

Former Wurtsmith AFB  
**Virtual Restoration Advisory Board (RAB) Meeting**  
 21 October 2020  
**GoToWebinar**  
 5:00 – 8:00 pm Eastern Daylight Time

**Draft Meeting Minutes**

<b>Member</b>	<b>Authority/Affiliation</b>	<b>Attendance</b>
<b>RAB Co-Chairs</b>		
David Gibson	Air Force Co-Chair	Present
Mark Henry	Community Co-Chair	Present
<b>Government RAB Members</b>		
Tim Cummings	Oscoda Township	Not Present
Jeffrey Moss	Au Sable Township	Present
Beth Place	EGLE	Present
Mike Munson	OWAA	Present
Denise Bryan	DHD2	Present
Puneet Vij	MDHHS	Present
Jessica Stuntebeck	USDA Forest Service	Present
<b>Primary Community RAB Members</b>		
Daniel Stock	Primary Community RAB Member	Present
Arnie Leriche	Primary Community RAB Member	Present
Joe Maxwell	Primary Community RAB Member	Present
William Gaines	Primary Community RAB Member	Present
Cathy Wusterbarth	Primary Community RAB Member	Present
Ryan Mertz	Primary Community RAB Member	Not Present
Jerry Schmidt	Primary Community RAB Member	Not Present
David Winn	Primary Community RAB Member	Present
<b>Alternate Community RAB Members</b>		
Rex Vaughn	Alternate Community RAB Member	Present
Greg Schulz	Alternate Community RAB Member	Present
Scott Lingo	Alternate Community RAB Member	Not Present
<b>RAB Support</b>		
Tim Sueltenfuss	Galen Driscoll, Facilitator	
Gina Jones	Aerostar SES LLC, RAB Coordinator	
<b>Other Participants</b>		
Mike Neller	Director, EGLE Remediation and Redevelopment Division	
Dan Medina	AFCEC BRAC Chief, Central Execution Branch	
Paula Bond	Aerostar SES LLC, Project Manager	
Jeremiah Morse	AECOM, EGLE Contractor	
Bill Palmer	Oscoda Township	
Anthony Spaniola	NOW, Public Commenter	

The full attendee list can be found in Attachment 1.

**Meeting Video Link:** <https://www.afcec.af.mil/Home/BRAC/Wurtsmith/RAB.aspx>

Attachment 1: Attendee List

Attachment 2: Agenda

Attachment 3: Presentation

Attachment 4: Action Item Tracker

RAB Documents: <https://www.afcec.af.mil/Home/BRAC/Wurtsmith/RAB.aspx>

### **Welcome and Introductions**

**(0h:21m:08s)** The facilitator, Mr. Tim Sueltenfuss, began the Wurtsmith Restoration Advisory Board (RAB) meeting at 5:00 EDT, welcomed everyone to the meeting, and went over the Checklist for Virtual Participation (slide 2), introduced RAB members, and asked RAB Co-Chairs for opening remarks.

Mr. David “Dave” Gibson, Air Force RAB Co-Chair and Project Manager with the Air Force Civil Engineer Center, introduced by Tim Sueltenfuss, opened the meeting with an appreciation for attendance and well wishes for the meeting and exchanging as much information as we can and have time to answer all public comments.

Mr. Mark Henry, the RAB Community RAB Co-Chair, opened with anticipation of an interesting meeting and enthusiasm for the open discussion and opportunity to have the community questions answered.

Tim Sueltenfuss reviewed the RAB meeting agenda and ground rules having Air Force RAB Co-Chair Dave Gibson read the first through fourth, and Community RAB Co-Chair Mark Henry read the fifth through the seventh and got agreement that they work for both as representatives.

Mark Henry commented on the recent appointment of David Winn (alternate) as the primary RAB member.

**(0h:27m:00s)** Tim Sueltenfuss held the RAB member roll call:

#### Community RAB Members:

William “Bill” Gaines – Yes

Mark Henry – Primary RAB Member (RAB Co-Chair) – Yes

Arnie Leriche – Primary RAB Member – Yes

Joe Maxwell – Primary RAB Member – No answer

Ryan Mertz – Primary RAB Member – No answer

Jerry Schmidt – Primary RAB Member – No answer

Daniel Stock – Primary RAB Member – Yes

David Winn – Primary RAB Member – Yes

Cathy Wusterbarth – Primary RAB Member – Yes

Rex Vaughn – Yes (Tim acknowledged that in Joe Maxwell’s absence, Rex will be alternate for Joe.)

#### Government RAB Members:

Dave Gibson – Air Force (RAB Co-Chair) – Yes

Jeff Moss – Au Sable Township Trustee – Yes

Denise Bryan – Health Officer with DHD2 – Yes

Puneet Vij – Toxicologist with DHD2 – Yes

Beth Place – EGLE RRD – Yes

John Nordeen – Oscoda Township – Yes

Michael Munson – Oscoda Wurtsmith Airport Authority (OWAA) – Yes

Jessie Stuntebeck – USDA Forest Service – Yes

**(0h:31m:45s)** Tim Sueltenfuss acknowledged that there are more than 51% of the Community RAB members and more than 51% of the government RAB members present, and we have both RAB Co-Chairs, so per Section 3.10 of the operating procedures, we do have a quorum.

Approval of meeting summary of 20 July 2020 meeting – Tim Sueltenfuss noted Dave Gibson disseminated the final minutes via email on 1 October.

#### Stakeholder Updates

##### **U.S. Air Force (USAF)**

**(0h:33m:15s)** Dave Gibson provided the USAF update summarized as

- The Air Force received 5 comments from RAB members and 5 comments from EGLE on the Relative Risk Site Evaluation (RRSE) worksheets. None of the comments resulted in a change in the ranking of the 4 PFAS sites (each was rated “High”). A Responsiveness Summary was developed to address the comments and placed in the administrative record. The majority of responses to the comments were that the current RI will be gathering more information and providing additional detail. The comments also include some clarifications the RAB might want to look at and be familiar with.
- The fourth five-year review is still under AFCEC review. AFCEC is working on adding discussions of PFAS into the FYRs. The end of November is the goal to have the five-year review completed.
- The vapor intrusion study on-going and the work plan is available on the AR website. A hardcopy will be placed in the IR. Four quarterly samples will have been taken by April of 2021, and there will be a report prepared with recommendations, and it will be forwarded to EGLE for their review.

**(0h:36m:10s) Forest Service** Jessie Stuntebeck – No updates

#### **(0h:36m:40s) EGLE**

Mike Neller provided the EGLE update summarized as:

- The state of Michigan entered the defense state memorandum of agreement (DSMOA) in 1992 to expedite the cleanup of hazardous wastes sites on DOD installations within the state and ensure compliance with applicable state laws and regulations. As part of this agreement, EGLE participates in the planning and scoping meetings that are occurring during this RI phase at the former Wurtsmith AFB. The Air Force is moving forward with two interim response activities concurrently with the remedial investigation. It is important to know that the Air Force is not precluded from implementing other response activities if warranted during the remedial investigation phase. EGLE is entering this RI phase with the mindset of looking for opportunities to undertake additional response activities that can justifiably be undertaken to speed up the cleanup efforts at the former Wurtsmith AFB.

Beth Place provided additional EGLE update summarized as:

- In the next week, EGLE will be providing comments to the Air Force on two documents. The Focus Feasibility Study for LF30-31, submitting revised comments for the NAPL plume. EGLE will also be submitting comments on WP04 and SS08 Uniform Federal Program Quality Assurance Project Plan (UFP-QAPP) updates. Recently EGLE submitted comments on the Mission Street Pump and Treat System (MPTS) engineering evaluation/cost analysis (EE/CA) that was an, after the fact, EE/CA. EGLE had minimal comments on the EE/CA and also submitted very minimal comments on the MPTS and central treatment system (CTS) UFP QAPP, which was primarily focused on sampling within those treatment systems. In addition to that, on Tuesday, the Water Resources Division submitted comments to the Air Force on the monitoring program for the Substantive Requirements Document (SRD) for FT02, the CTS, and the MPTS.

#### **(0h:40m:16s) OWAA**

Mike Munson provided an update summarized as:

- (AI) Addressed an action item that has been addressed several times and assigned to both the Township and OWAA in regards to Clark's Marsh and the housing potential. There is no housing potential in the marsh. The airspace above the marsh is protected airspace for future runway developments. The bottom line, as said in several meetings, is that the action item needs to be closed because there will be no further developments in that area from a housing standpoint. At our last meeting, the Air Force talked about doing some additional well drilling on the airport property, which is fine; however, one of our tasks at OWAA is to improve the business environment of the airport activities, so we need to know exactly where those well locations are going to be so that if we have future business development, we are not trying to build a building over a well. **An action item (action item #72, see attached) needs to be assigned to the Air Force to give us exact locations of future well-drilling activities on airport property.**

#### **(0h:42m:43s) Charter Township of Au Sable**

Jeff Moss: No updates

#### **(0h:42m:55s) Michigan Department of Health Human Services**

Puneet Vij provided an update summarized as:

- MDHHS drinking water sampling is being conducted to understand PFAS fluctuations in drinking water wells. MDHHS finished the first round of sampling in August, and the next round will start sometime early next year.

- Samples have been collected from 272 wells out of 427 wells that were previously sampled by EGLE in the Oscoda area. Out of those 272 wells, we have 133 non-detects; 118 detections that are less than the comparison value; and 20 detections that exceed the MDHHS comparison value in the Oscoda area. Also, Mr. Puneet has been calling residents to inform them of the results and providing recommendations. The MDHHS comparison value is the lowest of the drinking water screening levels and the approved MCLs.

