

04.25.24 CFAC Forum Transcription

Kristine Fife [00:00:00] This is the 15th public meeting since 2015 in the beginning of the remediation investigation efforts, just a few housekeeping items before we get started. First and foremost, can everyone hear me? Okay, great. And, um, couple of things. There is a restroom at the back to my right in the back, in the back corner over here, and there are some cookies and water in the back.

If you, you need to feel free to get up and have a cookie and get a drink. Um, the format for this evening will include a presentation and followed by a question and answer session. We ask that you please hold all questions till the end of the presentation, and then we will, um, begin our question and answer session at that time.

Um, well, uh, I'm just going to turn it over to Drew and we'll get started on the presentation and then we'll, we'll pivot again. Once, once that's over, we begin the question and answers true bears.[00:01:00]

Drew Barris: Hey, good evening everybody. My name is Drew Barris. I'm a principal hydrogeologist with the environmental consulting firm that CFAC has, uh, hired to, uh, work on the RFS, which is what we're going to be talking about this evening. I've been working on the project since 2015 and I look forward to providing information that I hope you'll find informative regarding the process that we followed, which is, uh, largely laid out under Superfund, which is everybody else.

It's a Superfund site. The process for doing the RFS is prescribed within the Superfund law and regulation. And that's what we followed and going through this process. So. Next slide.

This is providing us an overview of the site and its [00:02:00] surroundings. Uh, if you notice on the lower left is the city of Columbia Falls, and the site is the area outlined by this, uh, blue line, this triangular shaped study area. Uh, outside of that, the tan area, which includes that area as well as the area around it, this tan region, is property that CFAC owns, so the site comprises a subset of that.

Within this site, there's an area that was used formally for manufacturing. That's where the aluminum was produced. And then in addition, there, this hatched area are areas where there was operat, other operations conducted, there was some waste disposal activities. And, uh, the remaining area as in the, within the

site was never really developed or used for industrial purposes, but it was, you know, included within the investigation for the sake of being thorough into making sure we covered everything, uh, aluminum [00:03:00] city.

Is the community located over here just to the West and outside of the site, and we'll be talking a little bit more about that and how that was evaluated during the feasibility study as well. And the next slide,

as Christine mentioned, this is the 15th public meeting. That's been held since 2015 and associated with that. There's been a lot of other public outreach. So we're glad everybody's here tonight to continue to learn about what's going on with the site. In addition to the 15 meetings, CFAC has held, uh, four open houses and, and tours where people were brought out.

And this is a picture on the slide here showing a group gathered outside where there was basically a, a show and tell on the, Investigation techniques that were being [00:04:00] used to characterize the site. In addition to those open houses, there was newsletters and updates issued on a regular basis since 2015, and there's been a newsletter that's gone out to over 650 people on a regular basis.

And there's been meetings with the city council, all in an effort to keep people informed, and to get people's input on what's on what's going on. Uh, there is a project website as well, where all the key documents are also available as well as the minutes from all the meetings and all these updates next slide.

Okay. The remedial investigation feasibility study. Often referred to as the R. I. F. S. The remedial investigation is the process by which we investigate the site to look for. Where are potential sources of contamination? What are those types of contaminants? Where have they moved through the environment?

Where are [00:05:00] they? Where are they now? And what are the potential risks that could be associated with that? That's the remedial investigation phase. The feasibility study phase is the process by which we identify potential options to clean up the site and how we evaluate those options in accordance with the established process under Superfund law and regulation.

You can see here, uh, 2015, we're showing is the start and actually there were initial investigations conducted by EPA in 2013, which started this process up and, uh, and CFAC participated in those as well, but the actual formal RIFS process started in 2015 CFAC entered into an administrative order with agreement, uh, with US EPA, and that included the development of an RIFS work plan.

As we, so as we go through, I'm not going to read all of these, this whole slide, but a couple of things to note, there were [00:06:00] multiple phases of investigation. We had a phase 1 site characterization, a phase 2 site characterization. Each one included development of plans to do that, and then preparation of summary reports.

So after phase 1, we evaluated the information we collected, determined where there were data gaps that we needed to fill to understand the extent of impact at the site. And then. Um, and then once we've done that, we can proceed to develop a plan to fill those gaps, complete the phase two characterization.

Based upon that understanding when that was done, we're able to evaluate risks to public health and the environment that could be posed by what we found at the site, and then once those were complete, we move into the feasibility study, and we start off with a plan for the feasibility study, various submittals along the way where we can confer with EPA and MDEQ So, before I move off this slide, I want to point out, if you look at it, there's a lot of notations where it says U.

S. [00:07:00] EPA and MDEQ approve. Those approvals did not come easy. We all had to always submit our reports. There were always comments. There was always meetings that were held following every report, with the state and with the EPA, to, uh, uh, Address comments, discuss things so there could be a consensus achieved as to what would be the appropriate next steps to keep the project moving forward.

Speaker 3: Next.

Drew Barris: Okay. This slide is showing an overview again. This gold outline marks the outline of the study area that was shown in the prior slide and within it. You can see a lot of labels pointing to various site features, we call them. And those site features represent things such as landfills, where waste was disposed, ponds, where wastewater might have been discharged into, as well as the main plant itself.[00:08:00]

Various underground storage tanks. So when we're planning the R. R. I. and before we get into it, we want to use all of the site history and all the information that's been generated from prior work E. P. A. S. prior investigations, the other and reviewing available site documents at the plant site, speaking with former employees to identify where we should investigate to determine the what's in the ground and to better understand those conditions.

So, we did, we did all that and then, uh, and that resulted identification of these areas, which were areas where we felt we needed to investigate next line.

A lot of dots on this map. This is based upon the, the, uh, the planning process. We identified all the locations where we felt we needed to sample. This is representing, uh, there is all the [00:09:00] location sample during the, during the R. I. within the site. In addition to this, we also sampled locations outside the site as part of background studies.

Some of the key points I want to make while you're looking at this slide is that the purple dots represent All soil sample locations, there's all the blue blue dots represent ground water locations. And there's also locations all along the various surface water features of the site, including the Flathead River and Cedar Creek.

There were six rounds of water samples collected to make sure we developed an understanding of the conditions in both all all the various seasons, as well as over multiple years. And, you know, that this gives us confidence that based upon those results, we understand how conditions can fluctuate at the site with seasonal conditions and over time.

Next slide.[00:10:00]

Once we were done with, you know, the characterization of the site and we had an understanding of conditions, we moved into the risk assessment phase. Again, the risk assessments are a required process under the Superfund law and regulation, and we followed those. Processes you define exposure areas, which is various areas of the site where we would evaluate the potential risks based upon the environmental conditions that are present in those areas when we're doing a risk assessment, it requires that we make conservative assumptions to make sure that we're not going to underestimate any potential risk that might exist.

And, um, the results in show that most of the areas do not pose risk above acceptable levels as established within super fund law and regulations and the areas that were [00:11:00] exceptions to that included the central landfills area, which is this area of the site here, the percolation ponds. Uh, and, uh, also saw some of the soil areas around the main plant.

I also note that groundwater within the plume, which will show on some. Upcoming slides exceed state standards and while there is no current risk, because it's not used as a drinking water supply, it was evaluated as such in the, uh, in the risk assessment. Next slide.

In addition to human health, we evaluated ecological risk in a baseline ecological risk assessment. The process is a bit similar. We divide the site up into various exposure areas and we also consider in when we're doing ecological risk, the various habitat types. being aquatic, which are areas where usually on an inundated or [00:12:00] underwater, uh, transitional areas, which are areas that are maybe sometimes during the year subject to being underwater.

Or saturated. And then we've got terrestrial areas, which are really areas that are soil areas, which are normally not wet and based upon the results of the risk assessment, which again, like human health is conducted using conservative assumptions. We identified three areas, three different areas for where there's potential for risk.

And those include the main plant area and the central landfills area again. The North ponds and also the South ponds here, which were subject to a removal action, which I'll talk about briefly and the backwater seep sampling area and repairing area here. Um, next slide.

Okay. To [00:13:00] summarize the remedial investigation findings. Uh, the conditions show that we, there's no risk posed to human health or the ecological receptors offsite, as well as including aluminum city or the main stem of the Flathead River. Within the site area, within that study area, there is theoretical risk that was identified within the on site industrial areas that required evaluation in a feasibility study.

The risk drivers, meaning the contaminants that are, were identified as posing these potential risks, were cyanide, fluoride, and PAHs, and to a lesser extent, some metals, such as copper in some areas. The main sources of impact to groundwater were identified as the West Landfill and the West Scrubber Sludge Pond Landfill.

And to a much lesser extent, the central landfill. Next slide.[00:14:00]

Okay. This, this is that overview area that we showed at the beginning, and we're pointing out a few additional things on this slide within the site itself. What we're seeing in the blue cross hatched area is the extent of groundwater contamination that was identified during the remedial investigation.

Those blue arrows that you see on the on the figure. Next slide. Represent the direction of groundwater flow beneath the site. A couple of key points to note that groundwater flow is again starts up in this area here where those landfills,

which are the sources of contamination was noted. And it flows down towards the Flathead River, uh, to the west of that area.

We can see that the arrows flow away from aluminum city towards the Flathead River as well. Um, a couple of things that we noticed is that the, uh, [00:15:00] and one of the conclusions of the RI is that within the main stem of the Flathead River, There were no impacts that no impacts were identified and within aluminum city as well.

Uh, there were no impacts identified. If we go to the next slide. We'll talk about the sampling that was done with an aluminum city. Uh, this area was subject to, uh, groundwater sampling, uh, beginning in 2015, uh, by CFAC. And wells were sampled on a quarterly basis, four times a year from 2015 to 2018. And then twice per year from 2018 to present.

During these sampling rounds up to 14. Well, the sampling was offered to all residences within aluminum city of 14 samples each round were collected. And [00:16:00] in all cases. There was no sign I detected. So basically, overall 280 samples were collected over that 10 year period with no contaminants, no sign I detected, which is also consistent with what we know about the direction of groundwater flow, because again, the plume is located about a mile away.

And it's flow and the groundwater is not flowing towards aluminum city. Next slide.

This is actually a more close in view, showing the extent of groundwater contamination. So that blue hatched the blue cross hatched area on the previous slide is now represented within this shaded area. And this is showing you the locations of all the wells that were installed and sample to help define the extent of that impacted area.

And I think 1 of the important things to get to show here is that outside [00:17:00] of this area, we've got, you know, all wells that are clean and comply with standards that delineate the extent of the plume. And we have a very good understanding through those 6 rounds of groundwater sampling of the extent of the impact as well as the concentrations that are present.

Speaker 3: Next slide.

Drew Barris: I mentioned a removal action at the south ponds. The south per southern percolation ponds. Though that area is, was, is outlined here, uh, within that area, uh, there was, uh, discharge from a wastewater treatment plant

at the site. There were some concentrations, barium, which was found within sediments that exceeded, uh, the risk-based levels that we were talking about earlier.

And based upon the proximity of those sediments to the Flathead River. And, uh, the desire to make sure there was no potential impact if there were going to be any [00:18:00] erosion events that took place, those sediments were removed and disposed in a landfill up on the site. Um, next slide. Again, this is showing you the, uh, extent of the ponds outlined in yellow on the upper left, uh, and the picture on the, on the lower left is just showing the removal in process.

Uh, this took place in 2020 and 2021. There was approximately, uh, 23, 500 cubic yards of sediment removed from those ponds. Uh, there was, uh, On the eastern side, there had been a dam that existed, which actually was in place when the ponds were constructed back in the sixties. And once those contaminated sediments were removed, the dam was taken out to allow the Flathead river to return to its natural channel, which existed back prior to the construction of the dam in, uh, the 1960s, [00:19:00] uh, following the removal of the sediment.

The disturbed areas were restored with native vegetation and the areas in a natural state. Now, next slide.

Okay. So, we've up until now, we've been talking primarily about the remedial investigation, which again, is the process by which we determine the extent of the environmental impact at the site and we develop an understanding of any potential risks associated with that. And based upon that information, we can identify areas that require evaluation in the next step of the process, which is the feasibility study.

The feasibility study focuses on areas that were identified as requiring evaluation because they posed a potential risk or exceeded state standards and those areas that require that evaluation are outlined. On this figure in the various shades, [00:20:00] and they included what we called six different decision units decision unit.

1 are those landfills that were identified as being a source of groundwater contamination again, the West landfill and the wet scrubber pond landfill and to a lesser extent, the central landfill. There were other landfills on site that were determined not to be causing any groundwater contamination, but that still in some cases required capping.

