

Chapter 66

Crunch time

On Jan. 10, 2025, the Environmental Protection Agency's Region 8 office released their record of decision for the Superfund cleanup at the former Columbia Falls Aluminum Co. smelter plant in Montana. The decision document came nearly seven decades after the Anaconda Company dedicated the brand new smelter on Aug. 15, 1955; sixteen years after the plant last smelted aluminum on Oct. 30, 2009; a decade after the smelter's Swiss-based owner, Glencore, announced its permanent closure on March 3, 2015; a decade after the plant was placed on the National Priorities List for Superfund sites in the U.S. on March 24, 2015; and two years after a remedial investigation and feasibility study of the Superfund site was completed and the EPA announced its selection for a preferred cleanup plan on June 1, 2023. By the time the EPA announced its decision, the cleanup plan was well known to stakeholders and concerned citizens, but the agency's intent to leave the worst contaminants in place, predominantly cyanide and fluoride, to be contained in their original landfills by a slurry wall and protected by a low-permeability cap, didn't sit well with many local residents.

In their press release, the EPA said the record of decision "represents a significant milestone in ongoing efforts to address contamination at the site and ensure the long-term health and safety of the community and environment." EPA Regional Administrator KC Becker described widespread support for the decision. "This cleanup plan reflects years of collaboration and is a crucial step in finalizing a comprehensive set of cleanup actions that will protect the health of the community and the environment," she said. "In partnership with Montana DEQ and the Columbia Falls community leaders, we have worked to ensure public participation and transparency throughout the process. We are moving forward now to get the cleanup underway, protect the Flathead River, and move towards a safer, healthier future for everyone who calls the Columbia Falls area home." Montana Department of Environmental Quality Director Sonja Nowakowski expressed confidence in the decision. "DEQ's highest priority, for any Superfund site in Montana, is that the selected remedy be protective of human health and the environment," she said. "We are confident that the plan announced today will meet those criteria, and DEQ will work with stakeholders and the EPA to ensure that the cleanup is successfully implemented." ¹

The record of decision "marks a transition from the investigative phase to the cleanup implementation stage at the site, informed by years of comprehensive scientific research and active public engagement in coordination with DEQ," the EPA said in their press release. "The RECORD OF DECISION establishes a framework for future cleanup actions to protect the Flathead River and reduce risks to the Columbia Falls community and environment." The next step for the EPA and the DEQ was to finalize a consent decree with the potentially responsible parties, thereby ensuring that cleanup actions proceeded as

planned. The EPA described efforts taken to keep the public informed about the process that led up to the record of decision, and promised that the EPA and the DEQ “are committed to working closely with the community throughout the cleanup process.”²

The EPA seemed to acknowledge the public controversy over its proposed cleanup plan by its choice of words in Part I of the 432 record of decision document, the “Declaration.” Under the subsection “Statutory Determinations,” the EPA stated the following:

“The Selected Remedy meets the mandates of CERCLA §121 and, to the extent practicable, the NCP (the National Contingency Plan). It is protective of human health and the environment, complies with all federal and state requirements that are applicable or relevant and appropriate to the remedial action, is cost effective, and uses permanent solutions and alternative treatment technologies to the maximum extent practicable.

“The Selected Remedy does not satisfy the statutory preference for treatment to address principal threats posed by a site. EPA determined that the site source materials do not represent a principal threat, thus eliminating the expectation for treatment of these source materials. The source materials can be reliably contained and present a relatively low risk in the event of exposure.

“Because the remedy will potentially result in hazardous substances remaining onsite above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within 5 years after initiation of the remedial action, and at a minimum of every 5 years thereafter, to ensure that the remedy is or will be protective of human health and the environment. The five-year reviews will focus on areas where waste is capped and contained onsite and on the site’s groundwater, surface water and porewater quality as evaluated under long-term monitoring.”³

At this point in the Superfund process, the record of decision essentially marked the end of public debate about whether the contaminants would be excavated from leaking landfills and hauled away to an approved out-of-state dump. But the EPA noted in its press release that the consent decree made with the potentially responsible parties, Glencore and ARCO, “will be open for public comment before finalizing.” The EPA and DEQ estimated that the “actual cleanup activities, once initiated, will take two to four years to complete.”⁴ In many ways, the fate of the shuttered aluminum smelter seemed sealed, its buildings and infrastructure for the most part demolished and sold for scrap, much of the surrounding buffer land subject to a pending real estate deal. But for many in the public, the cleanup plan didn’t seem so certain.

Continued grassroots opposition

By spring 2024, opposition to the EPA’s preferred plan to contain contaminants onsite rather than haul them to an out-of-state landfill came in the form of letters to local newspapers and the action of two grassroots groups – the decades-old Citizens For A Better Flathead and the newly formed Coalition For A

Clean CFAC. But voluminous studies and data in the remedial investigation and feasibility study, along with a \$624 million to \$1.4 billion cost estimate for excavating and hauling away the smelter plant contaminants in the West Landfill and the Wet Scrubber Sludge Ponds, seemed insurmountable – even if some critics of the EPA plan thought the estimate unrealistic, even a fantasy. By summer 2024, both the Flathead County Commission and the Columbia Falls City Council seemed inclined to accept the EPA’s preferred cleanup plan. Adding to that government support, Columbia Falls developer Mick Ruis announced in April 2024 that Glencore had agreed to sell him 2,400 acres of the CFAC site for construction of affordable housing, a 100-acre park featuring baseball and softball fields, pickleball courts, a dog park and other amenities, and small industry. Despite all these twists and turns, letters to local newspapers in opposition to the cleanup plan continued.

In an April 21, 2024 letter, Jim Vashro, a fisheries biologist for 39 years at the Montana Department of Fish, Wildlife and Parks, detailed his concerns about the company that still owned the CFAC Superfund site. “A foreign company, Glencore, with a troubling track record of poor corporate responsibility, has major holdings in the headwaters of both the Kootenai and Flathead drainages,” Vashro said. “The Switzerland-based multinational conglomerate Glencore is responsible for cleaning up legacy pollution from the Columbia Falls Aluminum Company plant on the Flathead River at a cost of nearly \$1 billion, according to recent Environmental Protection Agency estimates. It is also attempting to acquire coal mines in British Columbia which are releasing elevated amounts of selenium into Lake Kootenai. An independent study found that cleaning up that mess may cost \$4.7 billion.” As the former regional fisheries manager in Kalispell, Vashro could “attest that both river systems – the Flathead and Kootenai – don’t need any more pollution. Pressures from increased population, climate change and other factors are already stressing our fish populations.”⁵

Vashro didn’t hold back his criticism of Superfund site’s owner. “Glencore has a mixed history of corporate responsibility,” he said. “A recent report from the government of British Columbia shows the company is under bonded on mines it owns in the province, and its guilty plea on foreign bribery and market manipulation charges in the United States related to contracts and fuel-oil price fixing resulted in a \$1 billion fine.” Vashro pointed out that “Montana derives no jobs or significant economic benefits from either CFAC or the mines in Canada, just pollution. As Montanans, we try to balance conservation and natural resource development, but in this case the scales are tipped in favor of a foreign company.” His solution to this troubling situation? “We need to make sure the processes that are underway – both a complete cleanup of CFAC overseen by the EPA and the bilateral U.S.-Canada IJC referral for the Kootenai River – deliver real results for Montana,” he said. “Montana must have a seat at the table in both cases to ensure we don’t get left holding the bag.”⁶

Glencore’s acquisition of a 77 percent interest in Teck Resource’s metallurgical coal mines in the southeastern Kootenay Range of British Columbia was approved by Canada’s Minister of Innovation, Science and Economic Development on July 4, 2024. Glencore paid \$9.5 billion for the Elk Valley Resources mines. The government’s quick approval of the sale drew attention from environmental groups. “The federal government’s approval of the sale of Teck Resources’ coal operation to Glencore –

announced without warning nearly three months before its deadline – came with vague conditions the government claimed would assure Canadians their wallets and the environment would be protected,” the groups said in a press release accompanying a report describing Glencore’s record as “scandal-filled.” The report warned that Glencore’s operation of the British Columbian coal mines had implications for those concerned about selenium pollution on both sides of the B.C.-U.S. border. Decades of coal mining in the Elk River Valley left the river with high levels of selenium, which can be toxic to fish. Teck had already spent more than \$1 billion trying to neutralize selenium in the Elk River Valley, but the report noted, “The reclamation security Teck left for cleaning up the mine sites is likely billions less than the estimated cost of reversing the selenium contamination over coming decades.” Glencore responded to the report by saying, “Glencore is committed to operating ethically, responsibly, and to contributing to socioeconomic development in the countries where we operate. We have made significant commitments to the Canadian government aimed at ensuring the transaction is of lasting benefit to Canada and British Columbia including in relation to employment, the environment and engaging constructively and meaningfully with the Indigenous Nations in the Elk Valley.”⁷

George Ochenski, Montana's longest-running columnist and a longtime environmental activist, wondered in an op-ed whose side Montana Gov. Greg Gianforte and Montana Attorney General Austin Knudsen supported when it came to corporate pollution. Ochenski brought up the same two sites as Vashro had, Teck Coal in British Columbia and CFAC in Flathead County, both owned by Glencore. When the Montana Environmental Information Center sued the Montana Department of Justice for documents about communications with Teck Coal, the agency told the environmentalists they’d have to pay thousands of dollars to access the public records. Citing the right-to-know provision in the Montana Constitution, Ochenski said, “There can be nothing in communications between Montana’s Attorney General and a foreign mining company that could possibly be considered ‘individual privacy.’ The ‘merits of public disclosure,’ however, are evident. With the very future of our public waters and fisheries at stake, you bet Montanans want know what our attorney general is discussing with a corporate polluter.” Ochenski went on to describe efforts by the Coalition For A Clean CFAC to get contaminants removed from the shuttered aluminum smelter site, and by citizens in Deer Lodge to get toxic tailings removed from the Arrow Stone city park. “If you’re noticing a pattern here, that’s because the record is clear: Both Gianforte and Knudsen are increasingly siding with corporate polluters over the people of Montana, the very people they were elected to serve,” Ochenski said. “Which is why it’s no surprise that more and more Montanans aren’t willing to take fake cleanups and are asking: Whose side are you on – the polluters or the people?”⁸

Mary Jane Barrett, a certified nurse and case manager in Whitefish, followed up this criticism of Glencore in a letter citing the Aug. 25, 2021 ruling by federal district court Judge Donald Molloy that divvied up the cleanup bill between Glencore and ARCO. She also cited health impacts to local residents. “It is time for CFAC and ARCO to fulfill their responsibility and pay up for polluting Columbia Falls,” she said. “Stop the dodging, delays and deferring. The cluster of cancers coming out of Columbia Falls needs to be under the microscope.” She cited personal experiences in 1990 and 1991 when she worked as a registered nurse in a local medical clinic where cancer patients were diagnosed and treated. “Over time,

it stood out to me that there were clusters of cancers coming out of the Columbia Falls area, specifically children and adolescents,” she said. “It became so obvious as months passed that I became alarmed.” Barrett said she wrote to a Ph.D. candidate interested in conducting an epidemiology study related to possible pollution by CFAC and to Sen. Conrad Burns, R-Montana, but found no interest from either in pursuing causes for a suspected cancer cluster. “As we all know, what transpired is that the CFAC plant is now a Superfund site,” she said. “It is reasonable to question a connection. And the polluters, CFAC and ARCO, are trying to plead that cleaning and hauling the contamination out of Montana is too expensive. Is it too expensive to remove carcinogenic material so that innocent families and their children do not suffer life-taking and life-threatening cancers? How do you price that out?”⁹

In an op-ed in late April, Mayre Flowers, a founder and former executive director of Citizens For A Better Flathead, writing as a member of the Coalition For A Clean CFAC, urged local residents to attend an upcoming public meeting with representatives from CFAC and Glencore. “This is a vitally important opportunity to not only ask questions at two half-days of listening sessions and presentations, but to let CFAC, EPA and Montana DEQ know, through your packed-room presence, particularly at their two evening meetings, that you, and the community at large, want their support in providing more time to study, explore and find a path forward for a more comprehensive cleanup of the CFAC Superfund site,” she wrote. “Glencore is one of the world’s largest global multi-billion-dollar companies dealing in the sourcing and marketing of metals and minerals worldwide,” she added. “They own and previously operated the Columbia Falls Aluminum Co. smelter northeast of Columbia Falls for many years, until they closed it.” Flowers noted that some 1,500 people had signed the Coalition’s petition requesting a pause in the decision-making process. “There have been years of meetings,” she said. “This is not the time to give up, but to rather once again speak up loud and clear for a clean CFAC and a brighter future. Your presence will speak more loudly than any one voice. Please make it a priority to attend.”¹⁰

Roger Hopkins, a former mayor and city manager of Columbia Falls, provided a lengthy analysis in a letter to the editor that same week. “Whew! Enough already! In the words of the late, great John Lennon: ‘Just gimme some truth!’” he wrote. Hopkins cited the Coalition For A Clean CFAC’s claim that too many unanswered questions remained to allow one of the last best places in Montana to be at risk. “Yet, in the latest iteration of the ongoing debate to determine the best way to treat the pollution, a newsletter from CFAC suggests truth is being manipulated by Coalition members,” Hopkins noted. “Without getting into the citations in the CFAC/Glencore mailing of what the Coalition has allegedly misstated, it seems the company’s suggestions beg for the process to be halted in order for these ‘false allegations’ to be reviewed.” He added, “Knowing some of the Coalition members personally, I have no doubt that should it be shown their allegations are indeed false, they will be the first to apologize and correct the record.”¹¹

But there was a flipside to this analysis, Hopkins continued. “That said, it’s possible that the alleged ‘misinformation being perpetuated by the [Coalition]’ is due to a lack of information and answers to the Coalition’s questions,” he noted. “It’s also not unreasonable to believe that the powerful and wealthy owners and stockholders of Glencore could be putting their influence and public relations experts to the

task of supporting the least expensive solution to their pollution problem: a slurry wall and ‘waste in place.’” Hopkins labeled CFAC’s claim in its recent eight-page newsletter, about a slurry wall built at the World Trade Center surviving the 9/11 terrorist attack, “a troubling comparison at best; specious at worst.” The good news, Hopkins noted, was the EPA’s willingness to delay its record of decision and to hold additional public meetings. Hopkins pointed out that “members of the Coalition did not attend any of the (Community Liaison Panel) meetings held during the last eight years. This echoes critiques about the Coalition’s efforts heard in public and private conversations: where were the Coalition members early on in the review process; why, at this last minute, are these concerns being heard?”¹²

According to the Flathead Beacon, nearly 90 people attended the evening meeting in Columbia Falls on April 24, 2024, which lasted three hours as members of the public posed questions and raised concerns about the EPA’s preferred remediation plan. Matt Dorrington, the EPA’s remedial project manager for the CFAC Superfund site, said he fielded questions from about 45 additional residents who trickled in throughout the afternoon during an open-house style engagement session. “I’ve spent all day talking, and my legs and knees are killing me, but it’s exciting,” he said. “I’m excited about the renewed interest, and that’s what we’re responding to.” Some members of the public questioned Mick Ruis’ plan to build homes on the 2,400 acres Glencore might sell him. “What Mr. Ruis decides to do after he buys it will be his business, not ours,” CFAC project manager John Stroiazzo told the audience. “We’re just going to sell it, and it’s going to comply with the law, it’s going to comply with the regulations. His activities will have to comply with local zoning laws, but he will have multiple options – recreation, residential, commercial, industrial – whatever he chooses. But it’s all dependent on this plan.”¹³

Dorrington said claims that the EPA passed over the alternative to excavate and haul away contaminants from the West Landfill and the Wet Scrubber Sludge Ponds because of high costs were not true. Remediation alternatives were ranked and evaluated in an early screening phase and then dismissed due to a range of factors, including risk to human health and safety. “It’s the implementability and effectiveness that moved offsite disposal off the table and from future consideration,” Dorrington said. “There’s an entire page in the proposed plan that talks about all the reasons that offsite disposal is not a good idea. It was talked about and has been talked about at length, so I’m frustrated to hear this discussion come back to costs when that’s never been the agency’s position. That alternative was not eliminated solely because of costs.” The removal process would require 60,000 truckloads or rail containers passing through 30 communities en route to the Arlington, Oregon landfill, amounting to 70 trucks or trains per day over the course of four or five years “with associated noise, dust, congestion, traffic issues, and delays from railroad crossings.” On top of that were health risks to workers loading and unloading trucks with spent potliner and potential traffic accidents and fatalities likely to occur based on Federal Highway Administration statistics. “There are serious risks associated with offsite disposal,” Dorrington said. “Now, are they risks that we can mitigate? Sure. But I wouldn’t want my son working on that site.”¹⁴

Dorrington also explained the step-by-step process that the EPA and environmental consultant Roux took to screen every possible cleanup scenario and all the available technology before choosing a

preferred alternative. The public, however, wanted to know what would happen if the slurry wall containing the West Landfill and Wet Scrubber Sludge Ponds failed. What would happen if decades from now the slurry wall gave out and the contaminated groundwater plume migrated into the Flathead River? This was not an idle question – four of 86 slurry walls employed by the EPA at sites around the U.S. had failed. “We know that this system will not fail,” Peter Deming, a retired consulting engineer with 35 years of experience working on Superfund sites, assured the public.¹⁵

Jim Peacock, a science teacher at Columbia Falls High School, disagreed. He compared the containment proposal to an upside-down bucket placed over the leaky landfill – nothing could infiltrate the dump from above because of the impervious cap, and nothing could move laterally through the dump because of the bentonite-clay slurry wall, but the weakness lay where the bucket joined a geological formation 100-some feet below – the aquitard. “Water is our enemy in this situation,” Peacock said. “And basically, we’re putting a bucket over the site so that no water can get in or out. The bottom of the bucket is still open. And we said that the failure point for the slurry walls depends on how well you can tie into an aquitard.” Peacock noted that most of the subsurface material at the CFAC site was unconsolidated glacial till deposited during the last ice age, material that couldn’t be relied upon on the permeability scale. “These are questions I don’t see answered anywhere in the plan, and from what I am hearing from you so far is that’s the part that still is requiring lots of investigation,” Peacock said. He also questioned whether Glencore lacked the funds to pay for removal of the contaminants. “Glencore is a company whose global profit is in the order of twenty-some-billion dollars a year, and here we’re worried about something that’s maybe \$624 million over a six-year period,” he pointed out. “My math tells me that’s about 50 cents to every \$2, so cost should not be an issue especially when we’re talking about community health and something that has to last us hundreds of years.”¹⁶ His wife Heather Peacock commented on the \$57 million estimate for the slurry wall proposal. “My own child’s cancer treatment was \$5 million,” she said. “I’m asking you to look at the site for the sake of those that live here. We’re not just numbers.”¹⁷

Deming agreed with Peacock’s bucket analogy but noted that engineers would test the glacial till to understand its permeability, and refine their modeling of the groundwater plume’s movement, changing chemistry and response to the fluctuating water table. He also said the containment cell would be designed and constructed in a manner that maintained an inward flow of groundwater, by pumping, and that contaminated groundwater would not have an opportunity to migrate out of the cell. “While it may sound that we don’t know yet, we know it’s a sure thing. An absolutely sure thing,” Deming assured the public. “You’ll keep the bottom of the bucket tight if you keep the water level low enough inside the site, because then instead of the water going out, all of the outside water wants to come in. You just sip the straw enough to keep that going. That’s the bottom of the bucket. But we’re going to test it, we’re going to understand it, we’re going to have models that help us understand how it works, and I think your concerns can be addressed.” Dorrington pointed out how extensive work was still needed before the plan design could be executed, adding “that is the purpose of the design, to reduce or eliminate those uncertainties as you go towards a final implementation. But enough work has been done to say this is the best cleanup alternative.”¹⁸

Deming said engineers would make about 19 borings around the West Landfill to determine the depth of the aquitard. He said current tests estimated it was about 100 to 105 feet down. The key to success with the slurry wall was how the 3-foot thick wall tied in and adhered to the aquitard so the containment cell didn't leak. As for public concern about earthquakes, Deming said the slurry wall would be flexible. "This is the best wall you can buy for an earthquake zone," he noted. He pointed out that the four slurry walls that failed in the past around the U.S. didn't tie into the aquitard correctly.¹⁹

According to the Hungry Horse News, the EPA made a strong case for containing the contaminants in place at the CFAC site. To excavate and remove the contaminants from the Superfund site, about 1.2 million cubic yards of waste would need to be excavated and hauled away, Dorrington said – and removing all of the contaminated soil from the decades-old West Landfill would be impossible. "There will always be some level of contamination," he said. "Could you get 80-90%? Maybe." Digging up the West Landfill also would expose spent potliner to rain, which could cause cyanide gas to be released, endangering workers, he noted. Furthermore, digging up the landfill would result in a large hole that would need to be filled. Once the waste was dug up, "You've got a massive pit full of water," Dorrington said. Fill costs, he added, were not included in the estimate for the removal alternative. In addition, before contaminated waste could be put into trucks or rail cars, it would need to be spread out on the ground and treated, a process that could take years.²⁰

Peter Metcalf, a Coalition For A Clean CFAC founder, brought up another unknown at the April 24 meeting – corporate responsibility and the extent to which ARCO, a subsidiary of BP America, and CFAC, a division of Glencore, would be held accountable. Who would be responsible, for example, if the slurry wall failed 40 years in the future, he asked. "Glencore will be liable for the cleanup of this site," Dorrington replied. "In terms of long-term liability and responsibility for this site, Glencore will always be responsible for that footprint and what happens in there. The condition of the cap, the performance of the slurry wall – they are responsible financially."²¹ A letter from Metcalf and other Coalition members was published in the Flathead Beacon the next week. "What a community we are privileged to be part of! Thank you to the 250-plus Columbia Falls and Flathead Valley residents who showed up to learn about and express your concerns about the proposed plan for the cleanup of the CFAC Superfund site." They thanked the EPA and DEQ for presenting information, answering questions and listening "deeply to our concerns during the two open houses and evening presentations." They also thanked CFAC and its contractors for their participation. "While we learned a lot from these sessions, we came away with more questions, as we are sure many of you did as well," they said. "Time to make a list of those questions, and we will be reaching out for your feedback in the near future to help us develop the focus of some future meetings."²²

TASC grant and the Deep Dive

Mayre Flowers called the April public meetings in Columbia Falls encouraging. "We very much appreciated being able to ask questions during the open houses and night meetings," she said. Additional good news came in an April 22, 2024 letter from the EPA informing Citizens For A Clean CFAC

that it would soon be receiving help through the agency's Technical Assistance Service for Communities program. Over time, the Coalition would be awarded a full TASC grant to fund its own technical advisor. The City of Columbia Falls used the same grant program when the proposed cleanup action was released in 2023. Karmen King, an advisor with EPA contractor Skeo Solutions, had met with the community and residents under the city's TASC grant and eventually came up with her own recommendations and suggestions for cleanup of the site. King did not reject a slurry wall remedy. The Coalition still had many questions about the cleanup and looked forward to working with an independent advisor, Flowers noted. "I think there's some real valid questions that need to be answered," she said. One involved the possibility of recycling spent potliner.²³

Roger Hopkins addressed the past work by Virginia-based Skeo Solutions for the city of Columbia Falls in a letter to the editor. "Two lines pop from that report. 'The community would value having a neutral adviser who would tell them if the information EPA shared is complete, especially entering the Proposed Plan stage of long term cleanup.' And this: 'Most participants suggested more people, community groups and organizations should be involved with the cleanup.' The report listed several specific groups and categories of individuals. Ironically, not on that list was Citizens for a Better Flathead, the group that spearheaded the effort late last year to organize the coalition."²⁴

The EPA initiated the Technical Assistance Services for Communities program in 2007 to ensure people living or working near a proposed federal cleanup site had the resources to participate "as informed partners in environmental discussions, problem solving and decision-making," according to the EPA. Skeo Solutions, an environmental consulting firm that specialized in advising communities on federal cleanup plans, came to Columbia Falls at the EPA's behest. Karmen King, a Skeo Solutions advisor, told the public at her first public CFAC meeting that her job was "to look at this plan through your eyes, as if this were my own backyard, but with my technical background," adding that "your institutional knowledge of this community is going to be imperative." King spent 33 years assessing ecological risks as an aquatic toxicologist and lived near two Superfund sites in Colorado while she worked on them. "I honestly do know what it's like to live with a Superfund site in my backyard," she said. "I know what it is like to sit in your chairs and feel helpless, like things are out of control and confusing and decisions are being made in another language. I am supposed to be a bridge to help span that gap between science and engineering and the community at large." King appreciated input from all members of the community, including former CFAC management. "This is what is assuring about this process. There are a lot of eyes on it," she said. "Trust me, on these complicated Superfund sites there is no arbitrary decision. These are engineered remedies and there is a basis for their selection. EPA and the state don't want to be here forever, they want to achieve success."²⁵

In early May, a Citizens For A Better Flathead email alert urged the public to attend the May 6, 2024 Columbia Falls City Council meeting and to ask the council not to reverse its position calling for removal of toxic contaminants at the CFAC Superfund site. "Please plan to attend so we can fill the seats in the council chambers," the email said, as if the Superfund process resembled a democratic decision determined by sheer numbers of people. According to the May 6 agenda, Mayor Don Barnhart wanted

the council to "review the (CFAC cleanup) process and determine if the council wishes to submit a letter of comment to EPA at this time." The email alert noted, "There is a rumor that some members of the council may now want to support leaving the toxic waste in place at the Columbia Falls Aluminum Company (CFAC) and supporting the proposed cleanup plan that calls for leaving the waste in place." The email alert suggested a goal of delaying a decision on the cleanup plan so more study could take place, especially in light of the coming TASC grant. "An initial grant up to \$50,000 is available to qualified community groups," the email said.²⁶

About a week after the Columbia Falls City Council met and did not make a decision on the CFAC cleanup matter, the possibility of a new Superfund site in Flathead County made the news. At that point in time, the only Superfund sites in Flathead County were the Burlington Northern railroad tie treatment plant on Flathead Lake in Somers, the BNSF rail yard in downtown Whitefish and the CFAC smelter site outside Columbia Falls. Several major pollution sources in Columbia Heights, east of Columbia Falls, had undergone cleanup in the past, but soil tests conducted in the Columbia Heights area in October 2023, at the site of the former Beaver Wood Products post and pole plant, showed levels of dioxins/furans at about 111 nanograms/kilogram. The background level in Montana for dioxins/furans was about 3.74 nanograms/kilogram, according to a Montana DEQ study in 2011. In the early 2000s, the same site was listed as a Montana Superfund site, not a federal Superfund site, but the EPA with its expertise oversaw the cleanup. EPA contractors treated about 40,000 cubic yards of soil contaminated with pentachlorophenol, a wood preservative and known carcinogen. Over time, unaware of the past cleanup, the site was re-developed, including at least one residential home where a family had been living for 16 years. With the high levels of dioxins/furans detected in 2023, the EPA said it was considering further cleanup of the Beaver Wood Products site.²⁷ In an email referencing the Beaver Wood Products cleanup, Richard Hanners, author of this history, asked Phil Matson at the Coalition For A Clean CFAC, "Does this prove that you can't trust the EPA to clear a site?" Matson replied, "Geez... I first only just heard about this during the recent Glencore public meetings, but this article sheds devastating details. And folks wonder why we get emotional and do not trust the government."²⁸

