PUBLIC MEETING

THURSDAY, DECEMBER 6, 2018

6:00 PM

KARNACK COMMUNITY CENTER

KARNACK, TEXAS

(The following transcript contains discussion and questions by individuals present at the public meeting.)

MR. PAUL CLEVER: So they're (TCEQ) involved in this too?

MS. JOY ROGALLA: Oh, yeah.

MR. PAUL CLEVER: Okay. I mean, I've dealt with them before, and you don't get anything by them. And what are they going to do with the dirt that they excavate?

MS. JOY ROGALLA: We will talk about that in a little bit.

MR. PAUL CLEVER: Okay.

MS. JOY ROGALLA: For the gentleman that had a question about the soil, did that answer your question?

MR. PAUL CLEVER: No. I'm just wondering where were they going to -- they've got a specific area they're going to take that 3900 –

MS. JOY ROGALLA: Yeah. Yeah. That's what we just pointed out here.

MR. PAUL CLEVER: But it's going to still be on the site?

MS. JOY ROGALLA: No. No.

DR. ROSE ZEILER: No.

MR. PAUL CLEVER: So it would be removed?

MS. JOY ROGALLA: Yeah.

DR. ROSE ZEILER: To a permitted landfill. It would be removed to a landfill.

MR. ANDREW MALY: So I understand – this is Andrew Maly. If I'm understanding your question, sir, has the landfill where the disposal will occur, has that been selected yet?

MS. JOY ROGALLA: No. That's part of the remedial process.

MR. PAUL CLEVER: It would have to be some place that would take hazardous --

MS. JOY ROGALLA: Yes. There are landfills around here that take --

MR. PAUL CLEVER: Right. Are they going to put -- fill that back in?

MS. JOY ROGALLA: I presume it would be backfilled with clean soil and probably revegetated. That's usually how it goes. Like I said, that will be part of the actual design process, which hasn't happened yet. But that's typically what's done. So yeah, it will be -- it won't be there anymore. There won't be any hazard remaining. It would be gone.

MR. TOM WALKER: I have a question. My name is Tom Walker. We have wooden wastewater lines.

There in the second sentence, the wastewater line has flushed and abandoned. So now that's over with?

MS. JOY ROGALLA: Correct.

MR. TOM WALKER: So now we're going to deal with the cooling lines?

MS. JOY ROGALLA: With the transite part of the wastewater lines, as well as the cooling water lines that are clay.

MR. TOM WALKER: So the flushing has already occurred?

MS. JOY ROGALLA: Only in the wooden part.

MR. TOM WALKER: Only in the wooden part. I would think wooden would have rotted by now. Does it still exist?

DR. ROSE ZEILER: Yes, it might. And the last time anybody saw it was back in the '90s when they breeched that line to take a closer look at it. But at that point it had been flushed and abandoned, you know, as part of standard operating procedures while the lines were in use, not post operation.

MR. TOM WALKER: So we don't need to look for it again, do we?

DR. ROSE ZEILER: We are going to sample along that line. We're going to sample the soil, because we believe that probably the lines are in very bad shape, but we are going to sample along that line.

MR. TOM WALKER: So we're just going to sample the soil? We can't actually flush it anymore? We presume --

DR. ROSE ZEILER: We can't flush it.

MR. TOM WALKER: Okay. Now, the cooling line, which is made out of the clay, does that still exist?

MS. JOY ROGALLA: Yes.

MR. TOM WALKER: Has that been flushed?

MS. JOY ROGALLA: I don't think so.

MR. TOM WALKER: Okay. But -- so we're going to look for it and flush it?

MS. JOY ROGALLA: Yes.

MR. TOM WALKER: Okay. All right.

MS. LAURA-ASHLEY OVERDYKE: And they're expecting -- Pardon me. My name is Laura-Ashley Overdyke. I guess they're expecting that there could be some holes in that old clay pipe, so they're going to check it with a camera. And if they see a hole then they'll check the soil around where that hole was. Because I'm like you. I'm wondering how these aren't falling apart and disintegrated over time. But --

DR. ROSE ZEILER: Yeah. But they haven't.

MR. TOM WALKER: Yeah. I would have expected those to be disintegrated.

MS. JOY ROGALLA: So does anybody have any more questions about the lines?

MR. JAY WEBB: Ma'am?

MS. JOY ROGALLA: Uh-huh?

MR. JAY WEBB: About three or four years ago -- oh, also, my name is Jay web. About three or four years ago there was a process they were trying insects out in the area near the fire station – or microorganisms. Did that not prove to be successful in any manner?