And we'll require maintenance for the long term. Those were called division decision unit to decision unit 3 included some of those soil areas around the plant where there were contaminants detected and decision unit for where these northern percolation ponds decision unit 5 is the river area and decision unit 6 itself was the groundwater.

Again, which we were talked about and showed in a couple of prior slides. So the feasibility [00:21:00] study is a prescribed process under Superfund law and federal and state regulation, and it consists of several steps, which we'll, we'll review now. Next slide. So these are those steps that are comprised of the feasibility study process.

First, we want to identify remedial action objectives. What are we trying to accomplish? What needs to be cleaned up? What what are we trying to achieve there? We want to identify and screen technologies. What are potential ways that we can go about cleaning up the site? Which are the best options? Take those best options, develop and describe remedial action alternatives, and then evaluate those alternatives in detail and then as as a final step, compare those alternatives to each other so that we can select the remedy that best suits the site and the conditions.

very much. [00:22:00]

Speaker 3: Next slide.

Drew Barris: So going into each step of this process, we talked about remedial action objectives being the first thing that needed to be done. So here we're showing the three main categories of remedial action objectives that were identified for the site. First, we're dealing with objectives for solid media, talking about waste that may exist at the site as well as soil and sediment.

And our objectives identified there are to prevent exposure to, uh, public health or. Environmental receptors to the media prevent exposure to prevent risk. In addition to preventing exposure to those contaminants. We want to make sure those contaminants don't spread to other areas like groundwater and impact groundwater.

So we want to reduce the migration of contaminants with respect to groundwater. Our [00:23:00] remedial objective is to reduce the concentrations in groundwater to state standards. In addition to that, we want to make sure that there is no potential exposure to groundwater exceeding state standards. And

right now, there is no, there is no exposure and we want to make sure that continues finally, with respect to groundwater, there is groundwater.

Discharge into the backwater or seep sampling area at the southern end of the site. We want to reduce that by

addressing groundwater and by addressing groundwater and reducing that will also reduce the migration of contaminants into surface water so that we achieve state standards over time is there as well.

Speaker 3: Next slide

Drew Barris: identification and screening of technology. So this is the next step within the process. [00:24:00] So, and we start off by identifying a broad range of technologies. What's the universe of technologies out there? What could potentially work at the site? Uh, and, uh, once we have this broad range of technologies, we then go through a screening process.

There are various types of technologies. We always have to consider in Superfund as part of the process and no action as a baseline, uh, there could be access restrictions, various treatment technologies, containment, removal and disposal options. Um, and then again, the result of the screening process is to select technologies that can be carried forward for detailed evaluation.

Next slide remedial technology screening. So once we've identified this full universe of technologies, we want to take a look at each one and say which ones can be most effective in addressing the conditions at the site. Okay. [00:25:00] And then we also want to identify the technologies that can be implemented.

When we're doing this tech screening technologies that are determined not to be effective. Or that would pose additional risks during implementation that would be overly, uh, difficult to implement and pose potential hazards. Technologies such as those would be screened out in the process. In addition, you know, cost is, can be used, is used in this process, but only if in those cases where there are other options that have similar or greater effectiveness.

Speaker 3: Next slide

Drew Barris: some of the technologies that were that are considered in the feasibility study are going to be covered in these next couple of slides. 1st, we're talking about landfill caps. There are various landfills around the site, and the most. Universal [00:26:00] way of addressing landfills within. The regulatory

scheme work under Superfund and state law is you through capping, uh, capping is an established technology.

And what we're talking about here on the, on the schematic, it's showing an area of waste or contaminated soil in the ground, and it shows a multi layer cap that goes over it to isolate that waste. And to prevent any infiltration of water from rain or snow melt from going in from the surface down into the waste, which could then result in generation of leachate and impact to groundwater.

Uh, the caps typically include a clay layer covered then by a geomembrane. So these are low permeability. Uh, materials that if there is water that flows through the vegetation into a drainage layer, it basically moves off the cap and then drains away from the, from the cap based [00:27:00] upon the grading that is established.

So, um, perhaps prevent people and wildlife from impact contacting the underlying waste. Next slide. One of the other technologies that is evaluated in the feasibility study for the CFAC site is a slurry wall. And this is a diagram of the construction of a slurry wall. They're within around a slurry walls act as subsurface barriers that impede or stop groundwater flow.

And the feasibility study ranked. A fully encompassing slurry wall around the two landfills that are the primary source of impact as the best option to effectively cut off the landfills from the groundwater. Uh, this is showing the way a slurry wall gets constructed. Uh, [00:28:00] you excavate a trench as you dig out the trench.

You keep the, the trench filled with a bentonite water slurry, which keeps the trench open as that trench is kept open and is excavated. You then on the back side of it, apply and, and, and, and push into a mixture of soil and bentonite clay, which is basically like a mud, which goes in and forms a subsurface wall around the area that you're constructing it to contain.

This technology Superfund sites. Uh, over 80, we estimate around the country for in addition to at Superfund sites, it's been used at hundreds, if not thousands of other types of sites and has a long track record of success.

Speaker 3: Next

Drew Barris: slide.[00:29:00]

One technology that was also evaluated within the feasibility study was excavation and offsite disposal. And it was rejected because it was found to be, uh, pose several risks that clearly outweighed the potential benefits of implementing it. Some of those are shown here, uh, from an effectiveness perspective, uh, there would be extensive community disruption, not just at potentially and around the site, but along the path of a transport, whether by truck or by train.

Uh, when you're trying to excavate an area such as this large landfills, uh, you would be opening up the landfills and allowing water to enter them and potentially cause increased groundwater contamination, which would be contrary to what we're trying to do, which is to prevent that from happening. [00:30:00] In addition to those concerns, there are worker health and safety concerns associated with digging. That this type of project, the contaminants present, pose risks if they come in contact with air and water, spend pot line, or can react and produce toxic gases.

So, that would be a concern. In addition, there's an extended time frame that would be required to do this. It would take much longer to implement. And then following that process, there would be increased impact to groundwater, which ultimately take longer for cleanup standards to be achieved. This was evaluated by Roo as well as by EPA, and it was eliminated from consideration based upon extensive community and environmental risks.

Next slide. So, once the [00:31:00] technologies. Were identified and screened those technologies that remained after the screening process were carried forward into a detailed evaluation of remedial action alternatives and this process was followed for each of the decision units. So, for each of the landfills decision unit 1, we evaluated 7 alternatives in detail, but decision unit 2 alternatives, we evaluated 2 alternatives.

For the soil decision unit, we evaluated for alternatives and for the North percolation ponds. We evaluated for alternatives and for the river. We evaluated to. Um, next slide

when we're evaluating the alternatives, we do so following the process, which is outlined within super fund and federal and state law. And that process includes. Evaluating the alternative relative to the criteria that are [00:32:00] shown here. The first two criteria that are shown here, overall protection of human health and the environment.

And compliance with applicable or relevant and appropriate requirements are what are considered threshold criteria. So, in order to be about and any alternative that we evaluate in detail has to be determined to meet those criteria. Otherwise, it cannot be carried forward. And for those of you who don't understand this.

Long word series of words applicable, irrelevant and appropriate requirements. That basically means state standards, state or federal standards that would apply to this type of work.

In addition, the criteria include these other 5 items. Long term effective permanence, long term effectiveness and permanence, reduction of toxicity, mobility, or volume, short term effectiveness, implementability, and cost. So, these are what they call balancing [00:33:00] criteria, and each of the alternatives is evaluated using those to identify the pluses and minuses associated with each alternative.

Next.

Once we've done that detailed analysis of each alternative individually, we compare them to one another in this last step of the feasibility study, which is called the comparative analysis. And again, this is a required step in the process. Again, once we reach this point in the feasibility study, all the alternatives that we're looking at have been determined to provide protection of human health and the environment and to comply with applicable laws.

And, uh, when we go through this comparative analysis, what we typically do is, uh, use a ranking system, which is a process that, uh, provides a matrix to, uh, evaluate each of the alternatives and show how they [00:34:00] rank relative to each other for each of these criteria. And this is an approach that is typically and commonly used by EPA and MDEQ in their process.

And in general, the higher the relative score in this ranking process, the better that alternative satisfies, uh, the, uh, the criteria. Go to the next slide, uh, we'll see a, uh, a depiction of one of the scoring matrices. This matrix is for the, uh, the landfill decision unit 1, and it shows the various alternatives on the left side that were evaluated, and then the ranking within the table itself.

You can show here that within the table, uh, the first two criteria are those threshold criteria and then the numerical scoring takes place on the five criteria to the right. And outlined in blue in this case at the highest score is the alternative that was the highest ranked for, [00:35:00] uh, this decision unit.

I think that's the conclusion of the feasibility study process and, uh, Matt Dorrington from EPA, who's going to talk about I think the next step in the process.

Matt Dorrington: All right, Matt Dorrington, I'm a project manager for EPA, uh, for this site. Um, what I'm going to talk about next is kind of the next phase of the process. So let me, maybe just just stop for a second and kind of regroup here and say. You know, the site was listed on the national priorities list in 2016, okay?

So it's the, the three years prior to that, the sampling effort, the site investigation that led to its [00:36:00] listing, right? So all you take all that data from a site investigation, you do what's called hazard ranking assessment. And if it meets a certain threshold, it gets in the national priorities list, which makes it eligible for cleanup.

Okay. It also sets us on path to follow. And I want to reiterate this point that drew brought up was, um, we're now compliant with. Federal law. Okay. That's the, the circle is what it's called. The compensation or comprehensive environmental resource compensation and liability act of 1980. I'm going to call it circular from now or it's, it's nickname is super fund.

Okay. And I think that's important to understand because once we're, we're in the circle of process, and this is now a Superfund site, we're prescribed by law to follow certain steps, processes, meet conditions, you know, it provides [00:37:00] rigor and repeatability. It's very important. Okay. And so, so I think that's just a lot of the questions I can answer when folks say, why didn't you do this?

Or why didn't you do that? Okay. Um, but a lot of times the answer is because the law says we have to do it that way. So, so anyway, I just want to make that point. Um, so anyway, once the site's listed, then we do the site investigation. Okay. Drew talked about that. That's determining the nature and extent of contaminants at the site.

What type of contaminants exist, where to what depth and what concentrations. Okay. So that's what the site investigation does. A risk assessment then says to the people in the area or the, the animals, the ecology, right? What risks do those contaminants pose? Once you understand that, then you can say, What risks are unacceptable to human health and the environment?

And then you develop your remediation goals, right? So the goal is to clean up and reduce or [00:38:00] eliminate those unacceptable risks. Okay. Um, you do that then through a feasibility study. So it's what alternatives, what types of cleanup alternatives can we evaluate to make sure that we are protective of human health and the environment, that we're compliant with state regulations.

And federal regulations, and there are five other criteria, which I'll re revisit here again. Those are those are prescribed in the law. Um, okay. So once once that's done, the feasibility study undergoes your review by the agencies. I do want to highlight what Mr Barris said about EPA and the state's oversight.

It's very robust. Okay, so the agencies are providing oversight to the work product. We review plans, sampling plans. We review data. We review draft reports to make sure [00:39:00] that, um, all that information is sound and we provide tons of feedback. Mr. Barris mentioned that at times it can be frustrating to, to the PRP, the, in this case, CFC fact, because.

We want to get it right. Right. We've had lots of feedback, lots of edits and comments, and that process can be pretty robust. Um, so at the end of the feasibility study, then the agency steps back and develops its proposed plan. So the proposed plan for this site was released in June of last year. And we entered into a.

90 day public comment period. How many of you show of hands provided comments on the proposed plan, lots more tonight. That's great. Okay, good. Um, that public comment period closed August 31st of last year. Uh, we then sat down, [00:40:00] I sat down with, with our contractor, CDM Smith, and we've been to go over all those comments, over 700 comments, 150 plus commenters.

Lots of great feedback. Okay. And the idea is you take that. Feedback and then you make potentially changes to your plan your next step. So you've issued a proposed plan You've gotten feedback now is the opportunity to take that feedback and make changes if warranted. Okay, that's the intent um, okay, so what I want to cover tonight is just the uh, What was presented in the proposed plan?

A lot of this is going to be a repeat of Mr. Barris slide, so I'll kind of thumb through those rather quickly, but we'll try to get to the meat of it. What I want you to take away from this piece is what was or what is EPA's preferred alternative. What is the proposed plan for cleanup right now? And then we'll talk about next [00:41:00] steps of the process.