**(0h:44:10s) Oscoda Township** John Nordeen provided an update summarized as:

- The Township continues to seek out sources of funding to extend the water main.

**(0h:44m:30s) DHD2**

Denise Bryan: No updates

**(0h:44m:44s)Community RAB Members**

Mark Henry provided an update summarized as:

- The RAB has had a chance to review the comments on the RRSE, and the Air Force has replied to our comments.
- The Air Force also replied to the ESI comments provided by the RAB.
- There has been a lot of internal discussion about the ramifications of the proposed interim remedial actions. Two discussions have been held with Dave Gibson about the RAB and the other stakeholders at Wurtsmith being allowed to participate in preparing and reviewing documents before they become final. Unfortunately, that request was rejected. Some of the RAB's upcoming work will be dealing with that.

Bill Gaines provided an update summarized as:

- Expanding on Mr. Henry's comments, one of the items in our RAB calls for us to advise on restoration actions; without timely information, it is not possible to do so. So, in some sense, the RAB procedures are not consistent with what is currently happening in terms of information sharing.

Arnie Leriche provided an update:

- Reading through the federal register of the RAB rule last night, the phrase "early sharing" comes out pretty strong, and I think that separates or gives just a little bit of advantage to the RAB members to have information before the public comment period is open, and there are examples of that in other RABs throughout the country that I have coordinated with.

Rex Vaughn provided an update:

- Expanding on both Arnie and Bill's comments concerning RAB participation early on in the process, when I got interested in the RAB, it was because we would have an opportunity to influence decisions, but based upon my read of the response from Mr. Gibson, the RAB has almost been relegated to a position of being nothing more than another member of the audience, and I don't think that is the intent of what a RAB is supposed to do. We would like to be actively engaged, not just listening and then turning around and repeating what we have been told is happening to the community members.

Tim Sueltenfuss again checked for the presence of Mr. Ryan Mertz and Mr. Jerry Schmidt with no answer.

Daniel Stock provided an update

- I have nothing to add, thank you.

David Winn provide an update

- I have nothing to add at this point, thank you.

Cathy Wusterbarth provided an update summarized as:

- I have a couple of questions about the format. I apologize I didn't pull up the previous agenda and how we handle public comments in the previous meeting, but I did notice that in this meeting that if someone wanted to submit a public comment or have an opportunity to comment, they needed to do so by 5:20 p.m. during the meeting and right now it is 5:28, and we haven't even gotten into the content of the meeting. I ask that there be some consideration for anyone who wants to make a public comment at the appropriate time at the end of the meeting at any point during this meeting. If you only accept the ones brought forward by 5:20, it just doesn't allow for questions or comments that might arise due to the presentation.
- I would also like to ask that we look at the operating procedures for public participation in Section 2.5. It says that the RAB Co-Chair shall assign responsibility for responding to public comments. If we could make sure that we do that during the public comments, this would make sure that we have some accountability for who will be responding to the public.
- We wonder if the Air Force is considering Rule 57 as a potential ARAR as it is not mentioned in the slide presentation if that could be covered in the meeting today.
- The NOW group has submitted a letter to both the state and the Air Force about having EGLE hold the Air Force accountable for all known contamination plumes and not just those that are on the conceptual maps. We are noticing a difference there, and we are asking that those entities make sure that the plumes are defined accurately.

**(0h:52m:10s) Final Comments:**

Tim Sueltenfuss noted as people were gathering in the webinar that when it comes to the time to conduct the public comment period, he will ask everyone who is interested in making a comment to raise their hand electronically, and then he will simply go down the list and call on all of those people even if they raise their hand at that point and have not submitted an email prior to 5:20.

Tim Sueltenfuss confirmed with RAB Co-Chairs. Dave Gibson and Mark Henry agreed that was fine.

Referring to Section 2.5 of the RAB operating procedures that the RAB Co-Chairs shall assign responsibility in responding to public comments, Tim Sueltenfuss inquired if the RAB Co-Chairs would like to address this.

- Air Force RAB Co-Chair Dave Gibson response summarized as:

The Air Force has been responsible for answering questions at the RAB meeting. There may have been questions directed to EGLE, and EGLE has been responsive to those. If it is not clear going forward who is answering the questions, we will make sure to do that from now on.

Tim Sueltenfuss asked if questions should be asked during the presentation or wait until the end. Dave Gibson clarified that questions can be asked by slide, and if the question leads to a longer discussion, we will table it until the Q&A session.

**Technical Presentation**

**(0h:54m:25s) USAF Remedial Investigation and Interim Remedial Action Update:**

Dave Gibson began the RI and IRA presentation summarized below:

**(0h:56m:23s) Dave Gibson reviewed PFAS RI Contract (slide 11)**

- Arnie Leriche asked a question

In the last bullet, you mention that there are two interim remedial actions, and I wonder if you could just quickly respond to the presentation that Mike gave about others that may come up based on whatever information over the next year or two that additional ones could be. I was just wondering how this applies.

>> Dave Gibson response:

Yes, that is correct. If there are other issues or points of plumes, etc., that come up, yes, we can address them.

- Joe Maxwell asked a question:

Can you explain to me the baseline human health and ecological risk assessments?

>> Dave Gibson response:

I would like for Paula to address that later on in her slides.

- Dave Gibson asks for any other questions:

- Rex Vaughn made a statement:

Since Joe Maxwell is now with us, I yield the position to him to continue in the meeting as the primary community RAB member.

>> Dave Gibson response:

That's fine with me.

**(0h:59m:09s)** Dave Gibson continued with the presentation of RI Site Terminology Crosswalk (slide 12):

- An attendee asked a question summarized as:

How far outside the Base is the RI investigation going to encompass or identify how far the PFAS contamination has gone? Is it going to be strictly on the Base or going outside into, let's say, the Au Sable River, Van Etten Lake, east side of Van Etten Lake, however far it needs to go? On these slides, it hasn't been identified.

>> Dave Gibson response summarized as:

You will see on the next slide plumes that are based upon the existing data, but the RI must delineate the plume. This means if the plume migrates off base, then we will delineate the plume off base.

>> response from Questioner:

What that is saying is that however far the plumes go out, that's is where the RI investigation is going to take place?

>> Dave Gibson response summarized as:

Yes, as long as it's related to Air Force operation.

>> response from Questioner:

I don't understand that point, you said, "as long as it is part of Air Force" I didn't understand that. Can you explain that a little more?

>> Dave Gibson response summarized as:

Well, there's PFAS contamination in Oscoda, and the Air Force is not going to be exploring that. I don't know if I'm getting ahead here or anything, but several times, several meetings, it has been discussed about PFAS contamination on the east side of Van Etten Lake and within, I think,

it is called Cedar Creek Lake. Those areas are outside the hydraulic boundaries of what's happening at Wurtsmith, so the Air Force will not be exploring PFAS in those areas. So, if there's a plume that goes from base operations to Van Etten Lake, we are defining that. If it goes south into the north side of Au Sable River, then we are exploring that.

>> An attendee made a statement:

Dave, I would like to point out that you have not proven that the east side of Van Etten Lake, south of Phelan Creek, is outside the hydraulic boundaries. The U.S. geological survey data and EGLE's data both leave uncertainty about that, and that remains an open question that you have not answered to the satisfaction of anyone that I know of in Oscoda.

>> Dave Gibson response summarized as:

If the plume is shown to be hydraulically connected and impacts are due to Air Force operations, we will be delineating it.

- Mark Henry asked a question:

So, you are basing the limits of your investigation on what? Are you actually going to be taking samples out in the lake and following it across the lake to see if the contamination is continuous with the contamination on the Base?

>> Dave Gibson response:

Acknowledging the question, Dave Gibson recommended tabling the discussion until the Q&A session or perhaps with more information in the RI briefing that would help.

- Arnie Leriche asked a question:

Regarding Area 9 and 11, the WWTP, Drying Beds, and Lagoon Sludge Disposal Areas; do you have data or investigation to prove to you that those sites and the plumes flow to combine with the FT02 plume, or are you just estimating that it does because you are aggregating them together? I seriously doubt the Drying Bed plume goes that far east. I think it goes directly to the river, so I am asking do you have actual data because I have not found any in the PA or the SI to indicate that.

>> Dave Gibson response summarized as:

Area 9 and Area 11 are included in PFAS site FT002. This is not meant to say that there is any kind of co-mingled plume or anything else; it's just identifying two AFFF area sites that are now captured in one PFAS site.

>> Arnie Leriche response:

I thought sites like you have four here, have to have some common theme or impact so that the investigation will lead toward a remediation that will handle them. So, I may be wrong.

>> Dave Gibson response summarized as:

**(1h:06m:45s)** Let's go ahead and go to the next slide.

- Dave Gibson continued with the presentation PFAS Site association with AFFF Areas – PFAS Site Location map (slide 13)

The four PFAS sites are depicted on the slide in a chartreuse color. The PFAS sites were determined geographically. As far as what the solution may be for any source of contamination within the PFAS site, that is to be determined and explored during the RI. Going forward, there will be discussions about PFAS sites, and these lines are not meant to be a curb that we don't investigate beyond. We can



see that the plume for PFOS south of the CAT605P is outside the line. That is not saying that we are not going to look at that plume. The sites are just a way to try to help organize the investigation.