DR. ROSE ZEILER: We have had a couple. We did a treatment -- a treatability study, if that's what you're talking about. That was the old Chemlab. That was a little bit different than what we are doing out there now. We do enhanced bioremediation in several -- in two areas, two and three. We're going to do it in a third area here soon. We've had good success with that. With the treatability study at site 37, the Chemlab, we did not. That was an aerobic process as opposed to anaerobic, which is what we've applied to these three plumes.

MS. LAURA-ASHLEY OVERDYKE: But the memory is correct of organisms that can consume some of the contamination?

MR. JAY WEBB: Microorganisms, yeah.

DR. ROSE ZEILER: That is correct. That is a good description. But for this site, it is methylene chloride, which is slightly different, and it is in the DNAPL phase. We believe there's a separate phase, meaning it's not dissolved in groundwater in some part. It's actually the product in, I don't want to say pure form, but I mean, it's -- it's

occupying spaces, as a separate phase. It's separate from water at depth.

MR. TOM WALKER: Tom Walker. If it's non-aqueous, that means water is not going to transport it?

MS. JOY ROGALLA: It doesn't dissolve in water.

MR. TOM WALKER: All right. So it's going to stay there?

MS. JOY ROGALLA: Yeah. Yeah. And one thing that's interesting about both the shallow and the intermediate plume at this site, is they appear to be pretty stable and not really migrating, which is actually kind of unusual for a site. And so really the geology at the site, a lot of clay and things like that, are confining this. And so that's kind of nice. You don't usually have a well-behaved plume.

DR. ROSE ZEILER: Now -- and that's all of our plumes, including the DNTs in the shallow zone. They're all just kind of –

MS. JOY ROGALLA: They're all, from what we can tell, just staying put.

DR. ROSE ZEILER: Yeah.

MS. JOY ROGALLA: So that is helpful, in a way.

MR. TOM WALKER: Is there like a clay under -- clay barrier underneath it?

MS. JOY ROGALLA: Yeah. There's a whole bunch of clay lenses out there that separate things. And Rose might be able to explain that more.

DR. ROSE ZEILER: Well, yeah, between the intermediate zone and shallow zone exists clay.

MS. JOY ROGALLA: Yeah. And the thing with the DNAPL, the concentrations are so high that they're toxic to microbes so that they can't degrade it. They can kind of nibble at the edges a little bit as the concentrations decrease. And the concentrations decrease really rapidly. We've got a poster there that shows the extent of the area that's considered to be DNAPL. And then you can see that relative to the maximum contaminant level, which is five. It's not very far out. So it decreases very rapidly.

MS. TERRI CLEVER: In heating up the ground that deep, I mean, what is -- is it going to harm the animals or vegetation. And how is that –

MS. JOY ROGALLA: No. Because it's more than 45 feet below the ground surface.

MS. TERRI CLEVER: So above that, above 45 feet is not going to heat up, or --

MS. JOY ROGALLA: Meaning whatever they do to install the wells, but none of that will affect vegetation, the process itself.

DR. ROSE ZEILER: Right. We don't expect it to get really hot up higher, but it will warm. It will warm, but, you know, the destruction of the VOCs is intended to be deeper. But there will be a halo of warmed up stuff. We consider that a beneficial thing in helping to treat the VOCs that may be in the shallower zone, too. We're just not sure that that will happen, but we consider that that would be okay.

MR. TOM WALKER: Tom Walker. What temperature are we heating up to?

MS. JOY ROGALLA: That's a good question. I can't remember.

MR. RICH MAYER: About 140 Fahrenheit?

MS. JOY ROGALLA: 140 was for the chemical oxidation. I think it is even warmer, but I don't remember off the top of my head.

DR. ROSE ZEILER: I don't either.

MR. TOM WALKER: And are we creating heat at the surface and transferring it down there?

MS. JOY ROGALLA: No.

MR. TOM WALKER: We're creating the heat down there?

MS. JOY ROGALLA: These are electrodes that they put into the ground, so they'll actually heat the zone.

MR. TOM WALKER: Okay.

MS. JOY ROGALLA: So they'll transfer electricity down to the material that's resisting the heat or conducting the heat. So it will be kind of targeted for that depth.

MR. JAY WEBB: Jay Webb again. Question about this area. We're talking about area 29, okay.

MS. JOY ROGALLA: Uh-huh.

MR. JAY WEBB: Are we going to see a clearing of that land and taking the trees and dirt and everything off of that and then putting this well in place, this heating well?

DR. ROSE ZEILER: Where the remedy is being implemented, there will be -- there will be – you know, they'll have to get in there and put their equipment in. I think she explained that the plume itself is about 80 by 140.

