, advising that the community would value having a neutral adviser who would tell them if the information the EPA shared is incomplete or not – especially entering into a proposed planned stage of long-term cleanup.” [220]

The $624 million to $1.4 billion estimate that EPA supervisor Carolina Balliew provided in her letters to the Coalition For A Clean CFAC and the Flathead County Commissioners soon made its way into the press. Previous wild guesses had hovered around $500 million for excavating the hazardous waste in the CFAC dumps and hauling it to an approved out-of-state landfill. This new estimate was significantly higher – at least 11 times higher at the low end than the $57 million estimate for containing the waste on-site behind slurry walls and new caps and constructing a groundwater treatment plant, and 24 times higher at the new estimate’s upper end. In fact, the upper end was nearly three times the previous speculative estimate. “But critics have their doubts about that roughly $57 million plan, claiming the wall could leak in the future and it still maintains the site as a waste dump ad infinitum,” Chris Peterson noted in the Hungry Horse News. “The site has been contaminated for decades. The first warning about cyanide came in the early 1990s, when the plant was still operating and the poison was found in the groundwater. It persists today – wells that are close to the West Landfill and Wet Scrubber Sludge Pond test for cyanide and fluoride levels well above safe water drinking standards. However, by the time groundwater reaches the Flathead River, cyanide levels are quite low, test wells have found, and in some cases are non-detect.” Mayre Flowers at Citizens For A Better Flathead noted that a recent meeting with the EPA in Helena, Mont., went well. “We were very pleased with their interest in seeing what we could do moving forward,” she said. The letter the EPA sent to the Coalition was placed on the Columbia Falls City Council’s March 18, 2024 agenda packet for public discussion. [221]

Former Columbia Falls mayor and former Flathead County commissioner Gary Hall responded to Peterson’s article with a letter to the editor. “One thing stands out that must be considered,” Hall said. “The proposed EPA action for cleanup of the site calls for containing the waste, all of the toxic waste sites on the property, for perpetuity.” Citing the existence of contaminated groundwater beneath the plant site and the EPA’s concerns about excavation and transportation hazards for removal of the waste, Hall added, “My point here is Glencore, who generates profits of billions of dollars per year from their other ventures, poisoned our beautiful Columbia Falls property and it’s OK to

leave it a desolate and dead property from here on, potentially poisoning not only our groundwater but our pristine river below. The costs for future health issues including cancers, etc. will be astronomical, and litigation costs if not properly taken care of now." The smelter site was contaminated for years, he said, "so the question that begs to be asked is: Is it really OK to leave the toxic waste in our community? I say no a thousand times over. Glencore can easily afford to do the right thing and remove the toxic waste by rail and do the right thing after making billions of dollars from the site and their very profitable other ventures. How dare them position themselves to leave a community devastated and worthless?" [222]

Speaking to the press, Peter Metcalf, a Columbia Falls resident, member of the Glacier Two Medicine Alliance, and board member for the Coalition For A Clean CFAC, took a similar tact in addressing Glencore's financial resources. He said the waste could be safely removed from the site while the cost, which would be covered by Glencore, not taxpayers, shouldn't be part of the EPA's remedial calculation. He noted that Glencore made $15.1 billion in revenue in 2023 and possessed sufficient resources to ensure the CFAC site cleanup was done correctly and completely. "The only ones who would benefit from a quick decision here are the corporations footing the bill," Metcalf said. "But how does moving forward for the sake of just moving forward benefit the community?" Metcalf noted he believed most people in the Columbia Falls area thought that when the CFAC site was designated a Superfund site, it would be thoroughly cleaned up, and the EPA's preferred cleanup plan to leave most of the hazardous waste in place came as a surprise. Metcalf also criticized the EPA for not doing more to keep the community informed, especially considering that the Covid pandemic made public engagement challenging. Speaking of the difficulties in persuading the EPA and Glencore to change their cleanup decision, Metcalf said, "We have one chance to get this right for the community." [223]

The Superfund cleanup process seemed to reaching a foreordained conclusion – the EPA could cite voluminous material from the remedial investigation and feasibility study in support of its preferred cleanup alternative, and a new cost estimate for removing the hazardous waste from the site had breached the billion-dollar mark, seemingly putting the removal alternative out of reach. The picture the EPA portrayed of cyanide gas and other deadly hazards posed by excavation and transportation was hellish. Then another CFAC Superfund story broke in the news – Mike Ruis, one of the most prominent developers in the Flathead Valley, a Columbia Falls High School graduate, and the only individual out of more than 100 whose comment supported the EPA's preferred cleanup plan, announced in early April 2024 that CFAC had agreed to sell 2,400 acres of its land to him for development. [224]

The sale included the still-standing warehouses and the former smelter site, but Glencore would continue to own the landfills and buffer land surrounding them, about 200 acres altogether. "The remainder of the property is an idyllic mix of trees and meadows that haven't been touched in decades," Chris Peterson reported in the Hungry Horse News.