And then I want to just cover about why we're here tonight, why this type of engagements happening now. Okay. So let's get through the proposed plan and then we'll go from there. All right. Again, this is the same presentation that was given back in June. So let's, let's just get through the content. All right, go to the next one.

This is just the background of site history, which we've already covered. Um, this is the timeline. There's some good timelines in here about, you know, the site history itself. Right. Um, and I think Mr. Barris, you covered that probably well enough. Um, let's keep going. This is a pictorial of the process that I just described.

Okay. So this is, this is kind of your roadmap, the various steps, the site assessment I talked about remedial investigation, feasibility study. Mr. Barris talked about the proposed plan, which is what we're talking about here. And then the next step, which is a record of decision. After the record of decision is done, which is the [00:42:00] selected remedy, the PRPs, the Department of Justice, the EPA sits down and negotiates a consent decree.

That's the legal binding document for the PRP to pay for and conduct and sets performance standards for the cleanup. Sometimes those negotiations could take as much as a year.

After that consent decree is in place, then you go into remedial design. What I want to emphasize here is the, the investigation work, the sampling for this site is far from over, okay? We've done enough sampling to characterize the site, inform alternatives, move forward, but yet to detail the design and remove a lot of the, whatever uncertainties we have.

Could take another year on top of that, if not more. Okay. Again, that that's, that's CFAC with their contractor performing the remedial design [00:43:00] with oversight from EPA and, um, Montana DEQ, various design phases and phase gates, milestones, re reviewing their work, providing comments and feedback. We helped to shape the outcome and the, uh, the final design again, another couple of years.

And then remedial action, that's actually going in the, into the site and beginning the cleanup process. So we're at least three to four years from we signed a rod today. It would be at least that far from doing any work at the site. The work itself based on this proposed plan is at least two, maybe three construction seasons long.

So another three years on top of that, doing the work. Okay. So I just want to give you that overall context. But here we are right here with the proposed plan. So let's go to the next one. Um, just to reiterate what Mr. Barrett said, you know, you're setting, you're doing health, human health risk assessments and [00:44:00] ecological risk assessments.

Those help set your cleanup objectives. These have already been covered. I'm not going to reiterate these. Go ahead. And those are by media, right? You talk about this, the, the risk to human health and the solid media, the groundwater and surface water and sediments. Okay. So it's risk by media. human health, ecological risk.

So you've seen the site layout and the breakup in the decision units, that the decision to do this decision in decision units, it was really driven about, around the, the, the condition and the types of contaminants at the site and the very distinct kind of different areas and realizing that each of these kinds of distinct areas.

Would require different remedial alternatives. Okay, so you, we talked about decision unit one, that's spent pot liner. That's a byproduct of the looming smelting that went in contact and leeches through groundwater or leeches through the surface and into groundwater. Um, cyanide and fluoride. So the cyanide [00:45:00] fluoride risks are present in that with the only area we see that.

So the other areas have other, other issues, other distinct, um, focus areas on developing alternatives. So that was the reason and the, I guess, the motivation behind developing the decision units. Okay. Next. Um, I talked about the evaluation criteria. These are outlined in superfund law. Any alternative is proposed has to be protective of human health and the environment.

Otherwise, it doesn't move forward. It also has to be compliant with applicable, relevant and appropriate requirements. These are state and federal regulations. Those are mandatory. The first two are non negotiable. The next balancing criteria really help to determine if you can you had a list of Vive alternatives.

How do you differentiate those? How do you rank them? That's what these criteria help you do, [00:46:00] right? Which ones provide the best long term effectiveness, reduction of toxicity and mobility, short term effectiveness. Can you implement it? And then what's the cost? Emphasizing here, cost is one of seven may see a lot of, you know, information, the news about the cost and why that's driving decisions.

That's false. It is one equally weighted criteria among seven when evaluating these alternatives. The last two modifying are all calling criteria are, you know, once the proposed plan is released, do we have state acceptance? We take very seriously the states in which we work, having a good partnership and being aligned with the state is very important to us.

I think at this site, stand and rest assured that EPA and the state are very well aligned. And then the last piece is community acceptance, right? A difficult one to measure, [00:47:00] but they don't tell us how to do that, right? But it touches on one of the reasons we're here. is there has been in the last few months, what I would call renewed interest in the site.

There's been this newly formed coalition. We met with the coalition members. They said, we're, we're new. We don't understand the site. We haven't been around for the last eight years. Help us and the people we've touched understand the good work that's been going on in the last eight years. And so, so really, I mean, I think we've talked about that internally as really a call to action, right?

Let's take some more time to talk about all of the work, which is why we're doing this. This is why we have the poster sessions. We had, um, really good turnout both yesterday. And today in this kind of open house forum, I spent a lot of time, hours, one on one with folks talking about their concerns, walking them through some of the details.

And that's just not me. That's there's probably a dozen of us touching lots of [00:48:00] people today and yesterday. And it's, it was really exciting. And it was great to talk about that and, and seize the renewed interest and the broader, you know, community kind of wanting to know what's going on. Okay. And that's why we're here.

But that is a, an important, what I say, modifying criteria. I mean, acceptance is, is, is key. It's important. Okay. Next, um, for this site, the, you got to feel like I said, you're trying to figure out a way to discern or differentiate alternatives. The scoring system was used in this case. So, so on scoring numbers picked from a rank of zero to 20, each one of these alternatives were ranked against the, and scored against the, um, criteria.

Again, it doesn't even move forward if it's not protective. Um, no action was, was evaluated because that's a requirement of CERCLA required to evaluate no action. [00:49:00] Um, and then various scoring. And so through this ranking system, um, RUE, you know, under oversight of CFAC and review by EPA, uh,

this approach was approved and this kind of gives you an idea and a way to, to extract or to see which of these various alternatives kind of bubble to the top.

Right in consideration of all these. Okay. So, um, I won't go into too much, but there's a lot of questions later. I could certainly answer the next, right. This is the bit of a re again, this presentation was given last year and you just heard from drew. So a lot of this stuff was just to summarize some of the technology that was looked at.

I'm not going to go into these drew just covered them next and next. You've seen this slide next. Okay. So, so what is then so we've taken all this information and we said, what is the agency's preferred alternative? What does EPA want to see? We've seen the [00:50:00] feasibility study. We've shared the feasibility study.

It's out there in the public. What, what, what work has been done and where, where do we, where do we want to move forward? So, um, the preferred alternative includes excavation of contaminated soils and sediment, sediment. So there's areas of, um, P areas of soil that are contaminated with PAHs. Poly aromatic hydrocarbons,

there's some metals. And there's also, um, we talked about, um, actually just some, some metals and pHs and various it's anywhere from 30 to 80, 000 cubic yards in various spots that through the sampling, right. We said, we have to go get them. We're going to clean them up, fill them in with clean dirt, and then move those to an onsite repository.

There's there's seven landfills on site. Okay. We're going to put them in the, In the northern one, um, institutional controls will protect the integrity of those landfills [00:51:00] and prohibit groundwater usage beneath the site to site that groundwater plume that was that was mentioned the contaminant groundwater on that cannot be used for drinking water will be a control groundwater area.

A pump and treat system will be used so that that landfill decision you know one the West West landfill and the wet scrubber sludge pond where most of the spent pot liner right the byproduct of smelting is buried. Would be encompassed in a slurry wall, eliminating contact. So that solid media would not be able to contact groundwater any longer.

Okay. So you've broken that interaction, that groundwater plume and the contours of cyanide you saw would then begin to dissipate and through monitoring, we can see how that will change over time. So the slurry wall

encompasses it and you cap prevents surface water from infiltrating. Right. We capture the runoff.

We divert it. [00:52:00] And, um, you know, obviously ongoing and almost in perpetuity, you're sampling to assure the effectiveness. Um, we'd also install monitoring wells. So wells inside the slurry wall and outside to make sure that the slurry well is being effective, that we're not impacting that plume any longer.

So monitoring that consistently and forever. gives us kind of that ability to do that. We'll also have the ability to treat. So if something were to happen to the story, well, and we were to see some issues We're able to pump or extract the water from the inside, treat it, and then reinject it right to reduce or eliminate short term if you will, while we repair or make any changes to the, to the slurry wall.

And there's going to be lots of questions about slurry wall effectiveness. And, and, and so I'm not suggesting that that's, that's going to happen, but it's extremely low [00:53:00] likelihood. And we've got slurry wall expert here to answer any of your questions about that. But that's really what. The preferred alternative kind of boils down to, okay, keeping the waste on site, containing it in a slurry wall, putting a pump and treat system in place, additional capping, and then cleaning up those other kind of loose soil areas where we see contamination.

In a nutshell, that's the cleanup. Next, um, this is the, you know, a nearly a year ago now, just some numbers that were floating around. I don't, I don't think those are correct. I'd say it's more about a year to design. Um, and as I said, maybe two to three construction seasons to complete at the most,

um, because there's waste left on site, that site will require a mandatory five year review. Now don't, don't think [00:54:00] that we won't be monitoring it weekly, monthly, quarterly taking samples, all that will come out in, in an institutional controls plan, right? And I can assure you that it will be monitored. Um, frequently, I can't tell you exactly, but we'll sit down with, with CFAC and develop that institutional controls so that ongoing monitoring of, of wells, whatever additional sampling needs to happen, that'll, is it baked into the institutional control that you're making sure you're keeping a close watch on your remedy.

Okay. That will go on forever, but mandatory five year reviews. So the agency comes in, evaluates all the data gathered over that five years and conducts a

robust and very thorough prescribed, prescribed, um, uh, review, excuse me, review to make sure that the remedy is still protective of human health and the environment.

And it's not until we've gotten multiple five year [00:55:00] reviews under our belt before we even consider, you know, reducing the boundary of the site or contemplating delisting of the site. That's not going to happen anytime soon. We got to get it cleaned up. We're going to monitor it for decades. It'll let the data tell us what to do next.

Um, next. These are some of the timelines. I guess I was saying, said, you're going to have a rod in March. And I said, that's my, I'm just my job as a project manager. It's that aggressive milestone to get the team to work for and achieve objectives. But, um, ultimately I can't control the outcome of those right now.

The record of decision is to be determined. Couldn't tell you when it's going to come out, right? But let's focus now on this increased engagement, more discussions. I want to talk about all the good work that's happened when we're done here. And you're, I'm done talking. I want to hear your [00:56:00] questions, your chance to answer or ask questions about what you've heard tonight, or if you've come during the day and you've had time to look at these posters and you have more questions, this is the chance to do it.

Um, I think you can just ignore the rest of the timeline. I think right now. We're just focused on increased engagement. Hopefully we get a record of decision this year. Maybe that's what I'm saying. I got a project, man. I gotta be optimistic and I got to set goals. That's my job. But right now what's most important is that we, we take time to do more of these types of engagements and, um, and really kind of, you know, satisfy this desire for more information and knowledge and information sharing and trust building.

That's what we want to do. Let's focus on that. Okay. Um, next. Okay. So Christine has a few ground rules on the Q and a, [00:57:00] and someone let her talk. And then, um, We'll go from there.

Kristine Fife Okay. Appreciate, um, Drew Barris and Matt Durrington for taking that time to walk us through those processes. Um, so we're going to, we're going to begin our question and answer session. As you can see, I've placed a microphone in the aisle. So we'd ask folks that have a question to just line up behind the microphone and we'll go one at a time.

It's important to note that while this meeting is being recorded for our records, it is, this meeting is not a part of a formal comment period. [00:58:00] And the intent of this question and answer session is to provide additional information or clarity on any of the information that you've heard tonight. So we ask that you, um, ask questions with that intent to, to gain more information about this information that you've heard tonight.

Um, In the interest of everyone's time and that everybody has that has a question has the opportunity to ask it. We ask that you limit your time at the microphone to three minutes and one question. I would also say if you were here at last night's meeting and took time to ask a question that you leave the time this evening for those who have questions that were not able to attend last night so they have the opportunity to get that information.

It's my understanding that If you are not comfortable coming to the microphone and asking a question in this format, but you have questions that you would like to have answered. I believe some folks are going to be sticking around after the meeting and would be happy [00:59:00] to answer your questions in a little more casual or one on one setting.

There are some Several boards around the room. And so if you didn't have the opportunity to come this afternoon and look at the boards that has some of the information that we presented tonight.

I just have one more thing to say. We do have some surveys that are in the entryway. We'd love to hear um, about what you thought about this format if how you heard about it and and if there are some things that we could do better, we'd [01:00:00] like to hear those things. So there's a QR code if you would like to scan the QR code.