MR. JAY WEBB: Okay. So it's just that area? We're not clearing and excavating the entire area of 29?

DR. ROSE ZEILER: No. But there will be other areas of excavation, because we have soil removals along the ditches. We probably will have soil removal along cooling lines. There are four of those lines -- or two cooling lines and two TNT wastewater lines. We'll have spotty removal around some of the old A through F lines that are not necessarily along the cooling lines. You know, I can't say there won't be a fair amount of dirt removal and tree removal that will be necessary.

MR. JAY WEBB: Well, that kind of brings my next question in play here. How are we going – or how will you be protecting this area? Are you going to be fencing this entire area or --

DR. ROSE ZEILER: That's a good question – you know, when we do work, we have to create exclusion zones to keep people out for safety.

MR. JAY WEBB: Sure.

DR. ROSE ZEILER: So, you know, I'm sure that will be part of the final design. But we will restrict that area from access by folks. But we also, you know, try to work to minimize the amount of destruction that we do to the environment. I mean, we were just out today on a very similar thing with the regulators and Fish and Wildlife trying to figure out how to get some work done that we need with minimal impact. So we're conscious of what -- where we are, but we also have to get stuff out. So we'll try to balance those two.

MR. JAY WEBB: Sure. Well, the area that we're -- and just looking at your map here, I know exactly where you're talking about. That's part of the auto tour route?

DR. ROSE ZEILER: Yes, it is.

MR. JAY WEBB: So will we be diverting? Will we be closing or --

DR. ROSE ZEILER: We may close one of those gates for a period of time.

MR. JAY WEBB: Okay.

MR. TOM WALKER: I guess that area of vegetation would include a lot of pine trees that have deep tap roots. Are those tap roots disturbing any of this, creating problems?

DR. ROSE ZEILER: Where are they – I don't --

MR. TOM WALKER: Are there no pine trees on area 29? I would think so.

MS. APRIL PALMIE: There are some, but if you remember -- I'm April Palmie. A few years ago when we did, you know, all of this post

investigation – I don't remember what we called that phase. But we already did quite a bit of clearing on 29 for the previous investigation that we did -- that the Army did back in, I guess it was 2014. So a lot of the grubbing has already been done and the smaller trees removed.

Because they did a lot of soil sampling, they did soil gas sampling, and a bunch of stuff. So a lot of that, you know -- pretty much I think just some of the bigger trees and whatever has grown back. I mean, from the road you can't tell.

MR. TOM WALKER: Yeah. I'm just wondering in my mind, how deep the tap roots of those pine trees go, and I think they go really deep. And are they penetrating into this?

MS. APRIL PALMIE: Could be.

MR. RICH MAYER: We can check it out.

DR. ROSE ZEILER: You know, I'm trying to think how deep they are, you know, where shallow groundwater is. Across most of our sites, it's like 20 to 30 feet. So do they go that far?

MR. PAUL CLEVER: No.

DR. ROSE ZEILER: That's pretty deep.

MR. RICH MAYER: You know, Fish and Wildlife Service has a forester, John Stevens. We could ask him, because he would know.

DR. ROSE ZEILER: Now, in some places they're shallow.

MR. PAUL CLEVER: Pine tree probably about this big around, the tap root would be about 14 feet.

MR. TOM WALKER: That's shallow. I thought it was much deeper.

MR. PAUL CLEVER: No.

MS. LAURA-ASHLEY OVERDYKE: I'm Laura Ashley Overdyke. My question was: Thermal desorption, is this -- and this is new to most people in this room. It's new to me. But is it a proven practice, or is this fairly new?

MS. JOY ROGALLA: I don't know how long it's been around, but it has been used at multiple sites.

MR. RICH MAYER: It's been used for probably at least five years, if not ten, so --

DR. ROSE ZEILER: Yeah. It used to be kind of way out technology and very expensive, but it's --

MR. RICH MAYER: It's gotten revised over the years.

MS. APRIL PALMIE: But because we now have the DNAPL at depth, there's not too many ways to get to that yet. So the hope is that this can activate it and get it out. So by vaporizing it, we're able to capture it and get it out of the intermediate.

MS. LAURA-ASHLEY OVERDYKE: And earlier you mentioned that the deep groundwater, beyond 88 feet, is not contaminated. That was established by previous investigation, that the deep groundwater is not contaminated, that this DNAPL is isolated in the intermediate zone?

DR. ROSE ZEILER: Uh-huh.

MR. RICH MAYER: We've got groundwater monitoring wells there that -- or wells that show no contamination.

MS. JOY ROGALLA: Any other questions before we continue?