In a June 6, 2024 newsletter, Citizens For A Better Flathead provided an update on the CFAC cleanup. "First, we have been hard at work meeting regularly with EPA and DEQ to look for assistance in getting some technical experts to help us evaluate and understand the basis, or gaps in information needed, to justify leaving the toxic waste in place rather than removing it. Leaving the waste in place is still called for in the draft proposed cleanup plan for the CFAC site. The good news is EPA has heard us and you because you have taken the time to speak up and send comments... The EPA is providing us bridge funding to use an independent consultant right now who is very experienced in independently evaluating Superfund sites. We will be working with the consultant to craft what we are calling 'mutual learning' sessions, where we can all sit with independent experts and/or their findings to really understand why this cleanup plan was chosen and if there are sound alternatives to this plan or parts of this plan that should be reconsidered. Additional funding that will be available later this summer will allow us to hire an additional consultant to help with this funding."²⁹

Public tours of the CFAC Superfund site were arranged by the EPA for June 12, 2024. Each tour would last 30 minutes, and reservations were required.³⁰ In its report on the public tour, the Flathead Beacon rhapsodized on the site's grand setting. "For visitors to the rubble-strewn property, which is framed by Bad Rock Canyon, with Glacier National Park providing a scenic backdrop, it's hard to imagine that plans are underway to redevelop and repurpose the threadbare manufacturing site at their feet, transforming it back into a bustling center of commercial and industrial activity flanked by new neighborhoods and new single-family homes. It's harder still to imagine that a hotspot of toxic contamination lies beneath them, leaching into soils that should no longer be touched and groundwater that should no longer be tapped."³¹

CFAC Project Manager John Stroiazzo explained the source of contamination at the West Landfill to the tour visitors. "In the old days, they used to remove the bricks and bring them up to this landfill and just dump the bricks in the ground," he said. "Well, we discovered after some time that the cyanide and fluoride that was contained in the bricks started to leach out and contaminate the groundwater, so that led to some groundwater contamination which is the issue now at Columbia Falls Aluminum. It is pretty much the central focus point of the environmental remediation work that is going to be conducted on the site."³²

Matt Dorrington, the EPA's remedial project manager for the CFAC Superfund site, told visitors that contaminants that seeped into the Flathead River exceeded some DEQ standards for aquatic life, but "there is no contamination above background values in the Flathead River." Dorrington said the toxicity of the contaminants in the groundwater plume degraded as they migrated toward the river so that, even without treatment, they were below state standards for human health. "But they still exceed aquatic life toxicity criteria. That's what's driving the need for the cleanup," he said. Dorrington noted that no impacts to fish or other aquatic organisms by the contaminants had been documented, and water quality in the Flathead River met state and federal standards. Furthermore, he said, the feasibility study's analysis showed that the proposed remedy would reduce concentrations to acceptable levels in the seeps along the Flathead River without needing to remove the landfilled wastes.³³

When questioned about the long-term effectiveness of the slurry wall that would contain the West Landfill and Wet Scrubbers Sludge Ponds, Stroiazzo said a backup protocol called for installing eight pairs of extraction/monitoring wells (one within and one outside of the slurry wall) downgradient of the Wet Scrubber Ponds, with additional monitoring wells downgradient of the containment cell. The remediation plan also called for constructing a groundwater treatment facility. "All of our experts are quite confident that this will work quite well," he said. One of the tour visitors, Bev York, said her husband worked at the plant in the 1960s and she served on the CFAC Community Liaison Panel set up by Glencore in 2015. York said she wasn't surprised by the EPA's preferred remediation plan to contain the wastes because she had been participating in the public process. "They're doing everything they can to be thorough and transparent about this cleanup and do it legally," York said. "They're crossing all their T's and dotting all their I's." Another tour visitor, Laura Damon, said she still had concerns about the proposed cleanup plan, based in part on her career in the hard-rock mining industry and her

familiarity with its legacy of pollution. “My concern is that this plan calls for putting a bucket over the contamination and hoping that the bottom of the bucket doesn’t leak,” she said. “I’d just like to see more data that assures us that’s not going to happen.”³⁴

Among the tour visitors to the CFAC Superfund site on June 12 was Flathead County Commissioner Brad Abell. “I just felt I needed to know more and come up and see it hands-on,” he said. “I’d never been here, and I think I’ve been to the aluminum plant one time. I never worked here or anything. I just was trying to become more knowledgeable about what was going on up here.”³⁵ The Hungry Horse News also reported on the June 12 tour. “They’re fields of grass now, but years ago, the Wet Scrubber Sludge Ponds and the West Landfill were dumps for tons of waste potliner and water from about 1965 to 1990. The two sites are joined at the hip. About 50 acres total, the West Landfill is perched just above the sludge ponds,” the newspaper reported. “They are a source of contamination of groundwater,” Dick Sloan of the Montana Department of Environmental Quality told the tour visitors. The state first found cyanide and fluoride leaching into groundwater at CFAC in the early 1990s, he said. The two contaminants continued to leach into groundwater from the leaking landfill and sludge ponds. “Fortunately, it hasn’t reached the Flathead River in terms of impacting the river,” Sloan said. Test wells near the river showed very low levels of cyanide or non-detects altogether. Test wells near the dumps, on the other hand, showed levels well above safe drinking-water thresholds.³⁶

Skeptics among the tour visitors questioned how a slurry wall would stop the West Landfill and Wet Scrubber Sludge Ponds from leaking contaminants through the bottom of the proposed containment cell. Sloan said test wells at the site indicated the contaminants were found in fairly shallow groundwater, about 60 feet or less. A deeper impermeable layer called the aquitard separated shallow groundwater from deep aquifers. “None of the deep wells show any contamination,” Sloan said. But some tour visitors thought more soil and other geological testing should be conducted before work on the containment cell commenced and a record of decision was signed. “There will be opportunity for public input in the design phase,” Sloan responded. In addition to the containment cell for the West Landfill and the Wet Scrubber Sludge Ponds, soil from the North Percolation Pond would be excavated and placed in an industrial landfill already on the CFAC Superfund site, he said.³⁷

On the same day visitors toured the CFAC Superfund site, a letter to the editor by Daniel A. Siri ran in the Hungry Horse News suggesting politics impacted positions that leaders took on the CFAC cleanup. “It’s an election cycle and you can see and hear Montana’s politicians getting involved again,” he said. “Low water in Flathead Lake, Zinke and Daines all over it. A bridge repair in Bigfork, a photo opportunity for Zinke. Locals’ access to Glacier National Park, the big boys write legislation. But the most difficult circumstance in the Flathead Valley, the most sinister threat to public safety and the environment, they are all ghosts. CFAC, where are you fellas? Public health is public safety, where are you? Show up, lead. Get us the right decision, not the cost effective one for the company that left the mess. Stop the grandstanding and get your hands dirty.”³⁸

The EPA arranged for an informational open house about the CFAC cleanup throughout the day on July 17, 2024 at the Hub Downtown in Columbia Falls. Representatives from the EPA, DEQ and CFAC planned

to be there to answer questions and provide further information about the remedial investigation and feasibility study, but no formal presentations would be given.³⁹ In a letter to the editor prior to the open house, Mayre Flowers and Shirley Folkwein of the Coalition For A Clean CFAC, explained the Coalition's ongoing work and urged the public to attend the meeting. "The Coalition for a Clean CFAC is led by a small all-volunteer steering committee comprised of Flathead County residents with a variety of backgrounds and expertise," they said. "Our mission is to secure the comprehensive cleanup of the CFAC Superfund site for the health, enjoyment and economic benefit of the local community and the protection of the Flathead watershed."⁴⁰

According to Folkwein and Flowers, Matt Dorrington, the EPA's remedial project manager for the CFAC Superfund site, had challenged the public to look for critical information gaps within the technical documents compiled to support the proposed cleanup plan – gaps that could lead to a revised and more acceptable community cleanup plan. "Going deep is an essential next step in order for Columbia Falls and Flathead County residents to begin to really understand and raise meaningful questions about the proposed leave-the toxic waste-in-place cleanup plan," they said. "And going deep is exactly what the Coalition for a Clean CFAC is busy doing now, thanks to recent support-funding for consultants to help us track down and better understand the complex data that is buried within some 10,000 pages of technical documents, which are the supporting studies for this proposed cleanup plan."⁴¹

The effort that later was called the Deep Dive was paying off, Flowers and Folkwein said. "Already we are seeing some important issues that deserve additional review and are working hard to compile the research to support this call for some additional focused feasibility studies before the EPA moves forward with a final decision," they said. "What we need now more than anything is time from the EPA to do this work." The EPA so far had been supportive of the Coalition's work, further delaying its record of decision, and "acknowledging that community acceptance of the final cleanup plan is a benchmark that the EPA works hard to achieve," Flowers and Folkwein said. The Coalition planned to host mutual-learning opportunities in August, September and October to keep the community informed and to take additional input from people familiar with the CFAC site. "This deep dive into these records is spurred by the simple fact that the proposed leave-the-toxic-waste-in-place cleanup plan is failing to pass the public's widespread healthy skepticism that the current proposal will be protective, over the long-term, of the public's health, safety and welfare," they said.⁴²

Local governments tack to CFAC

The Coalition For A Clean CFAC's efforts to change the EPA's preferred cleanup plan took a major blow in July 2024 when the Flathead County commissioners agreed to send a letter to the EPA urging them to move forward with a record of decision based on the EPA's preferred cleanup plan. In February, the county had urged the EPA to pause a decision. During the commission's July 16 meeting, Mayre Flowers asked the commissioners to delay sending their new letter, but Columbia Falls Mayor Don Barnhart, testifying next, said he supported sending the letter. Barnhart noted he'd been involved with the CFAC Superfund process since 2015. Meetings were open to the public, and technical data on the site had

been available to the public for years. “If you don’t pay attention, things go by you,” Barnhart told the commissioners. During that time, CFAC meetings were attended by a handful of people and, despite numerous newspaper stories, public comment was often light to non-existent. The Superfund cleanup had only recently attracted more public attention. Barnhart said he polled the Columbia Falls City Council on July 15 and found that six of the seven councilors agreed the record of decision should move forward. Commissioner Brad Abell explained his vote. “I believe doing nothing is more risk to the environment than moving ahead,” he said.⁴³

After the commissioners’ meeting, Flowers expressed her skepticism about what happened. “Obviously it was a coordinated effort between the county, city and CFAC,” she said. But rumors about the Columbia Falls City Council drafting a similar letter at its July 15 meeting were not true, Columbia Falls Interim City Manager Clint Peters said. “That letter doesn’t exist yet,” he said. “The council didn’t take any official action on that item, and there was no true voice vote. It was essentially a discussion where six out of seven council members agreed via discussion that they preferred to see the record of decision soon and wanted to move forward... This was only a discussion, and no official action was taken.” The Hungry Horse News noted that it usually recorded city council meetings, but the reporter had to leave the July 15 meeting when the high school’s roof caught fire. Flowers said the city council should hold a public hearing before submitting a letter to the EPA, noting that the Coalition had a petition with about 2,000 signatures requesting for a more thorough cleanup at the Superfund site.⁴⁴

The Columbia Falls City Council sent a letter to Matt Dorrington urging the EPA to move forward with its record of decision for the agency’s preferred cleanup plan on Aug. 5. “The Columbia Falls city councilors and mayor have participated in the EPA process of declaring the Columbia Falls Aluminum Company site as a Superfund site beginning in the spring of 2015,” the letter began. “In the ensuing nine years, the mayor, councilors and former city manager have participated in the extensive public process, through the testing and evaluation phases as well as the comment period for the record of decision.” The letter acknowledged existing public opposition to the preferred plan. “While we understand community concerns over the ‘leave in place’ recommendation for a portion of the contaminated materials, we would like to see the record of decision issued so final engineering and actual cleanup can commence,” the letter said. “The city council recognizes that without the issuance of the record of decision, there is no cleanup activity at all; all cleanup work at the site is halted.”⁴⁵

The council noted in their Aug. 5 letter that they were acting on the community’s behalf. “The city council, on behalf of the community, continues to express their desire to see the site cleaned up,” the letter said. “We appreciate the additional steps that the EPA, with the utilization of Skeo Solutions, has completed to hold public meetings to inform the public on the process and findings to date as well as the record of decision process.” The council also noted how the Superfund cleanup directly affected the city. “The city’s stated concern has always been that of providing safe, clean drinking water to our community while cleaning up the site, as well as the impacts in the residential areas just outside the city, such as Aluminum City,” the letter said. “We do not believe that a do-nothing approach is in the best interest of the community.” The letter was signed by Mayor Don Barnhart.⁴⁶

Rachel Potter, a Columbia Falls resident and botanist who worked at Glacier National Park, and a founding member of the Montana Native Plant Society, expressed her appreciation for the EPA's funding for the Coalition For A Clean CFAC's technical assistance in an Aug. 6 letter to the Daily Inter Lake. She applauded the Coalition's work and plans for the future, but she criticized claims that opposition to the EPA's preferred plan only emerged recently. "CFAC and their consultants had five or more years to draft this plan, which was only released a year ago with a brief time for public comment," she said. "It is vitally important that we have time to understand this plan and get the input from some independent consultants. While I appreciate recent meetings that CFAC has held to answer the community's questions, I want to hear more than CFAC's general response that our experts think this is the best plan. I want to hear from independent consultants and community members taking time to study these plans in more depth than most of us have time for, and I plan to attend their upcoming meetings to learn more." She also expressed her dismay at the recent actions taken by the county commissioners and the city council. "I was deeply disappointed to learn that the Flathead County commissioners (with only a one-day notice on July 16) and the Columbia Falls City Council (with no public notice on their city agenda for July 15) voted at the end of their meetings to reverse their earlier support of this pause in the decision-making and sent letters to the EPA urging them to finalize their cleanup plans now," she said. "I think if either local government had asked for public comment, they would have been flooded with comments asking that they continue to support this additional study and review of the cleanup plan." ⁴⁷

Undeterred by the local government setbacks, the Coalition For A Clean CFAC continued with its public work, holding the first in a series of Deep Dive presentations on Aug. 20 and 21 at the new Glacier Gateway Elementary School building. Karmen King of Skeo Solutions and some Coalition members planned to present tentative findings from their research and take questions. "Public participation (that means you) and feedback are crucial for the EPA, who is the final decision-maker, to get the cleanup accomplished with the community's best interest in mind," the Coalition said in its announcement email. "The Coalition commends the Columbia Falls and Flathead Valley community for participation these past few months in the CFAC/Glencore-sponsored community meetings, where CFAC consultants presented their plan and arguments for primarily leaving the toxic waste in place. However, these Coalition-hosted meetings are designed to be different, as they will feature recent independent research and be interactive, with the opportunity for community members to raise and discuss questions and identify additional concerns." ⁴⁸

Coalition board member Phil Matson, an aerial photographer and GIS database manager at the Yellow Bay Biological Station since 2001, commented on his planned presentation in the Coalition's email announcement. "EPA's own research and survey of residents in 2022 demonstrated the public wanted assistance with having independent consultants review and help analyze some 10,000 pages of documents that are being used to justify Glencore's recommendation not to move this highly toxic waste," he said. "This toxic waste sits next to the Flathead River on glacier-till soils where large fluctuations in groundwater levels occur. This waste sits in unlined landfills, with a history of long-term seepage of unknown quantities of toxic chemicals moving slowly into the river, while the site also lies

along a fault zone prone to earthquakes and is subject to potential flood events. Does the cleanup plan satisfactorily address or mitigate these issues?” Shirley Folkwein, a Coalition founder, emphasized the importance of the interactive Deep Dive sessions. “This is an exciting opportunity for residents in the Flathead Valley to be heard”, she said. “We all live next to or downstream from the Flathead River, and making sure the toxic waste at the CFAC site is cleaned up is vital to us all and to future generations.”⁴⁹

The Hungry Horse News reported on the Coalition’s counter plan for the Superfund cleanup on Aug. 30. Instead of containing the contaminants in the leaky West Landfill and Wet Scrubber Sludge Ponds with a slurry wall and cap, the Coalition called for consolidating all exposed waste at the Superfund site in a new correctly designed and constructed landfill. According to the feasibility study, such a plan would cover 43 acres and cost about \$165.6 million, compared to the \$57 million estimate for the EPA’s preferred plan. The Coalition’s preferred alternative was not to ship the excavated contaminants in the West Landfill and Wet Scrubber Sludge Ponds out of state, as many members of the public hoped for, a plan whose cost estimate had ballooned to \$1 billion or more. But the consolidation plan would keep the hazardous wastes “high and dry” and away from groundwater, Mayre Flowers told the newspaper. Most of the Coalition’s recommendations were nothing new and came from studies already conducted for the Superfund site cleanup, she pointed out. The Coalition chose the consolidation plan after it made a “deep dive” into the cleanup documents with Karmen King and other experts from Skeo Solutions. “Most of what we recommend comes straight out of the plan,” Flowers said. The new landfill should only be used to hold waste from the CFAC Superfund site, she added.⁵⁰

Flowers also claimed the slurry wall technology proposed in the EPA’s preferred plan was unproven with the local soils, which were glacier till, a sandy, gravelly soil generated by glaciers that long ago covered the region. She noted that cleanup consultants considered using a slurry wall to contain hazardous wastes at the Kaiser-Mead aluminum smelter near Spokane, Wash., but rejected the slurry-wall plan based on concerns about its effectiveness. ARCO brought up a similar complaint in its arguments against using a slurry wall at the CFAC Superfund site. ARCO, however, as a former owner of the CFAC plant, was responsible for paying about 35 percent of the cleanup cost. Glencore’s consultants claimed the slurry wall plan would work, and tests would be conducted under EPA guidance for its effectiveness and depth requirements before proceeding with construction. Slurry walls have been used to contain hazardous wastes at landfills across the U.S., Glencore’s experts noted in the past. For his part, EPA project manager Matt Dorrington said he had not heard from the Coalition that they were endorsing an onsite hazardous waste landfill alternative.⁵¹

Meanwhile, Glencore expressed frustration about the delay in issuing a record of decision for the CFAC Superfund cleanup, as well as how the EPA was paying for technical help used by the Coalition more than a year after the public comment period for the proposed action had closed. Glencore noted that Flowers and Folkwein had eight years to attend numerous CFAC meetings and other events but didn’t begin to do so until recently. “What may have started as a well-intentioned attempt to accommodate requests to better understand the technical basis for the (proposed plan) has morphed into an effort by a handful of activists from outside Columbia Falls to use EPA contractors (that is Skeo Solutions) to

attempt to undermine the EPA's own proposed plan and restart the site analysis and decision making process to try to achieve their desired remedial outcome," Cheryl Driscoll of Glencore said in an Aug. 14 letter to KC Becker, the EPA Region 8 administrator. "This is an unproductive use of government resources, and any associated EPA expenditures are inconsistent with the National Contingency Plan and therefore not recoverable by the EPA." Glencore also noted that research and plans completed to this time were overseen and approved by the EPA and the state DEQ.⁵²

Richard Hanners, the author of this history, responded to the comments Driscoll made to Becker, as reported in the Hungry Horse News, with a letter to the newspaper. This is the letter in full:

"I found part of Cheryl Driscoll's comment on efforts by the Coalition For A Clean CFAC in your Aug. 30 article more than ironic. As the lone employee in the phantasma called Columbia Falls Aluminum Co., a fiscal fiction created by global commodities giant Glencore, Driscoll criticized the work of 'a handful of activists from outside Columbia Falls' in delaying the EPA's record of decision for the Superfund site. But neither Driscoll, a resident of Connecticut, and Glencore, based in Switzerland, live anywhere near Columbia Falls. This is typical behavior by a company started by Marc Rich, a renegade metals trader nicknamed 'Aluminumfinger,' and the man who taught the Russian oligarchs what they needed to know after the fall of the Soviet Union. On the other hand, Driscoll was correct in noting that the Coalition's founding members weren't much involved in the CFAC Superfund cleanup effort until eight years after public meetings began. As for consolidating all the hazardous waste in a specially constructed onsite landfill, the problem of digging up the West Landfill without killing or injuring the workers remains. If it's possible to dig up the West Landfill and put the stuff in a new hole in the ground, why not just put it on trains and haul it to the correct landfill in Oregon? The Coalition's suggestion might save Glencore a couple hundred million dollars, but who cares – they don't live around here."⁵³

Tired of waiting

By September 2024, letters sent to the EPA by state and local officials in support of the EPA's preferred cleanup plan and stating they wanted the EPA to move things along were thought to be having an impact. According to the Flathead Beacon's analysis, the cleanup process had receded from public attention until Mick Ruis announced plans to acquire 2,400 acres of CFAC land from Glencore for residential and light industrial development.⁵⁴ Now, federal, state and local officials were pressing the EPA for updates on the cleanup and to issue its record of decision. "Given the importance of this cleanup effort to the community, I request an update on the current status of the record of decision as well as a timeline for issuance of a final record of decision and any intervening steps that are necessary before the issuance," Montana Sen. Steve Daines told the EPA's Region 8 Administrator, KC Becker, in an Aug. 23 letter. "Since work can only begin on the recovery and restoration process of the Superfund site once the final record of decision is issued, this is an important timeline."⁵⁵

By that time, the EPA had received a June 21 letter from Montana Gov. Greg Gianforte, a July 16 letter from the Flathead County Commission and an Aug. 5 letter from the City of Columbia Falls – each

expressing support for the EPA's preferred cleanup plan as well as requesting an update and timeline for the issuance of a record of decision. "We appreciate the efforts and expertise that was brought to the table by the EPA and all stakeholders during this planning phase, and we are thankful for the careful deliberation that took place following our Feb. 12, 2024 letter requesting the EPA postpone a final determination," the county commissioners said in their July 16 letter. "Now, we respectfully urge the EPA to expedite the finalization of these plans, thereby enabling our community to begin the recovery and restoration process."⁵⁶

The EPA initially expected to finalize the record of decision by spring 2024, but the completion deadline was extended to fall 2024, then sometime between December 2024 and February 2025. "As we approach a record of decision for the site, we want to emphasize that a record of decision is just step five in the nine-step Superfund process, with ongoing community involvement throughout," Matthew Dorrington, the EPA's remedial project manager for the CFAC Superfund site, said Sept. 4. He explained that the unannounced change to the record of decision timeline, which did not require public notice, was caused by an update to the Superfund Enterprise Management System that Dorrington made months ago. "Only recently have our planning personnel cleared a rather large backlog of project updates in the SEMS system, which explains the apparent recentness of the schedule shift," Dorrington explained.⁵⁷

Glencore officials were not pleased by the delays, which they conceded might affect their pending real estate transaction with Mick Ruiz. "We were a little buffaloed to learn of the new timeline," Glencore project manager John Stroiazzo said. "We've been sitting around talking about this for way too long." Stroiazzo said the deal with Ruis was contingent on the EPA selecting its preferred cleanup plan in a timely manner, because having a cleanup plan in place provided a degree of certainty to a lengthy, complex and evolving cleanup process. "This option before us was selected because it is protective of human health and the environment, and it's the highest-ranked alternative identified by the EPA," Stroiazzo said. "It's head and shoulders above the other options. To have a deal to redevelop the site, we need to have certainty about what we are selling. With this option, we can say exactly how much land we will be able to offer, and we can determine the pricing and the terms of the deal. If the cleanup option changes, we might need to disturb more land, which would affect the property, and the deal would have to be changed at that time. What we know right now is that this option provides the least amount of risk to human health and safety, the least amount of risk to the environment, and the fastest schedule to get this property into the redevelopment phase."⁵⁸

Stroiazzo emphasized that the EPA's preferred cleanup plan had not changed, so there was no reason to hold up the release of the record of decision. "We have stated that from the outset. Could it impact the deal with Mr. Ruis? It could," he said. "The deal is predicated on the proposed cleanup plan going forward. The certainty of the deal is based on the proposed plan. If the plan is different, we have to turn around and reassess. We can't speak to whether Mr. Ruis will withdraw his offer, but we all agreed that a key part of the deal was the EPA's selection of the proposed remedy." In an Aug. 14 letter to the EPA, Glencore corporate secretary Cheryl Driscoll expressed her displeasure at the EPA helping fund the

Coalition For A Clean CFAC's community engagement efforts. She conceded that the Coalition "productively refocused public attention on the technical underpinnings of the plan" after a two-year gap between release of the feasibility study in 2021 and the EPA's selection of a preferred cleanup plan in 2024, but it was time to move on. "We believe that this process served the useful purpose of updating the public and is now complete," Driscoll wrote. "Consistent with that, you told us... that you had committed to support (the Coalition) and pause the record of decision development process through the end of August. We believe that EPA has satisfied any reasonable commitment to better inform the public about the technical basis for the plan." Driscoll characterized the Coalition's work as "an unproductive use of government resources."⁵⁹

Several weeks later, the EPA announced that the CFAC site's remedial project manager, Matt Dorrington, would be at the Columbia Falls City Hall all day on Sept. 18 to answer questions and provide information about the cleanup investigations and preferred cleanup plan.⁶⁰ The Coalition For A Clean CFAC and Karmen King from Skeo Solutions also made presentations that same day. Larry D. Williams of Columbia Falls and his wife were among the 40 people who attended the Coalition presentation. In a letter to the editor, he said he had attended most of the public meetings about the CFAC cleanup held over the past year and had reached some conclusions. "We are convinced that transporting these materials away compounds certain problems and is not practical for a variety of technical reasons that have been adequately explained," Williams said. "But there does appear to be an onsite alternative to the slurry wall solution that has been employed at some other sites for longer than the slurry wall solution. While more expensive, this alternative has at least the possibility, if not the likelihood, of being a technological solution of greater and more assured permanence. That is worth continuing investigation." He praised the Coalition's efforts to research the cleanup plan and inform the public. "It has been in some ways a rather thankless and tiring task the Coalition has undertaken, but citizens are taking note and are engaged as well as appreciative," he said.⁶¹

At the September open house, Matt Dorrington addressed problems he saw in the Coalition For A Clean CFAC's support for construction of a new and correctly designed and built landfill to hold waste from the West Landfill and Wet Scrubber Sludge Ponds. For one thing, he said, excavation crews could never remove all the waste in the old landfills to ensure a complete cleanup. "Now you have two sources" threatening groundwater, he said – the new landfill and the remains of the old one. That same problem existed for the alternative calling for excavation of the waste and hauling it out of state, he noted. In addition, excavation workers would be endangered by cyanide gas emitted by the waste. Dorrington explained that once the slurry wall was in place, engineers would know right away how well it was working because of test wells drilled both inside and outside the wall. He also addressed concerns about contamination leaking through the bottom of the containment cell, particularly where the slurry wall rested on the aquitard. But if the aquitard leaked, cyanide and fluoride should have shown up in the deep aquifer, he said, which test wells indicated never happened.⁶²

KC Becker, the EPA's Region 8 administrator, expressed her appreciation for state and local support of the EPA's preferred cleanup plan in a Sept. 10 letter to Montana Sen. Steve Daines. "The EPA is

encouraged by the July 16 letter of support from the Flathead County Commissioners with emphasis on how well the public engagement has been working over the last several months,” she said. “We are also encouraged to hear local (Columbia Falls) city officials recognize, and your Aug. 23 letter further recognize, our enhanced community engagement efforts. These letters from elected officials are indications that the EPA’s efforts, in collaboration with Montana Department of Environmental Quality, are reaching the broader community members and answering their important questions.” She noted that EPA officials would meet with the Confederated Salish and Kootenai Tribes and hold one more public meeting in Columbia Falls. “Once these engagements have concluded, the EPA will consider all input received and continue to move forward with the Superfund process. As we approach issuance of a record of decision for the site, we want to explain that a record of decision is step five in the nine-step Superfund process. A record of decision provides an overview of the site history and enforcement actions, community participation, site characteristics, land use, human health and ecological risks, and cleanup objectives. It describes what cleanup alternatives were evaluated and the results of the evaluation. Finally, it outlines the selected remedy for cleanup and how the cleanup meets statutory requirements,” she told Daines.⁶³