You can take the survey online. There are also paper versions of the survey if you prefer to answer, uh, in in that format. Our goal is to uh, get folks out of here at a reasonable time So we'd like to wrap up our question and answer session by 8 30 So with that i'm going to turn it over. Please feel free to come to the microphone if you've got questions

Dave Fern: ready My name is dave fern from whitefish uh member of the legislature uh, so i'm interested in uh, some of the fiscal implications along with the long term health implications Uh, of this project. So what I'd like to know is, um, we talk about, use the word perpetuity [01:01:00] quite a bit and looking at monitoring.

You also use the word delisting. I'd like to get an idea of once a project of this scope is delisted down the road. Uh, what type of obligations will there remain, I guess, for perpetuity as far as assuring the public health, uh, and also assuring that liability would never shift to the state of Montana, Flathead County, or the city of Columbia Falls.

Simple.

Speaker 9: That's simple.

Matt Dorrington: Easy answers. Yeah, delisting. It is just the last phase of the Superfund process. It does happen. It doesn't happen often. And the requirements are quite robust. So, if we can, maybe just delisting a site is a many, many decades [01:02:00] away. Okay, so, but in terms of liability, um, you'll find a lot of that baked into the legal consent decree.

So, the consent decree is the legal binding agreement. A lot of provisions are built in those agreements in terms of performance of the remedy, liability over time, right? And what timeframes designed each consent decree is different. Um, I don't want to be pre decisional and say what that might look like, but that's the document we would look to.

It's the intent of the agency that Glencore, CFAC, Would remain the liable party and owner of whatever footprint remains. Certainly there's a there's a slide in the back. Mr. John, you're, um, like this, this envision of what when the cleanups take place. If we execute this plan is as envisioned, there's a footprint.

An offense scenario that will not be able to be accessed by [01:03:00] anyone. CFAC has also already said that they would own that and maintain that forever. The, the, the, the, the long term like, you know, financial liabilities. And what if this happens? And when that happens, let's look to the consent decree. The consent decree is a document that's available.

For public comment and review. So when we get to that phase, I encourage you all great question. Um, take a look at that or call me have me make sure those provisions exist. So, um, so I hope that answers a bit of it a bit of that again. It is the intent that that see fact remains the liable party forever.

Sure. I think at the table, it would be representatives from see fact. Um, Arco, I think we would probably want to invite Arco. Arco has a 35 percent interest, financial interest or liability, if you will, in this site, um, the department of [01:04:00] justice attorneys from EPA and attorneys from Montana DEQ.

Uh, yeah. CFAC. So if I say CFAC Glencore, I bet we'll get poached on that. Glencore is the parent company, right? And then CFAC is the subsidiary. So I've been, I've been asked to use CFAC. They just, the parent company happens to be Glencore. So CFAC will be the one, the company that's named in the, in the consent decree, no exclaiming.

Now, are you broken the rules?

Speaker 11: I know, but I have the follow up question that hopefully will help clarify,

Speaker 10: please. Go ahead. We're

Speaker 11: like old friends now, right? I

Speaker 10: know, what the heck?

Speaker 11: I was actually wondering, is it possible we could bring that poster up? Because it, it helps with the question. It

Matt Dorrington: does. That's a good point.

Okay. Okay.

Speaker 11: So last night there was a really good question asked by someone in the community about the testing of the soil and the water. Um, and I think the clarifying [01:05:00] question that I think a lot of people want to know is going forward, is the testing going to be done just in the yellow landfill area?

Is it going to be done within that purple boundary or is it going to be done in that whole tan 20? 400 acre perimeter, because I think that that's a really important thing to know is like if the land get, does get sold to Ruiz or whoever, if that does not go through, like who's responsible and are those places being tested outside of the yellow perimeter regularly?

'cause that is kind of important. Right.

Matt Dorrington: I think that's your one. That was,

Speaker 11: that was my one question.

Matt Dorrington: You're awesome, .

Speaker 11: And I'm gonna, I'm gonna slowly be, that's

Matt Dorrington: a very good question. I've, I've been getting some of that too. So. Okay. So the, the purple triangle looks kind of like a triangle is the study area.

That study area becomes the [01:06:00] site boundary officially, along with signing of the record of decision. So when the record of decision assigned that, that, that boundary changes from a study area to the superfund boundary. Okay. So everything Within that superfund boundary will be, um, once remediated, we'll be tested for multiple, multiple, multiple seasons, multiple five year reviews.

So, so what we need to do is post remedy is sit down and say, well, how do we, how do we want to do confirmation sampling to make sure we got it all? There's a, I think a one year operational and functional period. So at least for a year, we have to make sure. That we were successful in implementing the remedy, then we monitor it to make sure it remains protective.

So that will occur and we'll define that plan, right? Is it where to sample what media to sample? We need to sit down and we'll figure that out post remedial action or while we're in remedial action. So again, I don't want to be pre decisional, but I can assure you it will be robust.[01:07:00]

It does not, not as part of the Superfund problem. Out of it. Yep. We're, we're focused on everything inside the boundary. Okay, so post remedy will continue to sample once we determine over multiple five year reviews that it's protective, we'll sit down and we'll review all the data and make some decisions, whatever those might be.

Speaker 12: Hello, my name is Dee Fleming, and I'm a resident of Sea Falls. I live in the city. I've been in the area for about 60 years. And I do, um, research on water quality and contaminants and I've spoken with Matt today a little bit. Um, I support the coalition for the clean, uh, Flathead and agree for a pause on the record of decision by the EPA.

Mainly because there needs to be more time to study the true costs and benefits of moving [01:08:00] the contaminated waste to an approval site by an independent engineering company. And also. By an organic chemist who

specializes in halogens. Okay, and those are like PAHs. To assess the cumulative impacts of the, of all, uh, there's 40 contaminants, which are a lot.

Um, I'm deeply concerned for the far reaching effects of the cyanide, our arsenic, uh, fluoride, and the family of PAHs. Um, there's a lot, um, mainly the, the benzos and the benzenes, uh, and that's the polycyclic aromatic hydrocarbons on, uh, on the area people. And the environment, so not just the folks that are going to be, you know, that have already been affected, I feel, and the folks in the future that may be affected if it's not cleaned up properly.

Correctly and the environment. Okay. And, uh, the nineties. From my [01:09:00] understanding, the fluoride emissions resulting from CPAC were high reports of an unusual amount of teens in Columbia Falls contracted cancer and evidence of higher than normal cancer cases in Columbia Falls from 1955 to 2009. Um, as referenced, there were a couple of people that testified last evening and I guess there were six.

Uh, folks that well, teenagers to be specific that that got bone cancer, and I wasn't here. So I'm just trusting what they said. And one of them was a parent that testified. Um, an independent study needs to be done on the link between the contaminants at CFAC and cancer, both the CFAC workers and the town residents.

Okay, so there's a, there's good news. A study is currently, um, being done to be released. Uh, the results of the study are going to be released in a few weeks [01:10:00] by, um, a state agency underneath the, um, Department of Health and, um, uh, The DPHHS, in other words, Department of Public

Matt Dorrington: Health and Human Services.

Thank you.

Speaker 12: Um, and it's a cancer control program. It's called Cancer Control Program, and there's a guy by the name of Ty McCaffrey that is leading that, and he examines the data, the data of the cancer registry for Montana, specifically in Sioux Falls, which links, uh, the local cancer, uh, cases that have been recorded.

And the contaminants for any links of the, you know, all these, uh, contaminants, um, cyanide does not cause cancer, but it does cause a lot of heart problems and respiratory problems. The H's are known to cause cancer, uh,

fluoride, arsenic, we all know about arsenic. Um, okay, yeah, my question, sorry about that.[01:11:00]

Um, I do have a question. Okay. Um, will the EPA wait to investigate the scope of these findings, as well as the results of the findings through the TAG grant before making their record of decision, and I'm talking about the scope of the findings for the health related effects of the contaminants, okay?

And also the the tag, um, the tag grant. Okay. Thank you.

Matt Dorrington: Okay. Um, So so yeah, so we're aware of the it's called a health consultation, right? The the atsdr Often partners with state health agencies to conduct a health consultation for superfund sites that work's been ongoing for several years And it's good to hear that that work is nearing completion.

We tried to line that up with You You know, getting closer to a record of decision. So, um, so that's great news and, and addresses a lot of the [01:12:00] concerns about past exposure, right? Past exposure. What's the, you know, as you mentioned, statistics in communities on cancer, certain disease rates and whatnot, and that's an important part of that.

So yes, that work needs to, to complete needs to play out. We need to, to review it. I think a couple of years ago, Dick. Um, before I was on the side, there was a draft, um, issued and, um, we provide some comment, but it's good to know that that works near incompleteness. Um, so that's, that's, that's an important and very relevant piece of this whole project.

Okay. Um, but I want to tell you, under Superfund, and I'm not trying to diminish all of that because it's extremely important and very sensitive. Um, Superfund looks at current site conditions, what contaminants exist today. That was the whole purpose of the R I and F S and then trying to say what risks exist today.

Let's eliminate those [01:13:00] risks now and in the future. And that's what the remedies focused on. Um, the, the health consultation kind of hits a prior to listing while the site was operating, you know, historical data, that kind of scope is really under the health consultation. Okay. So the two kind of connected, but distinct differently, different efforts, right?

One is today and forward looking. The other is historical,

Speaker 13: just like no

two separate investigations. The DQ is doing an investigation and this cancer control

cancer control program is kind of an umbrella of the of the HHS, right? And they're doing a separate investigation, but it's basically linking the contaminants with any, you know, future or past, uh, [01:14:00]

Matt Dorrington: Sure. Okay. Thank you for that. I go. I would talk today and I glad you called those folks and got some information.

That's that's great to know. And thanks for sharing that tonight. And I guess your last question just really isn't a question I get often is the timing of the record of decision. Understanding we're taking more time to talk. There's a you know, the coalition has applied for for a tag grant, right? So so under that grant EPA would Grant this group money to fund and hire an advisor to provide them into independent technical review of past work.

And what's most important is work done today and in the future. So it's, it's not just looking backwards, it's looking forward and being a partner as we move. So, so all those things are in motion, additional engagements. Um, rod's going to be signed. That's all I can say, but, but I'm not pausing any work.

I've got work to do. I still have a record of decision to refine. I'm listening. My ears are open. I'm taking feedback. Um, it's a very [01:15:00] complex and multi page document. I will continue to work on that. Okay.

Glenn: Thank you. My name is Glenn. We he, um, a couple observations before I ask my question. A couple times on the slides tonight, I saw cost as the lowest consideration. So if cost is not the consideration, For the remediation. Why is, uh, why don't we just going spending the money and trucking the stuff out of here and putting it in the safer landfill would be my first question, but it's not a question.

I'm just making an observation.

Matt Dorrington: I'll address it anyway.

Glenn: Okay. Thank you. Um, I'm a little I'm a little unclear as to the site itself. Now we've got the Superfund site in the purple. Quadrahedron there. Um, uh, but we're also, you know, we've got the rumors and Glencoe Glencore didn't

answer the [01:16:00] questions we asked last night about the development of the property itself outside of the Superfund site.

So my, my question, my real question is, During this process of the remediation and the site, which is no, not been completed yet. Apparently the sampling is not completed. You have a lot of sampling to go. Um, is the site going to be then broken up into different parcels so that the private sale from Glencore to an undisclosed yet a buyer can be continued while the Superfund side is being, you know, jabbed and poked and, and remediated.

So that would be my, that would be my question.

Matt Dorrington: There's a couple of things in there. One. You mentioned the sampling is not done. It's it's a requirement of the remedial design process, right? As we fine tune the design, you reduce all your uncertainties, you narrow that down, and then you go forward with much more confidence, fewer uncertainties, better cost estimates, you got to get there through additional sampling.

That's just the nature [01:17:00] of the project happens everywhere. And it's not to suggest that we didn't do enough sampling. I just want to clarify to get where we're at today. Um, the super fun boundary is the purple boundary. I think what's caused some confusion and in the recent announcement and John, I may call on you, but maybe unless I can't answer it, but the 2400 acres is the brown area to the north of the Flathead River.

Okay, not that brown area to the south but that whole 24 acres is what's was announced, and we found out as an agency just the day of this agreement was anything we had any idea of. Um, it is privately owned property. There are,

Speaker 7: uh,

Matt Dorrington: there's a very complex legal landscape for folks buying land. That's super fun property, right?