MS. JUDY VANDEVENTER: Judy V-a-n-d-e-v-e-n-t-e-r. Once the decision has been made and we start this, will you go out with another contractor, or will this company be the one that implements the --

DR. ROSE ZEILER: We will probably have two more contracts after this one. I'll let Aaron --

MR. AARON WILLIAMS: This contract is just to get the record of decision in place.

MS. JUDY VANDEVENTER: And that's it?

MR. AARON WILLIAMS: Yes.

MS. JUDY VANDEVENTER: Okay.

MR. AARON WILLIAMS: So then we would have a remedial design and potentially a separate contract for the remedial action.

MS. LAURA-ASHLEY OVERDYKE: This is not necessarily the contractor that will do the work.

MS. JUDY VANDEVENTER: That's what I was trying to get to.

MS. LAURA-ASHLEY OVERDYKE: Laura-Ashley Overdyke. O-v-e-r-d-y-k-e. The questions I've been hearing are: This contamination has been here so long, hasn't the damage already been done? Or, I mean – I suppose the DNAPL is still there, and that's the

problem, the fear of it migrating is what is urging us on to want to remove it completely?

DR. ROSE ZEILER: It is actually considered a principal threat, pretty much, because in the DNAPL phase it will continue to contaminate groundwater. So generally some remediation is required to do that. But it is a difficult -- it is true that we don't see these plumes moving, and this is unusual. It is unusual. So this is a site that doesn't, as we know it now, and as we see it, present a risk of migration and plume movement into other areas.

MS. LAURA-ASHLEY OVERDYKE: That's fortunate.

DR. ROSE ZEILER: That's very fortunate. But it does remain. And as far as soil excavation, we have some small areas that present an ecological risk, and then --

MS. LAURA-ASHLEY OVERDYKE: Well, the Caddo Lake Institute does have a third party contaminant expert that reviews these documents, and I will summarize that he finds this plan to be a good plan. Not all plans -- no plan is perfect. He finds the plan to be a good plan, and his largest question for me I've already asked and gotten the answer to, which was do we really know the vertical depth and extent of the DNAPL, or is it a mystery about how deep it goes.

DR. ROSE ZEILER: We have wells in the deep zone.

MS. LAURA-ASHLEY OVERDYKE: So to me, the primary concern has been addressed, and I wanted to share with the community that he found this to be a good plan.

DR. ROSE ZEILER: Glad to hear that. Thank you.

MS. CAROL SCOTT: Carol Scott. I just want to say that I've learned a lot, and I am just absolutely impressed and amazed about the thermal rods going into the soil and boiling it out of there, you know.

MS. JOY ROGALLA: It's an interesting technology.

MS. LAURA-ASHLEY OVERDYKE: You might be able to sell tickets.

MS. PATTY WEBB: If it works, I'm going to try it on the fire ants.

MR. JAY WEBB: I'm Jay Webb. I want to be devil's advocate here, or maybe I'm just being stupid. Why are we even doing this?

DR. ROSE ZEILER: I think we just kind of briefly went through this. We have the requirement.

MR. JAY WEBB: Okay. So we've got an option that we don't do anything; it doesn't cost a thing. So why -- I guess my question is: And I've been through this entire process from the beginning until today. Not a lot has been damaged. I mean, there's just nothing going on out here. This is a U.S. Fish and Wildlife installation that there's just -- why are we doing all of this proposal and spending the millions of dollars that are out there for this?

DR. ROSE ZEILER: And I see what you're saying. You're looking at 16, 18, 24 where we're protecting surface water, and the risk is readily visible, and we see what's going to happen, and you can see why we would be doing work. But at Site 29, you know, we do

have a risk. We have an ecological risk that's been established. We have human health risk for a user -- a potential user of groundwater. The State of Texas has a requirement, a regulation, that requires groundwater be restored to it's potential beneficial uses. And whether we're using it or not, we still have to restore it. And I'm going to let either Rich or April take over from there. Because it has evolved in recent years.

MR. RICH MAYER: I mean, I think what you said was true. I mean, I think one of the things is right now, yeah, you know, nobody knows what's going to happen out here in the future. Now, if you knew that the site was going to stay like this for long periods of time -- but, I mean, the groundwater could be used out there, and we do have some stuff in the intermediate groundwater that's pretty nasty, toxic stuff and really needs to be taken care of so you can protect the groundwater for future uses. Now -- and I understand what you're saying. Right now nobody is really using that groundwater.

MR. JAY WEBB: Well, you just said two things that I have keyed on, future and users. This is U.S. Fish and Wildlife property.

MR. RICH MAYER: Right.