Becker also provided Daines a tentative schedule for cleanup of the CFAC Superfund site. “After a record of decision is issued, the EPA engages in negotiations with the potentially responsible parties and works towards entering a consent decree to implement the selected remedy at the site,” she told Daines. “The public has an opportunity to comment on the future consent decree before it is executed by a court. After the consent decree is finalized, remedial design begins, under comprehensive EPA and Montana Department of Environmental Quality oversight, and could take many years to complete. Remedial action will signal the start of the cleanup process and is expected to begin in 2027 and last roughly 2-3 years. EPA community engagements will be conducted through remedial design and remedial action, so we can continue to inform community members and stakeholders of site progress and expectations of next steps and be responsive to their questions and concerns throughout the Superfund process.” Sen. Daines responded to Becker’s letter on Sept. 23. “The cleanup of the CFAC Superfund site is of utmost importance to the communities near Columbia Falls, and I will continue to focus on ensuring that the process is prompt and transparent,” Daines said.⁶⁴

The Tribes call for stay

The public process for the cleanup of the CFAC Superfund site suffered a hiccup in October when the Confederated Salish and Kootenai Tribes wrote to KC Becker expressing displeasure with the EPA’s selection of a cleanup plan. The Tribal Council’s Oct. 8 letter expressed appreciation for an earlier visit by Aaron Urdiales, the head of EPA Region 8’s Superfund and Emergency Management Division, and Matt Dorrington, the regional project manager for the CFAC site. “We appreciate the commitment you made at the meeting to engaging in meaningful consultation with us on the CFAC Superfund process, and are following up with the promised written comments on both the Superfund process to date, and the proposed remedy for Glencore’s CFAC site,” the Tribal Council said. “We understand that the EPA has tentatively chosen Preferred Alternative 4, representative of a containment remedy, as opposed to a

treatment remedy, despite CERCLA's statutory and regulatory preference for treatment. We likewise understand that, at best, this remedy offers cost-savings to the responsible parties at the externalized cost of the environment continuing to receive pollution for at least 35-60 more years. We also note that Preferred Alternative 4 does not reflect the EPA's own scientists' conclusions (or the conclusions of the consultant) regarding the most effective remedy in terms of likelihood of stopping harmful pollution or in terms of timeliness." ⁶⁵

Noting that CSKT held treaty water rights in nearby waters, the Tribal Council stated its position on the EPA's preferred cleanup plan. "While we appreciate the agency's work and share a mutual desire to meaningfully remediate CFAC pollution, we disagree that all necessary diligence has occurred," the Tribal Council said. "For the reasons described herein, we request EPA stay any decision-making – including issuance of a record of decision – due to inadequate Tribal consultation, including inadequate CSKT involvement in site-related decisions, and specifically a failure to adequately evaluate the conceptual Preferred Alternative 4 remedy in terms of compliance with Clean Water Act surface-water quality criteria and our treaty rights in fishing and fish consumption, both based in the Flathead River and its tributaries." The Tribal Council expressed its displeasure about how the public process played out. "As background to our request for further Tribal consultation and a stay to any record of decision decision-making, and as we noted in our meeting, we have deep concerns about how the Superfund process has unfolded thus far. We think many, if not all, of those problems are a result of inadequate participation of the community, and specifically, inadequate tribal consultation." ⁶⁶

The Tribal Council noted that their Sept. 17 meeting with the EPA was only the second time Tribal officials and the EPA met in person since the CERCLA process began in 2015. "Two meetings and mailed letters does not fulfill the EPA's own directives regarding Tribal consultation," the Tribal Council said. "More specifically, any alleged consultation so far in the CFAC process has been inadequate to address our express and implied treaty rights to use and access natural and cultural resources within the landscape negatively impacted by the CFAC pollution." The Tribal Council added, "From our perspective, the EPA made a fundamental error in 2015 when they supported CFAC/Glencore in creating a company-run Community Liaison Panel. Many respected people declined to have a role in the Glencore/CFAC Community Liaison Panel because it marked a significant departure from EPA-sponsored Superfund community involvement, where the agenda-setting, participation and scope of the discussion are facilitated by the EPA and informed through direct community feedback to the EPA." ⁶⁷

The Tribal Council added that "the process to date has not included an objective process whereby the public and, importantly, CSKT have the opportunity to explore and discuss the potential future uses of the site, including the ability to exercise our treaty-reserved rights, which thereby dictates the level to which the site is cleaned up." The Tribal Council noted that problems stemming from a Glencore-led community process were clearly explained in Montana Sen. Jon Tester's May 3, 2022 letter to EPA Administrator Michael S. Regan. "We agree with these comments, and want to highlight a few in particular that demonstrate our lack of confidence in the process thus far," the Tribal Council said. "Sen. Tester noted that communities were rightly skeptical about the risks posed by leaving toxic waste onsite

where it could migrate into groundwater or surface water, pointing out that there were several waste-in-place remedies in Montana that are very close to rivers, including the CFAC site. Further, he noted that despite EPA assurances about the extent and mobility of contamination at some of these sites, subsequent state testing had raised serious questions about the assumptions made during investigations.” The Tribal Council provided Sen. Tester’s exact words about CFAC: “At Columbia Falls, community leaders have told me that their repeated concerns about the risks a potential waste-in-place remedy poses to headwaters have seemingly fallen on deaf ears,” and later, “The website for Columbia Falls includes a misspelling in the first few sentences explaining the site, and links through to the potentially responsible party’s non-government website to explain the Superfund process and remedial investigation. This does not inspire confidence that the EPA is treating this site with a high attention to detail and providing objective information to the public.”⁶⁸

The Tribal Council went on to explain its treaty rights to KC Becker in the Oct. 8 letter:

“As the EPA is likely aware, under the Hellgate Treaty, the United States guaranteed the Tribes that the Flathead Reservation would be set aside for our ‘exclusive use and benefit.’ ‘[T]he Reservation was a natural paradise for hunting and fishing.’ Through Article 3 of the Hellgate Treaty, the Tribes also reserved ‘the exclusive right of taking fish in all the streams running through or bordering said reservation,’ and ‘the right of taking fish at all usual and accustomed places...’ State and federal courts have confirmed the right of CSKT members to exercise their treaty-reserved rights to hunt, fish and gather in usual and accustomed places throughout the Tribes’ aboriginal territory. The landscape negatively affected by the CFAC pollution is undisputedly within our aboriginal territory, and the waters contaminated by CFAC flow directly to and through our reservation. The CFAC property itself is land that CSKT believed we had included in the Flathead Reservation during treaty negotiations, and that plays a central role in one of our oldest creation stories, as eloquently explained in the ‘Statement from our Elders on the CFAC Site,’ which we are appending to this letter because it is too long to incorporate, yet too important to abridge.”⁶⁹

The Tribal Council noted that, despite promises by the United States, it “often failed to live up to the terms of the Hellgate Treaty, including diminishing the Tribal land base by opening the Flathead Reservation to non-Indian homesteading and allotment of Tribal lands, constructing massive irrigation systems on Reservation lands that contaminate and dewater our streams and native fisheries and fish habitat, and sanctioning unmeasurable damages to water and water-related resources throughout our aboriginal territory, including the CFAC site.” The Tribal Council pointed out that legacy pollutants from the aluminum smelter were leaching into groundwater and, according to the EPA’s own cleanup studies, undisputedly flowing downgradient and discharging into the Flathead River and Cedar Creek. The Tribal Council noted that CFAC cleanup investigations found unnatural discharges of cyanide, arsenic, fluoride, nickel, selenium, benzo[a]pyrene, manganese, sodium, zinc and copper, among other concerning materials, entering surface waters to which the CSKT possessed treaty rights, and which held special cultural significance. “Our treaty right to take fish necessarily implies the right to eat that fish,” the

Tribal Council said. “In exercising its authority over the CFAC and CERCLA process, the EPA has an obligation to ensure that its actions are consistent with treaties, statutes, executive orders and other sources of law reflecting tribal reserved rights,” the Tribal Council said. ⁷⁰

More specifically, based on the available information, the Tribal Council believed that CFAC pollutants were being discharged in the Flathead River and Cedar Creek at levels exceeding applicable water-quality standards in near-shore reaches that provided rearing and foraging habitat for aquatic life, including salmonids such as the federally endangered bull trout and threatened westslope cutthroat trout, both of which held special cultural and ecological significance for CSKT. In addition, contaminated sediments posed a continuing source of pollution. “There has been inadequate analysis of impacts to aquatic life, and of the environmental or human health concerns that CFAC pollution may cause in terms of fish consumption by tribal members (or others), given the bio-accumulative nature of several pollutants discharging from CFAC into, ultimately, surface waters,” the Tribal Council said. Further investigation should be conducted by the EPA, not Glencore, they pointed out. “Specifically, before any draft CFAC remedy is selected through issuance of a record of decision, there must be an investigation of whether a preferred remedy will result in attainment of water quality standards and protection of our treaty rights to fishing, fish propagation and fish consumption,” the Tribal Council said. ⁷¹

Once a further phase of investigation by the EPA was completed, the Tribal Council expected the EPA to meet in person with CSKT officials to discuss the results and reassess the propriety of Preferred Alternative 4. “Doing so will help to ensure that the EPA’s actions at the CFAC site are consistent and compliant with 1) the EPA’s trust and treaty responsibilities to CSKT, 2) the EPA’s pledge to protect treaty resources, both on- and off-reservation, and ‘to enhance protection of tribal treaty rights and treaty-covered resources when [the EPA has the] discretion to do so,’ as you clearly do here, and 3) to the Biden Administration’s whole-of-government approach to advancing environmental justice that specifically directs the EPA to increase the flow of federal resources in many categories, including remediation and reduction of legacy pollution generally, and remediation of Superfund sites specifically, to disadvantaged communities, including tribes. The Tribal Council lastly noted that it needed additional funding to do the work needed to protect off-reservation resources, citing Superfund sites and other major pollution sites around the state of Montana. “All of these off-reservation contaminant sources constitute environmental justice issues, whereby pollution and damages are occurring to CSKT treaty lands and waters, created by large-scale extractive industries,” the Tribal Council said. “Addressing these contaminants sourced entirely outside of our reservation lands requires significant capacities across all of our departments, including cultural and natural resources, human health and legal. Yet, in many cases, we do not have the capacity to engage at the level necessary to successfully protect our treaty rights and resources.” ⁷²

The CSKT Tribal Council made known its letter to KC Becker in an Oct. 8, 2024 press release. The Tribal Council said the EPA’s proposed solution to contain the contamination onsite “would not treat or remove the contamination, but rather would leave it onsite in the floodplain, allowing contamination in the aquifer to continue leaching into the Flathead River for decades.” The Tribal Council requested that

the EPA “consult with the Tribes and evaluate proposed solutions to see which ones will meet Montana water quality standards for fish and aquatic life and protect the Tribes’ fishing and fish consumption rights in the Flathead River before making a formal decision on a remedy for the CFAC site.” CSKT Chairman Michael Dolson noted that the EPA made commitments to consult with Tribes and honor the Tribes’ treaty rights, including to engage in meaningful consultation with the Tribes on the cleanup remedy for CFAC. “Now it’s time for the EPA to turn those words into action and to work with the Tribes to ensure that the toxic waste at the CFAC site will not continue to harm the river, fish and our treaty rights into the future,” Dolson said.⁷³

Rich Janssen Jr., head of the CSKT’s Natural Resources Department, expressed concerns in the press release about toxic contaminants left in the ground at the CFAC site, and how cyanide, fluoride and heavy metals impacted the Flathead River and native trout. “But if there are not enough fish to harvest, or if the fish have bioaccumulated too many toxins to be safe for human consumption, our treaty-reserved rights are meaningless,” he said. “EPA must select a cleanup plan for CFAC that will permanently protect the Flathead River and the fish that live there, and ensure the river and fish survive and thrive for future generations.” The press release concluded by noting that Glencore had recently acquired five open-pit coal mines in British Columbia that were discharging pollutants into the Kootenai River and Koochanusa Reservoir in Montana, already reaching toxic levels for fish in the reservoir. “Glencore is now the single biggest threat to our treaty-reserved fishing rights,” Tom McDonald, CSKT vice chairman, said. “The EPA has been a great partner working to get Canada to address the pollution from Glencore’s mines in the Elk Valley. We expect the EPA to do the same here to address pollution from Glencore’s Superfund site in the Flathead Basin, particularly since the EPA actually has the authority here to protect our treaty-reserved rights.”⁷⁴

EPA responds to the Tribes

EPA Region 8 Administrator KC Becker’s response to the Tribes’ Oct. 8 letter ran to 11 pages. Becker noted that the Tribes had expressed a desire for “greater clarity and certainty about how the EPA’s proposed remedy will be protective of the environment and of the Flathead River.” The eight-page attachment included answers to the Tribes’ questions and concerns, she said. “The EPA shares the goal of cleaning up the site effectively and efficiently and wants to ensure we have taken steps to increase awareness and acceptance within the community, which includes affected Tribal communities, and hear their questions and feedback,” Becker said. “Tribal involvement creates better outcomes in the Superfund process, and the EPA values CSKT participation.” Becker offered the services of a technical expert to assist in understanding the complex documentation, funded and managed by the EPA but selected by the contractor. Becker also noted how the record of decision was only step 5 in a 9-step Superfund process, and the public would have an opportunity to comment on the final consent before it was executed in court. Remedial design work following the consent decree could take several years, and the actual cleanup work might take two years, Becker said.⁷⁵

The first point in the EPA's response to CSKT was that the National Contingency Plan, which governed Superfund cleanup operations, permitted containment remedies like the one in the EPA's preferred cleanup plan for the CFAC site. Furthermore, the preferred plan included treatment of contaminated groundwater, making it a modified version of Alternative 4 in the 2021 feasibility study. The wells installed inside the containment cell would initially be used for monitoring, but "if the slurry wall is not effective in stopping migration of the groundwater plume, they will be used to extract groundwater for treatment. If treatment is determined to be necessary, it would be seasonal and require much less volumes of groundwater to be treated compared to the downgradient extraction alternatives," the EPA said. In addition, "While the West Landfill is known to contain spent potliner, which is a listed hazardous waste, there may be many different types of wastes disposed in this landfill. This heterogeneity renders a remedy relying solely on treatment of these wastes impracticable." ⁷⁶

In the agency's second point, the EPA disagreed with the Tribes' contention that the preferred cleanup plan would result in the environment continuing to receive pollution for at least 35-60 more years. "This statement misunderstands the estimate for attenuation of the existing groundwater contaminant plume downgradient from the West Landfill and Wet Scrubber Sludge Pond," the EPA said. The feasibility study included a model used to calculate the time it would take for the existing concentrations of groundwater contaminants to be reduced below the remedial action objectives' concentrations through various attenuation processes, such as biodegradation, sorption, dispersion and dilution. "In other words, the environment (groundwater) will not continue to receive pollution for at least 35-60 more years under Alternative 4," the EPA said. "The 35-60-year estimate is the estimated time for attenuation processes to reduce the concentrations of cyanide in surface water and porewater at the Backwater Seep and Riparian sampling areas adjacent to the Flathead River to meet the remedial action objectives of being below the Montana DEQ-7 aquatic life criterion 'following elimination or full containment of the source.'" ⁷⁷

The third point in the EPA's response to the Tribes was that, "The groundwater preferred alternative does not externalize the cost of environmental pollution because offsite risk to human health and ecological receptors is below acceptable levels." This explained why the EPA's preferred cleanup plan did not call for treating the groundwater plume downgradient of where the slurry-wall containment cell would be constructed. "The analysis selected the interior groundwater treatment... noting that the additional \$30 million cost of downgradient groundwater treatment was unjustified because the human health and ecological risk from groundwater contamination is below acceptable levels," the EPA said. "There is no offsite human health risk, through direct contact with contaminated groundwater, when the contaminant plume is confined within the site boundary." In addition, institutional controls would prevent people from using the contaminated groundwater plume beneath the plant site. "The potential risk from surface water and porewater exceedances is limited to benthic invertebrate organisms which may be present in a groundwater-surface water mixing zone along the shoreline within and immediately adjacent to in the Backwater Seep Sampling Area, not the Flathead River," the EPA said. ⁷⁸

Fourthly, any site-related contaminants did not contribute unacceptable risk to fish in the Flathead River, the EPA told the Tribes. Three contaminants exceeded surface-water ecological-risk screening levels at the Backwater Seep Sampling Area and the Riparian Area – cyanide, barium and aluminum. But cyanide, barium and aluminum screening levels were not exceeded in surface water samples collected from the Flathead River. Arsenic, fluoride, nickel, selenium, benzo[a]pyrene, manganese, sodium, zinc and copper did not exceed screening levels at the Backwater Seep Sampling Area, the Riparian Area or surface water from the Flathead River, the EPA said. Furthermore, the remedial investigation did not find evidence of contaminated sediments in the Flathead River. Ecological and human health risk assessments, prepared under EPA direction and approved by EPA toxicologists, summarized and analyzed the potential effects of site contaminants on fish. “The test results indicate that cyanide and other contaminants had no significant toxic effect on the Fathead Minnow, and that 50 percent or greater dilution of discharging groundwater with surface water from the Flathead River would mitigate any short-term effects on the survival of representative fish and invertebrates,” the EPA said. As for human health impacts from consuming fish, bioaccumulation of contaminants of concern by fish was included in the risk assessment calculations for cumulative cancer risk and non-cancer risk of ingestion of fish, the EPA said. “The cumulative cancer risk was below both the EPA de minimis level of 1×10^{-6} (one in one million) for cancer risk and the hazard index of 1, indicating that human consumption of fish does not present unacceptable risk,” the EPA said.⁷⁹

In its fifth point to the Tribes, the EPA noted that the preferred remedy was designed to meet water quality standards, and any selected remedy must also meet water quality standards. The Tribes’ request for “an investigation of whether a preferred remedy will result in attainment of water quality standards” was already part of the remedial investigation and feasibility study. The EPA’s sixth point was to encourage the Tribes to become involved in the CFAC cleanup process. The agency’s letter included a table listing 16 separate communications between the EPA and CSKT, from November 2015 through October 2024, regarding the CFAC cleanup. In its last point, the EPA addressed the Tribes’ request that the EPA, not a potentially responsible party, investigate CFAC site contamination. “CERCLA authorizes the EPA to require potentially responsible parties to perform Superfund investigations and cleanup under EPA oversight,” the EPA told the Tribes. “Further, the EPA’s national policies emphasize the ‘enforcement first’ and ‘polluter pays’ approaches whenever possible. These approaches provide for the most efficient use of important government resources. Having said that, the EPA performs stringent oversight at sites where potentially responsible parties perform CERCLA work, and the EPA followed that approach here. All the remedial investigation, risk assessment and feasibility work that CFAC LLC has completed has been performed under both EPA and DEQ oversight.”⁸⁰

Public reaction to Tribal concerns

Representatives from seven environmental organizations sent a letter about the CSKT's concerns to KC Becker at the EPA's Region 8 office on Nov. 13, 2024. The letter was sent by Shiloh Hernandez and Amanda Galvan at Earthjustice's Northern Rockies Office in Bozeman, Mont.; Derf Johnson at the Montana Environmental Information Center in Helena, Mont.; David Brooks of Montana Trout Unlimited in Missoula, Mont.; Lisa Ronald of American Rivers in Missoula; Bonnie Gestring of Earthworks in Missoula; Jim Nash of the Cabinet Resource Group in Heron, Mont.; and Whitney Tawney of the Montana Conservation Voters Education Fund in Helena. On behalf of their thousands of members, the seven said they "support the request of the Confederated Salish and Kootenai Tribes that EPA stay further decision-making on the cleanup plan for the Columbia Falls Aluminum Company pending consultation with the CSKT and further investigation of the impacts of the site's ongoing discharge of toxic pollution – including cyanide – to water quality, fisheries and treaty rights." ⁸¹

The environmental leaders began by stating:

"The Flathead River basin is an ecological and social treasure. The watershed contains one of the most 'ecologically rich and pristine' ecosystems in North America. Multiple reaches of the Flathead River have been designated components of our national wild and scenic rivers system. The Flathead River is a stronghold for threatened bull trout and an important fishery for rainbow trout, westslope cutthroat trout, whitefish and pike. The Flathead River basin and Flathead Lake are also within the aboriginal territory of the CSKT and subject to longstanding treaty rights, including fishing rights. The Flathead River basin provides environmental amenities for numerous communities and is an important economic driver of the region and the state. The Montana public has long fought to preserve water quality in the Flathead basin from pollution and industrial development, including coal mining in Canada and oil and gas drilling in the United States. This longstanding advocacy has resulted in bipartisan legislation and international commitments to protect the basin from industrial development." ⁸²

The environmental leaders noted that the CFAC site had long posed problems for the watershed and drew public concern. Regulators failed to adequately address these problems for four decades. The environmental leaders also claimed toxic pollution from the CFAC site was currently discharging into the Flathead River. Citing the Aug. 25, 2021 decision document in *Columbia Falls Aluminum Co. v. Atlantic Richfield Co.*, the environmental leaders noted, "Regulators have known of these discharges since at least 1993; however, rather than limiting discharges, state regulators simply granted CFAC a 'mixing zone' that 'allow[ed] cyanide concentrations in the Flathead River to exceed state water quality standards as a result of the discharge of cyanide-contaminated seepage from the CFAC site.'" The environmental leaders noted that the federal court's decision was based in part on its finding that CFAC, as a division of Glencore, earned more than \$1 billion in profits from operating the smelter. "The court further noted that CFAC had 'knowingly avoided regulatory requirements and regulatory scrutiny' of the site to avoid having to take action to remediate the pollution," the seven environmental leaders said. "If the company had not sought to avoid such responsibility, the costs of remediation today would be less

significant: ‘If this had been done in the proper time frame, it likely would have reduced both the scope and cost of the present CERCLA action.’”⁸³

The environmental leaders went on to say that “CERCLA and EPA directives require robust public participation and Tribal consultation.” Citing 2009 case law in *Burlington Northern & Santa Fe Railway Co. v United States*, they noted that CERCLA law “was designed to promote the timely cleanup of hazardous waste sites and to ensure that the costs of such cleanup efforts were borne by those responsible for the contamination.” Citing 2014 case law in *United States v P.H. Glatfelter Co.*, they noted that “an agency may select a ‘more permanent solution’ that avoids the need for long-term monitoring and avoids risks of catastrophic failures, even if that solution is more expensive.” Citing federal law in 42 U.S.C. §§ 9606, 9607(a), they noted, “A fundamental premise of CERCLA is that the person responsible for the release of hazardous substances is liable for the costs of cleanup, i.e., the polluter pays.” In meeting CERCLA’s requirement for public participation, and citing federal law in 42 U.S.C. § 9626(a); see also 40 C.F.R. § 300.515(b), they noted, “Tribes are also entitled to be ‘afforded substantially the same treatment as a state with respect to provisions... regarding notification of releases..., consultation on remedial actions..., access to information..., health authorities..., and roles and responsibilities under the National Contingency Plan.” Furthermore, citing U.S. EPA Policy on Consultation with Indian Tribes from Dec. 7, 2023, they pointed out, “as CSKT notes, the EPA’s own directives require meaningful Tribal consultation, including the ‘importance of Tribal treaty or similar rights.’”⁸⁴

The seven environmental leaders expressed concern that the EPA failed to meet its requirements with regard to public participation and Tribal consultation, and they shared CSKT’s lack of confidence in the public participation process led by CFAC and Glencore’s consultants. “These consultants were not simply ensuring public access to information and participation in the cleanup plan – they also spent significant amounts of time and money on public relations for CFAC and Glencore and to ‘oppose National Priority List listing’ for the site,” they said, citing the *CFAC v ARCO* ruling. “Because the consultants were acting as advocates for CFAC and Glencore and, at least in some instances, were acting against cleanup, it is unsurprising that they were unable to inspire public confidence in the process.” In addition, the environmental leaders agreed with the Tribes’ claim that the EPA’s two meetings with CSKT over a decade “does not constitute meaningful consultation.”⁸⁵

News about the Tribes’ Oct. 8, 2024 letter to the EPA quickly appeared in local newspapers, likely a result of the press release that accompanied the letter. In their Oct. 11 story, the *Flathead Beacon* began by describing how a coalition of indigenous nations spanning the U.S.-Canada border succeeded in persuading the governments to conduct an independent investigation of contaminants from coal mines entering the Elk River and Kootenai River watershed through the International Joint Commission. “For too long, the U.S. and Canada have stood by while our waters suffered,” CSKT Chairman Michael Dolson said in March 2024. “We are encouraged by the federal governments’ change in direction and the progress that was achieved when we all worked together these past months.” But after that, CSKT’s

concerns turned to the EPA's preferred cleanup plan for the CFAC Superfund site, which they believed endangered the Flathead River.⁸⁶

In an email to the Beacon, the EPA said, "Over the past 10 months, the EPA has conducted an extended engagement period in response to community questions about the proposed cleanup plan, including 13 different public engagement opportunities. The EPA appreciates the feedback we have received during this process, including from elected leaders, advocacy groups and Tribal leadership, and we will continue to communicate with all interested parties and the community as we work towards a protective, effective cleanup at CFAC." In another email to the Beacon, Tom McDonald, CSKT's vice chairman, referred to Glencore's ownership of the Canadian coal mines now polluting American waters. "It's the same polluter. Glencore is now the single biggest threat to our treaty-reserved fishing rights. We need to have the same standard and the same level of tribal consultation on the CFAC property that we have on the border, and that requires an unbiased third party to review what's going on. We need to reboot this thing, spend another year studying it and figure out what's really going on. Until we have that, we don't want to accept a cleanup decision." McDonald added, "The EPA has been a great partner working to get Canada to address the pollution from Glencore's mines in the Elk Valley. We expect the EPA to do the same here to address pollution from Glencore's superfund site in the Flathead basin, particularly since the EPA actually has the authority here to protect our treaty-reserved rights."⁸⁷

The Missoula Current also reported on the Tribes' letter to the EPA. On Oct. 10, the newspaper received an email from EPA congressional liaison David Piantanida, who said the EPA was reviewing the Tribes' letter. Piantanida noted that the EPA "will continue to communicate with all interested parties and the community as we work towards a protective, effective cleanup at CFAC." The Missoula Current compared the EPA's decision process at the CFAC Superfund site to actions taken to clean up the Smurfit Stone pulp mill site west of Missoula. "As members of the Frenchtown Smurfit Stone Citizen Advisory Group know, the EPA also bases its Superfund evaluations primarily on the risks to human health, while risks to the environment take a bit of a backseat," the newspaper reported. "The Smurfit Stone group had to lobby for months to get the EPA to include fish-tissue samples from the Clark Fork River, and the agency has refused to pay for more investigations of fish concerns downstream. Similarly, concerns about fish in the Flathead River rank lower in priority, and human health risks from eating fish weren't addressed in the Columbia Falls assessment." As for lingering financial responsibilities at Superfund sites, the newspaper referred to the Bonner lumber mill cleanup east of Missoula. "As Missoula County found with the Bonner mill site, cleanup after the fact is often more expensive than when it's all part of the Superfund process. At the Bonner site, some contaminants were collected in a capped repository, but later the new property owner, Bonner Property Development, wanted it removed so the area could be developed. What would have cost around \$800,000 during the cleanup ended up costing more than \$3 million a decade later."⁸⁸