- Jeff Moss asked a question:

Three Pipes is a current source of surface water going into the river right now of PFAS. Would that be an accurate statement?

>> Dave Gibson response:

I believe so. I don't know for sure.

>> Jeff Moss response:

Okay, I mean, that would be my assumption also, so you had in the previous slide past surface water sewer drainage, but what about current? Because that is currently occurring in the river, and it's been happening for a long time, so would that be part of the RI because I did not see the Three Pipes part of the investigation.

>> Dave Gibson response summarized as:

I would like to have this as one of the follow-on questions in the Q&A. Prior Air Force operations versus current use operations.

Dave Gibson turned the presentation over to Ms. Paula Bond, who gave an update on the RI and IRA progress:

**(1h:10m:25s)** Paula Bond continued with the presentation of RI Objectives (slide 14)

**(1h:11m:40s)** Paula Bond continued with the presentation of Review of RI Scoping Process (slide 15)

- Dave Winn asked a question:

Can you briefly tell us what existing data you have, be it from EGLE or be it from the Air Force? What data are you analyzing right now?

>>Paula Bond response summarized as:

Sure, we have existing data that has been collected by the Air Force. Data for PFAS was collected beginning in 2011 from EGLE. So, we have EGLE data from 2011 and Air Force data from 2012 and 2013 all the way up through the SI the Air Force did in 2016 and 2017, the expanded SI the Air Force did, and then EGLE data that has been collected out there since then as well. There are groundwater data collection events that EGLE participated in. We have accumulated all of the data that we can get our hands-on, and EGLE has been very helpful in giving us the data that they have collected. There are volumes of data that have been gathered over the last decade. One of our goals is to accumulate all of that data in one place and try to pull all that together to develop our conceptual site model to start to plan our future sampling based on all of the available data.

- Mark Henry asked a question:

Could you please expound a little bit on the baseline human and ecological receptor part of your first slide? Just give me a thumb sketch of the process by which you are going to do a baseline evaluation of human health and the environment.

>>Paula Bond response summarized as:

We are going to be looking at both the human health and ecological risk assessment. We are going to be identifying the pathways and the receptors for both of those. I'll start with human health; we are going to be looking at drinking water, onsite receptors and residential receptors for drinking water; commercial, industrial worker, construction workers, hypothetical residents, and

then off-installation construction workers, hypothetical residents, hunters, recreators, and anglers, things like that. Does that answer your question?

>> Mark Henry response:

Kind of, as far as the human end of it goes, but what about the ecological end of it?

>> Paula Bond response summarized as:

The primary ecological receptors that we are looking at are macrophytes and algae, invertebrates, we are looking at fish, we are looking at mammals, and we are also looking at aquatic birds.

- >> Tim Sueltenfuss noted that this was one of the questions raised before, so this sounds as if it may have been addressed.

- Arnie Leriche asked a question:

(AI) Can I ask a question real quick? It can be an action item (Action Item #73 see attached), I hope. Referring to slide 15 on the current conceptual site model. We have never seen that I know of, a conceptual site model from the Air Force, and it's a very important tool that is used from my readings. **I was wondering if you could, for training purposes, share the current conceptual site models that you have or you have been reviewing with or sharing with EGLE or that you have internally.** There are two types; the physical site conceptual model and the exposure conceptual model.

>>Tim Sueltenfuss response summarized as:

Arnie, I have documented your request for the Air Force to share both physical site CSM and exposure CSM that it has. The action items or potential action items that I pull together will be something that I recommend to the RAB Co-Chairs as they go through the upcoming review rather than the open action items.

>> Arnie Leriche response:

Right, my expectation is that the current ones will be part of the current QAPP with a CSM worksheet.

**(1h:17m:50s)** Paula Bond continued with Identify Potential Applicable or Relevant and Appropriate Requirements (ARARs) (slide 16)

- An attendee asked a question:

What is OSD?

>> Paula Bond response:

The Office of the Secretary of Defense.

- Cathy Wusterbarth asked a question:

This is about the question that I had asked earlier about Rule 57?

>> Paula Bond response:

Yes, Cathy. We are looking at Rule 57.

>> Cathy Wusterbarth response:

And at what time will the actual ARARS be finalized and set?

>> Paula Bond response summarized as:

Well, if you think about the ARARs, the ARARs are not a part of the RI phase of the project. The ARARs come into play once the project moves into the feasibility study, where you start evaluating remedial alternatives, and you have to develop cleanup levels. So that is really where the ARARs come into play. They will have to be finalized when the project moves into the feasibility study stage versus the remedial investigation phase.

>> Cathy Wusterbarth response:

And can I ask why was Rule 57 not included on the list if you are going to be looking at it?

>> Paula Bond response summarized as:

We do not have a list of ARARs shown, or maybe there's another list you are asking about, but these are just general information. Once the project moves into the feasibility study phase, there will be a longer list of associated ARARs. For the delineation, which is what we are talking about in the RI, we are looking at the GSI numbers for groundwater and surface water in the RI. Data will be compared to the values, but it is not considered an ARAR in the RI. It is just a comparative value.

>> Cathy Wusterbarth response:

Okay.

- Rex Vaughn asked a question:

Hasn't the state already given you guys a list of their ARARs?

>> Dave Gibson response summarized as:

EGLE provided us a list of their potential ARARs, and they're being reviewed. Potential ARARs that are accepted by DoD will be used at the time of the feasibility study. So, while we have this list, it's not the point for us to finalize potential ARARs or to designate what the ARARs will be for the feasibility study. The ARARs/potential ARARs will come into play during remedy evaluation in the feasibility study.

>> Rex Vaughn response:

What's the risk that the OSD is going to not consider the MCLs as potential ARARs, and we end up in a big mess? What's going to happen with those at the OSD level?

>> Dave Gibson response summarized as:

I don't want to conjecture yes or no. If you look at that second bullet, we are delineating a plume down to the Michigan MCLs to try to be at a point that we only have to delineate one time based upon whatever is going to be happening in the future with defining the potential list of ARARs.

- Arnie Leriche asked a question:

Dave, can you clarify when you say MCLs on the slide? Are you talking about drinking water MCLs, or are you talking about the groundwater criteria that the state has yet to promulgate beyond the PFOA and PFOS, which is automatic? Can you clarify?

>> Dave Gibson response summarized as:

I believe the MCLs refer to the drinking water. I'm not sure if MCL is used in another case. Let's move on with the briefing and save that question and any others for the public comment period, okay?

>> Arnie Leriche made a statement:

Thank you.

- **(1h:180m:46s)** Paula Bond continued with Next Steps (slide 17) and BCT Scoping Meetings RI Work Plan (slide 18)

- Rex Vaughn asked a question:

What's the probability of all the state data not meeting your quality objectives?

>> Paula Bond response summarized as:

I don't really have a probability number. We are looking at the data that EGLE has provided to us for the biota sampling. The risk assessors are currently in the process of evaluating and looking at the data. We also have groundwater data, surface water, and sediment sampling data that we are looking at. All of the data will be used to develop or revise the conceptual site model. We think that is important. The data to be used in the risk assessment is where it becomes a little bit more questionable, and that is what we are doing right now is evaluating that data for its usefulness in the risk assessment. So, a probability, I can't really put a number on that at this point.

- Arnie Leriche asked a question:

My concern is we have nine to ten years of data. They have been in the front in establishing a problem on the Base well before anybody else did, and what I want to make sure is for some administrative reason, you don't trash all that data, and we lose all that information and therefore extend this whole process while you go out and replicate what has already been done. I think that would be a mistake.

>> Paula Bond response summarized as:

No, I agree with that, and that is why we are using all of that data in the conceptual site model. Once data are in the conceptual site model, it will be captured there until future data is collected.

>> Arnie Leriche response:

Thank you.

- Bill Gaines asked a question:

On the last slide, we see some EGLE meetings. The last meeting minutes we have seen, I believe, is for the 20 August meeting. Are we going to see BCT meeting minutes for later meetings, and if so, what kind of time frame might we expect that?

>> Dave Gibson response summarized as:

Yes, you will be seeing meeting summaries, and once they are reviewed by the BCT, they will be put in the information repository (IR). I believe the interim remedial action meeting summary has been sent out to the BCT. I don't think I put a date on there, but hopefully, we get something next week, so that should be coming out potentially in November. The data quality objective meeting would then be a week after that. This is the basic time flow of data. Does that answer your question?

- Arnie Leriche asked a question:

Thank you for the answer, so basically, it's about a month after the meeting.

>> Dave Gibson response:

We try to shoot for as fast as possible, and if we can do it faster, we will.

- **(1h:29m:29s)** Paula Bond continued with Interim Remedial Actions (slide 19)

- Arnie Leriche asked a question:

What is a ROD?

>> Paula Bond response:

A record of decision.

- Mark Henry asked a question:

I have a question about the Van Etten Lake remedial action. Is the goal of that pump and treat system to stop all the flow from that plume from reaching the lake?

>> Paula Bond response summarized as:

No, the goal of that interim remedial action is to reduce the mass of contamination from entering Van Etten Lake, the majority of the mass.

>> Mark Henry response:

Reduced by how much, please?

>> Paula Bond response summarized as:

We don't have an exact number on that yet, and I can give you some more information when we look at the plume slide. Remember, these are interim remedial actions. This is not the final action or the final remedy for the Base. This is just an interim action, and our goal is to stop the majority of the mass with the high concentrations from moving into Clark's Marsh and from moving into Van Etten Lake, and I can expand on that on the next slide.