So, but that's on the onus of the buyer, right? To find and navigate that process. So, um, there's been two discussions about [01:18:00] land use, right? And what we, in absence of an, a buy sell agreement, in absence of, um, details on where residential properties Buildings would occur where, um, wildlife usage would occur where industrial commercial with discussions with your zoning officials who set those rules, right?

Those the local zoning officials tell you what you can and can't do in absence of all of that. It's difficult to say it's hard to answer your question. I really can't tell you which parts are being used for residential, which are which aren't. And I probably didn't answer it all the way. So clarify.

Glenn: Well, I guess you've got the, you've got the Superfund site inside the purple triangle. What are the possibilities of that Superfund site expanding in the future after development starts on the other lands? It's not going

Matt Dorrington: to. So the, this sample characterization, right, is done to determine the boundaries.

So the confirmation sampling that taken place [01:19:00] along the boundary is where you no longer see any waste. Right. That you know of. Right. But where do you stop?

Glenn: Did the EPA sample the entire 2,400 acres?

Matt Dorrington: Not the 2,400 acres. No,

Glenn: that's, that's all I have at this point. Okay. Thanks.

Matt Dorrington: No, wait, wait. And then, and then your, your cost. Yes. Cause cost is important. Yes. But what I'm saying is it's, it's one of seven, nine criteria total, right? It's given equal weight. There's no weight.

It was lowest on the list. So that's why it

Glenn: seemed like it was the least important.

Matt Dorrington: Okay. I'm sorry. That wasn't an order of importance. One to seven. They're all equally important. Okay. Okay. Thank you. You're welcome. Yep. I may have to call on John.

Speaker 15: Within the Superfund site, what um, control does the EPA have over land [01:20:00] mitigation within the Superfund?

Matt Dorrington: Lots of control. Can

Speaker 15: you, can you override the city zoning?

Matt Dorrington: Dick.

That's a tough one to answer. I can assure you that within the Superfund boundary, post cleanup, and the need to monitor and make sure the remedy is effective, EPA is not going to allow anything being built inside of it. In those, in that boundary, right? Until we've determined that it's no longer affecting human health and the environment.

Yes, there are lots of moving parts. Yes, there are zoning officials. Yes, there is.

Interests of private parties, private, private land, but the EPA there is my expert. This gentleman has been around for a long time. It's super fun. Let me give it to, uh,

Gunner Yeah. EPA generally doesn't get involved local zoning [01:21:00] things, but there is one exception up there. It's that yellow area. Landfill area that EPA could designate as a waste management unit under Superfund.

That requires all sorts of restrictions. No houses will ever be built. No commercial industrial development will be built. That is going to stay as a waste management unit with restrictive cos to keep people out of it and people would not be allowed to access that area because waste we buried in place.

It would be. Operated and maintained forever by the PRP.

Speaker 17: Well, last time you said there was a commercial parcel in the factory.

Gunner Well, that's not the yellow area. That's

Speaker 17: the,

Gunner you're talking about the main plant area being a commercial industrial area for that kind of use. But that's a local. Commercial

Speaker 17: industrial also say decades away.

Matt Dorrington: Yeah, that's the question. I got that one today and I think it's a very good one is, is, you know, if you clean it up, let's say, and you're done five years [01:22:00] from now, can you start building stuff on it in year six?

Gunner And that one, we just have the soils and the main percolation ponds. Those are going to get cleaned up and consolidate landfills.

Once that cleanup is done, we confirm that the contamination is gone. They're, they're ready for reuse.

Matt Dorrington: With the exception of at least one year operational functional, right? So at least one year afterwards, you got to make sure that the remedy was protected inside that triangle. Okay. So, so your question then is at least after the one year O and F, can you release the site and can you start doing things?

I'm going to follow up on that. Okay. There's Dick.

Speaker 18: placed on the property within the tribe in order to ensure protection of the public health and the environment. And we don't know what those might be now, but that'll be part of the [01:23:00] remedial design to determine what those might be. And then right now, we don't know.

Glenn: But you'll allow the development to go ahead in

Speaker 18: No, we are not allowing development to go ahead as of today.

Because we do not know what the final remediation plan is going to be within that triangle.

Glenn: I think that's probably a question a lot of people have is, is development going to be happening at the same time they're doing the remediation?

Matt Dorrington: Not within that purple boundary.

Glenn: Outside the purple boundary. Or can it be?

Speaker 18: We don't know.

Glenn: Okay.

Speaker 18: That's the best answer.

Matt Dorrington: No, that's a good answer. We don't know. We're focused on work inside the Superfund boundary. Understood. Superfund program. I've

taken up too much time. That's okay. And, um, let me follow up on that for more clarity. Kind of timing on post. Again, at least a year after the remedy is complete.

Once we determine that the remedy was operational and functional, [01:24:00] then determine what, what kind of, and again, deed restrictions do place. All those, those are administrative controls. Um, you purchase a land, you're supposed to look at the deed and see what restrictions there are on buying and building and whatnot.

So, um, anyway, You may follow up. It's. Yeah, I'm, I'm, I have no problem saying, I don't know, but I'll get it back to you. So thank you. Okay. Thank you for the question.

Speaker 5: Hi, I guess I'm kind of good. My name's Joey Brooks. I lifelong resident here. My dad actually, um, Retired from CFAC in 84, lost his life to mesothelioma.

Um, so, you know, it's. One of my questions, I think I'm kind of going to follow along, since you didn't do any testing outside of the boundaries, what are the odds that there has been some kind of soil contaminant seepage? Um, and if so, when or if housing development is allowed and, you know, they start digging for [01:25:00] sewer, they start digging wells, um, is there a realistic likelihood that there could be contaminated groundwater that they tap into because it went untreated for so long and we know that the contaminants weren't, you know, contained to the degree that they are now as a Superfund site.

Matt Dorrington: Okay. You mentioned groundwater. Groundwater. Okay. It's pretty well characterized. It's it's in that,

Speaker 10: you know,

Matt Dorrington: the industrial footprint is kind of in that area. We characterize that quite well, we know where this contaminants are coming from. That's been determined with high degree of confidence on the boundaries.

You see the sample locations around the boundaries around those, those soil samples confirm that at that point, we're not seeing any contaminants contaminants. So that's another line of evidence. The third line of evidence is. Okay. If you look at the operational footprint, we have no historical evidence [01:26:00] of any of the facilities or components of the facility anywhere near or outside of that boundary, that's the one on the left.

That's the big one. So, so, so these, these sites and the sites assessment incorporate an understanding of, of the, the industrial operation, the extent of it, where those types of things occurred, sampling up to those, to those types of things. Boundaries the soil samples helping to confirm that. And then you have to say at some point, where do you stop?

Speaker 5: Right? Well, no. And I understand. Do I

Matt Dorrington: keep going? Do I keep going? Do I keep going? Do I keep going hoping to find something? And so, so it's a balance of, of using historical knowledge and information sites like this, um, involved. Folks like, like, like, like John, who understand the operation. All that's really important.

We, we tap on people who operated the plant who, in fact, that was an important part when at post or during the first two phases of soil [01:27:00] sampling, we involved people who'd worked at the plant, brought them out to the site and we said, based on your knowledge, where should we be looking? And we took that information and built that into the sampling plan.

So again, just multiple lines of evidence to help us determine we're with a pretty good degree of confidence. Is it a hundred percent sure? No, but the only way to know is to sample every foot for the next two miles. So

Speaker 5: do you ever, do you ever sample groundwater? Because I know we do have a high turnover weight for our groundwater.

Here, but you know,

Matt Dorrington: the groundwater samples are, are basically here and I'm gonna show you. Oh,

Speaker 10: okay. These are around, um, here, set the, well see if there's any migration there. And then a lot of groundwater here, just because we know there's density wells within this area. A few up here, there's [01:28:00] actually additional wells.

Speaker 5: Well, that answers in part, but I think there's always gonna be more questions .

Matt Dorrington: That's fine.

Speaker 5: Okay. I'll let that, I'll let whoever's know.

Matt Dorrington: All right. Thanks for your question.

Speaker 20: Hi. Um, so on your side about the kind of relative ratings. Um, the removal of waste by far had the highest rating for long term effectiveness. Um, and you've also made a point about it not just being about the relative cost. Um, and Although I just have to acknowledge that in the plan, there are a lot of references to cost and in a recent press release that the EPA put out, the emphasis of that press release was the cost of, um, removing the waste.

Um, so, If it's not really about the [01:29:00] cost. I know you've listed these other, um, sort of hazards of digging up the waste and the inconvenience and the time and everything else. But we know that other aluminum plant sites have been cleaned up and waste is removed from those sites. And so my question is, is there something unique about this site that makes Removing the waste, particularly dangerous and hazardous compared to other sites.

Matt Dorrington: Yep. I can answer that. Let me first correct the last part. You said there's a preponderance of evidence. There's actually a fact sheet in the back and grab it when you leave the majority 80% 21 sites in the nation of cyanide and fluoride as a result of aluminum smelting, over 80 percent of them involve leaving the waste in place.

So in fact, it's not common for it to be removed offsite. It's quite uncommon. This remedy is very consistent with [01:30:00] cleanups at other Superfund sites, aluminum smelters, and please grab that fact sheet. There's data, there's sites, there's characteristics and unique discussion about each one of those sites.

So please take a look at that. Um, and again, back to cost, and I'm not sure which press release you're talking to, but, um,

Speaker 20: It was on NPR, it was in the local papers, it was a press release by the EPA, and it really focused on that cost piece.

Matt Dorrington: Yeah, and I think that was a response to a lot of the comments we're getting in the media about cost.

Now, when, when, there's also another fact sheet there about when off site disposal was screened out in feasibility study. Okay. So the three criteria, that phase that were caused it to be screened out. One was implementability. One was effectiveness. And the third was cost. So the straight cost at that point, early on in alternative analysis, right?

You're just trying to sort through it, get the meaty ones is high, medium, low. So that was the [01:31:00] extent of the evaluation at that point, which I'll follow up with in a minute. But the real issue is. Implementability and effectiveness. If you excavate the spent pot liner. Okay. First of all, you're talking about 1.

2 million cubic yards. You'll see in those sites and those examples from other places, no other site comes near that. I think the highest volumes I saw was 400,000 cubic yards of buried spent pot liner. We've got spent pot liner and contaminated soil in the order of 1. 2 million cubic yards. So that's a lot.

So you'd have to go in and excavate it. You have to dig it. Okay. Right. Dig it down to at least 50 feet, if not deeper. Now, remember you're digging in a, in a pool of water, right? You're, you're digging into, and you're contacting the groundwater table. So you've got to have water extraction and water treatment on site.

You gotta be able to keep the hole as dry as you can treat the water because it's contaminated and then re inject it. So that operation gets very complex. Okay. So from under terms of [01:32:00] implementability starts to push the boundaries. Can we really do this? Hey, the whole gets bigger and the walls get wider because you've got to maintain a three to one slope ratio, two to one, maybe if you could to get heavy equipment in there, so now what you hope to get was just this whole is now three to four times bigger than that, right?

So now you have a massive pit that you're excavating, given the volume, we're doing this over five to seven years. Rainwater, snow, groundwater infiltration, or there's going to be portions of the times where you can't maintain that water treatment for five years straight. Right? So it's probably seasonally you're trying to keep it dry and you're not getting all of it because there's soil that's beneath and buried in this mix of water and slurry and.

The soil that you're never going to get out. So maybe you could go in and get 80 percent of it. Okay. That's maybe they're like kind of your best case success. In the meantime, workers exposed to this area are digging up spent pot liner. Now you may [01:33:00] have seen things about spent pot liner generating toxic and the hazards of explosive gases when exposed to air and water.

That's a fact. I don't, I'm not making that up. I'm not trying to scare anybody. Google it. There's a Wikipedia article on it, right? It's a known fact. Um, so we're exposing risk. That's additional risks. So that risks to workers exist and it may be an unacceptable risk to workers. Can that be mitigated through PPE?

Sure. Okay. But, um, anyway, that's another component of it. And so, so in terms of effectiveness, like I said, you can't get it all. Okay. But could you maybe reduce the, the concentrations and the, and you know, the, the contour lines of cyanide, you bet you could. Okay. So now, and then one other piece, one, you have extracted it.

You've got to create a kind of a lay down area, if you will, to stabilize it. To make it inert, right? It's so that involves mixing, diluting, or treating, [01:34:00] stabilizing that, that material before you load it into approved vessels, get it on a, on a, on a rail car. And I'll follow up with that cost estimate a minute, get it on a rail car and do that for five to seven years.