The CSKT Tribal Council sent another letter to the EPA about the CFAC Superfund site on Dec. 2, 2024. After thanking the EPA for its past response, and reminding the EPA of the Tribes' treaty rights, the Tribal Council said they "believe the EPA's treaty and trust responsibility requires the agency to do more

to ensure our reserved treaty rights are protected, and we are disappointed by the EPA's apparent unwillingness to do so." They also believed the EPA should do more "to ensure the proposed remedy for cleanup at the CFAC site is in compliance with statutory requirements." The Tribal Council noted that "the EPA did not evaluate risk to the Tribes, who, due to their traditional practices and lifeways, are the most exposed and most sensitive receptor in the Flathead Basin. Therefore, the EPA did not meet the threshold criteria of protection of human health and the environment required under CERCLA §121 and the National Contingency Plan 40 CFR §300.430. This oversight is inexcusable. The EPA is well aware that a human health risk assessment evaluating risk to the general public does not adequately evaluate, but rather severely underestimates, the risk to tribal members."⁸⁹

The Tribal Council suggested it "will not spend time speculating on the EPA's likely motives herein," adding that "as it currently stands, the EPA's approach at the CFAC site is poised to stand as a glaring example of how tribal treaty rights, the federal government's trust responsibility to Tribes, and environmental justice are still being egregiously overlooked." The Tribal Council noted that it passed a resolution on Nov. 26, 2024 requiring that any measure of exposure by contaminants to the CSKT people must be "based on a Tribally-sanctioned or -generated risk scenario, approved by the Tribal Council, which identifies and analyzes the multiple pathways for exposure to our people who practice our traditional ways." The Tribal Council also approved "The Spokane Tribe's Multipathway Subsistence Exposure Scenario and Screening Level RME," noting that the Spokane Tribe was located in the same physiographic region of the U.S. and had similar fishing, hunting, gathering and cultural practices as the Confederated Salish and Kootenai Tribes.⁹⁰

As for the EPA's reference to contacts with the Tribes since 2015, the Tribal Council said CSKT was not "adequately involved in the CFAC process thus far" and that "conversations to date between CSKT and the EPA on the CFAC site do not constitute consultation, as defined in the EPA's own policy on consultation." The Tribal Council also looked into the EPA's offer to provide a TASC grant for technical assistance. "We have consulted with Tribes in several regions who had temporarily employed TASC grant support on Superfund sites," the Tribal Council said. "All concluded that the TASC consultants were indeed not independent, resulting in Tribes securing their own technical experts. In other words, employing TASC contractors has wasted valuable time and resources." Rather than a TASC grant, the Tribal Council requested "a Superfund Cooperative Agreement, preferably a Support Agency Cooperative Agreement, in accordance with 40 CFR §35.6240-35.6250, so that we can hire our own consultant and ensure our meaningful and substantial involvement in the activities included in CERCLA §121(f)(1) and subpart F of the National Contingency Plan."⁹¹

The Tribal Council noted, "We believe that not including CSKT early on in the Superfund process has already wasted much valuable time and resources. We believe that securing funding to hire our own consultant, one who specializes in Superfund cleanups impacting Tribes, will result in rapid review of the remedial investigation and feasibility study, and the proposed plan." The Tribal Council concluded by saying, "Rather than issuing a record of decision selecting a remedy that does not meet the threshold criteria of being protective of human health and the environment, we believe that the EPA can, by

rapidly entering into a Support Agency Cooperative Agreement with CSKT, collaboratively ‘right the ship’ in a more rapid and economical manner than waiting for the Tribes to weigh-in on the record of decision, as you outlined.”⁹²

In her Dec. 12 response to the CSKT Tribal Council’s second letter, KC Becker noted that the EPA valued the Tribes’ engagement in the Superfund process and appreciated the opportunity to clarify information about the CFAC Superfund site and highlight resources available to CSKT. Becker also referred to Attachment 1 of its Nov. 8 response to CSKT, which stated that “site-related contaminants do not contribute unacceptable risk to fish in the Flathead River, and there is no unacceptable offsite risk to human health, including consumption of fish by Tribal members and ecological receptors.” The EPA’s preferred cleanup plan was “designed to meet all applicable or relevant and appropriate (ARAR) water quality standards,” she said. “If information received during remedial design or remedial action indicates that a selected remedy will not be protective of human health and the environment, including the CSKT’s reserved treaty rights, the CERCLA process allows the EPA to change the remedy. Further, once the remedy has been implemented and deemed operational and functional, five-year reviews will routinely check whether the remedy is protective of human health and the environment, including whether there have been any changes that affect the validity of cleanup levels or ARARs.” Becker also said she was “pleased” that members of the EPA’s Tribal Affairs Branch, Children’s Health, Environmental Justice & Equity Branch, and Water Division had a productive meeting with CSKT representatives on Dec. 9 to discuss various grant opportunities.⁹³

Cheryl Driscoll, a Glencore corporate secretary sometimes listed as a CFAC officer, weighed in on the Tribes’ second letter to the EPA with a letter to KC Becker on Dec. 9, 2024. Referring to the Tribes’ allegations that the EPA’s failure to adequately consider exposure was inconsistent with the National Contingency Plan, Driscoll noted that the EPA had already addressed that concern in its Nov. 8 letter to the Tribes. “Your Nov. 8, 2024 letter clearly explains that the site not only does not contribute unacceptable risk to fish in the Flathead River, but that no site-related contaminants exceeded intentionally conservative screening levels in the surface water of the Flathead River,” Driscoll said. “Furthermore, your letter pointed out that the remedial investigation did not find evidence of contaminated sediment in the Flathead River, and that CFAC removed contaminated sediments in the South Percolation Ponds in 2021 under an EPA-directed removal action before they could impact the Flathead River. This means that risk estimates were not driven by exposure scenario but by the fact that contaminants of concern were not detected in the main stem of the Flathead River.” Driscoll added, “Regardless of exposure scenarios, constituents from the CFAC site cannot contribute to human health or ecological risk over 20 river miles downstream at the CSKT reservation, or adversely affect the Tribe’s reserved fishing rights when it doesn’t even impact the main stem of the Flathead River adjacent to the site.”⁹⁴

Driscoll also addressed CSKT’s Nov. 26 resolution stating that any measure of exposure of Tribal members should be approved by the Tribal Council. Citing the EPA’s August 1988 “CERCLA Compliance with Other Laws Manual,” also known as the “ARAR Manual,” Driscoll noted, “While the resolution is

informative, it is not an ARAR. To be an ARAR, a regulation must be a chemical-specific requirement, a location-specific requirement or an action-specific requirement... The Tribal Council resolution is neither a chemical-specific nor location-specific requirement and therefore does not qualify as an ARAR.” As for the academic article appended to the Tribal Council’s resolution, while providing “interesting insights” regarding exposure modeling for indigenous people, the article dealt with the CERCLA risk assessment of a former uranium mine located on tribal property, and discussed the development of detailed exposure parameters for native diets and lifeways. “This scenario is different from the CFAC site in that the CFAC site is miles from tribal land and, beyond very low concentrations of constituents in the backwater areas of the Flathead River, has no impact offsite, including to fish in the Flathead River,” Driscoll said. She concluded by stating, “We fully support the preservation of Tribal rights and are committed to protect human health and the environment throughout the Flathead Valley. We believe that the best way to achieve those objectives is for the EPA to expeditiously issue a record of decision for the site consistent with its proposed plan so that CFAC can begin the remedial design and implementation process to effectively and efficiently address site issues.”⁹⁵

Coalition presents alternative cleanup plan

Despite loss of support by federal, state and local government leaders, and apparent persistence by the EPA in favor of its plan to contain the West Landfill and Wet Scrubber Sludge Ponds contaminants onsite with a slurry wall, the Coalition For A Clean CFAC continued its work to gather information, closely study the data and opinions, present the findings in public meetings, and lobby government officials. On Oct. 9, the Coalition sent letters to Montana Gov. Greg Gianforte, Montana Sens. Steve Daines and Jon Tester, Montana Reps. Ryan Zinke and Matt Rosendale, the Flathead County Commission and the Columbia Falls City Council asking them to call for a delay in the EPA’s release of a record of decision for the CFAC Superfund cleanup. The seven-page letter described how Coalition members spent three months researching more than 10,000 pages of EPA records, and documents “which Glencore’s consultants primarily wrote and compiled, and the EPA relies on to justify” its preferred cleanup plan. The Coalition concluded that the EPA’s preferred cleanup plan was “a raw deal for the Flathead, is not as protective as other feasible alternatives, and relies more on hopes and prayers for a permanent solution to toxic cleanup than it does best available science.” The Coalition then laid out its case for choosing an alternative cleanup plan.⁹⁶

The Coalition called for replacing Preferred Alternative 4 with Alternative 6, modified to include “treatment strategies improperly dismissed by Glencore’s consultant Roux, in the feasibility study, due to alleged cost or other unsubstantiated reasons.” These modifications would include 1) treatment of toxic waste through solidification and stabilization, 2) consolidation of still-hazardous waste after solidification and stabilization in a newly constructed onsite repository meeting substantive RCRA Subtitle C requirements for modern hazardous waste impoundments, and 3) groundwater extraction and treatment which could reduce the cleanup time of the existing contaminated plume from 35-60 years to 6-9 years. “It is wrong to prioritize cost-savings to multinational corporations like Glencore and ARCO, who are responsible for cleanup costs at the Columbia Falls Aluminum Company site, by

approving cleanup remedies that cost much less but will take an estimated 35 to 60 years, if even then, to fully cleanup the existing polluted groundwater plume, over more costly remedies that would clean up the polluted ground water in six to nine years, and with a higher degree of certainty,” the Coalition letter said.⁹⁷

The Coalition noted that the statutory and regulatory criteria for consideration of cost in selecting a preferred alternative in a CERCLA plan included 1) protecting human health and the environment; 2) complying with applicable or relevant and appropriate requirements unless a waiver was justified; 3) being cost-effective; 4) utilizing permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and 5) satisfying a preference for treatment as a principal element, or providing an explanation why such preference was not met. “The proposed draft remedy of Preferred Alternative 4 reflects a unitary focus on the lowest cost, with short shrift being given to other mandatory criteria,” the Coalition said. “The draft plan needs to be amended to include strategies that prevent an undisputed, existing, toxic plume of groundwater from continuing to enter the Flathead River and shallow backwaters that are critical habitat for rare and/or threatened species like the bull trout and the westslope cutthroat trout.” The Coalition added that “there has been inadequate assessment of the undisputed toxic plume from CFAC, upon threatened and endangered aquatic species or their critical habitat, which support both those species and the Flathead’s world class recreational opportunities, much less the outdoor economy driven by our healthy rivers and clean water.”⁹⁸

The Coalition pointed out that Gunnar Emilsson, who worked for contractor CDM Smith, stated in a June 17, 2022 memorandum to Ken Champagne and Amanda Bartley at the EPA and Dick Sloan at Montana DEQ, “The benefit of capturing and treating the groundwater at the downgradient end of the plume would be to accelerate the timeframe to attain remedial action objectives (specifically to meet the preliminary remediation goals for free cyanide in porewater and surface water at the River Area decision unit) to an estimated 6-9 years. Without treatment of the downgradient edge of the plume, the timeframe is estimated at 35-60 years.” Citing Emilsson’s words, federal law 42 U.S.C. 9621(b)(1) and EPA regulations, the Coalition concluded that decision-makers were required to prioritize treatment over containment, “yet instead the draft cleanup plan calls for approval of containment over treatment.” Furthermore, “A review of the record suggests that CFAC’s consultant hired to research and create this cleanup plan, Roux, arbitrarily and without merit dismissed a top treatment option used at Superfund sites around the country – solidification and stabilization.”⁹⁹

The Coalition continued:

“Specifically, Roux concluded in several places in the feasibility study that ‘These technologies do not provide a better effectiveness compared to more proven and easily implemented technologies (e.g., soil cover). Therefore, both solidification and stabilization for the Soil decision unit has been screened from further consideration.’ However, Roux failed to provide evidence demonstrating why CERCLA’s preferred treatment approach, and specifically solidification and stabilization strategies, would not be more effective at remediating the CFAC contamination.

Roux concludes solidification and stabilization strategies are expensive but fails to explain how a soil cover would be more or equally effective, or how a soil cover in this application even qualifies as treatment. We cannot find within EPA regulations where soil covers in this context are even considered a treatment strategy called for by EPA. Put simply, soil cover is a containment strategy. EPA's own history demonstrates that solidification and stabilization methods have been selected or are being used in cleanups at over 250 Superfund sites across the country currently."¹⁰⁰

The Coalition went on to say that the EPA's preferred cleanup plan "also runs afoul of CERCLA's penultimate focus – protecting public health and the environment – by recommending the cheapest option for containment, and what evidence suggests is one of the least permanent and most risky containment methods – a slurry wall." The Coalition noted that the EPA selected its preferred cleanup plan despite concerns expressed by the agency's own engineer in CDM Smith's review of the draft cleanup plan before it was released to the public. In his memorandum to the EPA and DEQ, Emilsson wrote:

"During the June 6 call, CDM Smith expressed concern over the constructability of the slurry wall. The feasibility study indicates that the slurry [wall] would be installed to depths of up to 120 to 150 feet, which is at the limit of current slurry wall construction capabilities. CDM Smith's knowledge of another barrier wall installation to depths of up to 90 feet within glacial till (at a Superfund site in Washington) suggests that the occurrence of boulders and other natural obstructions along the wall alignment may require significant pre-drilling effort to penetrate. Additionally, complex construction methods, such as a composite barrier wall (e.g., a combination of slurry trenching and jet grouting), may need to be considered to construct the wall to the target depths. The inherent complexity of such construction approaches may increase the likelihood of the target depths not being achieved along portions of the wall, thus reducing the effectiveness of the barrier."¹⁰¹

The Coalition also criticized the EPA for failing to take specific samples from the CFAC Superfund site's seven different landfills. Glencore's consultants said the sampling was not done to avoid compromising the integrity of the caps covering the landfills, but the Coalition disagreed with this explanation. "This makes absolutely no sense. Without knowing the identity of the contaminants in the landfills and the concentration of these contaminants present in the worst portions of this contaminated site, it's not possible to know what health risks these areas really pose to the public, or fisheries, or wildlife. Using data collected from monitoring wells and from surface samples collected some distance from the landfills will at best underestimate the human health and environmental risks and at worst, provide a false sense of security. This is especially important since the EPA is considering leaving the contamination in place."¹⁰²

Furthermore, the Coalition pointed out, Glencore's consultants had already drilled through the caps and collected soil samples from inside the Sanitary, Industrial and Center landfills. "However, the lab analysis for these samples was not included in the remedial investigation report," the Coalition said. "This

information needs to be made public and included as part of human health and ecological risk analysis included in the remedial investigation report. We want to know what the agency looked for in these samples and what was found. Furthermore, it's unclear what the condition is of the existing covers." In addition, the Coalition noted in its letters to the government officials that, according to the remedial investigation report, the Industrial Landfill was "uncovered," it wasn't clear if asbestos was present at the surface of the Asbestos Landfills, and the West Landfill cap was synthetic and installed in 1994. "The main concern with covers is the loss of integrity over time," the Coalition said. "The EPA must do a better job of describing the integrity of the existing covers for each of the landfills on the CFAC property and define and provide science-based evidence of what would be the dangers of compromising the integrity of the covers by collecting additional samples." ¹⁰³

The Coalition For A Clean CFAC outlined their alternative cleanup plan in an Oct. 30 op-ed run in local newspapers that sharply criticized the EPA. "The EPA's trash can is full of discarded cleanup strategies marked as 'Too Costly,' 'Too Risky,' 'Good, But Not Top Rated' and 'Why Do More, When Less is OK?'" the op-ed began. "After months of study, the Coalition For A Clean CFAC is calling out the absolute lack of a sound factual basis for trashing many of these ideas. Instead, we are pointing out that these ideas were already studied and ranked by the EPA as meeting its threshold criteria for protection of human health and the environment. Many were ranked as more effective and permanent than current recommendations by studies the EPA and Glencore have already done." The Coalition noted it had sent letters to the governor and other government officials asking that these alternative solutions be reconsidered. "We believe these currently dismissed, existing tools and strategies need to be given priority in a revised cleanup plan, and that they hold the key to achieving a cleanup of the CFAC site that is timely, effective and permanent," the Coalition said. ¹⁰⁴

For example, the Coalition noted, the EPA discarded the idea of actively treating the toxic plume of groundwater already onsite, despite their own consultant pointing out that treating the groundwater plume now would shorten the cleanup time to 6-9 years instead of 35-60 years, as expected in the EPA's preferred cleanup plan. In another example, Glencore's environmental consultant argued that soil caps atop the landfills, which would only provide short-to-long term containment, not treatment, were equally as effective as active treatment and stabilization, even though the latter had been used at hundreds of Superfund sites across the U.S. According to the government's Federal Remediation Technologies Roundtable, a treatment process known as solidification and stabilization could transform potentially hazardous contaminants present in soil or sediment in liquid or solid form into environmentally innocuous materials of considerably reduced mobility, thus preventing the hazardous waste from reaching receptors like the Flathead River. The solidification and stabilization process was one of the top-five treatment methods used at Superfund sites across the country, and had been used successfully and safely to clean up cyanide, the Coalition said. The Coalition also said they found sample data that should have been included in a food-chain model for understanding potential harm to aquatic life and fish and potential harm to humans from fish consumption, but the data had been discarded. This data could have helped answer the types of questions posed by the Confederated Salish and Kootenai Tribes. "Equally important is what we didn't find anywhere, including no analysis or data of future

residential child cancer risks, given that the majority of this site is now proposed to be sold for residential development,” the Coalition said.¹⁰⁵

The Coalition For A Clean CFAC continued to express its frustration at the EPA in a Nov. 27 op-ed following the Nov. 5, 2024 general election, in which Republicans took slim majorities in both houses of Congress and their presidential candidate gained the most votes in the Electoral College, but a narrow edge in the popular vote. To many, considering the radical difference in political philosophies between the Democrats and the Republicans, the election outcome marked an important change, something the Coalition noted in its op-ed about the CFAC Superfund cleanup. “If there is one thing that EPA Region 8.. needs to realize after this recent election, it’s that the public expects to be heard and to see meaningful change now,” the Coalition said. “Not in another 25 years, as was the EPA’s loudly opposed recommendation for lead contamination cleanup in Butte last week. And not in another 35-60 years, as allowed for in the EPA’s proposed cleanup plan for a host of toxic wastes in a groundwater plume seeping into the Flathead River at the Columbia Falls Aluminum Company Superfund site.”¹⁰⁶

Worse still, the Coalition continued, “the EPA is currently endorsing and considering giving final approval to leave some two hundred acres of toxic waste in place on site, with some of that contained forever within an unproven, bottomless, slurry wall. The EPA is claiming the waste found at CFAC is too toxic to move or treat.” This clearly wasn’t the EPA’s only option, as the Coalition had explained in recent letters to the governor, other government officials and the EPA – there were “quicker, more effective, cleanup alternatives from EPA’s own research.” The Coalition also noted it was perplexed by Glencore’s business model. “We have never understood why a corporation like Glencore comes in to an area like the Flathead and buys an industrial site they clearly must know is destined to be declared a Superfund site,” the Coalition said. “While it remains unclear to us, it appears that tax laws do allow for various ways that corporations can use such expenses to better their bottom line. While we certainly aren’t corporate tax experts and clearly state that our initial findings need additional confirmation, we hope that CFAC would step up now and publish their tax filings.”¹⁰⁷

The Coalition thought it was “high time” the EPA operated transparently, using outside independent review, to adequately explain why alternative cleanup strategies cited in their proposed cleanup plan should not be included in their preferred cleanup plan. “These alternative plans can provide more comprehensive, timely and permanent restoration and protection of the Flathead’s clean waters, rivers and fisheries,” the Coalition said. Instead, the EPA was “turning a deaf ear to the public’s calls for science-based evidence that the cheapest cleanup alternatives benefit the public and the environment, and not simply benefit the bottom line of a multi-national corporation.” The Coalition noted that the CSKT Tribal Council had raised additional and legitimate concerns that the EPA should address. “They rightfully assert that the proposed EPA cleanup plan, and this plan’s unacceptable long-term containment strategies, fail to address the EPA’s and federal government’s current and immediate obligation to address the CSKT’s treaty rights,” the Coalition said.¹⁰⁸

The EPA provided a detailed response to the Coalition’s October letter, including information on the proven effectiveness of slurry walls to contain hazardous waste; the role of cost in selecting a cleanup

plan for a Superfund site; the benefits of the EPA's preferred alternative as both a containment and treatment remedy; and an assessment of the Coalition's preferred alternative, which the EPA described as being "extremely difficult, if not technically impracticable, to implement" and which "may also exacerbate the groundwater contaminant plume." While EPA noted that the Coalition's preferred alternative ranked highest for long-term protectiveness, "it had the lowest rating for implementability." The EPA noted, "It would require an estimated 4-5 years to excavate the estimated 1.3 million cubic yards of aluminum-refining wastes and underlying contaminated soil. Excavation would take even longer if solidification and stabilization measures were conducted prior to placement of wastes in a lined repository. The possibility of encountering unknown waste types would require an evaluation of solidification/stabilization alternatives for these unknown waste types, which would further expand the construction timeline. The excavation site would be open for years. Despite best management practices used to limit stormwater and snowmelt runoff into the construction work area, the open excavation would allow some precipitation to infiltrate the exposed wastes. Infiltrated precipitation would leach additional contaminants into the groundwater, which, in addition to the existing seasonal contact of wastes with groundwater under high water table conditions, would likely increase contaminant concentrations in the upper aquifer."¹⁰⁹

Reactions to record of decision

The EPA rang in the new year by releasing its record of decision for the remediation of the CFAC Superfund site on Jan. 10, 2025. The decision basically contained no big surprises, although the incoming president's controversial Cabinet nominations prior to his inauguration made some wonder what impact a new Environmental Protection Agency administrator might have on any continuing projects. The Coalition For A Clean CFAC sharply criticized the EPA's decision in an op-ed published by local newspapers. "While the EPA's record of decision recently issued for the Columbia Falls Aluminum Co. Superfund site is dismaying, EPA's failure to do so without actionably considering public concerns and numerous technical issues raised is appalling," the op-ed began. Leadership at EPA's Region 8 office "could have gone high and made us proud. But they didn't," the Coalition said, noting that Part 1 of the record of decision contained an admission that "the selected remedy does not satisfy the [EPA's] statutory preference for treatment to address principal threats posed by a site." The Coalition noted that in its letters to Gov. Greg Gianforte and other government officials, the group explained how Alternative 6 would shorten the lifetime of impacts to fisheries and the Flathead River from the 35-60 years estimated by the EPA's preferred cleanup plan to 6-9 years. "But no, EPA's final record of decision failed us all and our precious water quality and economy," the Coalition's op-ed said. "Instead, the EPA chose the lowest level of cleanup that, while perhaps legally allowed, is nothing to be proud of."¹¹⁰

The Coalition noted that despite receiving more than 800 formal written comments and petitions from organizations and individuals representing some 20,000 plus Montanans, "most of which favored removal and treatment of these hazardous wastes," the EPA chose without explanation "the cheapest option of mere containment over treatment, which only serves to benefit Glencore, one of the world's wealthiest corporations." Citing a Nov. 13, 2024 letter to the EPA sent by Earthjustice and six other

environmental organizations, in reference to U.S. District Court Judge Donald Molloy's Aug. 25, 2021 ruling divvying up the cleanup costs between Glencore and ARCO, the Coalition noted that Glencore made \$1 billion in profits by owning and operating the CFAC smelter, with comparatively little investment. The Coalition concluded its op-ed by stating that the EPA, "throughout this public process, made a mockery of the public comment they received. They chose instead to use public comment only to check off their list of required public involvement. But here is the spoiler alert for the EPA: the Coalition for a Clean CFAC and our supporters are not giving up. Instead, we will be continuing at every opportunity going forward to challenge what we see as the flawed science and failed leadership of the EPA to do what is indeed best for the community. We will be insisting at every step forward that the EPA and the Montana Department of Environmental Quality do more to provide greater long-term protection of the health of residents, the Flathead's clean water, fisheries and the local economy that depends on these qualities to thrive." 111

Coalition board member Peter Metcalf spoke to the Montana Free Press about the EPA's record of decision. Metcalf said he was disappointed the record of decision was mostly unchanged from the EPA's preferred cleanup plan, selected in June 2023, and that hazardous material in the West Landfill and Wet Scrubber Sludge Ponds would remain on site. He said Glencore, one of the world's largest mining companies, had the resources to appropriately clean up the CFAC Superfund site. "We're obviously disappointed that the EPA has put Glencore's interests over those of the Columbia Falls community," he said. While the record of decision marked a major milestone in the Superfund process, Metcalf said his group planned to remain involved in the process moving forward. 112

When asked about the release of the record decision on Jan. 10, 2025, John Stroiazzo, Glencore's project manager for the CFAC Superfund site, told the Flathead Beacon, "It's going to be a total weekend read. It's hundreds of pages." 113 About half of the 432-page record of decision document included excerpts of letters and emails from the public and stakeholders sent during the 18-month comment period following the EPA's selection of a cleanup alternative, along with the EPA's responses to selected comments. The Beacon reported that the Coalition For A Clean CFAC was frustrated that their suggestions were not incorporated in the record of decision. Matt Dorrington, EPA's project manager for the CFAC Superfund site, told the Beacon that the agency "went above and beyond its duty" to address community concerns and respond to public comments. "I think it's important to emphasize that the EPA thoughtfully considered and responded to all comments and feedback over the 18 months following release of the proposed plan," he said. 114

Dorrington noted that the record of decision's responsiveness summary included nearly 800 comments, of which about 10 percent came from core members of the Coalition For A Clean CFAC. The EPA created fact sheets to clarify various themes that emerged from enhanced public efforts between February and September 2024. The EPA also engaged in "one-on-one discussions in Columbia Falls over the summer that you witnessed firsthand," Dorrington told the Beacon. He also noted that the EPA "took the time to respond thoughtfully to work products developed by the Coalition during their 'Deep Dive' activities." John Stroiazzo, Glencore's project manager, said nothing in the record of decision should affect the

pending land deal with Mick Ruis, who planned to develop much of the Glencore property for residential and commercial uses. The 400-some acres with the highest concentrations of contaminated waste would be not be included in the real estate deal. “The sale is predicated on the proposed plan,” Stroiazzo told the Beacon. “If the proposed plan does not change materially, then the sale goes ahead. If we’re happy and he’s happy and the record of decision is based on the proposed plan, then I don’t foresee any issues there.”¹¹⁵

Mick Ruis told Chris Peterson at the Hungry Horse News on Jan. 13 that he expected to close on the real estate deal with Glencore in the next 30 days, as soon as attorneys finished reviewing the final boundary lines for the land sale. In his initial announcement, Ruis said he planned to build homes that would sell for \$500,000 with 10 percent down and owner financing at 6 percent. “While the plant site itself is not aesthetically pleasing, the rest of the property is idyllic, with meadows, trees and streams,” Peterson said.¹¹⁶ Like the rest of the United States, if not worse, Flathead County, Montana, was experiencing sharply rising housing prices, which made Ruis’ offer enticing. According to Realtor.com, median listings for homes in Flathead County had increased from \$525,000 in January 2022 to \$859,000 in December 2024. But it was a buyer’s market, Realtor.com reported, with the supply of homes greater than demand.¹¹⁷