- Cathy Wusterbarth asked a question:

Will you be responding to the NOW letter about the plumes that we sent to the Air Force recently?

>> Paula Bond response:

Yes, the Air Force will be responding to the letter.

>> Dave Gibson response summarized as:

We are looking at the letter, and yes, there will be a reply coming back shortly.

>> Cathy Wusterbarth response:

Shortly, okay, thank you.

- Mark Henry asked a question:

I have one other question about the Van Etten Lake treatment system. What is going to be the disposition of the treated water? Is it going to go with the rest of the flow from that building, or is it going to be disposed of elsewhere?

>> Paula Bond response summarized as:

Right, it will be combined with the effluent already from the CTS that goes to the storm sewer.

- Arnie Leriche asked a question summarized as:

I have a question about the Van Etten plume and the interim action. Have you looked at any alternatives? Looking at that cross-section of that plume that was published in the Air Force ESI and then the follow-on interim document, there's a very high but shallow and highest concentration plume on the furthest west of that plume there at the beginning of it. It has a very sharp decline in-depth into the groundwater level, and I am wondering have you looked at

alternatives of some well field or some action to collect some of that highest concentration plume before it gets into the groundwater?

>> Dave Gibson response:

So, one because of time, Tim, if you can take a note to talk about that further at the public Q&A section, okay? Let's just talk about Arnie's question at that point.

>> Tim Sueltenfuss response:

So, help me capture the intent of that if you would, Dave.

>> Dave Gibson response summarized as:

I believe what Arnie is saying is that he wants to discuss if there will be wells or some type of treatment system installed further to the west of the Van Etten Lake within that plume. Is that correct, Arnie?

>> Arnie Leriche response:

That's correct. It's the beginning of the large plume.

>> Dave Gibson response:

Right, you understand that question now, Tim?

>> Tim Sueltenfuss response:

Yes, got it.

**(1h:35m:10s)** Paula Bond continued with IRA Execution Plan (slide 20)

- Dave Winn asked a question:

You said the designs are going to be complete around April? When is the 30-day comment period? When will that be happening?

>> Paula Bond response summarized as:

The 30-day comment period right now is scheduled in the December/January time frame. I don't have an exact date, depending on when we get the proposed plan through the Air Force and EGLE review cycles. That will dictate when the public comment review period is held, but currently, it is in the December/January time frame.

>> Dave Winn response:

Okay, and also, as you get the percentage of complete designs done, is EGLE going to be involved with those reviews before the designs are complete?

>> Paula Bond response:

EGLE will have a chance to review the designs before they are finalized, yes.

- Arnie Leriche made a statement:

This preparation of the proposed plans and the 30-day comment period; this is an opportunity for the Air Force to share some slides, not documents, but slides of what this proposed plan is before the 30-day comment period begins so that we are better prepared as a board. It's an opportunity, thank you.

**(1h:37m:45s)** Paula Bond continued with Preliminary IRA Extraction Well Locations (slide 21)

**(1h:38m:57s)** Paula Bond continued with Factors Affecting Start-up of IRAs (slide 22)

- Mark Henry asked a question:

I'm sorry I didn't get to it earlier. Could you please turn back to slide 21? In the Fire Training Area, there's relatively high concentrations, and if the scales are the same and it looks like they are, we are kind of talking about the same types of concentrations here. The design that was installed originally in the Fire Training Area does not seem to have stopped the plume, and so your interim remedial action is adding two additional wells to that configuration. In the design that you have for the Van Etten Lake Conceptual layout there, the main part of the plume has just one well in it. Wouldn't it make sense to have, learning from the lessons of the Fire Training Area, to have more of a concentration of extraction wells within the hot part of the plume rather than to disperse them out along the entire length of your treatment area?

>> Paula Bond response summarized as:

That's a great question, and I'll start first by talking about the Fire Training Area. If you look at the data for the Fire Training Area, the extraction well system that was installed in 2016 has done a good job of controlling the flow of contaminants from the source area. If you look at the data, you can see the data reduction in the wells that are downgradient, so there has been a significant concentration reduction. What you see in this plume if you are looking at the southern portion of the proposed IRA, where you see those three extraction wells, the yellow dots down toward the south a little bit. That portion of the plume is outside of the hydraulic control of the existing extraction system. When that system was installed, that portion of the plume had already migrated to the south. That is why we are taking a look at that. The revised IRA is to try to pull back or capture that portion of the plume that is outside of the control, downgradient. The additional wells, the yellow ones that are along the lines, are to increase extraction along the extraction line there. So that is the answer to the Fire Training Area. So, when you look at the extraction wells that are proposed for the Van Etten Lake, the distance and spacing of those wells were developed based on groundwater modeling using data from the Fire Training Area, using extraction well data that has been collected from Arrow Street, the benzene and MPTS. So, the radius of the influence of those wells based on the pumping rates that we're estimating for that treatment system should capture the entire portion of that plume before it goes into the lake.

>> Mark Henry response:

Thank you.

- Cathy Wusterbarth asked a question:

From what I understand, there is a state standard for PFOA, and so I am wondering why are we only showing PFOS on this slide, these models?

>> Paula Bond response summarized as:

Right, yes, Cathy. As I mentioned before, we put PFOS on this slide just for demonstration purposes because the concentrations of PFOS are higher than PFOA, so it gives you a better idea of the hot spot or the higher concentrations in the center of this plume. The higher PFOA concentrations are similar to this plume. We do have plume maps with PFOA on them. The extraction system will capture both PFOS and PFOA. In future figures, we can show both.

>> Cathy Wusterbarth response:

Thank you.

- Mark Henry asked a question:

The extraction wells that are going to be installed closer to Clark's Marsh away from the main extraction system, what is their proximity going to be relative to the existing monitoring well network that is there?

>> Paula Bond response summarized as:

There are a number of monitoring wells located throughout that area. There are even some monitoring wells closer. Do you see the green line on the figure? That is the old former base boundary, and there are monitoring wells down there, so there are a lot of monitoring wells down there to monitor the effectiveness of the extraction system, but if we need to install more, we will.

>> Mark Henry response:

Thank you.

**(1h:46m:00s)** Paula Bond continued with Project Timeline (slide 23)

- Jeff Moss asked a question:

I have a question for Beth and Mike Neller. I'm curious what their opinion is of your proposed plan of the two projects and the timeline that you have on it. Is it okay for them to give their opinion?

>> Beth Place response summarized as:

Sure, so overall, we think that these are really good plans. The overall objective to reduce the highest concentrations is a very good objective. Reducing PFAS going into Van Etten Lake has been something the community has asked for, for a long time. There are some details on the plans that we are still discussing, but we expect to see when we actually review the designs. Some of those things still need to be ironed out, but I think overall that these are good plans.

>> Mike Neller response summarized as:

Jeff, let me just add that if you remember, EGLE had sent a letter to the Air Force earlier in the year requesting that they look at the possibility of doing four interim remedial actions. These were two of the four that we were proposing, and so yeah, we think this is a good step, and we are happy to see that it is moving forward fairly quickly as far as this sort of work goes. As far as all of the details and some of that, we don't have all that yet, but overall, this looks promising.

>> Jeff Moss response:

Okay, I mean, for me, there was an allocation of funds, and I know a lot of it is being put into the RI, and all of these steps seem really important and complete from what you are speaking about, the thirteen and half million to do the actual work. If we could expand, or if they need to be expanded to encompass more coverage in the marsh or in the lake, it just seems as though we are looking to do this work in the near future; that just seems like that logical thing to do instead of studying it further. To be able to complete it now would be a great accomplishment for the communities.

>> Mike Neller response summarized as:

Absolutely, that is why I made that comment at the beginning that I think this is good news here, but I don't want to just assume that we are not looking for other opportunities in the near term here to make some headway on the cleanup efforts.

>> Jeff Moss response:

Thank you.

- Arnie Leriche asked a question:



To follow up on that last discussion in looking at the timeline of the designs, April 2021, for the interim action. Typically, the last three years, at least, the Department of Defense has received their budget, and BRAC has received in February, you get your budget. So, if alternatives or expansions and things we have been talking about, are you planning ahead to possibly take some FY 21 money to augment what you have received out of the \$13.5M? Is that a possibility? So, it's not a budget-based decision.

>> Dave Gibson response summarized as:

I think what you are asking is if something else comes up, a good idea for another interim remedial action, are we going to be able to get funding for it next year. First, we have to have good data. We have to have something to define the action. I think everybody could agree that these two actions have sufficient existing data to design it. When we get to a point where we can justify/define a project, AFCEC can seek funds and get that on contract. So, I don't know when we will have that full definition for another project. We are looking at the time frame for completing the RI from the beginning stage, where we are now moving into the feasibility study stage. The bottom line is, we can do more interim remedial actions, but we have to get the RI results for that, and then we have to seek more funds, etc.

>> Arnie Leriche response:

I'm not talking about a whole other site as an interim action. I'm talking about the high concentration plume in the Van Etten plume that Mark and I have both talked about. Talking about one or two extraction wells in that area where it is the most concentrated before it gets into all of the groundwater and possibly goes underneath the lake. So, you have all the data, the hydraulic data and everything, it's just the decision of whether or not the concentrations there warrant, and the way it is moving down and could go under the lake and not get caught that much before it gets diluted.

>> Dave Gibson response summarized as:

If we identify a problem that needs to be addressed before the RI or the feasibility study is completed, we will conduct additional actions. Right now, we are addressing the contamination that is going off the Base into Van Etten Lake and Clark's Marsh.