Ruis' 40-year development plans for the CFAC property included affordable housing and a 100-acre park featuring baseball and softball fields, pickleball courts, a dog park and other amenities – but no golf course. He also wanted to attract industry to the site to provide the kinds of jobs that were lost from local timber mills and other industries closing over recent years. "If I can build an 1,800 square-foot house with a garage for $550,000… that's my target," Ruis said. His plans included providing owner financing for the homes, with low down payments and lower interest rates compared to a typical bank loan. [225]

Columbia Falls city water and sewer mains already ran close to the CFAC property, he noted. While a master plan was still in the works, Ruis envisaged building mostly single-family residences. "This area has the potential the city needs for affordable housing and growth," Ruis said. "Real estate prices in the Flathead Valley have skyrocketed in the past few years, putting the American dream of home ownership out of reach for many Montanans. We want to build houses at a better rate so more people can afford to live here." Glencore's CFAC representative, possibly its sole CFAC emplyee, Cheryl Driscoll, said the company was "pleased to announce the sale of the CFAC property. After an extensive investigation and consultation process spanning almost 10 years, we are excited to see what this area will become and for the Columbia Falls community to live, work and play here." [226]

The terms of the property sale were contingent on how the EPA and MDEQ finalized the details of a $57.5 million proposed cleanup plan that would contain rather than remove contaminated waste in on-site dumps. According to Ruis' press release, the real estate transaction was expected to close once the EPA released its formal Record of Decision on the EPA's and MDEQ's preferred cleanup plan. Glencore officials said they had received numerous offers during the remediation investigation process from people interested in using the CFAC site, but Ruis was the first to conclude a deal. Glencore project manager John Stroiazzo explained that the sale did not include the 200 acres that the $14 million remedial investigation had identified as a source of groundwater contamination. "We are retaining ownership of that until the remediation work is completed and the EPA has signed off on it," he said. "It's not like we are going to sell and run. We have paid all our bills on time and there has never been a dispute over ownership or cost. We've reached a point in the process where we understand the site, and in my view, generally, and I think most folks would agree, that this is a good time to take the next step toward getting into remediation and redevelopment." [227]

Reaction to the property sale was mixed in the Flathead Valley community. Erin Sexton, a research scientist at the Flathead Lake Biological Station, who served on the CFAC Community Liaison Panel in 2016 and advocated for a Superfund designation, noted that a recent pre-assessment screen by the Montana Justice Department's Natural Resource Damage Program suggested "that those entities don't think the site is going to be sufficiently cleaned up." She added, "That is an important signal that stakeholders are not confident that Glencore is going to own the price tag in the event of future damages.

So who assumes the liability?" As for how Ruis' plans for the CFAC property could affect the cleanup process, Sexton noted, "I would hate to see the promise of redevelopment, of a situation that is very, very good news, somehow negatively affect our assurances that the property is cleaned up to the degree it needs to be." Sexton, whose family lived near Columbia Falls, said she understood the frustration of locals who wanted to see their community cleaned up and repurposed, but "waste-in-place isn't usually the most protective option over the long-term," particularly if the threat to the waste involved moving water. "Unfortunately, there isn't a hurry-up option when it comes to Superfund, and it isn't because the federal government is slow," Sexton said. "It's because they are legacy contamination sites. The pollution took a long time, and these sites take a long time to clean up and restore." [228]

Ruis was upbeat about the future of the property, including its industrial development opportunities. "I hope it's going to bring many jobs," he told a local TV reporter. "I'm not looking to get an Amazon distribution center that uses a lot of robots and stuff and not people. I want to get some kind of industry, that have blue-collar workers, which this town once was, having lumber mills and all, the aluminum plant — that's what I want back here." Regarding concerns about the proximity of Superfund wastes to homes, Ruis said, "It's going to be all regulated to make sure it's good. And any houses that we're building will not be even close to where the contamination was. We're talking seven years of monitoring wells in the right plan... It wasn't something overnight that someone didn't know, in the back room. It's been out there with the city, with the whole community." He emphasized the opportunity to promote new employment. "I want jobs. I want to just create a whole bunch of jobs. With jobs comes housing, with housing you need jobs, so they're both working hand in hand together. It's just a natural fit with the sewer, the water, the land, to have the growth go this way. And then with the industrial park being here to bring the jobs, it was like two marriages made in heaven," he said. [229]

Dana Barnicoat, a community involvement coordinator with the EPA Region 8, said the agency was aware the property sale might raise questions and concerns among the community about the future of the cleanup, but she assured the public that the sale would not affect the ongoing Superfund process or the review of public comments on the proposed cleanup plan. "The EPA wants to reassure the public that we will continue to oversee and enforce cleanup of the site and ensure protectiveness of human health and the environment," she said. "If the sale becomes final, the EPA, in collaboration with the Montana Department of Environmental Quality, will work with both CFAC and the new owner to ensure the site meets all legal requirements concerning protectiveness and reuse." [230]

Peter Metcalf reacted to the news of Ruis' land deal with mixed feelings. While there was no denying that the Flathead Valley needed more housing, Metcalf wanted the EPA and those responsible for CFAC to proceed cautiously and ensure that today's remediation decision did not cause problems decades later. He believed the best way forward was to clean up the CFAC site now. "Will people really want to buy a home next to a toxic waste

dump?” he asked. “Or do they want to buy a home next to a site that had been cleaned up properly?” [231] Phil Matson noted that Ruis’ announcement made a pause on the cleanup decision “more crucial.” Offering affordable housing “was possibly a good twist in the saga,” but Matson worried that the offer might affect the cleanup decision process. “As we’ve argued before, this position seems counter to the best interests of both the buyer and the community,” Matson told the Montana Environmental Quality Council on April 10, 2024. “Why would anyone want to buy a home next to a toxic waste dump or invest in the commercial enterprise without greater assurances? The cleanup will provide safeguards to address the residential use.” [232]

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