Okay. So now the footprint of contamination is spread no longer as that, that little, I say little it's 200 acres. It's pretty big, but that yellow area is pretty big. Probably twice that or bigger because of the, the area that you contaminate having to remove the two double handle the material, if you will, and whatnot.

So, um, I know this is long and drawn out, but I, I gotta get these points across. Um, so, so then you've got a source backfill material. You've got this big pit. Where do I go find soil from? Right. So we've got to figure that out. Cause you got to come in and you got to fill it. Well, like I said, you didn't get all the contamination.

So that plume will exist forever for as long as there's contamination in there. At that point, you say, well, [01:35:00] now what do I do? I still have to now tap it. I have to put a fence around it now, a bigger fence. And, and now I've reduced the concentration, but I've not been able to get it all. And that kind of speaks to, to the effectiveness piece, the, the more country, you know, issues around this, the time and the amount of volume and the complexity is more around implementability.

So, so when they looked at those things, okay, it's, it's, it's implementability effectiveness. And I think at that point they assigned a medium cost. Those are the reasons it didn't make it. Okay. Last year. So it was probably March. I worked with our contractor, my partner Gunner here, and, and they said, and we just put our heads together and said, you know what, this, these questions are going to come up, folks are not going to be happy with a high, medium, low cost estimate.

Let's do the work to figure out what it really would cost to excavate. So they spent a couple of months. They've got a center of excellence in the Midwest,

somewhere folks who do this type of estimating have tools at [01:36:00] their disposal, they contacted Arlington, which is the facility where this would go.

These are the folks who receive the material regularly. They know how it gets there. They know the best way they know the routes, you know, effectiveness. So they consulted with those folks that developed a cost estimate. That cost estimate ranges anywhere from 624 million to 1.4 billion. Okay. So that's an updated cost of cost.

It's about a year old inflation. It's probably more, but you say, why, who cares? Right? Blencoe would be, CFAC would pay for that. Okay. So here's, here's the one thing, and I'm going to tie this back to CERCLA. Okay. And what the circle is saying is the law could imagine in 1980, when the super fund program was developed, it was, it was a fund.

It was a pot of money to clean up legacy sites across the entire nation, right? You create a robust process. That's repeatable has requirements, [01:37:00] right? It's done consistently across the entire nation. So following that and understanding is coming from a fund. That was the original plan, right? There's provisions in there that say, if you've got two, two solutions, two cleanup alternatives, and they're both equally protective of human health and the environment, we really believe this solution, the slurry wall solution, is quite protective of human health and the environment.

But given two alternatives are equally protective, you've got to go with a lower cost.

That's just good capital stewardship. So that's, that's really the rub. And I know that doesn't get a lot of press, but that's really what, you What it does kind of boil down to.

Speaker 20: Yeah, the ranking of the long term effectiveness like those are not equal. And so I don't just as a quick follow up. Um, like, from your perspective, the [01:38:00] downsides of the Contain and leave the waste in place.

Um, you know, what risks are we inheriting with that solution?

Matt Dorrington: Sure. If I could, cause it really, what does boil down to, and I think, I think really the question is correct me if I'm wrong, is how is that slurry wall going to last, right? Is that really what you're, you're wanting to know? If you put a slurry wall in there, what are his success rates?

What are some of the issues you run into when you put a slurry wall in, how are you going to design around that? He's been used for many, many years of what have we learned? How do we avoid this pitfalls of three walls elsewhere? What can we expect? How long can we expect them to relax? What are the conditions of this site that make this either a really good option or a it's okay option.

I've got Mr. Peter here who, um, knows a lot about that. And let me give him just a minute to talk about that. Could you speak to that? We've got a lot of questions about the slurry wall and the slurry wall effectiveness, let's touch on that. And then [01:39:00] I'll get back to you. Yeah. Okay.

Speaker 21: Okay, so the soil bentonite wall, the permanent feature that we leave is a permeability of 10 to the minus eight, which may not mean much to anybody here, but in a three foot wide wall with the water pressure we have on the outside, a drop of water would take four years to pass through that wall.

It doesn't move too quick in our laboratory, we have a test. We run several of these tests on each project with this magnitude, and we build a soil sample from the site in the design phase. And we take groundwater from the site and usually we take very aggressive. I'm going to go to Drew and say, give me some of the dirtiest water you got.

And we push that water through that sample and we force three to four pore volumes [01:40:00] exchange. So we have a, the, the soil sample has water and we push water in and take water out one, two, three, four. So we expose that wall Through four times of its pore volume in the lab under high pressure. And that happens in about four to six months.

It's so slow, the water going too slow. So we make that happen. And we get this exchange of pore water. And while that's happening, we're watching the permeability every two weeks or so. We'll take a reading, how much went through, what's the pressure, and we, we watch the permeability. Does it change? Are we making that sample worse as we push this aggressive water through it.

And we, we will find that do we affect it and how long and what happens. And typically you get a little effect at first, it's probably a test feature and then it goes asymptotic and you have no change, no change. So I take that [01:41:00] three to six months of lab tests when I see the change and I get the pore volumes through there and I go back out to the field.

I'm going to say, okay, how many years Does it take for me to get one core volume exchange in a three foot wide wall with the water pressure differences that I have out in the field? And then I gonna do that four times as I did in the lab, and then my permeability drops from maybe 10 to the minus eight to five times 10 to the minus seven.

So it gets a little more pervious, but it's there forever. Never change, never change. In the lab, we're talking about 175 to a hundred years. And if I go to four power volumes, 200 years in the lab, and that's all I can do is accelerate it in the lab. In reality, it isn't, it didn't go to water. It didn't turn into gravel.

It didn't, it's still very tight clay. So I'm going to say it's [01:42:00] virtually forever. It's soil. We're not, there's no acid. We're not eating it up. We're not chewing it. We're not taking it away. It's safe there forever. And the water tries to go through and it goes very slowly. So to me slurry wall is a forever feature biggest issue is build it right know that you have closure Monitor it and if it doesn't work perfectly We know this before the contractor leaves the site from here to here.

We got a leak. We want you to fix it Here's how we're going to do that. So We have it Yes bentonite clay is a very special material that is a very flat plate. When you look at it under a microscope, it's a big flat plate. It's a clay particle. Um, it's not saying a little round thing with a little bit of surface area.

There's a lot of surface area and water is attracted to that surface area. [01:43:00] And so a, a bitonite particle. bonds water and then the particles bond to each other and they create a matrix of closure and they hold the water they attract the water because of all the surface area and we take the bentonite from the slurry we mix it into the soil we bring more bentonite in typically two percent dry weight and and when we're done mixing it all together we have about three percent bentonite by dry weight in that pile of soil And that 3 percent bentonite changes the character to one which wants to hold on to water, absorbs water, keeps it, makes it hard for that particle on the outside to go through.

If it was all gravel, that particle on the outside would go through in a week. It doesn't take long for a particle of water, a drop, to go through three feet of gravel. The head difference go a lot [01:44:00] faster. we put all that clay in there and we blend it together and we, we break out there. Now there's layers of sand and gravel and sand and silts out there.

There's all these layers and soils moving waters moving through these layers. Faster in some than others. But we take that and we, we disrupt it. We took a slot out. We disrupted that pattern and put the clay in. That's another feature is we break that natural flow medium by putting in the abrupt three foot wide pile of clay.

So the bentonite holds water. That's why the bentonite is an addition. It, it, it makes a very torturous path for the water to go through, which is in, we measure it in permeability and it makes it 10 to the minus seven, eight, and we can do things to make it 10 to the minus nine. And when I say seven and eight, that's a hundred different, 10 to the minus seven.

I'm sorry, [01:45:00] 10 times difference from eight. So years and centuries.

Speaker 15: No,

Speaker 21: just the sides. The bottom is a natural soil, glacial till, and water wants to try to go under the wall. We have a key closure. We force the water to go down and under. If it's going to come in, it's not going to go through the sides, it's going to go down and under. And if it starts to build up on the inside, that's the monitoring and that's the EPA saying if we have to pump, we have to pump.

So you control by pumping. And when you, when you, if you pump, you create a lower water inside and clean water outside has to come in. Won't go the other way. That's part of the, it's in the feature. He's, he can talk about a bit where it is in the feature. Uh, but if you control the water levels, you will have no leakage out the bottom.

And the bottom is pretty tight too. We're going to [01:46:00] study that. We've got lots of plans to drill borings and run tests and understand the permeability of the bottom. I believe it's pretty low. It shows us now the, the, the, the contamination that they found above, it's not below. It didn't pass through that.

It's had a hundred years, 80 years to pass through that, hasn't gone through that. Um, and then we're reducing the heads by doing this wall. I think it's, it's a pretty tight one, but we'll figure that out and we'll know more. Okay.

Megan Chase: Hi, my name is Megan and I live here or Megan Chase. I'm sorry. Um, live here in town and work as a science teacher. Um, I had a question like Renee about risk this evening. So the first gentleman to speak had

talked about how risky offsite disposal would be. And then you kind of just walked us through it again just recently.

Um, so my question is a follow up question to your slide on the preferred alternative highlights [01:47:00] and the first bullet point there under highlights you had excavation. As the verb. Um, so I'm hoping you could walk us through, um, you just walked us through all the risks that are associated with a potential offsite excavation.

So if it's an excavation on site, I'm curious how that's less risky.

Matt Dorrington: Sure. Two reasons. One, the, the contamination in the surface soils. So down to depth is primarily PAHs, polycyclic aromatic hydrocarbons. And heavy metals. It's not spent pot liner. So so that material will be excavated to I'm I can't dig two feet.

It's non hazardous material. That's another reason spent pot liner is a record controlled hazardous waste. Um, isn't there essentially non reactive? Yeah, and we're we're excavating them to two [01:48:00] feet, consolidating all those into a landfill on site.

Megan Chase: So excavation only to two feet, not to depth with your three to one ratios on the wall

Matt Dorrington: to be confirmed through some additional sampling.

You learn more when you get out there in design, you learn more even while you're doing remedial action. So yes, excavation surface soils. Those are the primary contaminants. There's a bunch of host of other ones, but those are the ones that were, when I say excavation, that's what I mean. Does that help?

Megan Chase: Yes. Okay. Thank you.

Matt Dorrington: You're welcome.

Jennifer: My name is Jennifer and I live, uh, South Kalispell near Summers, near another super fun site, BNSF, the, um, Summers Thai Plant, and, um,

it is shown that the contamination there, the soils, um, I just want to be sure to get this [01:49:00] right. It's zinc, petroleum, uh, hydrocarbons, and polynuclear aromatic hydrocarbons have been detected in, uh, the soil and groundwater and that it has migrated to some extent outside of that property, um, the plume of

creosote, creosote is, um, further underground, than originally thought, and that it is migrating to the northeast underground.

Um, there is a developer, um, who has the property right next to it, who is planning on the 63 acres right next to it, wants to put, um, 250 units, um, condos, packed in there. Um, my question and how I, I think it relates to this is, um, will there be studies done to show [01:50:00] how, um, the excavation and all that digging in the ground right next to a Superfund site?

And in addition to that, um, Summers is having to put in two more high capacity wells, um, well, at least one to serve that, uh, development altogether and then another one for future capacity. But, um, I guess my concerns are how the excavation will disturb that Superfund site that is already shown to be growing outside of the property and, and migrating, uh, and then how that well, you know, will draw down, will that draw contamination down further?

And, you know, will all that activity make it migrate? Faster and farther. Yeah, into the aquifer. That's a great question.

Matt Dorrington: But just to clarify, you're talking about summers. Are you talking? I am talking about

Jennifer: summers. And I'm also talking [01:51:00] about I mean, with the

Matt Dorrington: question is about sea fact, but your your analogy is summers.

Jennifer: I'm just relating them both. They're kind of happening at the same time. And just I guess, you know, my question, you answered to the gentleman earlier that it won't I'm Migrate outside of that super fun site. But I mean, it has here in summer. So it's a possibility.

Matt Dorrington: Okay.

Jennifer: And then with all the digging and wells, like, how could that, um, impact it?

Matt Dorrington: It's a great question. Okay, thanks. Thanks for the question. The difference here. And again, I don't know a lot of the details of summers. Mr. Sloan does be glad to hang out with you in the back. It's a very valuable resource. He knows everything about that site, but, but the difference here, I say the difference, what we, here's, let me tell you what we know about CPAC.

The groundwater plume there is well characterized. We know it right through many, many samples, multiple water wells. We know where it's at. We know how it behaves. We know how [01:52:00] fast it moves through the ground through that. And it's stable, right? And that there's no, um, there's no industrial activity. We're not drawing a lot of water out of those wells.