According to the record of decision, Peterson reported, the EPA’s cleanup plan called for using a 3-foot thick slurry wall extending up to 125 feet deep to contain hazardous wastes in the West Landfill and Wet Scrubber Sludge Ponds, “which look like grassy meadows today.” A new cap impervious to rain would be placed over the landfill and ponds. In addition to groundwater monitoring and treatment, the Cedar Creek Overflow Ditch, which seasonally flowed through the CFAC site upgradient from the landfill and ponds, would be lined to prevent seepage into groundwater flowing past the containment cell. Deed restrictions would prevent anyone from using groundwater in the 400-some acre site. The EPA would restrict the site to commercial and industrial uses only. Caps on other landfills, including the Industrial Landfill and the Asbestos Landfills, would be upgraded and improved. In addition, about 32,500 cubic yards of contaminated soils containing copper, nickel, selenium, zinc and polycyclic aromatic hydrocarbons would be excavated and placed in one of the existing landfills or a new landfill.¹¹⁸

Justifying the big plan

The EPA’s 432-page record of decision released to the public on Jan. 10, 2025, was divided into a 6-page Declaration, a 123-page Decision Summary, a section with tables of technical data, an appendix with “Applicable or Relevant and Appropriate Requirements,” an appendix providing “Estimated Costs for the Selected Alternative,” and a 220-page “Responsiveness Summary” section containing excerpts of comments by the public and stakeholders, grouped by subject, followed by the EPA’s response. In its Declaration, the EPA summarized the goals of its preferred cleanup plan:

“The Selected Remedy uses a remedial strategy that emphasizes sitewide consolidation and encapsulation of contaminant sources to eliminate exposure pathways, reduce the transfer of contaminants of concern to groundwater underlying the site, and bring concentrations in seeps

near the Flathead River into compliance with standards for ecological receptors. It ensures that low-intensity recreational site users and commercial workers have no more than a 1 in 100,000 chance of contracting cancer from ingestion and inhalation of onsite soils, and that those users are also protected against non-cancer effects from inhalation and ingestion of surface soils.”¹¹⁹

The EPA explained that its feasibility study evaluated 22 remedial alternatives for the six decision units, after combining decision unit 1, the West Landfill, Wet Scrubber Sludge Ponds and Center Landfill, with decision unit 6, the contaminated groundwater plume beneath the plant site. During the feasibility study phase, treatment options were largely screened out through a technology screening process, as was offsite disposal. Technologies that were evaluated in detail included excavation, capping in place, phytoremediation, slurry walls, permeable reactive barriers, groundwater extraction with treatment if needed, and hydraulic controls. In 2021, a removal action was performed at decision unit 5, the riparian area along the Flathead River where seeps had been detected, which eliminated the source of contamination. As a result, decision unit 5 was combined with decision units 1 and 6 in the EPA’s preferred cleanup plan and then in the record of decision.¹²⁰

The alternative that best met the remedial goals and Superfund evaluation criteria was chosen for each decision unit or decision unit combination, the EPA said. Controls would be used to ensure that engineered features of the cleanup plan were not damaged. The controls would prevent the use of groundwater that posed human or ecological risks, limit access to private property and allow low-intensity open space/recreational use or industrial/commercial use as permitted by the landowner. Specific institutional controls and engineering controls would be identified in the remedial design. Institutional controls would include community awareness and engagement efforts, such as advertisements, handouts and other educational materials, along with land-use restrictions such as deed restrictions. Engineering controls would include posted warnings and fencing. The EPA would work closely with Montana DEQ and Flathead County representatives during the remedial design process to ensure that the selected controls would be implementable and would achieve the desired results.¹²¹

When evaluating alternatives during the feasibility study phase, proven remedial technologies and process options were used to develop alternative cleanup plans, including in-situ treatment, ex-situ treatment and containment, which included extraction wells, slurry walls, covers/caps, grout curtains and sheet piling. Screening during the feasibility study eliminated certain soil technologies determined to be infeasible or impracticable, such as offsite disposal. Technologies that were not screened out were used to develop remedial alternatives for further evaluation. Four in-situ technologies were screened – groundwater performance monitoring, permeable reactive barriers, chemical oxidation and enhanced bioremediation. Chemical oxidation was ruled out as complex and cost-prohibitive for large areas with low-concentration goals, and it was found not effective for fluoride. Enhanced bioremediation was ruled out because it was found not effective for fluoride or the complexed cyanide common at the site. Alkaline hydrolysis was screened out as it was not found effective for fluoride and require high pressure and temperature. Six treatment technologies were retained for potential use, including adsorption,

coagulation/flocculation/precipitation, ion exchange, reverse osmosis, photolysis (for ferrocyanide only) and constructed wetlands.¹²²

The time needed to achieve remedial goals varied by decision unit and by which alternative was used to clean up that decision unit. Where caps were employed to prevent direct rain or surface water from contacting contaminated soils, and to limit vertical infiltration of precipitation through the source area to groundwater, as in decision units 1 and 6, remedial goals were expected to be met in 4 to 5 years, but institutional controls and engineering controls would be required to protect the cap from future uses. Where caps were employed to prevent direct contact with contaminated soils, as in decision units 2, 3 and 4, remedial goals were expected to be met within two years, and again institutional controls and engineering controls would be required. Where phytoremediation was used to treat soils in decision unit 3, remedial goals might not be met for 10 years or more, but if the technology was successful, land use would not be restricted.¹²³

Superfund law provided nine criteria for comparing remedial alternatives in the feasibility study, grouped into three categories – threshold, primary balancing and modifying. Each remedial alternative, except the no-action alternative, needed to meet the threshold criteria. Primary balancing criteria were used to weigh major trade-offs among alternatives. The overall effectiveness of each alternative was determined by evaluating the first three primary balancing criteria – long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; and short-term effectiveness. Top score for evaluating alternative treatments was 100, with a range of 0 to 20 for each criterion. The two modifying criteria were state and public acceptance, which were not addressed in the feasibility study but instead was evaluated after public comment was received on the proposed plan. To identify the most viable candidates for comparative analysis, the feasibility study rescreened the 12 remedial alternatives for decision units 1 and 6 based on effectiveness, implementability and relative cost. Alternatives 2, 3B, 4B, 5A and 5C for decision units 1 and 6 were removed from further consideration and scoring because they did not satisfy the threshold criteria, or because of concerns with effectiveness and implementability.¹²⁴

In terms of implementability, the EPA said, “Construction of the waste management unit caps, slurry walls and downgradient groundwater extraction and treatment are expected to be technically and administratively implementable. These components would use established technologies that have been proven effective and reliable. All activities would be conducted onsite, so no offsite access or third-party approvals would be needed.” Construction of the slurry wall to the expected depths “would require specialty contractor services that are available but require long lead times and extensive pre-design investigations along the proposed alignment. The proposed depths would require the use of specialized technologies and rock-breaking tools, but these are standard equipment and proven methods for slurry wall construction and would be implementable.” Groundwater extraction and treatment downgradient from the slurry wall containment cell “would also be expected to be implementable.” The treatment system would need to be large enough to handle a flow rate of 500 gallons per minute year-round, but the only contaminant requiring treatment was cyanide, “which is technically feasible.” The EPA added,

“Other constituents in the extracted groundwater would need to be managed to prevent fouling of the cyanide-polishing steps but are also technically feasible. This added component increases the complexity of the remedial construction.”¹²⁵

Costs for remediating decision unit 1, the West Landfill, Wet Scrubber Sludge Ponds and Center Landfill, and decision unit 6, the groundwater plume beneath the plant site, ranged from \$27,716,290 to \$165,590,849 for six alternatives. The EPA noted that the National Contingency Plan “requires that the selected remedial action be cost-effective and proportional to overall effectiveness.” Alternative 4A was found to have “the highest overall score of the seven retained alternatives when evaluating overall effectiveness, implementability and reduction of contaminant mobility.”¹²⁶ Regarding state acceptance of the preferred alternative, the EPA noted that staff at Montana DEQ participated in the development of the remedial investigation, the feasibility study, the proposed plan and the record of decision, and DEQ comments were incorporated before the documents were released to the public. The state agency supported the cleanup plan preferred by the EPA as presented. The same could not be said for community acceptance. “Most commenters preferred that the wastes be excavated, treated and transported to a hazardous waste landfill for offsite disposal. However, that option was eliminated early in the feasibility study evaluation process due to well-founded concerns about safety, short-term impacts and cost effectiveness,” the EPA said.¹²⁷

The alternatives also needed to undergo statutory review. Under CERCLA Section 121 and the National Contingency Plan, the EPA was required to select remedies that 1) protected human health and the environment and complied with applicable relevant and appropriate requirements, unless a statutory waiver was justified, 2) were cost-effective and 3) used permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. “In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity or mobility of hazardous wastes as a principal element and a bias against offsite disposal of untreated wastes,” the EPA said. In terms of risks to human health or the environment, the EPA concluded that its preferred cleanup plan posed no short-term threats that could not be readily controlled.¹²⁸

The preferred cleanup plan also complied with the applicable relevant and appropriate requirements (ARAR) for chemical contaminants in groundwater and surface water. As for costs, the EPA noted, “More than one cleanup alternative can be cost-effective, and the Superfund program does not mandate the selection of the most cost-effective cleanup alternative. The most cost-effective remedy is not necessarily the remedy that provides the best balance of tradeoffs with respect to the remedy selection criteria, nor is it necessarily the least-costly alternative. Rather, cost-effectiveness is concerned with the reasonableness of the relationship between the effectiveness afforded by each alternative and its costs compared to other available options.”¹²⁹

Lastly, the EPA noted that treatment was not a principal element of its preferred cleanup plan. “However, the use of containment is consistent with EPA’s presumptive strategy for landfill sites, where

containment remedies are preferred over other remedies, such as removal and treatment,” the EPA said, adding,

“A temporary groundwater treatment facility may be built prior to slurry wall installation, if determined necessary in remedial design. If shakedown monitoring conducted after the slurry wall has been constructed determines that groundwater treatment is necessary, a long-term treatment facility and its ancillary components will be constructed. Extracted groundwater will be treated if concentrations of contaminants during remedy construction or long-term monitoring are elevated above levels that would allow for direct discharge. The facility would be anticipated to be in use only possibly during seasonal high-water conditions. This satisfies the statutory preference for treatment, even though contaminated groundwater is not considered a principal threat waste.”¹³⁰

Engineering a perfect plan

Broadly speaking, before selecting a cleanup plan to address hazardous materials in a Superfund site, the EPA needed to determine what source materials constituted principal threats. “A source material is one that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, surface water or air, or that acts as a source for direct exposure,” the EPA said in the record of decision. “Contaminated groundwater generally is not considered to be a source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur.” The EPA noted that the source materials in decision units 1 and 6 were toxic, but they were not highly mobile and could be contained using the EPA’s preferred cleanup plan.¹³¹

The source materials in the West Landfill and Wet Scrubber Sludge Ponds were found in the vadose zone, the region of soil or rock between the surface and the water table. The EPA noted:

“Contamination in underlying groundwater is thought to be the result of downward percolation of contaminants to the water table and seasonal high-water contact with the contaminant sources. Placement of new caps on the Wet Scrubber Sludge Ponds and Center Landfill as part of the remedy will limit if not eliminate the downward influx of water through contaminated materials to the hydraulic system, and will serve as an additional barrier to prevent contact with the source material. Installation of a fully encapsulating slurry wall will eliminate the seasonal high-water contact between groundwater and the source materials. There is currently no realistic exposure pathway to source materials, and there would be none under reasonably anticipated future land use.”¹³²

The EPA concluded that its preferred cleanup plan provided the best balance of tradeoffs among the evaluated alternatives and attained an equal or better level of achievement for the threshold and balancing criteria than the other evaluated alternatives. The preferred plan achieved substantial risk

reduction and was feasible and implementable, the EPA said, and had long-term cost-effectiveness. Residual risks were effectively eliminated, mitigated or managed, the EPA said, and the successful performance of the preferred cleanup plan was found to be similar to remedies implemented at other Superfund sites that included installation of slurry walls. ¹³³

The preferred remedy included:

- Construction of low-permeability caps on the Wet Scrubber Sludge Ponds and Center Landfill while maintaining the West Landfill cap.
- Upgrading existing stormwater-engineered run-on and runoff controls to minimize infiltration and percolation of snowmelt and stormwater into the containment cell.
- Abandoning monitoring well CFMW-017 that was installed through the Center Landfill, in accordance with Montana rules and regulations for well abandonment.
- Constructing a fully encompassing slurry wall around the West Landfill and Wet Scrubber Sludge Ponds to depths that keyed into the underlying low-permeability, glacial till layer, typically between 100 and 125 feet.
- Dewatering as needed during construction of the slurry wall, with captured groundwater being treated and effluent returned to groundwater via infiltration basins.
- Installation of paired extraction/monitoring wells, one within and one outside the slurry wall, as needed to monitor groundwater quality and to extract groundwater for treatment, if necessary. Locations of the wells would be determined during the remedial design.
- Conducting short-term groundwater monitoring after the slurry wall construction was completed. A shakedown plan would be prepared during remedial design that would include groundwater elevation or other hydrogeologic conditions to trigger groundwater extraction and treatment from within the containment cell. If groundwater triggers were activated, then a groundwater treatment facility would be constructed to treat cyanide, fluoride and arsenic.
- Implementing groundwater, surface water and sediment porewater performance monitoring of the groundwater plume, using existing and newly installed monitoring wells and at seeps and other floodplain areas within decision unit 5, the area along the Flathead River.
- Lining the Cedar Creek Reservoir Overflow Ditch in the vicinity of decision unit 1 to minimize surface water infiltration into the groundwater. This was a new requirement based on review of public comments. ¹³⁴

The Center Landfill, built in 1970 for depositing spent potliner and other waste, was considered by the EPA to be a potential secondary source of groundwater contamination by cyanide and fluoride, based on remedial investigation studies using wells. The Center Landfill was constructed above grade in an area where the water table was 35 feet down, so the dump was considered safe from seasonal high-level groundwater. For all these reasons, the Center Landfill was not included in the proposed slurry wall containment cell. ¹³⁵

Engineering controls installed at the landfills in decision units 1 and 2, including stormwater conveyance channels, sediment ponds and infiltration basins, would require long-term inspection and maintenance.

Engineered caps and covers, including vegetation established on the covers to reduce erosion, along with fencing and signage, would likewise require long-term inspection and maintenance. If groundwater extraction and treatment was determined to be necessary, an operation and maintenance plan would be drafted to document all operations associated with groundwater treatment, including pumping of extraction wells, water treatment facility operations, effluent water sampling to ensure water quality standards were being achieved, effluent-disposal infiltration-basin inspection and maintenance, and winterization of the treatment facility since it was expected to be operated only on a seasonal basis. Long-term monitoring of decision units 1, 5 and 6 would continue to document the reduction of total cyanide concentrations in surface water and free-cyanide concentrations in porewater.¹³⁶

The EPA also noted,

“Some members of the community commented that there may be unknown wastes buried in the decision unit 1 and decision unit 2 landfills. While the remedial investigation identified a specific list of contaminants in groundwater that were detected through six rounds of groundwater sampling during the remedial investigation, the EPA understands the community’s concern that unknown contaminants might be released in the future, given the lack of knowledge of whether the landfills in decision unit 2 are lined or not. To address this concern, the EPA is requiring that a full suite of contaminant parameters be analyzed from a select suite of monitoring wells located downgradient of the landfill decision units every five years, prior to the EPA’s five-year review. Any process to reduce or eliminate this monitoring requirement will be addressed in the long-term surface water, porewater and groundwater monitoring plan that will be developed during remedial design.”¹³⁷

The EPA determined that the landfills in decision unit 2, that is the East Landfill, the Sanitary Landfill, the Industrial Landfill and the Asbestos Landfills, were not considered sources of groundwater contamination, but concentrations of arsenic and polycyclic aromatic hydrocarbons in soils posed elevated human health risks. For ecological risk, the concerns were polycyclic aromatic hydrocarbons, copper, nickel and vanadium. The EPA’s preferred cleanup plan called for continuing to maintain the existing low-permeability cap on the East Landfill and the existing cap on the Sanitary Landfill, installing a low-permeability cap on the Industrial Landfill, improving existing soil covers at the Asbestos Landfills, and establishing institutional and engineering controls for the decision unit. “These actions will adequately mitigate exposure pathways to human health and ecological receptors by preventing direct contact,” the EPA said.¹³⁸

The condition of the decision unit 2 landfills was described in the record of decision as follows:

- The East Landfill was protected by a multi-layer, low-permeability cap with a 6-inch thick clay layer, a geomembrane layer, and an 18-inch thick vegetated soil cover. “It should not require improvement based on review of engineering as-built drawings and field observations,” the EPA said.

- The Sanitary Landfill was protected by a cover layer comprised of clean fill, which was in good condition and vegetated. The thickness of the cap was unknown, but the Sanitary Landfill ceased operation in 1982, which exempted the landfill from RCRA Subtitle D, Part 258 requirements.
- Both the East Landfill and the Sanitary Landfill were protected by engineered covers sloped to promote drainage and vegetated to minimize the potential for erosion or abrasion of the existing covers. “Both landfills have demonstrated the capability to function with minimum maintenance,” the EPA said.
- The Industrial Landfill was uncovered and pockmarked with visible surface depressions that could promote stormwater infiltration. During the South Percolation Ponds removal action along the Flathead River in 2021, the existing surface depressions were partially re-filled using excavated material from the South Percolation Ponds and a temporary soil cover of onsite borrow material. The Industrial Landfill would require an estimated 56,000 cubic yards of additional grading material to achieve a minimum slope requirement of 3 percent for a crowned-cap design. Remediation waste from other decision units, onsite borrow material, imported soil, or a combination thereof would be used to continue filling surface depressions and for grading prior to constructing a low-permeability cap. Stormwater conveyance swales or ditches and a perimeter berm would be constructed as necessary.
- The Asbestos Landfills were covered with soil, but the grade was uneven and some small depressions existed. The EPA’s preferred cleanup plan called for verifying the thickness of the existing cover and then adding more topsoil cover material as needed to establish a minimum 12-inch soil layer, eliminating surface depressions and establishing a uniform vegetated cover to prevent exposure and to minimize erosion. Stormwater conveyance swales or ditches would be constructed as necessary.¹³⁹

The EPA determined that soils in decision unit 3, including the main plant area and land surrounding the landfills, were not a significant source of the cyanide and fluoride concentrations found in groundwater. Concentrations of arsenic and polycyclic aromatic hydrocarbons in the decision unit 3 soils posed elevated human health risks. For ecological risk, the concerns were polycyclic aromatic hydrocarbons, copper, nickel, selenium and zinc. The EPA’s preferred cleanup plan called for excavating about 32,500 cubic yards of impacted soil and consolidating the excavated materials onsite at an existing EPA-approved waste-management landfill or a new, EPA-approved, onsite engineered repository selected during remedial design.¹⁴⁰

Decision unit 4, the North Percolation Ponds, were not considered a significant source of the cyanide and fluoride concentrations observed in groundwater. But concentrations of arsenic and polycyclic aromatic hydrocarbons in soils and sediment posed elevated human health risks. For ecological risk, the concerns were polycyclic aromatic hydrocarbons, barium, nickel, selenium, thallium and vanadium in soils; polycyclic aromatic hydrocarbons, aluminum, barium, cadmium, copper, fluoride and zinc in surface water; and polycyclic aromatic hydrocarbons, barium, cadmium, lead, nickel, selenium, vanadium and zinc in sediments. The EPA’s preferred cleanup plan called for excavating about 35,000 cubic yards of impacted material from the Northeast Percolation Pond, Northwest Percolation Pond, the

influent ditch and the effluent ditch. The excavated materials would be disposed of onsite at an existing EPA-approved waste-management landfill or a new, EPA-approved, onsite engineered repository selected during remedial design.¹⁴¹

Toxicity and cancer clusters

Part 7 of the Decision Summary discussed results of the toxicity assessment conducted at the CFAC Superfund site during the remedial investigation. The purpose of the assessment was to determine the relationship between the dose of a contaminant of potential concern taken into the body, and the probability that an adverse effect would result. Toxicity values used in the risk assessment were based on the EPA's Superfund hierarchy of human-health toxicity values. Quantitative estimates of the toxicity of the contaminants of potential concern were divided into carcinogenic effects and non-carcinogenic effects. "For carcinogenic effects, the EPA assumes a non-threshold toxicological mechanism that assumes there is no level of exposure that does not pose a probability that an adverse effect will result from that dose," the record of decision said. "For carcinogenic effects, the EPA assigns a weight-of-evidence descriptor to each contaminant of potential concern, and if applicable, a cancer slope factor or unit risk factor is subsequently calculated. The weight-of-evidence descriptor is based on the likelihood that the contaminant of potential concern is a human carcinogen."¹⁴²

The weight-of-evidence descriptors included:

- "Convincing epidemiologic evidence demonstrating causality between human exposure and cancer, or exceptionally when there is strong epidemiological evidence, extensive animal evidence, knowledge of the mode of action, and information that the mode of action is anticipated to occur in humans and progress to tumors."
- "Available tumor effects and other key data are adequate to demonstrate carcinogenic potential to humans but does not reach the weight-of evidence for the descriptor of carcinogenic to humans."
- "Evidence from human or animal data is suggestive of carcinogenicity, which raises a concern for carcinogenic effects but is judged not sufficient for a stronger conclusion."
- "Available data are judged inadequate to perform an assessment."¹⁴³

The toxicity criteria for non-carcinogens assumed a threshold effects level, below which adverse health effects were not expected to occur. Non-carcinogenic effects, such as organ damage or reproductive effects, were evaluated by reference doses for oral exposure, or reference concentrations for inhalation exposure. The basis of a chronic reference dose or reference concentration was usually the highest dose that resulted in a no-observed-adverse-effect level after chronic, usually lifetime, exposure in animal experiments. The no-observed-adverse-effect level was then divided by a safety factor, and occasionally an additional modifying factor, to obtain the reference dose or reference concentration. The baseline human health risk assessment evaluated potential human-health risks to receptors at the site using data collected during the remedial investigation study.¹⁴⁴

Data collected from each exposure area were used to characterize potential risks to current and future receptors, including industrial workers, landfill management workers, and stormwater management workers; construction workers; recreational trespassers, such as all-terrain vehicle riders and hunters; adolescent trespassers; adolescent and adult recreationists, such as boaters, floaters and fishermen; and adult or minor residents. Areas in the CFAC Superfund site where conditions were believed not to pose an estimated lifetime cancer risk above de minimis levels, or potential for non-cancer effects due to the presence of site-related contaminants of potential concern, included the Northcentral Undeveloped Area, the Eastern Undeveloped Area, the Western Undeveloped Area, the South Percolation Pond Area, the Flathead River Area and the Backwater Seep Sampling Area. Areas in the CFAC Superfund site where conditions were believed to pose cancer risks above de minimis levels or non-cancer effects due to the presence of site-related contaminants of potential concern included the North Percolation Pond Area, the Main Plant Area, the Central Landfills Area, the Industrial Landfill Area and the Plume Core Area.¹⁴⁵

In its discussion of uncertainty in determining toxicity risks, the EPA said, “The procedures and assumptions used to assess potential human health risks in the baseline human health risk assessment were subject to a wide variety of uncertainties. However, the presence of uncertainty is inherent in the risk assessment process, from the sampling and analysis of chemicals in environmental media, to the assessment of exposure and toxicity, and risk characterization.” Uncertainty typically was found in characterization of the nature and extent of contamination at a site, in modeling for environmental fate and transport, in the magnitude and duration of exposure for various receptors, and in toxicological values used to characterize risks or hazards. “Accordingly, it is important to note that the risks presented in the baseline human health risk assessment are based on conservative assumptions in order to be protective of human health, and to bias risk estimates toward overestimation of risk rather than underestimation,” the EPA said. “Because of this conservative bias, actual risks are likely to be less than the estimates.”¹⁴⁶

The baseline ecological risk assessment estimated site risks if no remedial action were taken at the CFAC Superfund site. It provided the basis for taking action and identified the contaminants and exposure pathways that needed to be addressed by the remedial action. “Exposure is the process by which receptors come into contact with contaminants in the environment,” the EPA said. “It includes exposure media, exposure pathways and ecological populations of potential concern at the site, as well as the quantification of exposures and derivation of the exposure point concentrations used in the risk characterization.” Impacted environmental media varied among the different ecological exposure areas and associated habitats and included surface water, sediments and soil. Ecological receptor exposure pathways included direct or incidental ingestion, and to a lesser extent direct contact and inhalation. Several surrogate species were identified as representative species to evaluate exposure to mammalian and avian receptors. Six federally threatened or proposed threatened species were identified by U.S. Fish and Wildlife Service to be found in the CFAC Superfund site, including Canada lynx, grizzly bear, North American wolverine, yellow-billed cuckoo, bull trout and Spalding’s catchfly. The Service also indicated that critical habitats for bull trout and eight migratory birds of conservation concern may occur at the site.¹⁴⁷

The EPA's remedial action objectives for the CFAC Superfund site took into account the results of the toxicity assessment. Remedial action objectives, which would be reviewed every five years to determine their protectiveness of human health and the environment, could be defined according to specific contaminants of concern, environmental media, exposure pathways and receptors to be protected. The remedial action objectives for solid media were 1) prevent ingestion, direct contact and inhalation of contaminated soils and sediments that would result in unacceptable risk, under anticipated future land uses, from arsenic and polycyclic aromatic hydrocarbons such as (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene and indeno(1,2,3-c,d)pyrene); 2) eliminate exceedances of Montana DEQ-7 groundwater standards by reducing migration of arsenic, total cyanide and fluoride from contaminated soils and wastes to groundwater; 3) eliminate the unacceptable risk to aquatic receptors from direct contact with or ingestion of surface water or porewater by reducing migration of metals such as aluminum, barium, cadmium, copper, iron and zinc, as well as cyanide, fluoride and polycyclic aromatic hydrocarbons; 4) eliminate the unacceptable risk for terrestrial and transitional ecological receptors by reducing ingestion of and direct contact with elevated concentrations of metals such as barium, copper, nickel, selenium, thallium, vanadium and zinc; 5) eliminate ingestion and direct contact that would result in unacceptable risk for aquatic and semi-aquatic ecological receptors by reducing contact with metals such as barium, cadmium, lead, nickel, selenium, vanadium and zinc. Similar remedial action objectives were established for groundwater and surface water. ¹⁴⁸

In stating its remedial goals, the EPA noted, "Most exposure areas do not pose an excess lifetime cancer risk above de minimis levels or potential for non-cancer health effects. Exceptions are the North Percolation Pond Area, Main Plant Area, Central Landfills Area and Industrial Landfill Area. Groundwater in the plume core poses risk to hypothetical future residential drinking water users. Polycyclic aromatic hydrocarbons, cyanide and fluoride are the primary risk drivers." ¹⁴⁹ In a later section, where the public commented on the design of the slurry wall, the EPA clarified a statement from the feasibility study, saying, "The potential lifetime cancer risk rate for groundwater of 2 in 10,000 is for a hypothetical future resident scenario. There are no current residents being affected by the current extent of groundwater contamination." The EPA's preferred cleanup plan "is designed to contain and reduce the extent of groundwater contamination." ¹⁵⁰