MR. JAY WEBB: Future users being who?

MR. RICH MAYER: Well, and I guess what I'm saying is I know the U.S. Fish and Wildlife service owns the property right now. But they may -- you know, we don't know what's going to happen with the government agencies. You know, maybe in the future somebody may say, well, we don't need all of these fish and wildlife places, and we

may want to give it -- you know, sell the property to an individual user.

MR. JAY WEBB: We went through a huge fight for an industrial park out here, and I was part of that. Mr. Walker was part of it. We went through a huge fight to see this refuge become a refuge.

MR. RICH MAYER: Right.

MR. JAY WEBB: So, is what you're saying now that there is an opportunity for someone to come in and take that property and use it for another use?

MR. RICH MAYER: What I'm saying is -- No, I'm not saying that. What I'm saying is right now, no, there's not an opportunity. We don't know -- I guess people don't know exactly -- we can't predict what's going to happen in the future. And hopefully – you know -- and I know you did hard work, and you guys did a good job of making sure that this didn't become an industrial property, right?

MR. JAY WEBB: Well, yes. We went through a lot of planning.

MR. RICH MAYER: And hopefully that's what happens. I mean --

MR. JAY WEBB: And we created some hard feelings, and I'm sorry.

MR. RICH MAYER: Well, that's part of democracy.

MR. JAY WEBB: Certainly, it is. But Dr. Zeiler and you have both said you don't know what the future use is going to be, and that scares me.

DR. ROSE ZEILER: No. No. No. No. That's not true. That's not true. I didn't say that if -- I said -- I don't think I said that. There's only two ways that it can come out of refuge property. I'm sorry there's not a Fish and Wildlife person here tonight. It has to be either through a congressional act, and the other has to be some type of transfer of federal lands among other -- to another federal agency. That's really -- those are really the only two that I know about. And the only way, you know, through an Act of Congress, I don't know whether they can give it to some other like use or not. But there are very limited ways that you can change refuge property, very, very limited. So the potential for it not being a refuge I would say is very, very low. Everything we've done has been toward the anticipated use of refuge. I'm not sure what you heard me say about future, but what I was saying is that there are regulations that we're required to adhere to. And those regulations are about what are the beneficial uses. That's what I said. We have to restore to it's potential beneficial use, groundwater. I mean, that's the law. That's the regulation. That's it.

MR. RICH MAYER: And it's not only this site.It could be -- there's other sites throughout the nation where they have to do this. So, it's not -- we're not -- we're not requiring Longhorn to be -- to do more than other sites.

DR. ROSE ZEILER: No, we're not.

MR. RICH MAYER: Some of it is state law and some of it is federal law.

MS. APRIL PALMIE: So those – whatever regulators have the same expectation that we don't take away the use of the groundwater. We try to restore any groundwater that's useable to where it could be used for t's intended use.

MS. LAURA-ASHLEY OVERDYKE: And that's what I heard, future use of the groundwater.

MS. APRIL PALMIE: Right. Future use of the groundwater. So right now --

MR. RICH MAYER: Right now nobody is using it.

MS. APRIL PALMIE: Nobody using it. But that doesn't mean in 50 years they won't want to use the groundwater.

DR. ROSE ZEILER: Right. And I just want to say that this all turns -- so you're harkening back to the previous way things were done. If there wasn't a user, then you could, if there was no migration, you could let it go. But that changed in about 2009, and there was a redefinition or re-evaluation of EPA's intent to restore groundwater. That was a pivotal thing, a pivotal change. Because then it grew to -- restoration to all potential beneficial uses -- to it's potential beneficial use, whether it's going to be or not, and whether it's used presently or in the future. It has a potential, and that started in 2009. What did you call that paper, the -- I can't remember the name of it, but that's -- that's pivotal. I think 2009 or 2010.

MR. RICH MAYER: It was 2009.

DR. ROSE ZEILER: 2009, yeah.

MS. JOY ROGALLA: Any other questions?

Comments? Okay. Well, thank you all very much for coming.

(Meeting adjourned.)

REPORTER'S CERTIFICATION

I, Laura Payne, Official Court Reporter in the State of Texas, do hereby certify that the above and foregoing contains a true and correct transcription of all portions of the public meeting that was requested in advance to be transcribed. I further certify that this transcript of the proceedings truly and accurately reflects any public comments or questions raised at the public meeting, to the best of my skill and judgment. I further certify that the total cost for the preparation of this transcript is $131.25 and will be paid by HDR, Inc.

WITNESS MY OFFICIAL HAND this the 17th day of December, 2018.

/S/ Laura Payne

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