Part of implementing the retinity is making that a controlled groundwater, and there will be requirements in place, right, to preserve the controlled groundwater area, which means not allowing these high capacity wells to be drilled, which then What you, what that does is that you draw off the well off of that, um, groundwater plume and you change its characteristics and now it no longer just goes, you know, kind of North to South and then kind of a bit of to the East, it could do all kinds of things.

And so, so that's an important element when we implement the control groundwater is to make sure we put, um, you know, provisions in place. So that that doesn't happen. I can guarantee you that will happen. Okay. If you're talking about excavation of of lands that are up gradient and outside of that [01:53:00] any excavation up there Is not going to impact This upper feature and my hydrologist is here hydrogeologist.

Speaker 10: What is it?

Matt Dorrington: Okay Can talk more about the characteristics of of the upper aquifer and you heard about the lower aquifer, which is separated You And distinctly different and not being impacted by the, this was pristine, right? So there's two kind of aquifers. Like we think we understand the behavior of the groundwater there quite well.

We're going to preserve that and make sure it maintains its characteristics and its behaviors through control, groundwater provisions. And what you're saying is, are you talking about like, like north of the site there? Like if we excavate it up there,

Jennifer: I guess, wherever development happens around it.

Matt Dorrington: Yeah, I think, I think those would be minimal to non existent, would you think, Dick?[01:54:00]

Speaker 15: Because we have a number of wells

Speaker 18: that were sampled, a number of wells that were sampled at a higher elevation and in the same location we put in deeper wells. And it showed there was no contamination in the deeper, deeper well. And on Summers, that's a separate site. in terms of what's going on there and in terms of the issues, you know, and, and EPA and DEQ would be happy to review that situation.

Yeah.

Speaker 24: Yeah. Thank you. Thank you.

Matt Dorrington: Thanks. Great question.

Leslie: Hi, my name is Leslie. Um, my main question I guess is with so much of what you guys are doing and how you're basing your cleanup is pertaining to the sampling. Are those samples available to the public? Like the [01:55:00] actual reports that you're getting from the laboratory.

Is that available for review?

Matt Dorrington: Absolutely.

Leslie: Okay.

Matt Dorrington: It's all available and I can point it to you if you want to hang him back just a little bit afterwards. I'll show you where it's all at.

Jennifer: Okay.

Matt Dorrington: Yep.

Jennifer: Thank you.

Matt Dorrington: You're welcome.

Shirley: Hi, I'm Shirley. Um, I just want to thank you all for, um, these two days that you've been here to answer questions, to get to know you. I think it's been very beneficial for us and hopefully for you too. Um, appreciate your, Some of too lengthy explanations, but anyway, we

Matt Dorrington: aim to be thorough. I'd hate to leave here saying you didn't explain it well enough.

So put you through it. Torture.

Shirley: Yeah. And I, I got to, to know my friend Peter over here. We talked farming yesterday, so that was kind of fun. [01:56:00] Um, Wanted to just point out two or three different things and also thank you so much to all the public that has turned up. I mean we've had over 200 people in the last two days so that's pretty amazing.

Um, also wanted to point out that it's not just we adults that have been here for two days but the, um, The earth science classes at the high school have been very involved with learning about CFAC, learning about the soils, have taken tours out there, and yesterday there were some posters. They each had their assignment was to come up with, um, a remedial, um, plan, and so there were some posters out on the walls of their, their, um, plans that they had come up with.

So just to realize that this is a huge community, community issue. Um, here for people of all ages, and it's their future that we're really concerned about, [01:57:00] um, just a couple process things that I have comments, maybe questions about is that, um, last summer when we were at the public hearings, and, um, we were told that our, our comments that we would send in would be Um, responded to that we would get answers to our questions, and I know that many of us were led to believe that within a reasonable amount of time that we would each get an individual answer to to our questions.

And then as the process has gone on, we've discovered that. Well, no, we don't get the answers to our questions until the record of decision comes out. So I think that that's a really important piece of information to share with people right up front. Um, I think it's things like that. We were talking about trust and I think it's something like that that can really break down [01:58:00] trust quickly.

And the other thing in those presentations that again, I, I found real difficult as well as other people to was that when we talked about hauling the waste away, or when that came up as, as one of the. Potentials I've it felt very patronizing that it was almost like we were being patted on the back saying oh but you you wouldn't want that to happen in your community and We we need a say in this.

I mean, we're now getting our say in that but I I felt that was yeah inappropriate Um for that kind of a tone um to to just to Ride that off and say, well, you wouldn't want all that dust. You wouldn't want all those trucks going through. Like somebody said, we've had logging trucks going through this community for our whole lives.

So not that big of a thing. [01:59:00] Finally, um, last night, there was a question about the, I think the, if, if you knew of any failures. Of slurry walls, and they're of all the experts in the room. Nobody had anything to respond to that, and I was really startled because, um, I had put in a, a freedom of information request to the EPA to get a copy of all the public comments that people had sent in, which they very, um, willingly agreed to.

Sent to me very efficiently. I was very impressed with that process. Okay. I'll just let me finish this. Okay So mixed in with those letters, which I'm thinking maybe it shouldn't have been in there. There was this fact sheet that's put out by Rue of slurry wall effectiveness. It was put out in August of 2023.

[02:00:00] I've gone through this thinking, okay, am I just picking out this one paragraph in here? And, and yeah, it, it does, and basically it was a review of literature that they did, and there are some of the literature that does say that slurry wells are effective. But there's this one that Rue Evaluation that, that they did, um, looked at five year review reports of, um, 48 sites.

And it says that of, um, the 48 sites with slurry well remedies, 36 were considered effective by the EPA in five year review reports. Um, so to me, that means 75 percent were effective, but there was 25 percent that weren't effective. And, um, you know, I don't, I don't have any more information about that, but I just wanted to bring this document to, to your attention.[02:01:00]

Thank you very much.

Speaker 21: Last night, the question came up, and I have investigated myself, sorry, wall failures. I think I said that last night. One of the walls was Improperly backfilled and, and the backfill was layers of sand and clay and sand and clay, and it was repaired by re digging and about mixing that, that profile to get rid of the layering system.

And the others. About four, it was the wall didn't close with the bottom and there was a. And to me, that's the biggest failure of the system. Most walls fail because they didn't make it to the bottom. The quality control, the design missed the bottom. And, uh, so I know there have been failures. That's the typical failure.

And, uh, that's one of the reasons we're very focused on defining the bottom and making sure the bottom here has [02:02:00] quality control steps to confirm that we've closed properly with the formation.

Speaker 15: I

Speaker 21: will say that my staff will be here and in if it's if it's only three or four years I'll still be young enough to be here and I I'd love to be here for the autopilot will come. But, uh, It takes experience. It takes someone who really wants to do it. It's a hard job. The guy in that picture where he's by the excavator and he's measuring, he was a principal in my office.

Uh, not at that time, but dedicated people will be here and they will make it happen.

Matt Dorrington: And I think I just want to reiterate the comment that I made around last night about when, when the gentleman asked the question about failures. One, I said, I didn't have that [02:03:00] information here. Thanks for looking at that.

I appreciate it. And I will follow up with additional kind of performance related issues. But the key thing that I mentioned last night was none of those engineers that designed those slurry walls intended for them to fail, right. I didn't design them to fail. Right. So, so what you do over time and.

Through engineering project management, lessons learned, looking back on projects as you learn from other people's failures, you make changes and you incorporate those lessons learned into your designs going forward. So as important as saying, well, how many is understanding how they did and then making sure that doesn't happen at your site.

And I think we are committed to that.

Can, can you say that one more time?

Okay, there's a couple answers [02:04:00] to that. You say you want to take a stab at part of it. Go ahead.

Drew Barris: I do appreciate the fact that you read the fact sheets. Um, those that were 75 percent were demonstrated to be effective. The 25 percent that we're talking about we're not determined to be ineffective. They said they needed to review them more and study them more.

There were, I believe, two that I think fall into the category that Peter was talking about where they were not as effective because they didn't get the key to that. And that was like the primary reason. So

Speaker 10: right. So

Matt Dorrington: there's two pieces. Absolutely. So two pieces, I think you heard Uh, Peter say that while this teams are on site, they have methods in place to make sure that they got the key in place, right?

You can sample and test. They'll know before they leave the site, whether or not that key was in place. That's

yes, sir. I'm [02:05:00] talking about the slurry wall.

I really can only speak to the super fund or excuse me, a slurry wall, making sure the keys in place sampling on site. We've got wells and a pump and treat system in place. To react to any types of failure. We understand how those things might fail, right? And what failure modes there are. And we have presupposed provisions in face place to catch it.

If that happens and then make those changes and implement a repair quickly. That's, that's the kind of things we do to, to manage, right? The unforeseen. You've been asked to ask a question for a long time. Go ahead.

Speaker 24: Yeah, I have three. Yeah, I'll try to keep them to one minute each if I can. So yeah, I, I appreciate you guys are doing your due diligence.

You're doing hard work to figure out how to engineer this properly. But we are in a [02:06:00] very complex groundwater ecosystem with upwellings that are more complex than any other ecosystem in this part of the world. So are you looking in the lab at how to deal with seismic interaction, how to deal with groundwater complications, upwellings, and how to deal with the migrating floodplain that we have here?

So that's a question for the story wall. Why take the risk in this type of ecosystem of not dealing with that at the time. Hold on.

Matt Dorrington: You want to do that one first? One at a time, please? Yeah, that's fine. And then, Peter, can you answer that one?

Speaker 24: And also, I guess the question being related to what he's asking is, I understand that there's monitoring for the long term for 30 years.

How responsive and quick is that monitoring in the case of an emergent situation like a flood or a seismic event? Right. Or a major climate change related event.

Matt Dorrington: Okay. So, so there's a couple of questions. You got, how do

Speaker 24: you deal with that?

Matt Dorrington: For sure. Peter, from a design standpoint, slurry wall [02:07:00] response to seismic seismic events.

Let him answer that gunner. If, if you've got time, can you address the other components? Right. The, the floodplain analysis,

Speaker 24: why take the risk? So I understand scientifically how you might deal with it and how you might deal with monitoring and remediation in the event that some major contamination occurs, but why take the risk?

So that's the question. The

Matt Dorrington: risk is, is minimal and it's manageable. That's why it's, we can take it.

Speaker 21: Yeah, I'll back up that the risk is minimal. The bentonite clay, the low permeability wall is soft, and so when the ground shakes with the earthquake, it moves with the ground and doesn't break. It's pliable.

And ground, um, densifies when you shake it, sand and gravel, and maybe that results in a little settlement of the ground surface, [02:08:00] because you put the particles closer together and you push water out of the matrix, but the bentonite will not Water will not leave the ventonite due to the shaking because it's bound by the clay.

It's, it, uh, it holds the water and will not settle. So you might have a little ground problem when you have an earthquake, uh, in the granular materials, but clay materials do not respond to that shaking because water doesn't leave their matrix. So they don't go through a change. That's our, that's, that is how the materials perform in that seismic event.

Gunner I'll address your, uh, question about upwelling. That is a very excellent, uh, point to bring up. And when, uh, EPA and DEQ and I, and my team sat down to evaluate the slurry wall alternative, that was one of my major concerns

because we have [02:09:00] wells all around the landfills, but we didn't know, have any wells.

beneath the landfills because we don't want to drill through the waste and ruin things, but there could be a crack through that till that would have groundwater upwelling. That's a very valid concern. That's why the EPA's preferred alternative that we came up with was to have that groundwater treatment as part of the system, because we can't predict that.

We don't know that right now. That's an unknown. So if there is an upwelling like that, we have groundwater treatment within that, uh, within the contained slurry wall capped area. Given that that would be a very localized thing that there's going to be very low volume water that comes up through something that would be some kind of a seat that we could manage through seasonal treatment of groundwater and discharge.

Speaker 24: Some of them are not low volume, as you're aware, some of them are not at all low volume, as you're aware,

Gunner but I can't. We can't predict if there's a major giant spring, I don't believe that [02:10:00] area, but I, I, I think it's very low probability right now.

Speaker 24: Okay, so my second question I'd like to raise is you confined your area of interest to the property north that the CFAC owns, but we do know that the property to the CFAC as a settlement from the fluoride contamination and correct.

Yeah, so yeah, so back when that process was occurring, um, there was a reason that they decided that that was a settlement or a buffer that needed to be taken into account for contamination concern. Yet when that was raised as an issue in the early Superfund process, that was immediately dismissed. So I'm curious why there was never credence given to the possibility that there may [02:11:00] be additional issues.