>> Arnie Leriche response:

Well, prevention, that is what an interim remedial action is, to prevent it from leaving your property, and we are only talking about maybe about 500 yards.

>> Dave Gibson response summarized as:

Okay, what we will do is table that question for the Q&A.

**(2h:03m:15s) >> Break>>**

- Arnie Leriche asked a question:

Other than Dave and Paula, are there any other Air Force managers or contractors on the call, and will those names be incorporated into the minutes?

>> Dave Gibson response:

The names of RAB member attendees will be in the minutes, yes.

>> Arnie Leriche response:

Is Dan on the call?

>> Tim Sueltenfuss response:

Are you referring to Dan Medina?

>> Dave Gibson response:

I do not know why you are asking, Arnie.

>> Arnie Leriche response:

I am asking the question because I mentioned earlier in my statement that I was referring to budgets and funding, and it's really a technical request from the team that are the most critical that bubble up to the budget decision level. So that's what his position is as I understand it.

>> Dave Gibson response summarized as:

The best thing to do, Arnie is, take that question, and if the question is answerable briefly in the RAB, we will be happy to do it. I recommend we circle back to the question in the public comment period, and Tim can help me correctly understand what your real question is?

>> Arnie Leriche response:

Okay.

## RAB Business

**(2:03m:19s)** Tim Sueltenfuss led the discussion on the next topic, which was RAB Business (slide 26)

The first bullet is the appointment of community RAB members, and as mentioned before, David Winn joins us as a primary community RAB member after Catherine Larive's departure, so welcome again, Dave.

The action item list was provided prior to the RAB meeting, and it is recommended that the RAB Co-Chairs coordinate after this RAB meeting to address those open action items. There are a number of open action items that I have been keeping notes for here for potential action items. Mark and Dave, I can share those with you as well for consideration. Does that approach work for you, Mark, and Dave?

>> Dave Gibson response:

That works for me.

>> Mark Henry response:

Fine with me.

• Tim Sueltenfuss:

Well, I will review those potential action items that I have heard so far. One was voiced by Michael Munson about the future well drilling on OWAA property, and then there's the question from Arnie Leriche or action request regarding the CSMs, so I will pass those on to the RAB Co-Chairs. Mark, let me just ask you if you have any other RAB business you would like to address at the moment.

>> Mark Henry response:

Nothing really comes to mind. I'd like kind of a glimpse into the future between now and the next RAB meeting. Are we going to be receiving any documents for review and comment?

>> Dave Gibson response:

Are you asking about technical documents or RAB procedure documents'?

>> Mark Henry response:

Well, we are going to try to work out some language for changing the RAB operating procedures, but just as a RAB functioning group. The RAB group, what kind of documents are we going to see in the next three months that we will be expected to review and comment on.

>> Dave Gibson response:

As far as the RI or IRA?

>> Mark Henry response:

All of the above.

>> Dave Gibson response summarized as:

Okay, so you're getting into the public comment scope now. I take this portion to be any business portion from the community RAB, things like we were talking about adjusting the plan, and I think there was going to be some discussion from the board and provide some recommendations, so that's how I view this portion of the RAB is that kind of input. If you want to hear about what documents are coming out for the RI or the IRA, we can have that in the public comment portion. I'm sure everybody has got questions they would like to ask at any point during this RAB about the technical portion.

>> Mark Henry response:

Okay, but one of the main functions of the RAB is to review documents. I was just trying to get an idea of the documents that we will have the opportunity to review between now and the next RAB meeting. Simple question.

>> Dave Gibson response summarized as:

Let's go back to slide 23, and I'll try to give a simple answer here. So, the documentation that the RAB would be seeing primarily consists of what you see on this slide in the coming months. Work plan, proposed plans, RODs.

>> Mark Henry response:

I understand the process. It doesn't look on this schedule like we are going to be seeing any documents between now and the meeting in January. Is that correct?

>> Dave Gibson response summarized as:

Anything that is in the pre-decisional stage is something that we are going to be working with the BCT on. Once decisions have been made, then that information will be shared. When you say documents, I'm thinking more of a report. You may be talking about a picture of something that would be a document. There will be additional information coming out through the BCT meeting minutes that will be addressing designs and work plan elements, etc. You will be seeing information dealing with the IRAs, the data quality objectives (DQOs), and risk assessments. If you want further clarity, let's look at slide 17. This slide breaks out elements of the remedial investigation work plan. We are updating the conceptual site model, determining where samples will be collected, well depths, etc., and developing DQOs in the QAPP, information that would be in the RI work plan. The IRAs basically come down to what you see the location of the wells, they're not down to the GPS point, but you will be seeing GPS kind of information for where the wells are going and the size of the extraction wells, etc. so there will be design information for the IRAs, as well as fieldwork information and sampling information for the remedial investigation. Does that answer your question?

>> Mark Henry response:

Yes, I guess between now and the next meeting, we are going to see two meeting summaries, and then after the next meeting, things will be coming in after that.

### Public Comments

**(2h:11m:44s)** Tim Sueltenfuss continued the slide presentation with Public Comment Period (slide 28)

This is the portion of the agenda in which we ask members of the public, not just the RAB members, to share comments, concerns, things that are on their mind. Slide 28, Just to mention the guidelines, if you would like to make a comment, we will ask that you use the electronically raise your hand function and then wait until I call you, and you will have three minutes to begin your comment. If a RAB member's action is required as a result of that comment, please let me know, and I can put that in the potential action items list that I will share with the RAB Co-Chairs.

>> Dave Gibson response summarized as:

Let's start with those questions asked earlier but pushed to the public comment period.

>> Tim Sueltenfuss response:

I have captured six that I have not heard responses to. The first one is, will the Air Force conduct sampling in Van Etten Lake? Mark Henry, I believe you had asked that question.

>> Mark Henry response:

I did.

>> Dave Gibson response summarized as:

We will see what happens with the remedial investigation. I believe last night, EGLE shared a briefing regarding sampling at Van Etten Lake near the outfall at the Au Sable River. Let's see what the data shows us as far as the groundwater to surface water interface results; so, I can't say that the Air Force is definitely going to be sampling Van Etten Lake for surface water samples, but we have to follow where the data takes us.

>> Mark Henry response:

Okay, that's not really what I was asking, though. We have a groundwater plume that is leaving the Base that you're about to impose an interim remedial action on, and that groundwater is migrating into the lake and is venting under the lake, and as I brought out in my ESI comments, it is very likely that a sump-like condition exists, and the USGS drawings confirm that the aquifer actually goes underneath the lake and that there is a very real potential for the contamination that exists on the east side of the lake to belong to the Air Force. So, my question was, we already know that the contamination goes up to the lake. Are you going to follow that contamination out into and perhaps across the lake to delineate it?

>> Dave Gibson response summarized as:

We are updating the conceptual site model, I'm not going to get into the technicalities of whether or not anyone believes that groundwater is migrating underneath the lake to the other side of the Van Etten Lake, the east side, but if the updated conceptual site model indicates that indeed there is groundwater flow to the east side of Van Etten Lake, then we would need to look at that.

>> Mark Henry response:

I thought this was sort of a dynamic investigation where you were going to follow the contamination, and if the conceptual site model does not include the potential for the transport to the east side of the lake, then your answer then is no.

>> Dave Gibson response summarized as:

Based on the data that we have, if it indicates that there is indeed a boundary at Van Etten Lake just like there is at Au Sable River, we would not proceed with investigations beyond that boundary.

>> Mark Henry response:

But you won't know that until you actually investigate.

>> Dave Gibson response summarized as:

Without looking at the hydraulics in that area, we can't determine whether groundwater is migrating underneath Van Etten Lake without taking samples at the bottom of the lake or taking samples on the east side of the lake. So, the sampling would not be done to evaluate PFAS contamination on the east side but to confirm that there is no hydraulic movement of water from Wurtsmith to the other side of the lake.

>> Mark Henry response:

I'm sorry, I've done a lot of investigations, and pretty much you follow the plume. No investigation has been done of the geology under that lake, so to make any assumption, I think, is very premature. I think the RI will be following the plume to its extent, and if that extent brings you across the lake, then there it is.

>> Dave Gibson response summarized as:

Okay, thank you for your comment. We will acknowledge your comment in the meeting summary. That there's a belief that hydraulics below the lake has to be evaluated.

>> Mark Henry response:

Well, more than that, contaminant transport not just hydraulics.

>> Dave Gibson response summarized as:

Okay, again, we thank you for your comment.

- Jeff Moss asked a question:

My question was, I saw that there were past studies that will be put into the site. I don't recall the number of it, but it was pertaining to the four sites of PFAS. So, you were going to identify past flow of surface water from the drainage out of the Base through Three Pipes, so I was addressing Three Pipes as being part of the RI to determine it being a site of contamination, but I didn't see it on the maps. So, I am wondering if we are going to do current studies of it, as opposed to just the past studies of the surface water leaching into the river.

>> Dave Gibson response summarized as:

So, Paula, I don't have full knowledge of the AFFF areas and if Three Pipes Ditch is captured in one of the AFFF areas, or is that something that is left off of this list?

>> Paula Bond response summarized as:

We are looking at the Three Pipes ditch in the RI.

>> Jeff Moss response:

Okay, and those are the current surface water flows going directly into the river, not just the past, correct?

>> Paula Bond response:

Right.

>> Jeff Moss response:

Okay.