The EPA received 11 comments from eight individuals and Citizens For A Better Flathead expressing concern about cancer risks posed by hazardous materials at the CFAC Superfund site. An unnamed commenter from Columbia Falls came from "one of at least six families, that we're aware of, that from 2011 has experienced pediatric cancer in our families... Of those six children, three have passed away. We're one of the lucky families where we still have our child, if you call going through pediatric cancer lucky." The commenter went on to say that "in 2017, when our child was diagnosed, we did talk to the pediatric oncologist – and there was an outstanding young man that had just passed away – and we said, Yeah, this seems to be happening a lot in our community. And she told me – she said, You don't even know. She said, There's something wrong up there." According to a local newspaper, the commenter continued, the Montana DEQ reported no uptick in cancer cases in the Columbia Falls area,

“but my child was not included, another one that was diagnosed three weeks before her was not included, and we’ve had at least one more child since then.”¹⁵¹

Another commenter described anecdotal cancer stories from the Columbia Falls area. “You talk about the childhood cancer. In my neighborhood over there, there’s been nine women with breast cancer. We have an inordinate amount of childhood diabetes in this city, and lymphoma. And it seems to be in this northern end of the valley. Not so much Whitefish, but this northern end of the valley. That’s why I repeatedly ask – my wife dug in the damn yard every year for 40-some years planting and unplugging and changing things and changing the walk, and making me do this and having me do that. She ended up with a very odd form of breast cancer and passed away. Carbon is on that hit list for cancer-causing agents.”¹⁵²

A former CFAC worker familiar with the smelter plant, described employees’ encounters with cancer and carcinogens. “We had three people out of 12 people that worked in the laboratory there – three women – all three of them had cancer at the same time, and the rest of the staff agreed that they would walk out with them if they didn’t stop the testing. We stopped the testing. But they, to a person, believe that because they had to do tests for benzene, xylene and toluene solubility in carbons – these are three known carcinogens, but you have to dissolve carbon in them to get at what you need to from a technical standpoint to evaluate them – they believed it was there. Those three chemicals ran down the sinks and out to a dry well. And do you know how many tests they did at that dry well? None, because it’s underneath the parking lot of the plant. So there’s reason for you to have these feelings. I can also tell you that I personally know six people that worked in the paste plant that are either still suffering with cancer or have died. And that’s probably in a group of 25 or 30. And they died from pancreatic cancer, colon cancer, you know, you name it. They were all good people, but they didn’t have long lives. And all of that is working with carbon and carbon chemicals, coal-tar pitch and all the crap that comes out of the coal-tar pitch when you start heating it. So you’re on a track. They’re not gonna let you go there, because when they did the studies on health and all that, they ran those through really quickly, and they refused to look at and even talk to the liaison panel about they’re not gonna talk about cancer, because cancer is not something that’s caused by, you know, what we’re looking for. There are cancer chemicals out there.”¹⁵³

The same commenter reported seeing hazardous waste from the CFAC landfills present at a residential property bordering the plant site. “And the other thing that they wouldn’t listen to us about – Delbohms own the property at the end of that road. He was a logger and a farmer and a sawmill operator, and he had a backdoor road right into our dump. And if you would have gone and looked before he died, his sawmill and all of his equipment had steel on it that you couldn’t believe. It looked just like our collector bars right off from the bottom of our cathode where supposedly the cyanide comes from. He used that to counterweight every one of his vehicles. All the sawmills on a side hill, they were all mounted with that to support it. You know, there is cyanide in that creek. They washed it away, because it’s not in any of the reports now. But back then, you know, that’s how that property looked. He was a scavenger and a hoarder, and he used his property to – you couldn’t kick him off. He didn’t own it. That’s how one of

those lawsuits was settled. They bought the property out from under these people, and allowed them to live there until they died. By the way, his wife died of cancer, too, living right there.”¹⁵⁴

One commenter expressed concern about airborne chemicals leaving the plant site. “Lots of health concerns over pollutants blowing west from plant every morning with orographic winds into the small city of Columbia Falls. Health concerns are women breast cancers, childhood diabetes, lymphomas... which may be related to carbon dust and fumes from paste plant, fluorides, cryolite etc. leaving the plant property. No testing has been conducted west of the CFAC property, i.e. North Fork Road. This is a must. Testing should be done in the city, remembering that the stream flows underground through the city property also.” The same person added, “During the last era of plant time, the coal tar pitch supplier was changed to a more benzene-rich style. As we all know, the ‘zene’ family is laden with tons of proven cancer-causing histories. Where were the by-products buried? Certainly needs to be verified, as several women who tested its use in the lab were diagnosed with breast cancer.”¹⁵⁵

Another commenter expressed concern about cancer rates in Columbia Falls. “I am writing in regards to the proposed remediation plan for the Columbia Falls Aluminum Company site. As a science teacher in Columbia Falls, my students and I have studied groundwater contamination and other Superfund sites around the state. Based on my conversations with former employees of the plant, local scientists and longtime citizens of the area, I have questions regarding the plan. The major question that remains is the impact on human health. There is a high rate of cancer in Columbia Falls, and I know that many have wondered if there could be more testing of both soil and water outside of the Superfund site to determine the scale of contamination. Will there be additional testing outside of the Superfund site itself? Can more research be done to explain the rates of cancer in the area? If multiple women living in the Aluminum City neighborhood of Columbia Falls have the same type of rare cancer, can further testing be done to determine possible causes?”¹⁵⁶

Another commenter described a high rate of cancer cases in Columbia Falls. “I would like to know what if anything the EPA and other project managers are doing to address the unusually high rate of pediatric cancer that has occurred in Columbia Falls since 2011? Just one death is too much, but Columbia Falls has experienced six cases since 2012, three young athletes have died.” Another called for more studies into what was causing cancer in Columbia Falls. “There have not been enough studies of the health consequences of this contamination. 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 this slurry wall is built so all the contaminants are still onsite.” Two commenters with identical language wrote, “An unusually high rate of pediatric cancer has occurred in Columbia Falls since 2011, as well as a high rate of cancer among lab employees performing tests. Did the EPA pursue data regarding high cancer rates potentially linked to air, water and soil contamination? 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? Just one death due to pediatric cancer is one too many. Columbia Falls has experienced six cases since 2012; three of those young athletes are no longer alive.”¹⁵⁷

The EPA responded to these comments by noting, “Calculation of risk at Superfund sites nationwide follows strict guidelines to ensure that the science is credible and defensible. Cancer risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to potential carcinogens. Excess lifetime cancer risks are calculated as probabilities.” The EPA added, “Health protective assumptions were used in the human health risk assessment to estimate noncancer hazards and cancer risks from exposures to chemicals of potential concern for a range of current and potential future human receptor populations. Assumptions made throughout the human health risk assessment are conservative, meaning that they tend to overestimate exposure and resultant risk, rather than underestimate it.” As for risks to residents living near the CFAC Superfund site, the EPA said, “There are no complete exposure pathways for receptors beyond the site boundaries.”¹⁵⁸

As for commenters concerned about bioaccumulation of polycyclic aromatic hydrocarbons, the EPA responded, “Bioaccumulation, in and of itself, is not considered an exposure pathway. Exposure pathways include inhalation, ingestion and dermal contact with contaminated media. Bioaccumulation was considered in the food web modeling and subsequent risk evaluations for the range of exposure pathways and receptors at the site. This information was used to determine site-specific risk-based preliminary remedial goals for the protection of human health and the environment.” The Montana Department of Health and Human Services asked about the risk calculation method used for polycyclic aromatic hydrocarbons and recommended that the EPA sum risks from all carcinogenic polycyclic aromatic hydrocarbons as part of the risk assessment to derive a total risk from all carcinogenic polycyclic aromatic hydrocarbons. The EPA in its response agreed that “consideration of total cancer risk is important, for all carcinogenic chemicals of concern, to ensure that the combined excess cancer risk does not exceed 1E-05,” that is a 1-in-100,000 chance of developing cancer, which was sometimes considered a health concern by some states.¹⁵⁹

A flurry of questions

Public involvement is required during the Superfund mitigation process. “The EPA’s goal is to educate the community about the work at the site and to collaborate with stakeholders on how to successfully engage the public,” the agency said near the beginning of Part 3 of the record of decision. “We have worked in conjunction with Montana DEQ, the Community Liaison Panel, and interested members of the public throughout the project.” In May 2023, one month before the EPA announced its preferred cleanup plan, the EPA provided independent assistance to the Columbia Falls community through the Technical Assistance Services for Communities grant program to help the community better understand the technical issues associated with the selected cleanup plan, the record of decision and beyond. The National Contingency Plan required a 30-day comment period after a cleanup plan was selected, but the EPA started with a 60-day public comment period and extended it to 90 days at the request of the public, from June 1 to Aug. 31, 2023. Additionally, the EPA notified local government, congressional representatives, the Community Liaison Panel and other groups before the selection of the preferred cleanup plan was made. At the end of the formal comment period, the EPA participated in several

community outreach activities through 2024, including open house events, a farmer's market booth in Columbia Falls and a presentation to CSKT's Tribal Council on June 11.¹⁶⁰

A total of 135 individual comment submissions were received by mail, email and orally, as recorded by a stenographer, and each submission was assigned a sequential comment identification number. Some commenters submitted more than once in the comment period. Each submission was separated into sub comments that were grouped and addressed by topic. "Some submissions were difficult to separate and fit, and the comment or sub comment was placed in the category that offered the best fit," the EPA said. "This method of grouping allowed all major topics to be addressed without repetition, so that the reader can easily identify topics of interest."¹⁶¹ Three individuals, including Mick Ruis, Steve Wright and a representative of Wooden Haus Supply, along with ARCO, the Montana Department of Public Health and Human Services and CFAC, expressed support for all or part of the EPA's preferred cleanup plan in their comments. Ruis was negotiating a large land deal with Glencore for residential development. Wright was CFAC's long-time environmental manager. Wooden Haus Supply, which produced cross-laminated timbers, was "very interested in the CFAC site as a potential location for our storage, assembly and, ultimately, manufacturing operations."¹⁶²

The names of individuals who submitted comments were recorded and tracked but were not made available to the public due to the EPA's privacy policy and commitment to protect personally-identifiable information. However, names of businesses, organizations and government entities submitting comments could be made public. They included Atlantic Richfield Company (ARCO, a former plant owner responsible for 35 percent of the cleanup cost), Citizens for a Better Flathead, Columbia Falls Aluminum Company (CFAC), Montana Department of Public Health and Human Services, Montana Department of Justice's Natural Resource Damage Program, Ruis Holdings (the company planning to buy part of Glencore property), Skeo Solutions (the TASC contractor) and Wood Haus Supply (a Whitefish, Mont.-based company interested in setting up a cross-laminated timber plant at the closed site). Roughly 31 percent of the commenters were from Columbia Falls or Aluminum City, the small community adjacent to the CFAC plant site. Comment submissions ranged in length from one to more than 180 comments in a single letter. Approximately 40 percent of the comments were identical or differed only by a few words. The EPA prepared a total of 61 responses to address the comments the agency received.¹⁶³

The first topic in the record of decision's comment section dealt with the potential use of wetlands for biotreatment of extracted groundwater, the use of permeable reactive barriers in addition to the EPA's preferred cleanup plan, and the possibility of recycling spent potliner. One commenter suggested putting permeable reactive barriers downgradient of the slurry wall to handle releases of arsenic should the water-treatment facilities not meet remediation goals. A teacher noted that students wanted to know, "How can essentially one remediation option address the scope of the problem? Can additional strategies be used to strengthen the plan?" Another commenter noted that discharging contaminated groundwater to constructed wetlands for bioremediation "would allow for the natural cleansing process of wetlands to be used. In addition, the plants can later be analyzed as part of the ongoing monitoring and assessment." One commenter, addressing safety risks in excavating the landfills posed by the EPA,

suggested using “long armed excavators, personal protective equipment for workers, and methods to limit infiltration of water into the excavation” and technologies available to treat or even recycle spent potliner. “The feasibility study acknowledges that long-term deed restrictions or a controlled groundwater area will likely be required to prevent beneficial use of groundwater at the site,” the commenter noted. “This imposes unacceptable restrictions on use of the land in perpetuity, impacting all of us but especially the local community.” In its response, the EPA noted that wetlands would be further considered if necessary to deal with an ineffective slurry wall, installing a permeable reactive barrier downgradient of the containment cell would increase costs with limited gains, and “excavation of spent potliner does not meet the requirement of being proportionately cost-effective.”¹⁶⁴

The EPA received 55 comments from individuals who said the EPA’s cleanup plan was unacceptable and asked the EPA to carefully consider questions raised in the comment period, of which 53 were either identical or slightly modified. A common statement was, “I feel the Columbia Falls Aluminum Company Superfund site proposed cleanup plan, which includes leaving a massive volume of toxic waste in place without a plan for removal, or a plan for long-term full remediation of the Columbia Falls Aluminum Plant site, is an unacceptable cleanup plan. I urge you to give careful consideration to the numerous questions that are being raised during this comment period by former CFAC employees, organizations, scientists, and agency and local government officials. Consider these to be my questions as well.” The EPA responded by generally describing the role of comments as an important tool for gauging public acceptance of the EPA’s preferred cleanup plan, in discovering new information, especially during the design phase and when considering monitoring plans. The EPA said it “appreciates receiving comments from the community and takes them seriously.”¹⁶⁵

The EPA reported receiving 69 comments on evaluating costs and protectiveness, of which 59 were identical. A common statement was, “Please explain in more detail how leaving this toxic waste in place, despite all the questions being raised during this comment period and previously, will 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? 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? Explain why costs factors have been given greater weight than 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?” One commenter wanted to know how the EPA’s preferred cleanup plan would “protect me and future Columbia Falls residents that live downriver from CFAC from toxic/residual contamination? For decades or even hundreds of years? This should not be a short term ‘fix’.”¹⁶⁶

One lengthy comment questioned the scoring system used to judge alternatives, especially as the scoring system dealt with costs and effectiveness. “It seems like getting rid of the source of contaminant would 1) increase the short-term effectiveness (gets rid of the source material), 2) increase the long-term effectiveness (source material is remediated), 3) increase the overall treatment (less source contamination), 4) increase the overall effectiveness (residents are happy and contamination is

remediated), and 5) decrease current and future risk to residents (risk has been mitigated),” the commenter noted. “Unfortunately, what it really comes down to is cost. Our future insurance, mitigation and quality of life costs will ultimately exceed the price it takes to excavate and treat the contamination, and seeing as both British Petroleum and Glencore have made \$1 billion each (at a minimum) at this community’s expense, placating to our humble requests will improve your image immensely.” The commenter noted that the EPA did not clearly understand what materials were in the landfills, including how much groundwater and how the water moved, nor the geological strata within the proposed containment cell area. “You have done nothing yet to investigate this large area inside the slurry wall,” the commenter said. “How can you decide to implement a decision that you have no idea whether it will work? Digging it out for transport bypasses the slurry wall technology issues and gets the waste out of the ground to a known safe location. How is digging it out less implementable than risking millions of dollars on a technically questionable solution?”¹⁶⁷

Another commenter cited the EPA’s statement in the remedial investigation-feasibility study document “that as an organization they believe that ‘it is best to leave toxic wastes in the dumps; rather than attempt to remove them.’ This statement explains why so few hazardous waste sites have been cleaned up in the 40 years the EPA has been in existence.” Apparently leaving toxic waste in place underground was “using Mother Nature’s slow and deliberate ability to clean itself up. The soil can gradually reduce concentrations of chemicals by chemical and dilution processes for contaminants. The rivers, once the contaminated material reaches them, have the ability to make them magically disappear through the processes of dilution and re-distribution downstream into bigger and bigger bodies of water. These are the EPA solutions we generally see. Look at what is proposed at CFAC. There is no proactive attempt to remove anything from our natural environment on a timely basis. Just hide it and dilute it away over decades. 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. There is little they do that is proactive to quickly address any issue they face.”¹⁶⁸

One commenter said “the Government Accountability Office has criticized the EPA’s lack of data on Superfund cleanup costs, noting the information is inconsistent and unreliable. Based on this criticism, what steps have been taken in the proposed cleanup plan for the CFAC Superfund site to provide a well-documented basis for proposed costs, particularly as costs appear to be one of the main factors being used to justify leaving toxic waste in place rather than a goal of complete remediation?” The commenter added, citing a December 2021 report by Environment America and the U.S. Public Interest Research Group, “For two-plus decades, federal policy helped corporations and businesses ignore the growing cost of contamination by shifting the financial burden for cleaning up Superfund sites from industry onto taxpayers.” According to the report, the Superfund program originally was funded by taxes on the chemical and petroleum industries, who were responsible for Superfund sites around the U.S. Revenue from these taxes went into a trust fund designated to support the Superfund program. But when Congress let those taxes expire in 1995, the EPA increasingly relied on funds from general taxpayer revenue to make up the growing shortfall. “Unsurprisingly, as the amount of money in the trust fund

fell, so too did the number of remedial cleanup actions, from 91 in 1999 to 14 in 2021,” the commenter said. “What efforts have been made to date, or could be made, to secure such funding to ensure that all toxic waste at the CFAC site is removed to a specially designed hazardous waste landfill and away from the banks of the Flathead River?”¹⁶⁹

The EPA responded by saying each potentially responsible party followed accepted national guidance in their preparation of the remedial investigation, and that the remedial investigation and feasibility study complied with CERCLA requirements. The EPA noted that, if cost was not considered at all, the EPA’s preferred cleanup plan would still score the highest in terms of effectiveness and implementability – even against the option of excavation and removal of the waste to an approved out-of-state landfill. An important difference was in short-term impacts – excavation and removal of the waste would create “more disruption to the community, more risk to workers, and it takes longer to implement.” The EPA also defended estimated cleanup costs stated in the feasibility study – they were intended for comparative purposes and were “not intended to be precise estimates of the final cost.” The EPA concluded its response by noting that “the investigation and cleanup of the site has been paid for by the potentially responsible party, and the EPA anticipates that the same will hold true of site cleanup.”¹⁷⁰

The EPA received 12 comments asking the EPA to better explain its decisions. CFAC in its comment expressed concern about the role that Skeo Solutions played in the comment process. Seven comments were identical, claiming a lack of transparency in the process to date and requesting an extension of the 60-day public comment period. “It took many years to get to this point, and then when I start to hear about, Well, we’re gonna have these five-year reviews, and we may adjust,” one commenter noted. “Those adjustments, will they take another 10 or 15 years to figure out how to make the corrections? This is a pretty serious, long-term situation, and my comments are, I just don’t know that I have the technical expertise to properly comment on something I don’t fully understand, and I don’t believe that this is enough time, in 30 days, for the community to get the information from the EPA on this design and then how the community is going to feel about it, whether it supports it or not.” Several commenters asked, “Why was the EPA not transparent in providing detailed information to the public about the removal option so we could understand and comment on this as an option rather than presenting it in a way that brushes it off as ‘something we wouldn’t want to see happen?’ How in depth was this removal option studied?”¹⁷¹

In its comment, CFAC claimed EPA-contractor Skeo Solutions’ report, “Proposed Plan for Cleanup Columbia Falls Aluminum Company,” was “inaccurate and misleading and inconsistent with the EPA’s obligation to effectively inform the public.” According to CFAC, the Skeo Solutions report “misled members of the public by, among other things, incorrectly implying that (i) significant technical uncertainties remain regarding the conditions at the site, when site conditions were extensively studied and reported on in a remedial investigation report that Skeo Solutions barely mentioned in their comments, and (ii) that this technical information in the remedial investigation was not used as the basis for evaluating remedial alternatives in the feasibility study that Skeo Solutions also ignored.” CFAC added, “The Skeo Solutions report left readers with the incorrect impression that major technical issues

had not been explored when they had been, and that there was a need for further site assessment to address these shortfalls when, in fact, those site conditions or possible impacts had been fully studied.” CFAC said the Skeo Solutions report failed to discuss the remedial investigation and feasibility study in any meaningful way and cannot act as an effective basis for the public to comment on the remedial investigation and feasibility study. “Furthermore, the fact that the Skeo Solutions 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,” CFAC said.¹⁷²

The EPA responded in a general way, describing how Superfund law outlined requirements for public outreach once a proposed plan was issued, how the EPA had complied with those requirements, and how proposed plans were formatted to provide an overview of the site and the process for evaluating and selecting a preferred alternative for cleanup. This formatting might make understanding difficult for members of the public, the EPA said, but it was required by law. As for CFAC’s concerns about EPA-contractor Skeo Solutions, “CFAC’s comments about their concerns with Skeo Solutions’ report are noted” and “Skeo Solutions’ report and CFAC’s comments on Skeo Solutions’ report have been included in the administrative record.”¹⁷³

The EPA received six comments from two individuals about financial bonding requirements for the potentially responsible parties required by a court order to pay for the CFAC Superfund cleanup. Such a bond could help cover costs related to poor performance, waste removal, a new water system, enhanced monitoring, residential development, and maintenance and operation, the commenters said. “Institutional and engineering controls should be expanded from just minimizing exposures or stopping access to caps,” one commenter said, to “include protection for the local community with financial guarantees and permanent zoning requirements.” The commenter added, “CFAC should post a financial bond that would cover the cost of removing the waste if their record of decision choice doesn’t perform to written goals, time lines and expectations for final outcomes.”¹⁷⁴

The commenter wanted a bond “to protect Aluminum City residents from bearing the cost of a state-administered controlled-water-use restriction declaration that forces residents to abandon domestic wells and forces them to other water sources,” as well as the “cost of installing and running city water and sewer to Aluminum City residents or others affected by contaminants reaching their well water.” The commenter also wanted a bond to pay for an early-warning system using monitoring wells along the plant site’s west fence line to detect contaminants of potential concern migrating underground. Lastly, the commenter wanted a bond posted to protect Columbia Falls taxpayers should Glencore or any successor property owners seek to change the zoning at the plant site to anything other than commercial or industrial. A second commenter, noting that the landfills containment cell “would need to be maintained in perpetuity,” asked why the EPA’s preferred cleanup plan did not include “a financial guarantee for the responsible parties to ensure funds adequate to maintain and repair the slurry wall and the pump and treat system.”¹⁷⁵

In their response, the EPA said the agency “negotiates financial assurance requirements in its Superfund settlements and imposes financial requirements on potentially responsible parties through orders. In general, financial assurance provisions in settlements and orders require potentially responsible parties to demonstrate that adequate financial resources are available to complete required cleanup work.” Financial mechanisms used in such settlements included trust funds, letters of credit, surety bonds, insurance policies, corporate financial tests and corporate guarantees. The EPA said that after the record of decision was signed, a consent decree would be negotiated to cover remedial design, remedial action (the cleanup) and long-term inspection, operations, maintenance and monitoring costs. The EPA added, “The plume beneath the site is not expected to change direction and migrate to Aluminum City, but any unanticipated movement of the plume toward the Aluminum City wells would be picked up by the network of monitoring wells between the site and Aluminum City.” If the plume seemed headed for Aluminum City, additional groundwater pumping would take place in decision units 1, 5 and 6, the EPA noted, “paid for by CFAC.” As for residential development possibly occurring on the plant site, institutional controls were in place to prevent that.¹⁷⁶

A plume runs through it

Results of groundwater sampling during the remedial investigation and feasibility study for the CFAC Superfund site clearly proved a plume of contamination extended south from the West Landfill area, downgradient and under the smelter operations area and the BNSF Railway tracks. The southwest corner of the plume touched the Flathead River where the South Percolation Ponds were once located. According to the record of decision, “The existing and remedial investigation data indicate that the West Landfill and Wet Scrubber Sludge Ponds are the primary sources of cyanide and fluoride in groundwater at the site,” the EPA said. “This is consistent across all six rounds of sampling. Adjacent to the West Landfill and Wet Scrubber Sludge Pond, groundwater elevations in the upper hydrogeologic unit can fluctuate more than 70 feet seasonally. Cyanide and fluoride emanate from this source area and migrate in south/southwesterly direction from the landfills toward the Flathead River.”¹⁷⁷

Furthermore, “The Center Landfill is a suspected secondary source area for elevated cyanide and fluoride concentrations in groundwater, based on concentrations in one monitoring well, which was installed through the Center Landfill cap in 1980... Remedial investigation results indicate that the Industrial Landfill, East Landfill and Sanitary Landfill are not significant contributing sources to the cyanide and fluoride in groundwater.” The EPA additionally noted that “the Northeast Percolation Pond and its influent ditch contained among the highest concentrations of cyanide and polycyclic aromatic hydrocarbons in soil and sediment, followed by the effluent ditch and the Northwest Percolation Pond. However, concentrations of cyanide and fluoride in groundwater downgradient (south) of the North Percolation Ponds are less than those measured in wells upgradient of the ponds. This continued decrease in concentrations as groundwater flows beneath the ponds suggests that the ponds are not a significant source of the cyanide and fluoride concentrations observed in groundwater... Additionally, although semi-volatile organic compounds were detected frequently in North Percolation Ponds soil, they were not detected in any groundwater monitoring wells immediately downgradient from the North

Percolation Ponds, indicating that the semi-volatile organic compounds in soil in this area are not a source of contamination to groundwater.”¹⁷⁸

Comments about groundwater concerns, the heart of the matter for the CFAC Superfund site, showed up in five consecutive topic groupings in Part 3 of the record of decision. Three people and CFAC commented on the frequency of groundwater pumping called for in the EPA’s preferred cleanup plan. “Has the EPA considered that pumping should be done more frequently than ‘seasonal,’ as groundwater accumulates and gathers contaminants from the compromised soils?” one commenter asked. “Given the high hydraulic conductivity of the area, inevitably groundwater will accumulate, increasing potential for slurry wall compromise.” The EPA responded by noting that wells installed inside the containment cell would initially be used to monitor groundwater accumulation. “If the slurry wall is not effective in stopping migration of the groundwater plume, these interior wells will then be used to extract groundwater for treatment,” the EPA said. “If treatment is determined to be necessary, it would be seasonal and would require much less groundwater to be treated compared to downgradient extraction alternatives. Should groundwater extraction be necessary, an appropriate treatment system will be designed and constructed. Groundwater extraction flowrates will be driven by well-specific capacity and the flowrates required to meet the remedial action objectives.” Any water generated from dewatering or stormwater management activities during construction of the slurry wall containment cell would be handled in accordance with applicable state and federal regulations, including offsite disposal or onsite treatment so that arsenic, cyanide and fluoride concentrations were below groundwater and surface water performance standards before being discharged. “The EPA anticipates that under the Preferred Alternative for DU1/DU6, any potential groundwater extraction from within the slurry wall would lessen the migration of contaminants from the source area and reduce the rate of contaminant loading to the hydrogeologic system,” the EPA said.¹⁷⁹

A number of comments to the EPA expressed concerns about how future land-use development of the Glencore property might impact groundwater monitoring. Skeo Solutions noted, “Certain future land uses may interrupt groundwater flow pathways and affect the monitoring results. It seems important to ensure that the future occupants/businesses are aware of site setting features and the need to avoid disrupting the water balance of the area. The community may want to ask the EPA how future land-use decisions will accommodate the existing monitoring network in order to be sure this network continues to capture and adequately characterize site conditions.” Three commenters asked, “How will the EPA ensure that future land-use decisions accommodate the existing monitoring network in order to be sure this network continues to capture and adequately characterize site conditions?” One commenter simply stated, “Keep people out – do not develop it.”¹⁸⁰