The rest of the CAC ownership.

Matt Dorrington: The land purchase occurred far before I got here. Do is anybody hire or have No, I'm not talking about the recent

Speaker 24: land purchase. I'm talking about the purchase.

Matt Dorrington: No, no, no. I'm talking about the one on the south side of the river. Right.

Speaker 24: In the late sixties.

Matt Dorrington: What's that

Speaker 24: like in the late sixties as part of the environmental settlement.

Matt Dorrington: Okay. I'm not familiar with that. I can certainly follow up and get back to you on that, but I don't. I'm not seeing any hands. Anybody know about more about that? Can we look into that? That's a great question. Sorry. I can't answer it here.

Speaker 24: Yeah, that would be something very worthwhile to look into. Um, there was employees on the site that were concerned that there may have been migration of contamination to that site because they weren't sure what to do with it.

And that brings my third question, which was to reiterate what Shirley said. We really appreciate you reopening this discussion. [02:12:00] And yes, the rod of record of discussion, the record of decision, the rod is the final say in the matter. But I'd like to know more about the process because I feel like the process has been circumvented or shortcutted from the beginning.

I have been very interested in this process since the beginning, and you had mentioned that you feel like there's been renewed interest over the eight years since this discussion was opened. I would characterize it a little bit more as outrage because there was not the ability to provide meaningful input during the course of the process.

I tried many times to become part of the advisory committee and was told that I was not allowed, I was not invited. Also, I had to contact the EPA at least four different times to make sure I was on the contact list so that I was getting the notices of public meetings. So, I would like to know a little bit more about what the process is going forward, so that we can make sure that we have adequate input [02:13:00] before the record of decision is issued.

Matt Dorrington: Between now and when the record of decision gets signed, we're going to continue these types of discussions. We'll have future engagements. We've, we've looked at the way that we communicate, the venues

that we do it, um, how we do that, and that will be addressed. Point forward. Okay. The, the, the issues, challenges you've had in the past.

I apologize. I, there was failures perhaps, but I do want to short plug too, is the way that the superfund process is designed. There are. In that process, there are milestones and required public engagements. That's the bare minimum we should be achieving and shooting for exceeding those bare minimums. And so you have my assurance going forward, as long as I'm the project manager, that that won't happen.

That's all I can do. I wish I could fix the [02:14:00] best, but I can't.

Speaker 24: Well, we'll put our trust in that and hope that we have meaningful input in the future going forward.

Speaker 26: I see the other side of Of the coin, I respect the coin, but I was part of the original group that met, EPA was there, we met diligently, uh, groups of people, City Hall, and John Tester, uh, got the Superfund connotation started and got it listed as such. We couldn't have had a, we had field trips, we had all kinds of input and was knowledgeable and kept up on what was happening.

And so I'm sorry that people today didn't and didn't know about or didn't get involved with it. So I just see a different coin. Grandma [02:15:00] lived just a little left of the center of that. Grandma lived there. And the fish in the creek, I didn't see so many fish in that creek, because Dick used to feed them a little bit once in a while.

But, uh, she lived a healthy, healthy life. And she lived right in the middle of the diamond, just a little left of the diamond there. I would state that I wouldn't want you to, to haul that out on trucks. I wouldn't want you to haul it out on trains. And the reason I want to, want to do it with trucks, you're talking thousands and thousands of tires.

And you're traveling on roads through towns and villages, our rivers, our lakes, our streams. And it's enough trips to go to the moon about 130 times. 130 times to the moon with trucks on the road? You think there's not [02:16:00] going to be some accidents? So I'd like to see you take trucks just off the looking glass there or consider it in that vein.

And the same with trains. The train leaves Kalispell, goes to Libby, along rivers and lakes. There again, trains don't always stay on the tracks. And, and so I, I would like to see, uh, look at those. I would rather see it in sight. Anaconda, or

Glencore, whoever name you assign to them, pay probably 800 to a million dollars a year in taxes to this community.

I'm taxed to death. I can't afford to keep my house and I don't like my land Set set up with a superfund set site set over the top of it I'm probably less than somewhere around a quarter mile from and a kind of property there And as soon as you can get [02:17:00] superfund site The better it off it would be for the people that live out there And wouldn't want to be a super, super fun site.

That would be the worst thing that we could happen. You think if everybody in Columbia falls with their elbow at a super fun site. And, um, that's how I look at it now. Uh, there was three minutes, you know, I, I, I'm aware of the others too, but I'll go fast. All right, I'll go as fast as I can go because you know, my concern about people that talk too much.

The, uh, the fire thing, the fires burnt on top of T Kiddle in the 1800s, late 1800s. burnt the top of tea kettle. Fire of 29 burnt the, burnt the rest and it made it, it burned so hot it took the nutrients out. That's why you're looking at a bare slope. It wasn't the plant that killed the trees. I would like to see [02:18:00] some revenue generated, uh, by somebody that would move ahead.

And get some revenue tax revenue generated And the other thing about if somebody moved in there They could clear out some of the trees get rid of the ladder fuels ground fuels ground fuel Make it safer hotter summers bring more fires. So anyways, I thank you all for coming also and everybody's Opinion can be respected That uh came to the meetings And I thank you.

Peter Metcalfe: Hi Matt. My name is Peter Metcalfe. For those who don't know me, I'm a resident here of Columbia Falls and a member of the Coalition for a Clean CFAC, and I'm grateful for, as Shirley said, for the meetings the last two days, the continued conversation with EPA and DEQ, um, and the commitment to, uh, support.

the retention of independent technical advisors who can [02:19:00] help the community understand the strengths and limitations of the proposed remedy and other potential alternatives. And I'm also looking forward to the continued design of inclusive community engagement processes that really focus on mutual learning, including the opportunity for the EPA to learn and DEQ and Glencore CFAC from the community and the technical advisors, not just us from you, which so it goes both ways as we've talked about.

So. Thank you for helping to get that process started. Um, since I'm not allowed to come up and ask my own question tonight, per the rules, I got a text from a friend, um, that reflects a lot of the questions that people in the groups, uh, we hear a lot about, um, and that is questions around some of the sampling.

And we've had some questions around that tonight. And this one in particular was questions around whether there was sampling for mercury. And if so, where has mercury been, been sampled on within the entire. CFA site, not just within the Superfund study site. Thank [02:20:00] you.

Matt Dorrington: You want to talk to that Gunnar? But yes, mercury was sampled for in terms of where and what locations do you have that information?

Gunner Yeah, we, we, we tested for mercury. It was part of the, what they call a target analyte list of metals. It's a complete comprehensive set of metals. Uh, there are so many other contaminants looked at and mercury wasn't a contaminant of concern. Anywhere that I think I get out of the

Speaker 9: micro is not, we said during the phase one, all the samples that were from the

majority of the samples, Sean, yeah, they're

Speaker 10: 12, 000.

Yeah,

Gunner there's been talk of past about, you know, buried rectifiers and things like that. And there very well could be a buried rectifier in a landfill, but if it is, it's below where we're sampling at and it's not [02:21:00] leaching the groundwater, because we would detect it in the groundwater or is also analyzed in our groundwater.

And so in water samples, surface water samples.

Speaker 15: That sampling,

that sampling solely within the purple triangle or sampling on the south of the river or the remainder.

Gunner All of our sampling was solely within the Purple Triangle.

Speaker 6: Um, Roger Sullivan, uh, property owner both. Uh. Upriver and downriver. Um, on kind of a follow up to Peter. I guess I my first question would be what about for the recently listed PFAS family of chemicals? What kind of testing has been done for those?

Matt Dorrington: So we've we've yet to navigate that as you as you're aware, that was You know, listed very recently within the last few weeks, and I think even in the last week it was became [02:22:00] a contaminant concern under circle.

So so the agency now with that ruling, we've got to assess, you know, the impacts to site across the nation. This site in particular, we've got work to do to refine it. I can't answer your question today, but it. It is on our plates. It's on our radar. We need to figure out a way to incorporate it and how it applied to this site is that evolves.

I will share that information through these types of engages and keep you informed. Okay, but I don't have an answer today. We've got a lot of work to do on the radar. Thank you. Appreciate it.

Speaker 6: Appreciate it. And, uh, kind of in follow up to the concern for, uh, I guess the definition of Mhm. The site itself and the care that needs to be devoted to that going back to the summer's Superfund site that Dick and others have been familiar with, you'll recall that subsequent to that.

The, uh, private landowners all around that [02:23:00] Superfund site, uh, their properties were determined to be contaminated by the migration of, uh, the contaminants offsite. And so, uh, in fact, you'll go out there now and you'll see that each of the homes have been purchased and removed by BNSF. The, the point being that, uh, I don't think you can test too much.

Before you make your final decision, including on the precise delineation of the boundaries. So I just want to encourage that and also hope that there's some sort of adaptive management in place as well.

Speaker 15: Three comments real quick, Matt. I'm, I'm, I'm nervous.

Speaker 18: The property, for example, along Pickles Lane, Pickleville,

Speaker 6: Pickleville,

Speaker 18: sorry, and the property along, uh, [02:24:00] Summers Boulevard.

It was analyzed by, um, by, uh, BNSF

Speaker 6: and their contractor.

Speaker 18: Yes. And their contractor under the direction of EPA. And it was determined that there was contamination on those properties. BNSF subsequently purchased those properties, but then there was sampling done on the, what should I say, the perimeter of those properties, and it was determined that the The impacts from the site didn't extend beyond those properties.

Speaker 6: Yeah, so just to confirm, actually, after I drilled on the private properties that weren't part of the site, and there was creosote found, then in the subsequent litigation that ensued, the private property landowners [02:25:00] Were in essence made whole. But the point is here is that those remedies that were previously available for affected private landowners that are adjacent to the site had that remedy until the recent U.

S. Supreme Court decision that had to do with the town of the opportunity case that said those private property landowners until the EPA process is completed Can't avail themselves of those private remedies. So my point is, is that now is the time for the private property owners. I mean, that could potentially be affected to make sure that to the absolute highest degree possible.

You have confidence in the testing into the point. Um, Matt, can you have too much testing.

Speaker 18: I can't comment on

Matt Dorrington: that

Speaker 18: here.

Speaker 17: I'm a

Matt Dorrington: chemical engineer. I love data, but there is a [02:26:00] point of diminishing returns when you're considering costs and other factors. Thank you

Speaker 6: all appreciate it.

Matt Dorrington: Thank you now. But to your point, I mean, the, the, the, when we talk about, you know, do we kind of characterize this enough that we knew, are we concerned about offsite impacts, really the, the primary media that's impacted is the groundwater.

We spent a lot of time talking about groundwater plume, plume, all the work we've done to characterize it. We know how it behaves. If there was any, um, offsite impacts, that's where it would come from. So the other contaminants that are located in that top two feet of soil in various locations, once we remove that it's gone, it's not mobile.

But to the question, and I got a lot of feedback and pushback, not pushback, good, good comments about how well is that, that boundary defined? Let me take it as an action to evaluate and look into once we get to remedial design phase. Well, first, I'm going to understand to make sure how far did we look on each side of those boundaries and Mr Barris, you and I can talk about that afterwards, [02:27:00] but then during remedial design, can we do additional confirmation sampling, looking at those property business properties that you all are concerned about?

Let me explore that. Let me see if that's a possibility. Okay. Good idea. All right.

Speaker 10: Last question.

Mandy Johnson: I waited for it. Um, my name is Mandy Johnson. I live here in Columbia Falls. I've raised my children here. My grandchildren are being raised. I'm free for them now. I've been afraid for them since I moved in and found out what CFAP was all about.

But, I bought a house, I settled in, now my children are grown and they're raising children. My question is, is anybody in this room, would you be willing to go to the aluminum city and buy a house and live there? Cause I know everybody in this room has at least one person, because of that plant, has had cancer.

I've got two very dear friends, one's dying in a nursing home. The other one is sick is just beyond [02:28:00] belief. I don't want my children to do that. So if you're going to put your landfill area up in there, and then it's just right along the line, what's going to stop that from going past there, if you're not testing either side?

Just a question.

Matt Dorrington: That's our primary goal, is to protect human health and the environment. We're going to make damn sure. So whatever remedy we implement won't harm anyone today or in the future. It's a requirement. It's our job. It's our mission.

And I'm sorry to hear that. All right. Thank you.

Kristine Fife Thank you for being here. As a reminder, please have a cookie, take a bottle of water, stick around if you have additional [02:29:00] questions.