>> Dave Gibson response as summarized:

Let me just clarify, it does say prior Air Force use, and the Air Force does have to determine if, based upon current activities on the former Base, OWAA, in particular, are contributing contamination now, then that would not be related to operations in the past. So, we are investigating Air Force operations before the Base closed, and it may be that we have to try to distinguish past contamination and what is due to current operations by non-Air Force entities.

>> Paula Bond response summarized as:

Dave, let me clarify. Some documented groundwater seeps discharge into Three Pipes ditch. That is what we are looking at along the ditch, the impacted groundwater seeps.

>> Jeff Moss response:

So, Paula, what you are saying is that it is part of the study, the investigation, and it just wasn't delineated on your map. Is that kind of what you are saying?

>> Paula Bond response summarized as:

Yes, the figure only shows the plume map. It doesn't have all the investigation areas specifically that we are looking at. That was just a general concept just to give you an idea of where overall, we are looking.

>> Jeff Moss response:

Okay.

- Arnie Leriche asked a question:

The MCLs, there's seven of them, all for drinking water. Two of them trigger groundwater criteria for cleanup, that's PFOA/PFOS automatically. The other five or some number of them, groundwater criteria needs to be promulgated by EGLE before they become state ARARs or state rules/standards. If and when those are done, is the Air Force moving to understand what they could be and to be prepared in their designing, which ones they could meet depending on the level that they are set at? Dave, do you understand what I am saying about the MCLs? The groundwater criteria that come from those MCLs is a groundwater remediation criteria?

>> Dave Gibson response summarized as:

The Air Force is delineating the groundwater plume to the MCLs for six of the seven PFAS that have promulgated MCLs. If we do this, the RI will be complete for each PFAS when and if they are promulgated as groundwater cleanup criteria. The Air Force will then have the data to support a future feasibility study and risk assessment.

>> Arnie Leriche response:

That last part is perfect because you are going to be using good engineering practice during your whole design to meet those if and when they do become effective to the best of your ability. Great.

- Mark Henry asked a question:

There's a plume that's moving out to the lake, and it contains a certain amount of mass, and so there is a certain mass loading that is going to the lake every day. The interim remedial action has been designed to X amount of gallons, and from what I understand, it's about 30 to 40 gallons per well, and there's 10 or 11 wells, so we are somewhere around 300 to 500 gallons per minute, is what the flow design seems to be. What portion of the mass is going to be captured by pumping that amount of water given the Air Force's current understanding of what the mass loading is going into the lake?

>> Dave Gibson response summarized as:

When looking at slide number 21, we can see the line of extraction wells on the left side of the Van Etten Lake will generate a cone of influence that creates a hydraulic barrier. The extraction wells are placed to capture the higher concentrations, and those concentrations outside of the hydraulic control, those areas in the blue are lower concentrations that will not be extracted. The goal of the IRA is to address the higher concentrations migrating into Van Etten Lake.

>> Mark Henry response:

Thank you for your explanation. I am wondering what is going to be the measure of the effectiveness of that? Will you have monitoring wells on the lake-side of your treatment system that will show the radius of influence of those wells drawing the water levels down in your monitoring wells to approximately the level of the lake so that it is a visual confirmation that the contamination is not reaching the lake?

>> Dave Gibson response summarized as:

Yes, Paula, do you want to provide more details at this point?

>> Paula Bond response summarized as:

Yes, we will install observation wells downgradient of the extraction well system and upgradient to monitor the effectiveness of the hydraulic control system. In our planning stages, we have done groundwater modeling to determine spacing and identify the distance and the depth of extraction wells based on the currently available plume information. We have designed the IRA with the flexibility to adjust pumping rates if needed. We also know that as the lake levels change seasonally and we will have the ability to change our pumping well flow rates to accommodate those changes to ensure we are getting the optimum capture across the whole extraction well system. Does that answer your question?

>> Mark Henry response:

It does, thank you.

Tim Sueltenfuss continued with the Public Comments:

I see we have had a couple of other folks raise their hands to provide public comments. We want to make sure that we keep the opportunity available for them to do that. I have two other questions that I did not hear get addressed. Arnie, I think this was one that you raised. Will the Air Force install a treatment system for the west of Van Etten Lake within the plume?

>> Arnie Leriche response summarized as:

That question was answered by Dave in his description of the treatment system, referencing the groundwater flow arrow.

- Tim Sueltenfuss response:

Another comment or topic that was raised—this pertained to slide 23 and Arnie. This is one that you may have raised as well. If alternatives or expansions seem viable, will the Air Force plan to take FY 21 money to augment what you have received? Dave, I heard you say that the Air Force would consider seeking new funds, but it has to be based on good data; right now, the Air Force is focused on contamination that could leave the Base to Van Etten Lake or Clark's Marsh. Arnie, would you like to clarify that at all?

>> Arnie Leriche response:

Only that, I am only talking about expansion of the current interim remedial actions that are being investigated, those two. If there's an additional couple of wells like we just talked about on that earlier question that Mark and I...that there won't be a budget reason for not accepting that if you've got the data, which I think you do. It's just an alternative design to add extraction wells, but money always trumps everything.

>> Dave Gibson response summarized as:

The budget is not going to be a concern. However, we do have the ability to confidently identify the solution to quantify the budgetary needs. We have to follow the CERCLA process, and we do have to complete a remedial investigation that provides the quantitative data needed to develop life cycle costs and remedies based on risk analyses for the Base. So yes, we can do additional interim remedial actions, but I want to discourage going out to do multiple IRAs without the necessary data. We will complete the RI and then develop a final remedy that's best for the Base.

>> Arnie Leriche response summarized as:

Well, Dave, I'll say again: I'm not talking about a new interim remedial action. I'm talking about a tweak of a well or two to capture the highest concentration in the plume before it gets into the groundwater. It's a tweak of the current design that you are working on in concept but doing it now if it makes sense.

>> Dave Gibson response summarized as:

We have not shut the door on that approach and will take the comment about putting additional wells in for the IRA. The Air Force will discuss this internally and provide a response to the RAB.

>> Arnie Leriche response summarized:

You said you've already shut the door, and you have not received public comments yet.

>> Dave Gibson response summarized as:

I don't think the door has been shut. I didn't say it has been shut.

>> Arnie Leriche response:

Oh, alright.

Tim Sueltenfuss continued Public Comments:

Some folks have patiently held up their electronic hand, and we don't want to tire them out. The first one is Mr. Anthony Spaniola. Anthony, you will have 3 minutes to provide your comment. Go ahead, sir.

- Anthony Spaniola asked a question:

Thank you, and thank you all this evening, and thanks for the presentation. I had a couple of questions and a couple of comments. The first one is that I understand that the Air Force intends to delineate to the MCLs. The question that I have is that the rule 57 limit for PFOS is lower than



the MCL, so will you be delineating in the GSI area to the rule 57 twelve-part-per-trillion criteria for PFOS?

>> Paula Bond response summarized as:

Yes, we are delineating to the Groundwater to Surface Water Interface (GSI) where that interface occurs.

>> Anthony Spaniola response:

The next question I have, or comment—and Mr. Gibson, I appreciate we just got our letter to you a couple of days ago. I do want to draw attention to, and maybe it's just a concern on my part that in looking at slide 21, which talks about PFOS at 16 or above and looking back at the map that the Air Force presented in January of 2020. The area that's been omitted from slide 21 was shown to be between 70 parts per trillion and 700 parts per trillion, and that was PFOA plus PFOS. Whether it's one or the other or both, there has to be a pretty substantial exceedance in those areas of either one or more of the MCLs and/or the GSI, and so as we have indicated in our letter, we are asking that the extraction field be extended by that 1,500 or 2,000 feet in order to capture that as part of this whole process. From the perspective of effectiveness and efficiency, we think that the cost to do that would be minimal, and the advantage of doing it now as opposed to later on, we think it would be well worth the time and the money. Do you have a comment about that issue about the omitted plume being a between 70 and 700?

>> Paula Bond response summarized as:

Remember, we are in the planning stages of the project, and as we obtain and collect additional data, we are updating the plume maps. Again, we are using all the data that is available to us from all of the Air Force sampling events that have occurred in the past and EGLE data. As we accumulate more data, those maps are updated. The plume map does look a little different from how it did in the original ones presented a couple of months ago. So, as we move through the process and refine our conceptual site model and obtain additional data, the plume maps will continue to be readjusted. The areas of these plumes are not small; the scale is very large. When we have a data point that we are looking at and the modeling projects out into an area where we don't have data, we need to refine those points as part of the RI. The data for developing the interim remedial action is based on the data that we have in our hands right now, and those prior plume maps were based on the data that we had in our hands at the time.

>> Anthony Spaniola response:

I guess I am confused then. Are you saying that the map that was done in January 2020 is inaccurate and that the plume has shrunk?

>> Paula Bond response:

No, not at all. I'm saying that when we created the maps based on the data that we had in our hands, that was the way the plumes were projected. As we have gathered more data from the Air Force database, from EGLE data, and adding those additional points, the plume has been more refined. If you compare it to the plume maps we show today, it looks more similar to what you saw in the 2020 report.

>> Anthony Spaniola response:

So, is the map from January 2020 accurate or not?

>> Paula Bond response:

It is accurate based on the data that they used to generate that plume map, yes.

>> Anthony Spaniola response:

Okay, and that was generated by the Air Force.

>> Paula Bond response:

Correct.

>> Anthony Spaniola response:

So, I'm still confused because, in the later maps, I've seen this part of the plume doesn't exist or is not depicted, so I'm confused.