Another commenter described how Calbag, the demolition contractor, “was allowed to leave the concrete potline basements, thousands of feet of utility tunnels, underground water and sewer lines, the 80-foot deep rail car ore-unloading pit, the rectifier room basements, etc. Gravel was just dumped into the potlines. From April to July each year, these areas have leached-in polluted groundwater. The water eventually subsides, leaving chemical residue. The water is always visible, through the holes in the

exposed thick concrete rectifier room floors.” The commenter claimed to have “sustained chemical burns on my left hand from the water samples” found upgradient from the plant near the landfills. “The chemical plume moved further outward each year,” the commenter concluded. The EPA responded by noting that institutional controls limiting future land-use plans would be evaluated during the remedial design phase. “Regardless of which institutional controls are selected for groundwater restrictions, measures will be implemented to preserve the existing and future monitoring network and restrict groundwater pumping that would cause groundwater flow patterns to change,” the EPA said, adding, “EPA is not a land use entity and does not have the authority under CERCLA to make decisions about land use, including for unimpacted portions of a site, like the undeveloped areas west and north of the former plant.”¹⁸¹

Seven individuals along with Skeo Solutions, the Montana Department of Public Health and Human Services and Citizens For A Better Flathead commented on the need for continued testing of private drinking-water wells in Aluminum City. Montana DPHHS also requested that certain parameters be added to the list of analytes currently reported. Skeo Solutions noted that the EPA’s proposed containment cell was expected to prevent additional contaminants from leaching out of the landfills into groundwater, but that did nothing about the extensive contaminated plume beneath the Superfund site. “It is not clear if the existing groundwater plume will create any human health or environmental concerns,” Skeo Solutions said. “It is assumed that continuous monitoring will help verify that the plume will not create a concern. This indicates that monitoring of key exposure pathways will be ongoing to verify this conclusion (such as monitoring of private residential wells). The document does not mention if drinking water monitoring will continue during remedy development, design and implementation.”¹⁸²

One commenter saw a need for the EPA get an agreement in place for long-term and frequent well testing in Aluminum City “for the sanity and safety of those neighbors.” Another requested “more well monitoring from wells west of Highway 486, the North Fork Road.” And another said that, in addition to soil testing, “I want the well testing that has been ongoing (originally four times a year, now twice a year) continued into the future at least four times a year, to assure safe drinking water.” Other commenters sent similar requests. Montana DPHHS stressed the importance of monitoring for nitrate, nitrite and manganese “as these analytes have been detected at elevated levels in onsite groundwater,” adding, “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.” Montana DPHHS also emphasized the need to continue long-term monitoring of private residential wells in Aluminum City “to ensure that residents are not exposed to site contaminants in the event of potentially ineffective remedy or changes in groundwater flow pathways.” One commenter described a personal stake in this matter: “We own a house in Aluminum City... The only drinking water available is a well. Our daughter lives there... We had her well tested at our expense before we bought the house. 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. Regular updates on all groundwater testing should be provided to all neighbors.”¹⁸³

The EPA responded to these concerns by describing historical testing of five residential drinking-water wells near the CFAC Superfund site. In 2013, cyanide was detected in samples obtained from one well in Aluminum City at a concentration of 111 micrograms per liter and one well north of the CFAC site near the Cedar Reservoir at a concentration of 18.5 micrograms per liter, which exceeded the EPA's human health tap water residential screening level, but were below the EPA's maximum concentration level of 200 micrograms per liter. "Only one well was able to be re-sampled, and the result was non-detect," the EPA said. The EPA sampled 20 residential wells in April 2014 and ten wells in November 2014 with no cyanide detected. CFAC's contractors sampled nine wells in June 2015 and 10 wells in September 2015, again with no detection of cyanide. After that, a voluntary sampling program was started by CFAC using Hydrometrics Inc. for any Aluminum City resident who wanted a well to be tested. Hydrometrics sampled residential wells in Aluminum City for cyanide and fluoride on a quarterly basis from 2016 to 2018 and then on a twice-yearly basis from 2019 to the present. "To date, cyanide has not been detected in any of the residential well samples that were sampled under the voluntary program," the EPA said. "The typical detection limit for cyanide has been 10 micrograms per liter, which is below the EPA and DEQ drinking water standard of 200 micrograms per liter," the EPA said. "Fluoride (a naturally occurring constituent in groundwater) concentrations have ranged from non-detect to a maximum of 280 micrograms per liter, and in all instances were below the EPA and DEQ drinking water standard of 4,000 micrograms per liter." ¹⁸⁴

The EPA went on to note that the remedial investigation "indicated that the direction of groundwater flow beneath the site is primarily to the south towards the Flathead River and not westward towards Aluminum City." The EPA added,

"The western edge of the groundwater contaminant plume beneath the site is approximately one-half mile east of Aluminum City. Based on these findings, the EPA will require continued monitoring at the western edge of the groundwater plume under the long-term groundwater monitoring plan to verify that contaminated groundwater remains onsite and does not migrate towards Aluminum City. Monitoring will continue until groundwater performance standards are achieved at designated points of compliance. These monitoring wells will serve as 'sentinels' in the unlikely event that the plume begins migrating towards Aluminum City. This is a far more effective approach than monitoring the residential wells at Aluminum City, as corrective actions can be taken if plume migration is detected. Contaminant detection in Aluminum City means that the plume has already migrated the half-mile distance from the site, when corrective actions could have been taken place earlier." ¹⁸⁵

The EPA said CFAC was willing to continue testing Aluminum City wells for all residents who wish to participate in the voluntary program. "As there are no detections of cyanide in Aluminum City residential wells and fluoride concentrations are consistent with background concentrations in local groundwater, it is not necessary to expand domestic well sampling west of the North Fork Road," the EPA added. Groundwater monitoring parameters and frequency would be evaluated and determined during the remedial design phase, the EPA added. ¹⁸⁶

Four individuals, Skeo Solutions and Citizens For A Better Flathead commented on the need for groundwater monitoring in decision unit 5, the area along the Flathead River, which included the South Percolation Ponds (removed in 2020 to 2021), the Backwater Seep Sampling Area and the Riparian Sampling Area. Skeo Solutions recommended any future monitoring within the river should be designed to evaluate surface-water quality, porewater quality, biological health and sediment quality above, within and below the river segment; sampling of seep-water quality as part of the performance monitoring; and sampling for calcium fluoride, calcium oxide, magnesium oxide, sodium oxide and iron oxide, all of which were common elements of minimal concern, but which could cause water-hardening that adversely affected aquatic life. Three commenters, using the same words, noted that “two of the three tributaries of the Flathead River have been federally designated as Wild and Scenic Rivers. It does not make sense that we protect the tributaries with such designations and then negatively impact the mainstem of the river with contaminants. The river includes threatened bull trout and sensitive westslope cutthroat trout and is a popular site for outdoor recreation.”¹⁸⁷

The EPA responded to requests for increased monitoring along the Flathead River by noting, “Monitoring media, parameters and frequencies at decision unit 5 will be determined during the remedial design, based on the needs of each media,” adding, “The surface water to be monitored will be the backwater seeps, which are fed by groundwater from beneath the site. Surface water in the Flathead River will not be monitored as the remedial investigation demonstrated that water quality in the river is not impacted by the site.” Furthermore, the EPA’s preferred cleanup plan did not call for monitoring of decision unit 5 sediment, “as the sediment that posed a potential ecological risk was removed in the 2022 South Percolation Ponds removal action.”¹⁸⁸

Five individuals and Skeo Solutions commented on the potential effectiveness of the groundwater monitoring methods described in the EPA’s preferred cleanup plan. Skeo Solutions called for more frequent monitoring, saying,

“The groundwater conditions within the CFAC site boundary are very dynamic. Groundwater levels in a single year can vary substantially. The proposed plan states that groundwater fluctuated by 25 feet during the remedial investigation in the area near Teakettle Mountain and the Central Landfills Area. For instance, depth to groundwater ranges seasonally from 36 to 87 feet (high- and low-season, respectively) within the West Landfill area, and from 57 to 139 feet in the Center Landfills area. The proposed plan indicates that groundwater performance monitoring... will occur twice a year in June and October to capture high- and low-water level conditions, with a potential for annual monitoring thereafter. This seems very limited and can potentially miss seasonal groundwater conditions throughout the site. It seems important to conduct monitoring on a more routine and comprehensive basis until the impacts of the implemented remedy efforts are completely understood. At a minimum, it is recommended that monitoring occur on a quarterly basis. Once trends are established and repeated, then monitoring can be decreased.”¹⁸⁹

Another commenter, noting that groundwater flow in the area “is complicated,” pointed out that “any network of monitoring and extraction wells must be robust enough to completely capture the movement of water inside and outside of the slurry wall and be able to monitor rising water levels before they get too high, as well as to adequately treat any contaminated groundwater that occurs.” The commenter said the proposed series of wells “is not extensive enough to confidentially ascertain the extent of groundwater (and contaminant) movement” and asked, “Will the EPA ensure its team of experts cuts no corners in this effort? Will the EPA provide more than eight pairs of monitoring wells downgradient of the slurry wall?” The commenter went on to say that “performance monitoring (otherwise known as ‘leave it in place to see what happens’) is not an aggressive remedy, and it needs to be coupled with pumping and treatment options.” The commenter also asked that groundwater monitoring not stop after 30 years “if the goals are not met, and monitoring should not stop short of 30 years if during one dry season the goals are briefly met.”¹⁹⁰

The EPA responded to concerns about the effectiveness of the proposed groundwater monitoring system by noting that, while seasonal groundwater elevations fluctuated substantially around Teakettle Mountain and the landfills, groundwater elevation fluctuations, flow directions and quality were well characterized in the remedial investigation. That included six rounds of groundwater monitoring – four quarterly events between 2016 and 2017 and one seasonal-high and one seasonal-low water level round in 2018. In addition, six pressure transducers were installed in previously existing monitoring wells at the beginning of the remedial investigation to record continuous groundwater elevations, as a way to understand groundwater elevation fluctuations at the site. The pressure transducers were later moved to other monitoring well locations, and augmented by additional transducers added to the network.¹⁹¹

“Characterization objectives included developing a better understanding of the relationship between the upper and lower hydrogeologic units, fluctuations near the landfills and Teakettle Mountain, and the relationship between the upper hydrogeologic unit and the Flathead River,” the EPA said. “The data showed that the groundwater elevations in monitoring wells near Teakettle Mountain and the landfills fluctuated greatly because of snowmelt and precipitation events, while areas monitored further west were less susceptible to these seasonal fluctuations,” the EPA said. “At the same time, the pressure transducer data, which collected groundwater elevations every 30 minutes, confirmed the seasonal groundwater flow directions observed in the six sitewide monitoring events.”¹⁹²

As for comments questioning the frequency of groundwater monitoring, the EPA said it “anticipates that a higher frequency of groundwater monitoring will be necessary to initially evaluate the effects of the containment remedy for decision unit 2.” The EPA added, “During remedial design, a short-term groundwater monitoring plan will be developed to address pre-design, design, construction and shakedown post-construction monitoring requirements. The data obtained from the short-term groundwater monitoring plan will be used to develop the long-term groundwater monitoring plan.” Furthermore, the groundwater monitoring plan would be evaluated during each five-year review. “Predicting what measures might be taken cannot, with a reasonable degree of certainty, be done until

the selected remedy has been implemented,” the EPA said. The EPA also agreed that saying “groundwater monitoring may cease after 30 years, as inferred from the proposed plan, is misleading” and the record of decision now requires that long-term groundwater monitoring should continue for as long as necessary.”¹⁹³

Why not haul the waste offsite?

One of the most contentious topics for commenters to the record of decision focused on the EPA’s dismissal of any alternative calling for excavating hazardous wastes from the CFAC Superfund site’s landfills and hauling the material offsite to a certified landfill. Thirty-six individuals and Citizens For A Better Flathead described management of onsite waste under the EPA’s preferred cleanup plan as insufficient, and all called for hauling the waste offsite. One commenter, referring to a public presentation, noted that “what I’ve heard today reinforces if the less expensive route is taken, it’s still there” and “we think it’s gonna work; it’s probably gonna work; we really like the science.” The commenter went on to say, “Of course, the other side of the coin is, if it’s hauled away and it’s gone where it should have been taken, then I don’t think we have the problem about, Is it gonna work, because it’s gone.” The commenter wondered if significantly higher cleanup costs were considered, saying, “my guess is, for the people that live in Columbia Falls, the vast majority are probably gonna say, Yeah, it’s worth it; haul it away; we want it out of here.” As for transportation impacts cited by the EPA, the commenter added, “The people in Columbia Falls that I know are not worried about how many truckloads it takes to get the stuff out of Columbia Falls. We’re just not worried about it, you know. It’s gonna take a long time, et cetera, et cetera.”¹⁹⁴

Another commenter wanted all asbestos waste hauled away, instead of remaining buried onsite, before the problem escalated into something akin to the Superfund site in Libby, Mont. The same commenter believed “hot” areas at the Superfund site needed to be physically removed “and sent to a secure area in contained boxcars.” Another commenter worried about potential impacts to downstream communities if toxic waste was allowed to remain so close to the Flathead River. “Perhaps a more reasonable long term solution is to combine Montana’s toxic waste sites,” the commenter said. “The Berkeley Pit in Butte could contain the full amount of toxic material and at the same time begin remediation of the pit itself. Leaving it at the site of convergence of three rivers is probably the least appropriate place to have toxic waste. The corporations that create these sites need to be forced to clean up the mess they have made. The taxpayer received no profit from the product produced, and so should have no responsibility for the remediation project.” Another commenter described a personal stake in the cleanup decision. ““We live a couple of miles downstream from the Columbia Falls Aluminum Company Superfund site,” the commenter said. “We have been following the progress on the EPA cleanup of this location and are very uncomfortable with the containment solution the EPA has put forward. This is simply not an acceptable solution to the remediation of this site. A comprehensive removal of toxic materials is the only real solution, similar to what took place at the Milltown/Clark Fork River designated EPA Superfund site near Missoula.”¹⁹⁵

Another commenter wanted the waste removed, whatever the cost. "There is no way the containment approach would work, since groundwater will course through the area," the commenter said. "It does not matter that hauling the material to Oregon will cost three times as much. The full cost of cleanup is to be borne by the companies in chain of title. Also, it appears that the monitoring on a continued basis is not adequate. Please hold up against corporate grifting." A commenter who lived in the Flathead Valley for 50 years worried about long-term consequences. "The migration of the toxic waste material left in place to the Flathead River is inevitable," the commenter said. "Sooner or later the people of the valley will again be left holding the bag and suffering the consequences of your poor decision." Another commenter noted that "simple containment onsite is not a good solution, as we saw at the Milltown/Clark Fork River Superfund site in Missoula." Another commenter said, "I am confused about the decision to leave the toxic waste in a large pit rather than remove it completely, as was done on the Milltown/Clark Fork River near Missoula, where years of toxic waste build-up was completely removed." The commenter pointed to the "close proximity of the Columbia Falls aluminum plant toxic waste to the Flathead River and the impact on Flathead Lake, not to mention the health, welfare and safety of current and future residents in the community."¹⁹⁶

Expressing frustration, one commenter said, "This is a foolish waste of time and money. Please require that all hazardous items be fully removed by the company. This is the future health and safety of my son, his spouse and our two grandchildren you are placing in jeopardy, as well as all those others who live in this valley. This is a complete cop out by our government to not hold the company accountable." Another commenter believed removal of the waste was practical. "It is feasible to actually cleanup the CFAC site," the commenter said. "Capping pollution is not a cleanup. Do the right thing and protect the Flathead River and lake. The reality is that Columbia Falls is already a pediatric cancer cluster area. It is time to remove these toxic chemicals forever." Another commenter, noting that rail cars were used to deliver raw materials to the aluminum smelter in the first place, called for loading the buried toxic contaminants in rail cars and hauling the waste away from the Flathead River "to an approved landfill built to handle such toxic materials." Another commenter pointed out that the containment cell called for in the EPA's preferred cleanup plan did not prevent groundwater from rising up into the waste. "We hope you will reconsider what you are doing at this site," the commenter said, adding that the contaminants should be hauled offsite to an approved landfill.¹⁹⁷

Another commenter called the EPA's preferred cleanup plan "unacceptable," adding, "I do not see how leaving toxic waste (includes cyanide, fluoride, lead, polycyclic aromatic hydrocarbons) in an unlined 'landfill' onsite is a workable solution. What will prevent groundwater from infiltrating the landfill and leaching toxic material out of the waste? Even with an expensive containment wall, there will be leakage into the groundwater." One commenter put the CFAC Superfund site in an historical context. "Montana's existence as a supplier of resources, both raw and refined, such as metals, timber and oil, has continued for over a century," the commenter said. "Due to the state's remoteness and historically very low population density, it has been the victim of decades of extraction with little attention paid to how the extraction and refinement has occurred or consequences/responsibility of these processes." A resident of Columbia Falls, questioning the EPA's decision to leave the hazardous wastes onsite, asked

why other communities were afforded better treatment. “Columbia Falls is home to grizzly bears, eagles, pollinators, wild and scenic rivers, young children and anxious parents who won’t let their kids swim in the river that runs past the Superfund site,” the commenter said. “Like other Montana communities, we deserve an offsite containment solution.”¹⁹⁸

Another commenter, after praising the cleanup project at the Milltown site east of Missoula, noted that “we have another chance to protect a ‘wild and scenic’ river, the Flathead River.” The commenter also noted that the Hungry Horse Dam was a mere five miles upstream from the CFAC Superfund site. “If there was a breach of the dam, it would be a disaster which would most certainly flood the former CFAC location where a capped-off containment pond might be built, carrying all that waste south throughout the whole Flathead Valley and into the Flathead Lake and beyond,” the commenter said. Another person commented, “Leaving the waste next to the Flathead River is a recipe for disaster.” Noting that the local community “gave years of support to the aluminum company, regardless of ownership,” another commenter said, “In exchange, the property should be returned as close to its natural state as possible.” Another commenter pointed out, “In this topologically narrow area with volatile weather events, upstream on the Flathead River system, and feeding into the Columbia River drainage, stored toxic wastes can easily be carried downstream. The resulting contamination would be hugely more expensive to correct or mitigate than removing the waste now to a more stable and maintainable area.” One commenter cited a recent flood event. “We experienced a two-foot rise in the Middle Fork of the Flathead River in front of our home in just 48 hours with the recent rains Aug. 28-29, 2023. The risk of flooding will likely increase in the future. Hiding the problem will not make it go away. Please do the right thing, act now to remove these toxins.”¹⁹⁹

Another commenter said the EPA’s preferred cleanup plan “falls short of CERCLA’s primary goals of long-term effectiveness and permanence,” adding “it does not consider long-term impacts that could occur from flooding or seismic activity at the site.” A commenter who worked as a regional reporter for the Missoulian in the 1980s said the public was “assured by the EPA that capping these waste sites would be an adequate long-term pollution preventative. I reported as much, and I am now chagrined that this solution has failed. It seems apparent that high groundwater is leaching wastes from the site. It needs honesty now and a proper long-term cleanup.” A commenter who worked at the CFAC plant for 15 years and was familiar with the site said, “The only way to protect the Flathead River is to require Glencore to remove most of the contaminated soil and onsite treat the remainder.” As for concerns about negative impacts from shipping the wastes out-of-state by rail car, the commenter noted that was how contaminants were removed while the smelter was in operation. “They are not being fully honest,” the commenter said. “During the CFAC demolition, I used my past railroad experience to personally move the thousands of rail-car loads of scrap steel, carbon, etc.” Citizens For A Better Flathead pointed out that rail cars were used to haul away 26,000 tons of potliner containing cyanide and fluoride and another 2,750 tons of asbestos during the plant demolition, in addition to spent potliner produced from 1985 until the permanent closure of the plant in 2009.²⁰⁰

In its response to these numerous and unanimous comments calling for excavating the waste from the CFAC Superfund site landfills and hauling the toxic material to an offsite approved landfill, the EPA noted that consideration was given to that plan, but offsite waste disposal options were screened out in the technology screening phase of the feasibility study, where effectiveness, implementability and cost were used to assess the technology's ability to meet the remedial action objectives. Specific reasons for rejecting the removal option, as cited many times before, included the 500-mile distance to a licensed Resource Conservation and Recovery Act Subtitle C landfill; the time it would take to pretreat spent potliner and other wastes before hauling them away; the need for 60,000 truck or rail-car loads to handle the anticipated volume; the need to dewater and then pack the waste in clean, leak-proof, vented containers; the significant carbon footprint and air emissions associated with 60 million total truck/rail car miles; the impact to 30 enroute communities from an estimated 70 trucks and/or trains per day passing by for four to five years, with associated noise, dust, congestion, traffic issues and delays from railroad crossings; significant health risks to workers loading and unloading trucks or rail cars from poisonous cyanide gas or contaminated dust; potential traffic accidents based on Federal Highway Administration statistics, including potential fatalities and spills into waterways; the significantly higher costs for excavation, pretreatment, transportation and landfill fees.²⁰¹

A large number of commenters cited the removal of contaminated sediments at the Milltown Dam Superfund site east of Missoula as an example for the EPA to follow at the CFAC Superfund site. One commenter noted that 3 million tons of sediments were hauled off from the Milltown site to a safer location upriver, more than twice the estimated 1.3 million tons of contaminated wastes at the CFAC site. A commenter with "strong feelings on this matter" explained "how impressed I've been over the years in passing by on the highway by the efforts gone into the Milltown/Clark Fork situation."²⁰²

The EPA response was to note that every Superfund site was unique in terms of threats and opportunities to remediate those threats. The contaminated sediments east of Missoula were already in the Clark Fork River path and deposited behind an aging dam. "There was a constant threat of release when river flows were heavy," the EPA said. The contaminants in the sediments contained low levels of metals and "were not hazardous to people," but when released from ice jams and by flooding, the sediments "sometimes caused exceedances of Montana surface-water quality standards." During the cleanup, the sediments behind Milltown Dam were dewatered and hauled less than 100 miles by rail cars to a site owned by the potentially responsible party, ARCO. Pretreatment of the sediments was not necessary. "Sediments removed from Milltown were clean enough to use as cover material over other wastes deposited in the Opportunity Ponds waste management area at the Anaconda Smelter site," the EPA said. As for spent potliner being shipped from CFAC to Arlington, Ore. while the CFAC smelter was still operating, the EPA noted that the spent potliner at that time was stockpiled and not buried with other wastes and trash, making it easier to haul away. As for future catastrophic floods inundating the CFAC Superfund site, the EPA noted that decision unit 1 was 100 feet above the Flathead River with more than 1,000 acres of open land between the river and US Highway 2. Such a flood would hit this open land and flow south, away from the CFAC site, the EPA concluded.²⁰³

Make them pay

The idea of making offenders pay for their crimes is an ancient principal of law. In the case of Superfund sites, it typically doesn't refer to physical punishment so much as fines and restitution. On Aug. 25, 2021, federal district court Judge Donald Molloy issuing his ruling in CFAC v. ARCO, determining how the cleanup bill would be split between Glencore and ARCO. In deciding how to allocate cleanup costs between the two parties, Judge Molloy employed Gore factors, an approach used by other courts. Gore factors were enumerated by then-Rep. Al Gore in an unsuccessful attempt to amend CERCLA in 1980. His amendment was defeated, but with the statute lacking guidance, courts turned to Gore's evaluation system. Two of the six Gore factors asked whether a party exercised due care to prevent pollution by hazardous material generated by an industrial plant, and the degree of cooperation by the parties with federal, state or local officials to prevent any harm to the public health or the environment. Molloy determined that CFAC had not exercised sufficient due care with hazardous materials during its operation, and that ARCO had not cooperated fully with government agencies, especially with its operations elsewhere in Montana. These two factors played a role in the final ruling – CFAC was responsible for 65 percent of the recoverable CERCLA response costs, and ARCO was responsible for 35 percent.²⁰⁴ Glencore, a large and prosperous mining and commodities company, not only had a notorious history in the U.S. and around the world long before the CFAC plant was declared a Superfund site, its recent acquisition of five coal mines in British Columbia that threatened to pollute the Kootenai River added to local ire. The ire translated into calls by the public for restitution.