>> Dave Gibson response summarized as:

What you are pointing out is that you want the extraction system that is being installed for Van Etten Lake to be larger because there are other plumes on the Base. Is that the bottom line?

>> Anthony Spaniola response:

No, what I'm saying is that it should be larger to encompass the plume that's already depicted that this is a part of. It stops before the end of the plume based on the map that was provided by the Air Force.

>> Dave Gibson response summarized as:

Okay, let's go back to slide 13 if we could. Okay, this is a plume map of PFOS, and as Paula pointed out, this map represented PFAS that encompasses, correct me if I'm wrong, Paula, but this is the plume for PFOS, PFOA, PFBS, etc. that is based upon the existing data today.

>> Paula Bond response summarized as:

This is the map for PFOS. If you look at this plume configuration; this map includes data from monitoring wells, this map contains data from vertical aquifer sampling points that have been done out there in the past, and additional data points that may not have been available in January 2020.

>> Dave Gibson response summarized as:

Paula, confirm that if you put on the PFOA plume map, it would not be larger than this map, or is it actually that the PFOA plume is larger than the plume shown here?

>> Paula Bond response summarized as:

The PFOA map does cover a larger extent, but the concentrations are lower. That was why we used PFOS for this map background because the PFOS concentrations are higher, and you can more clearly see the hot spot going into Lake Van Etten.

>> Dave Gibson response summarized as:

So, to try to answer your question, we are focusing on the high concentration area, in slide 13, that area that's going into Van Etten Lake, and we are trying to attack the high concentration area that is going into Clark's Marsh. So, is there a plume that's going into Van Etten Lake to the north of that area that's called CG410? Yes. So, is there a plume further to the west in FT02 going into eventually Clark's Marsh? Yes, but these are the interim remedial actions to affect the highest concentrations closest to the areas of concern.

>> Anthony Spaniola response:

So again, unless I'm missing something I don't understand, you have data from January 2020 that clearly shows this area that's depicted very differently than in this map, and I find it incredibly difficult to believe that all of the sudden you've collected more data, and you've found a smaller plume. That makes no sense to me at all.

>> Paula Bond response:

No.

>> Anthony Spaniola response:

No? Then what you're saying here is wrong. This is not an accurate depiction of what's going on there.

>> Paula Bond response summarized as:

This is an accurate depiction based on the current data that we have, and if you will notice, the lines of the plume boundaries are dashed, which indicates that there are data gaps that we have to fill in, that we don't have enough data in between there. These plumes are based on the data that we have, all of the available data.

>> Tim Sueltenfuss response summarized as:

Okay, let me just jump in here really quick. Anthony, I believe you mentioned you had provided a letter, and Dave, I think you said the Air Force would be considering a response to that letter, is that correct?

>> Dave Gibson response summarized as:

This will be answered in a timely manner, either in the minutes or a response letter. I am hearing loud and clear that there is a concern that the plume maps shown in January 2020 are different from the plume maps being shown, creating some confusion or concerns about the Air Force addressing the proper location for this interim action.

>> Anthony Spaniola response:

That's correct.

>> Dave Gibson response:

We will answer that question.

>> Anthony Spaniola response:

Thank you.

- Tim Sueltenfuss response:

The next hand raised electronically is Mark Henry. Mr. Henry, you have three minutes, go ahead, sir.

- Mark Henry asked a question:

I had two questions, actually. The first one is a few weeks ago, I brought to Dave Gibson's attention the location of a lagoon that was near a former jet engine test cell in Building 5001. Is the RI going to include an investigation of this lagoon more thoroughly than has been done in the past? Is it going to be investigated as a source area?

>> Paula Bond response summarized as:

If you look at the map that is up right now, you can see those groundwater hot spots that are just to the west of the larger hot spot in the CAT605P area. I believe the area you are talking about is in the hot spot in the middle.

>> Mark Henry response:

It is.

>> Paula Bond response:

We are looking in that area, yes.

>> Mark Henry response:

Okay, thank you. The other question that I had is more of a request than a question. I would request that the Air Force start doing surface water monitoring at the main discharge of Clark's Marsh in order to establish a baseline with which to compare the ultimate remedial action with.

>> Dave Gibson response:

Go ahead, Paula.

>> Paula Bond response:

Okay, we can look at that.

>> Mark Henry response:

Thank you.

Tim Sueltenfuss continued with Public Comments:

Thank you. Let's go to Rex Vaughn. Mr. Vaughn, you have three minutes. Go ahead, sir.

- Rex Vaughn asked a question:

Concerning contamination on the east side of Van Etten Lake, and I've also posted this question in the chat, has there been any hexane sulfonate compounds found on the east side of Van Etten Lake from EGLE or from the Air Force or from anybody else that would indicate that what is being found on the east side of the lake could potentially be sourced by the Air Force? Hexane sulfonate is a pretty strong indicator of AFFF. Is any of it being found on the east side of Van Etten Lake that would point the finger back at the Air Force? That's my question.

>> Tim Sueltenfuss response:

Thank you, Rex, any initial thoughts on that question.

>> Dave Gibson response:

Paula.

>> Paula Bond response:

Oh, I'm sorry, I thought that was a question for EGLE.

>> Beth Place response:

Sure, this is Beth Place, I'm having Jeremiah pull up those figures right now so he can speak in just a second.

>> Rex Vaughn response:

That was a question for anybody that tested over there, whether it's Air Force or Beth if it was your stuff that Mike had done or that Bob Delaney had done, is anybody finding hexane sulfonate on the east side?

>> Beth Place response summarized as:

I would like to point out that just because Hexane Sulfonate is found doesn't necessarily mean that it's from the Wurtsmith plumes. Because other fires occurred in the area, and sometimes Air Force helped put out those fires, or fires were put out with AFFF in general, so it doesn't necessarily mean that it's the plume going from the Base. So just PFHxS as a tracer of that isn't

really a good indicator. I want to say that we may have detected it on the other side of the lake. Jeremiah, are you able to speak on this?

>> Jeremiah Morse response summarized as:

Yes, hexane sulfonate was detected on the other side of the lake, yes—Beth's right. You can't just use that compound to say whether or not it was AFFF or some other source. It is a short-chain, and it travels a lot farther, more easily transports through the aquifer, so you can't use hexane sulfonate as an indicator.

>> Rex Vaughn response:

Okay, so if you can't use it as a singular determination of the source, at least you could say it's a 50% chance that it came from the Air Force, so wouldn't that be enough for our friends at the Air Force and their remedial investigation to spend some extra time over there to find out if it's theirs or some other source?

>> Beth Place response summarized as:

In our scoping sessions, we have asked the Air Force to provide the data that they are using as their boundaries for the investigations, so in some areas, that's going to be a mix of chemical data and in some areas may be relying on hydraulic data to determine where the boundaries are.

>> Rex Vaughn response:

Beth, have there been any investigations on all the fire departments in the region as to whether or not they have any records showing they did or did not use AFFF? Was it class B in any of their firefighting efforts?

>> Beth Place response summarized as:

Mike Jury and Amanda Armbruster have looked into that on the east side of the lake, and I know that they have been in contact with the fire departments. I do not have the information on the results, but I will get back to you on that.

>> Rex Vaughn response:

When we looked at Cedar Lake, and we looked at the PFAS compounds up there, especially with the foam advisory, the consensus of opinion was that it was probably not Air Force because none of the foam samples had any hexane sulfonate in it, which was a pretty good indicator that it was not from an AFFF source, so it got the Air Force off the hook. I would think that the same in-depth evaluation on the east side of Van Etten Lake should take place to determine once and for all is it going under the lake and upwelling or is it down flowing from North of Van Etten, so that the correct decisions could be made, or whether or not it is some other source, and the Air Force can concentrate on what's coming into Van Etten on the south side.

>> Beth Place response summarized as:

I can understand that Rex, but although the presence of PFHxS may indicate that AFFF was used, we have all discussed before that there was a mutual aid agreement in that area to put out fires. This means that the presence of PFHxS alone does not indicate that the plume is coming from the Base.

>> Rex Vaughn response:

It would require, though, the Air Force to demonstrate that it was not theirs or evidence collected from mutual aid agreements or records of fires in the area north and east of the lake. I am just saying it would provide an easy out for the Air Force, or it would bring them in and convince them to expand their scope of investigation to find out if it is theirs or not.

>> Beth Place response summarized as:

EGLE has asked during the scoping sessions for the Air Force to define their boundaries based on chemical and hydraulic data or hydraulic data, depending on the area that we are looking at.

Tim Sueltenfuss continued with Public Comments:

Okay, so I see we have a hand raised by Mr. William Palmer. Mr. Palmer, go ahead, you have three minutes, sir.

- William Palmer asked a question:

Yes, thank you. This is Bill Palmer. I'm an Oscoda Township Trustee, and some time ago, our township engineering firm sent the Air Force a proposal for the fees for use of the storm sewer system for the Mission Street plant. The last word that I had was that your engineering firm was reviewing that. I'm just curious where we are at on that proposal?

>> Dave Gibson response summarized as:

The Air Force has received the draft assessment, and it is in review. Once our review is completed will be preparing a response to send back to the Township.

>> William Palmer response:

Okay, and the second part of that question is; I live along 41 across from the Base on Van Etten Lake, so I'm very pleased to hear that we are going to have an extraction field along 41 to try and draw some of this contamination out of the ground and keep it from Van Etten Lake. With the new facility going into the Arrow Street plant, will we need to submit a proposal from our engineers, or will you simply double the rate fees for that plant?