In their comments to the EPA, six individuals and Citizens For A Better Flathead addressed the issue of restitution in terms of payment for damages related to contamination and alleged loss of property value due to the Superfund designation. The EPA was urged to pursue the potentially responsible parties for reimbursement of costs related to investigation and cleanup and to compel them to donate a portion of the undeveloped land on the site for use as a conservation easement. One commenter noted that the EPA reported online that legal cases resolved in 2017 “resulted in a total of 153 years of incarceration for individual defendants, plus fines of \$2,829,202,563 for individual and corporate defendants, with an additional \$3,092,631 in court-ordered environmental projects and \$147,520,585 in restitution.” The commenter believed that “besides the cleanup, 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 has been affected adversely by being ‘next to a Superfund site,’ as my property, for one, has been described to me.” The commenter strongly suggested that Glencore, “as partial restitution, should donate – not sell – the meadow lands to the west of the plant site (three parcels encompassing 70.5 acres) for a conservation easement that would benefit the community, add value to the attractiveness of their plant site, and placate nearby residential owners like me, whose property values have been decreased with the news of the Superfund designation. Cleanup is one thing, but other types of criminal activity are usually assessed both a fine or jail time and restitution.”²⁰⁵

Another commenter used the exact same language to describe the need for restitution, but elaborated on how the conservation easement would be used. Advantages of maintaining an open space between

the plant site and the nearby residential community included enhanced quality of life and preservation of current habitat for wildlife “that have a right to live as they have in that space.” The owner of the plant site would also benefit from the open space – it would lessen conflicts between future activity at the industrial site and the nearby residential community, it would provide places to recreate, and it would create a buffer for wildland fire. “I realize that it is not the EPA’s role thus far in the cleanup process to dictate what is done with the site post-cleanup. However, when and if a cleanup is accomplished, the ongoing neighborhood will continue to have to deal with the stigma of being toxic. My home is my biggest asset, and therefore my future and my quality of life are impacted by the EPA’s decisions and recommendations. I ask that there be some qualifying conditions to the post-cleanup lands so that my 35-year investment in my home does not vanish along with the game that make this area their home.”²⁰⁶

Another commenter asked that Glencore be required to sign a legally binding financial document that guaranteed the current property owners of Aluminum City a minimum selling price equivalent to the highest state-appraised value for each individual property in the 2022 or 2024 appraisal cycle. The financial documents would be filed with the Flathead County Clerk and Recorder office to become a permanent part of the property’s legal description. “This legal document is to compensate for trauma caused by CFAC/Glencore actions in the last 10 years that have caused emotional, mental and physical stresses as a result of the Superfund designation,” the commenter said. “It will put a floor under future selling prices by the property owner should future efforts at cleaning up the Superfund site cause a loss of value.”²⁰⁷

One commenter said, “Please clean the site, and not just bury the contamination for future generations to suffer from the poor decisions of the small-minded people of today. Make them pay for the cleanup, so we can move forward through these sad moments in time.” Another commenter said, “I also think the EPA should strongly pursue the responsible parties for additional funding to help pay expenses.” One commenter sought some semblance of accountability. “I like fairness in life, and it is only fair that CFAC is held accountable for the restoration of this critical project,” the commenter said. “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.”²⁰⁸

In their comments, Citizens For A Better Flathead noted that court records from Judge Molloy’s decision documented how much money ARCO, CFAC and Glencore actually spent and earned while running the aluminum smelter. Citizens For A Better Flathead pointed out that in 2001-2002, during the West Coast Energy Crisis, when the smelter was shut down, Glencore earned \$659 million by selling BPA-contracted electrical power on the open market. “The company earned more than twice as much money selling power as smelting aluminum,” Citizens For A Better Flathead said. The group wanted ARCO or Glencore to show how much money it spent cleaning up the plant site. In light of the profits earned, Citizens For A

Better Flathead wanted to know why the EPA was not requiring the corporations responsible for polluting groundwater and soils and leaving toxic waste behind to “pay for full and complete restoration.” Citizens For A Better Flathead wanted to know how documents and facts from Judge Molloy’s ruling were being used to document actual investments in the cleanup and to hold ARCO and Glencore responsible for the cleanup costs as opposed to U.S. taxpayers.²⁰⁹

In response to the question of restitution, the EPA simply noted, “The EPA does not have the authority under the Superfund statute to compel a potentially responsible party to compensate nearby property owners for ‘emotional, mental and physical stresses as a result of the “Superfund” designation’ or for negative impacts to property values. Similarly, the EPA cannot compel a potentially responsible party, or any property owner, to donate their land for open space or wildlife corridors. These issues are best addressed between the landowner and the community.”²¹⁰ But restitution and restoration were not entirely the same. One was punishment of a sort and used to pay for the latter. Four individuals commenting on the EPA’s preferred cleanup plan urged the EPA to commit to a long-term full restoration of the 960-acre industrial Superfund site.²¹¹

The agency’s response to requests for full restoration of the site focused on its statutory responsibilities – protecting human health and the environment, making responsible parties pay for cleanup work, involving communities in the Superfund process and returning Superfund sites to productive use. “A property is considered ready for reuse when it has been investigated and requires no further action, or it has been cleaned up to meet site-specific cleanup goals,” the EPA said. “Properties with site-specific cleanup goals normally have engineering controls (such as fencing and signs) and institutional controls (such as deed restrictions or prohibitions on groundwater use) in place to protect the remedy and isolate contamination that remains in place. As long as waste is left in place at concentrations that do not permit unrestricted use and unlimited exposure, the EPA will conduct reviews every five years to ensure that the remedy, including institutional controls, remains protective.” In the case of the CFAC Superfund site, this meant “returning the portion of the site once used for producing aluminum to productive use, most likely as an industrial or commercial business park.” Noting that it was unclear what commenters meant by “long-term, full restoration” of the site, the EPA added, “Under the Superfund statute, the EPA does not return private property to pre-development conditions, and we cannot require set asides of unimpacted, private lands for wildlife corridors or other uses, no matter how beneficial. Such uses can be negotiated with the landowner and private citizens or local government.”²¹²

Slurry wall effectiveness

The long-term effectiveness of the slurry wall and the containment cell was a deep-rooted concern that the public recognized, even if they didn’t know how to address its technical faults. Four individuals and CFAC commented on the capabilities of slurry walls. One commenter wanted to know, “On a scale of 1 to 10... the EPA needs to put in simple terms if the bentonite walls and caps will contain contaminants with a water fluctuation of 50-plus feet in groundwater per year, allowing no bottom is in these

structures.” Another said, “The EPA is supposed to be about protection. By ‘securing’ top and sides of a toxic sludge and no protection at the base that can leach into groundwater, that is not protection. Not to mention it lies right next to the Flathead River. Do it right!” Another asked, “How long would you expect it to last before reasonably being breached?”²¹³

One commenter looked back on Montana’s storied history of large-scale mining pollution, especially by the very company that ARCO had absorbed. “I recently visited the Butte Anaconda Company Berkeley Pit. The trip made me realize that CFAC founder, the Anaconda Company, and later owners have left Columbia Falls with its own Berkeley Pit. It is nearly as large, but invisible, underground. I know this because, for a number of years, I personally collected the polluted water samples from the CFAC test wells and the riverbank seepage. I discovered pollution, deeper than Glencore’s proposed slurry-wall pollution-containment disastrous proposal. A decent slurry wall is nearly impossible in the CFAC river gravel-type soil.” But CFAC, in its comments, was satisfied with the EPA’s proposal. “Slurry walls and capping technologies have been used at numerous EPA Superfund sites,” CFAC commented. “They are a proven technology and are an effective containment remedy to contain source materials and prevent migration of contaminants to groundwater.”²¹⁴

The EPA responded to concerns about the slurry wall by noting, “The remedy relies on the effectiveness of a containment cell. The cap uses stormwater controls to shed precipitation away from the cell and the fully encapsulating, low-permeability slurry wall will keep upgradient groundwater from percolating into the bottom of the cell.” But, as with any engineered remedy, there were uncertainties, including “the ability to construct a slurry wall in glacial till containing boulders to a depth in some locations greater than 100 feet; the homogeneity of the underlying aquitard that the slurry wall will key in, as there may be localized transmissive zones (stringers of sand and gravel that allow groundwater flow at an increased rate compared to the rest of the aquitard) surrounding the designed slurry wall; and the potential for unknown groundwater source(s) beneath the containment cell that were not identified during the remedial investigation, such as groundwater recharge to the uppermost aquifer through fracturing in the underlying aquifer or potential transmissive zones underlying the containment cell as previously noted.”²¹⁵

For these reasons, the EPA added groundwater treatment, if necessary, triggered should elevated groundwater levels be detected by monitoring wells, to remove cyanide, fluoride and arsenic. The EPA added, “The glacial till underlying the West Landfill and Wet Scrubber Sludge Ponds has been shown through the remedial investigation to be an adequate aquitard, or base of the cell, to key in the slurry wall because no groundwater contamination was detected in the deeper aquifer below it.” The commenter who inferred that contaminated groundwater existed deeper than the proposed slurry wall was incorrect, the EPA pointed out. Because the slurry wall would be constructed using impermeable materials such as bentonite and cement, and because the leachate from the waste was not acidic, the slurry wall was expected to remain functional for a very long time. A more specific evaluation of how long the slurry wall was expected to function as planned would be included in the remedial design, the

EPA noted. Lastly, the containment cell would be constructed one mile away from the Flathead River, not right next to it as stated in some comments.²¹⁶

Two individuals, Citizens For A Better Flathead and CFAC commented more specifically on the slurry wall design and selection as a remedy. In a lengthy comment, one individual who favored encompassing the West Landfill and Wet Scrubber Sludge Ponds with a slurry wall, using dewatering as necessary, noted that the appropriate depth of the wall in places could be 125 feet. “Will the EPA commit to setting the wall to its maximum depth of 125-plus feet below the ground?” the commenter asked, adding that dewatering was needed during the construction phase. Going further, the commenter asked the EPA to consider draining and treating contaminated groundwater currently in decision unit 6, the plume beneath the plant site, and specifically under decision unit 1, the landfills. In another lengthy comment, Citizens For A Better Flathead posed 23 technical questions about the design of the slurry wall.²¹⁷

A second individual noted, “The company and its consultants go to great lengths to support their proposed 3,700-foot, 125-foot deep bentonite slurry wall. The feasibility study states that there is no reason to believe the slurry wall won’t be effective over the long term. But in fact, the EPA’s consultant CDM 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.” The commenter added that a closer reading of a report on slurry walls used across the U.S., cited in the CFAC feasibility study, “indicates that long-term performance was as designed at only 25 of the 36 sites investigated. Many sites experienced failures, which when detected required extensive repairs.” At the CFAC site, keying in to the aquitard at depths of 125 feet or more “will push the limits of the proposed methods of installation for the slurry wall, using the clamshell bucket excavation and hydro-mill techniques proposed. The feasibility study admits that the wall may be constructed as a hanging slurry wall, not keying into an impermeable layer. This calls into question the effectiveness of the wall in meeting its objectives, and the effectiveness of the proposed internal pumping system to maintain an internal flow gradient. Furthermore, the proposed slurry wall would be installed in groundwater that fluctuates more than 25 feet in elevation seasonally. This calls into question potential wetting and drying that may result in cracking and degradation of the bentonite wall. The feasibility study fails to acknowledge this risk.”²¹⁸

In its response to questions about the slurry wall design, the EPA said that “the preliminary design investigation, through several geotechnical borings, will determine the slurry wall depths needed to key into the low-permeability glacial till layer.” Specific information about the composition of the slurry wall would be decided during the remedial design, but the EPA expected the wall to be constructed of bentonite. As for Citizens For A Better Flathead’s technical questions, the EPA responded, “The exhaustive list of questions presented (by Citizens) regarding the evaluation and design of the slurry wall are more appropriately addressed during remedial design, where these details will be determined.”²¹⁹

A critical question related to the cleanup plan’s longevity was, simply put, “What if it fails?” – a separate topic the EPA created for evaluating comments. Four individuals asked what would happen if the EPA’s preferred plan failed. There were concerns that the Superfund process would start all over, and one commentator wanted the EPA to plan for the costs of replacing Aluminum City’s water system in the event

the selected remedy failed. Citing the deaths of Columbia Falls children from cancer, one commenter said, “I was disturbed with the response that this process would have to start all over again if the first remedy failed. And if that’s the case and if things are still breaching, then what about those children in the future?” One commenter wanted Glencore to pay for running municipal water from Columbia Falls to Aluminum City should the EPA’s preferred plan fail. Another commenter noted, “At one EPA meeting, there was much discussion that the EPA’s plan did not have a ‘Plan B’ in the event the slurry wall doesn’t achieve objectives. I don’t think these people have read the EPA’s document. In addition to the slurry wall, the EPA proposed a groundwater treatment plant that could be used if it is determined the slurry wall is not operating effectively.”²²⁰

The EPA responded by pointing out that slurry walls have been used since the late-1970s. By being constructed of flexible materials, they were capable of withstanding earthquakes, and by being underground, they were not subject to freeze-thaw cycles that might cause cracking. The EPA noted,

“If the discharge from the seeps along the Flathead River does not achieve DEQ water quality standards in an acceptable period of time, modifications would be made to the remedy to improve performance or to evaluate potential changes to the remedy without ‘starting over.’ Site cleanups are most often an iterative process, where information gained over time is used to improve the original remedy. The need for modifications is not a failure. A modification to the selected remedy will not cause the site to start over in the Superfund process. The level of modification will dictate how much process is required – a more major modification may require a focused feasibility study for example, but a lesser modification would not. The statutory five-year review process will evaluate the remedy every five years to ensure that performance objectives are met, and the remedy remains protective.”²²¹

As for the possibility of the contaminated groundwater plume drifting west toward Aluminum City and threatening residential drinking wells there, the EPA pointed out that early-warning monitoring wells would uncover that risk well in advance, adding, “There is no expectation that such contamination would happen given the history of contaminant migration at the site. As such, a city water system in Aluminum City is not deemed necessary at this time.”²²²

Commenters also wanted to know what cleanup plans worked at other Superfund sites. One individual asked, “I would like you to provide, as was asked earlier, of the approximately 21 other aluminum plants that are in the country, the solutions that have been used at those plants. I realize they’re in different geographic areas, but I think we can learn, and your report should inform the community of the solutions that were used there and how effective they’ve been. If there are slurry walls being used where they’re failing in other places, we need to know why and what were the situations.” Another commenter asked the EPA “to review the cleanup of our sister plant at The Dalles, as she was a mirror image of ours.” One commenter noted that a slurry wall reaching up to 150 feet underground was screened out during the cleanup investigation at the Mead aluminum plant site near Spokane, Wash., and another commenter pointed out that an in situ remedy was rejected and removal of hazardous

waste was required by the Washington Department of Ecology at the former aluminum smelter in Tacoma, Wash. in 2016.²²³

As for the EPA's concern about explosive cyanide gas interfering with excavation of a landfill containing spent potliner, one commenter asked what was done at "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." Noting that the problem of spent potliner disposal existed at every aluminum smelter in the world, the commenter noted, "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?" Citizens For A Better Flathead noted that Alcoa's aluminum smelter in Vancouver, Wash. was located near the Columbia River, and that PCB-contaminated sediments were dredged from the river. The site's long-term remedy included excavating and disposing of 50,000 tons of spent potliner and reclaimed alumina. "If removal of 50,000 tons of spent potliner was possible there, what basis is there for assuming it is not possible at CFAC?" Citizens asked.²²⁴

In its response, the EPA pointed out, "Ongoing and completed cleanups at former aluminum reduction plants differ for each site, as cleanup depends on the nature and extent of contamination, the condition of the remaining wastes and the environmental setting. This response focuses on remediation of nine former aluminum smelter sites in the northwestern U.S. These are the most relevant to the CFAC site." [The EPA's description of these cleanup actions in the record of decision is provided in this history's Chapter 58.]²²⁵

The EPA also received numerous comments specific to the remedial investigation and feasibility study, including how each decision unit was characterized; various groundwater issues; historical data on drinking water and the plant's production well; how the EPA handled input from interested individuals, groups or stakeholders; specific language used in the remedial investigation and feasibility study; how the EPA reviewed Judge Molloy's ruling in CFAC v. ARCO; support for the remedial investigation and feasibility study; and the potential for unknown wastes buried at the CFAC Superfund site.²²⁶

The EPA concluded its record of decision by saying,

"Landfill sites by nature have unknowns, as the wastes they contain are buried beneath the ground surface. However, the three years of groundwater monitoring conducted during the remedial investigation provide a level of confidence that the understanding of site contaminant sources is correct. New contamination from unknown sources that were not detected during remedial investigation sampling is unlikely, especially after the additional capping and slurry wall construction reduces the exposure of wastes to surface water and groundwater. Long-term groundwater monitoring associated with the selected remedy in this record of decision will ensure that the remedy remains protective and effective. Should they be needed, additional actions identified in the record of decision will ensure that the remedy adapts to changing site conditions. During the design phase, the EPA will evaluate the list of analytical parameters for

future sampling to see if there is value in occasional analysis of a more robust list of parameters, to rule out the possibility of impacts from unknown contaminants.”²²⁷

¹ Environmental Protection Agency, EPA and Montana DEQ Announce Cleanup Plan for Columbia Falls Aluminum Company Superfund Site, email received by Richard Hanners, Jan. 10, 2025

² Environmental Protection Agency, email received by Richard Hanners, Jan. 10, 2025

³ Environmental Protection Agency Region 8, Record of Decision for the Anaconda Aluminum Company Columbia Falls Reduction Plant Site, Flathead County, Montana, Jan. 10, 2025, PDF file downloaded from EPA website, Docusign Envelope ID: 22CA78E0-BC60-49C1-97EC-5D6A1BEEBD45, page 4

⁴ Environmental Protection Agency, email received by Richard Hanners, Jan. 10, 2025

⁵ Jim Vashro, “Corporate responsibility,” letter to the editor, Daily Inter Lake, April 21, 2024

⁶ Jim Vashro, April 21, 2024

⁷ Nelson Bennett, “Sale of B.C. coal mines to Glencore was bad deal for Canada: report,” Business Intelligence for B.C., July 22, 2024

⁸ George Ochenski, “Gianforte and Knudsen: Whose side are you on, the people or the polluters?” Daily Montanan, April 19, 2024

⁹ Mary Jane Barrett, “Time to pay the piper,” letter to the editor, Whitefish Pilot, May 1, 2024

¹⁰ Mayre Flowers, “A clean CFAC equals a brighter future,” Daily Inter Lake op-ed, April 23, 2024

¹¹ Roger Hopkins, “More time needed to consider CFAC cleanup plan,” letter to editor, Daily Inter Lake, April 28, 2024

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¹³ Tristan Scott, “Public Interest in CFAC Superfund Intensifies as Development Plans Emerge,” Flathead Beacon, April 26, 2024

¹⁴ Tristan Scott, Flathead Beacon, April 26, 2024

¹⁵ Tristan Scott, Flathead Beacon, April 26, 2024

¹⁶ Tristan Scott, Flathead Beacon, April 26, 2024

¹⁷ Chris Peterson, “EPA says it would be tough to remove all of the waste at CFAC,” Hungry Horse News, May 1, 2024

¹⁸ Tristan Scott, Flathead Beacon, April 26, 2024

¹⁹ Chris Peterson, Hungry Horse News, May 1, 2024

²⁰ Chris Peterson, Hungry Horse News, May 1, 2024

²¹ Tristan Scott, Flathead Beacon, April 26, 2024

²² Peter Metcalf, Phil Matson, Shirley Folkwein, Del Phipps, Laura Damon and Mayre Flowers, letter to the editor, Flathead Beacon, April 30, 2024

²³ Chris Peterson, “Coalition working with EPA on an independent adviser for CFAC cleanup,” Hungry Horse News, May 1, 2024

²⁴ Roger Hopkins, “More thoughts on CFAC,” Hungry Horse News, May 15, 2024

²⁵ Tristan Scott, “Superfund Expert Reviews CFAC Cleanup Plan ‘As If This Were My Own Backyard,’” Flathead Beacon, July 17, 2023

²⁶ Citizens For A Better Flathead, “Urgent Tonight! Ask the Columbia Falls Council to NOT reverse their position calling for toxic waste-removal at CFAC,” email alert to Richard Hanners, May 6, 2024

²⁷ Chris Peterson, “16 years later, couple informed their Columbia Heights home is on a toxic site. EPA considering making it a formal Superfund site,” Hungry Horse News, May 15, 2024

²⁸ Email exchange between Richard Hanners and Phil Matson regarding new Superfund site in Columbia Heights, May 15 and 16, 2024

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- ²⁹ Citizens For A Better Flathead newsletter, emailed to Richard Hanners, June 10, 2024
- ³⁰ Email to Richard Hanners from EPA Region 8 Community Involvement Coordinator Dana Barnicoat, "Columbia Falls Aluminum Company (CFAC) Superfund Site, Site Tours," June 6, 2024
- ³¹ Tristan Scott, "CFAC, EPA Detail Proposed Cleanup Plan at Community Superfund Site Tour," Flathead Beacon, June 17, 2024. Note: Any mountains seen through Bad Rock Canyon from the CFAC site are located south of Highway 2, not in Glacier National Park.
- ³² Tristan Scott, June 17, 2024. Note: The main source of fluoride contamination of groundwater at the CFAC Superfund site was the Wet Scrubber Sludge Ponds, not spent potliner dumped in the nearby West Landfill. Note also Stroiazzo's belittling phrase "led to some groundwater contamination" in his talk.
- ³³ Tristan Scott, June 17, 2024
- ³⁴ Tristan Scott, June 17, 2024
- ³⁵ Kiana Wilson, "Community members go behind the gates at Columbia Falls Aluminum Company to see remediation site," KPAX-TV, June 12, 2024
- ³⁶ Chris Peterson, "Folks still skeptical of CFAC cleanup after tour," Hungry Horse News, June 19, 2024
- ³⁷ Chris Peterson, June 19, 2024
- ³⁸ Daniel A. Siri, "Where's leaders on CFAC?" Hungry Horse News, June 12, 2024
- ³⁹ Email from EPA Region 8 Community Involvement Coordinator Dana Barnicoat to Richard Hanners, July 11, 2024
- ⁴⁰ Mayre Flowers and Shirley Folkwein, "Going deep on the CFAC cleanup," Daily Inter Lake, July 15, 2024
- ⁴¹ Mayre Flowers and Shirley Folkwein, July 15, 2024
- ⁴² Mayre Flowers and Shirley Folkwein, July 15, 2024
- ⁴³ Chris Peterson, "Coalition unhappy with county, city calls to release CFAC plan," Hungry Horse News, July 31, 2024
- ⁴⁴ Chris Peterson, July 31, 2024
- ⁴⁵ Letter sent by Columbia Falls City Council to EPA Remedial Project Manager Matt Dorrington, Re: Columbia Falls Aluminum Company Site Record of Decision, Aug. 5, 2024
- ⁴⁶ Letter sent by Columbia Falls City Council, Aug. 5, 2024
- ⁴⁷ Rachel Potter, "CFAC cleanup plans," letter to the editor, Daily Inter Lake, Aug. 6, 2024
- ⁴⁸ Coalition For A Clean CFAC email announcement sent to Richard Hanners, Aug. 12, 2024
- ⁴⁹ Coalition For A Clean CFAC email, Aug. 12, 2024
- ⁵⁰ Chris Peterson, "Group wants hazardous waste landfill for CFAC cleanup," Hungry Horse News, Aug. 30, 2024
- ⁵¹ Chris Peterson, Aug. 30, 2024
- ⁵² Chris Peterson, Aug. 30, 2024
- ⁵³ Richard Hanners, letter to the editor, Hungry Horse News, sent Aug. 30, 2024
- ⁵⁴ The Flathead Beacon's analysis was not correct. Public interest in the CFAC Superfund cleanup increased with the formation of the Coalition For A Clean CFAC, which took place right after the EPA announced its preferred cleanup plan on June 1, 2023, not after Mick Ruis announced his potential real estate deal with Glencore in April 2024. Source is Mayre Flowers, email to Richard Hanners, Jan. 16, 2025
- ⁵⁵ Tristan Scott, "Pressure mounts for EPA to finalize cleanup plan at CFAC Superfund site," Flathead Beacon, Sept. 5, 2024
- ⁵⁶ Tristan Scott, Sept. 5, 2024
- ⁵⁷ Tristan Scott, Sept. 5, 2024
- ⁵⁸ Tristan Scott, Sept. 5, 2024
- ⁵⁹ Tristan Scott, Sept. 5, 2024
- ⁶⁰ Ripu D. Verma, EPA Region 8 spokesperson, email to Richard Hanners, Sept. 16, 2024
- ⁶¹ Larry D. Williams, "CFAC cleanup," letter to the editor, Daily Inter Lake, Sept. 26, 2024

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- ⁶² Chris Peterson, “EPA brass speaks to CFAC cleanup decision,” Hungry Horse News, Sept. 27, 2024
- ⁶³ Chris Peterson, Sept. 27, 2024
- ⁶⁴ Chris Peterson, Sept. 27, 2024
- ⁶⁵ Confederated Salish and Kootenai Tribes of the Flathead Nation Tribal Council, “EPA Proposed remedy for Glencore’s CFAC Site,” letter to EPA Region 8 Administrator KC Becker, Oct. 8, 2024
- ⁶⁶ CSKT letter to EPA, Oct. 8, 2024
- ⁶⁷ CSKT letter to EPA, Oct. 8, 2024. From a personal perspective, Richard Hanners, the author of this history, who at the time was working as the editor of the Hungry Horse News, was denied access to the Glenore funded and organized Community Liaison Panel meetings until it became known that Flathead County and Columbia Falls city officials could not legally attend a closed meeting. The rules changed then to allow local government officials an opportunity to attend.
- ⁶⁸ CSKT letter to EPA, Oct. 8, 2024
- ⁶⁹ CSKT letter to EPA, Oct. 8, 2024
- ⁷⁰ CSKT letter to EPA, Oct. 8, 2024
- ⁷¹ CSKT letter to EPA, Oct. 8, 2024
- ⁷² CSKT letter to EPA, Oct. 8, 2024. About a week and a half after the EPA’s record of decision on the CFAC Superfund site was issued, recently inaugurated President Donald Trump issued a flurry of executive orders, including one revoking Executive Order 12898, originally signed by President Clinton on Feb. 11, 1994, which established federal actions to address environmental justice for minority and low-income populations. From: “Trump’s executive orders take aim at environmental justice measures: What it means,” Marc Ramirez, USA Today, Jan. 22, 2025
- ⁷³ Confederated Salish and Kootenai Tribes of the Flathead Nation Tribal Council, “Confederated Salish and Kootenai Tribes Urge EPA to Honor Commitments to Tribes and Select a Remedy for CFAC that Will Permanently Protect the Flathead River and Native Trout,” press release, Oct. 8, 2024
- ⁷⁴ CSKT press release, Oct. 8, 2024
- ⁷⁵ KC Becker, EPA Region 8 administrator, letter to CSKT Chairman Michael Dolson, response to the Confederated Salish and Kootenai Tribes of the Flathead Nation regarding the CFAC Superfund cleanup, Nov. 8, 2024
- ⁷⁶ KC Becker, Nov. 8, 2024
- ⁷⁷ KC Becker, Nov. 8, 2024
- ⁷⁸ KC Becker, Nov. 8, 2024
- ⁷⁹ KC Becker, Nov. 8, 2024
- ⁸⁰ KC Becker, Nov. 8, 2024
- ⁸¹ Shiloh Hernandez and Amanda Galvan, Earthjustice Northern Rockies Office; Derf Johnson, Deputy Director, Montana Environmental Information Center; David Brooks, Executive Director, Montana Trout Unlimited; Lisa Ronald, Western Montana Associate Conservation Director, American Rivers; Bonnie Gestring, Northwest Program Director, Earthworks; Jim Nash, Cabinet Resource Group; and Whitney Tawney, Executive Director, Montana Conservation Voters Education Fund, “Re: Stay Decision on CFAC Cleanup Plan Pending Consultation and Analysis,” letter to KC Becker, EPA Region 8 Administrator, Nov. 13, 2024
- ⁸² Hernandez, et.al., Nov. 13, 2024
- ⁸³ Hernandez, et.al., Nov. 13, 2024
- ⁸⁴ Hernandez, et.al., Nov. 13, 2024
- ⁸⁵ Hernandez, et.al., Nov. 13, 2024
- ⁸⁶ Tristan Scott, “Citing Inadequate Consultation, Tribes Ask EPA to Delay Cleanup Decision at CFAC Superfund Site,” Flathead Beacon, Oct. 11, 2024
- ⁸⁷ Tristan Scott, Oct. 11, 2024

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- ⁸⁸ Laura Lundquist, “CSKT demands input on Columbia Falls Superfund cleanup,” Missoula Current, Oct. 11, 2024
- ⁸⁹ Confederated Salish and Kootenai Tribes of the Flathead Nation Tribal Council, “RE: EPA Proposed remedy for Glencore’s CFAC Site,” letter to EPA Region 8 Administrator KC Becker, Dec. 2, 2024
- ⁹⁰ CSKT letter to EPA, Dec. 2, 2024
- ⁹¹ CSKT letter to EPA, Dec. 2, 2024
- ⁹² CSKT letter to EPA, Dec. 2, 2024
- ⁹³ KC Becker, EPA Region 8 administrator, letter to CSKT Chairman Michael Dolson, response to the Confederated Salish and Kootenai Tribes of the Flathead Nation regarding the CFAC Superfund cleanup, Dec. 12, 2024
- ⁹⁴ Cheryl Driscoll, “Re: Environmental Protection Agency Response at Anaconda Aluminum Company Columbia Falls Reduction Plant, Columbia Falls, Montana,” letter to EPA Region 8 Administrator KC Becker, Dec. 9, 2024. What Driscoll didn’t understand was that, under the Hellgate Treaty, CSKT tribal members had the right to fish in the Flathead River all the way upstream to its headwaters, not just 20 miles downstream on their reservation.
- ⁹⁵ Cheryl Driscoll, Dec. 9, 2024
- ⁹⁶ Shirley Folkwein, Phil Matson, Del Phipps, Laura Damon, Mayre Flowers and Peter Metcalf, board members of the Coalition for a Clean CFAC, letters to Montana Gov. Greg Gianforte, Montana Sens. Steve Daines and Jon Tester, Montana Representatives Ryan Zinke and Matt Rosendale, the Flathead County Commissioners and the Columbia Falls City Council, Oct. 9, 2024
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- ¹⁰⁹ Tristan Scott, “CFAC Watchdog Group Says EPA Weighed Cost-savings Over Superfund Cleanup Efficiency,” Flathead Beacon, Jan. 16, 2025
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- ¹¹⁵ Tristan Scott, Jan. 16, 2025
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- ¹¹⁷ Realtor.com, online search, Jan. 19, 2025
- ¹¹⁸ Chris Peterson, Jan. 15, 2025
- ¹¹⁹ Environmental Protection Agency Region 8, Record of Decision for the Anaconda Aluminum Company Columbia Falls Reduction Plant Site, Flathead County, Montana, Jan. 10, 2025, pages 3-4
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