>> Dave Gibson response summarized as:

We will have to continue the discussion on that issue.

>> William Palmer response:

Okay, will we be hearing from the Air Force soon on that?

>> Dave Gibson response:

I hope so, yes.

>> William Palmer response:

The only other point I wanted to make was, like I said, I'm just south of Van Etten, of the park, and the Air Force did install a couple of test wells on my property, and the folks have been out here a number of times taking samples, and I did receive at one point the test results, which was part of the contract I signed. I haven't received any results in quite some time, although I'm not sure they have been out recently. I'm just wondering if those wells will continue to be monitored and if I will continue to receive the results of those tests?

>> Dave Gibson response summarized as:

If you're saying that groundwater monitoring wells were installed, there are no sampling results for the monitoring wells because there has been no contract in place to collect samples. The RI contract has been awarded, and we will be potentially utilizing those wells as part of the RI.

>> William Palmer response:

Okay, so there will be a new contractor that will be sampling those?

>> Dave Gibson response:

Aerostar.

>> William Palmer response:

Okay, very good, and part of the contract was that I would receive those results after they were taken. Will that continue?

>> Dave Gibson response:

These are wells installed by the Air Force?

>> William Palmer response:

Yes, I signed the contract with the Air Force just a couple of years ago.

>> Dave Gibson response summarized as:

I am not aware of those details, but if that's what we have been doing, we will continue to do so.

>> William Palmer response:

Okay, thank you very much.

Tim Sueltenfuss continued with Public Comments:

Okay, we will continue down the list of those hands that are raised. Arnie Leriche, you have three minutes for your comment, sir.

- Arnie Leriche asked a question:

Regarding slide 21 and looking at the plume boundaries for the Van Etten Lake part of that slide. There are some new terms in there that I've never seen in the legend, sixteen parts per trillion and isoconcentration inferred, and then another one is a solid line. My question is, has EGLE reviewed this modeling and approved it, or are they having negotiations with that now since this seems to be a very important decision point on the capture of the Interim Remedial Action? So that's question number one of that.

>> Beth Place response:

EGLE has requested that when we review the plans and designs that we get the exact data that Air Force is using to make these decisions so we can see what went into the plume maps and also the data from the models so we can understand what inputs were put into the model. We have also asked for the GIS files. As questions are coming up about the plume boundaries, we have been looking at a quick pdf overlay of things along with the data that we have or the data we think was used. In some areas, it really looks like it's an artistic license. We will have a better idea when we get the actual GIS files and the exact data that was used, but that is something that we have already been discussing with Air Force that we will need to have when we evaluate the plans and designs.

>> Arnie Leriche response:

Okay, thank you, because if I remember right, the dispute resolution required that the Air Force investigate the adequacy of the Arrow Street, Benzene, and Mission Street well fields, and it's my understanding with Mike Neller's letter, 16 July, that all the answers were not provided for a couple of items, but there was an understanding that this would be completed and shared with EGLE at some point when needed, and I think we are definitely at that point now. And so, to the Air Force, how soon can you get all that information to EGLE so they can review it? How long will it take?

>> Dave Gibson response summarized as:

They will be getting all the data that they need, Paula, can you address what the time frame for the design to go to EGLE was?

>> Paula Bond response:

The remedial design documents are planned to go to EGLE in the January time frame.

>> Dave Gibson response summarized as:

Between now and January, we will be having scoping meetings with EGLE to provide more information that goes into developing those designs. You will be seeing that information that helps develop the design prior to that date.

>> Arnie Leriche response:

That is okay with me as long as it's okay with EGLE. The second observation it seems to indicate that several current or existing or recent past extraction wells for Arrow Street have been shut down. Is that true? How many? And why?

>> Paula Bond response summarized as:

Arnie, if you look at the slide that is showing, slide 21, you can see the model for Van Etten Lake and the extraction well line down to the CTS? The Arrow Street extraction wells are shown on the line that is running northeast-southwest. There is a blue dot and three yellow ones and then a blue and yellow on the end. The blue wells are the wells that are currently extracting water from Arrow Street. The four in the middle are wells that were turned off. Remember, these treatment systems were installed originally to address the Arrow Street plume, not PFAS, so as that plume was cleaned up, those extraction wells were turned off because they were no longer needed.

>> Arnie Leriche response:

Okay, I'm not as familiar with that area because now you're getting close to the Benzene wells. To the east and northeast of the CTS, when Assistant Secretary Henderson asked Dr. TerMaath did he already have a well in Area 1, and he said yes, and I believe there was a well somewhere between the CTS and that blue groundwater flow arrow. Has that disappeared?

>> Paula Bond response summarized as:

I'm not familiar with that conversation, but there are no extraction wells to the northeast of the CTS.

>> Arnie Leriche response:

There never has been as part of the Arrow Street system?

>> Paula Bond response:

Not to my knowledge.

>> Arnie Leriche response:

I guess you can easily verify that and get back to us, thank you.

Tim Sueltenfuss continued with Public Comments:

Thank you, Arnie. Going down the list, Mark Henry, you have your hand raised. Would you like to make an additional comment?

- Mark Henry asked a question:

I would. It's not a question; it's truly a comment. My research into AFFF has disclosed that the PFAS components within the AFFF formulation comprise about 25% of the volume of the AFFF.



There was another good chunk of it, I think it was around 30 to 50% that was a compound called Butyl Carbitol, and I guess the rest of the formulation was made up of various surfactants and emollients. It is entirely possible to potentially track this plume, not using PFAS but using Butyl Carbitol as a surrogate for that. If samples are collected by the state on the east side of Van Etten Lake, it might be worthwhile to have some analysis done. I think it's by EPA method 57 for the diglycol that is Butyl Carbitol, and there's also another method for surfactants. If you find that stuff in the groundwater there, it could be another indication that the contamination on the east side of the lake originated at the Base.

>> Beth Place response:

We can evaluate what you have said.

>> Mark Henry response:

Thank you.

Tim Sueltenfuss continued with Public Comments:

Okay, thank you very much. By raise of hand electronically, is there anyone else who would like to make a public comment? I see Greg Schulz, so Mr. Schulz, we will turn to you for three minutes, sir.

- Greg Schulz asked a question:

There's a known discharge of PFOS to the Au Sable River from PFOS-contaminated water discharging from storm drains and natural water discharging into Three Pipes and Tucker's Swamp directly into the Au Sable River. Will any consideration be made for intermittent mitigation on capturing this PFOS flow into the Au Sable River that's continued for decades? Referenced for what they call background PFOS is one to two parts per trillion, and clearly, this discharge adds to what this so-called PFOS discharge is.

>> Dave Gibson response summarized as:

Paula can confirm that that area is part of the RI and that samples are going to be collected there.

>> Paula Bond response:

Correct, we are looking at that area in the RI.

>> Dave Gibson response summarized as:

Based upon the results, we can then consider an interim remedial action there.

>> Greg Schulz response:

Thank you.

Tim Sueltenfuss continued with Public Comments:

I see Jeff Moss you have raised your hand, so you have three minutes, sir, go.

- Jeff Moss asked a question:

I'm just curious through the RI; I know we are talking about curtains and new wells, but in the Clark's Marsh area in the surface water coming into the river—are there other alternatives within the RI process that can occur that are alternatives to stopping the plumes from Clark's Marsh from entering the Au Sable River?

>> Paula Bond response summarized as:

Are you asking if different things can be done? I guess the response would be initially, we know from all of the data collected that the plumes are going into Clark's Marsh, and they are going into the river. We are still looking at all of the data, and we need additional data points to pinpoint those areas before a remedy is implemented there. This is a large area; we still need to gather more data before any kind of remedy in that area could be implemented.

>> Jeff Moss response:

I think that the issue I've been seeing or that I question is that there seems to be data that there's some pretty high concentrations that are flowing into the river from Clark's Marsh and Three Pipes, but the surface water testing from the state begins at Mill Street and at the Twenty Three Bridge and then over in Lake Huron, but for decades the surface water has been entering into the river to where we have "do not eat" for fish, "do not eat" for deer. Now there's studies being performed by Purdue University and other entities. I guess what I'm trying to get to is that there are sources of contamination entering the river, and just because we want to put more extraction wells in Clark's Marsh, that doesn't mean that it's going to stop contamination from getting into the river, and there may be other solutions of which I'm not smart enough to know what they are, of course, but something that may stop pollution at the concentrations of contamination going in the river currently. So, I'm just asking if that's part of the RI. Alternative methods of constraining the contamination.

>> Paula Bond response summarized as:

Developing remedial alternatives for that would be part of the feasibility study, so as part of the RI, we are characterizing that area to make sure we understand the fate and transport, the way the contaminants are moving through the marsh and the surface water bodies into the river. We need to understand that more fully before trying to develop an alternative for treatment. We know that there are multiple seeps along the river where groundwater is coming in and groundwater upwelling. There are multiple pathways, and I think we need to understand those a little bit better before developing or looking at alternatives for a remedy.

>> Jeff Moss response:

Okay, that leads me to ask, are those remedies or investigations part of the RI, or is it something that has to be done at a later date?

>> Paula Bond response:

No, the investigation is part of the RI.

>> Jeff Moss response:

Okay, so those seepages into the river are going to be part of this investigation?

>> Paula Bond response summarized as:

Yes, we are looking at all of those regarding the fate and transport of the contaminants from the marsh into the river.

>> Jeff Moss response:

And other sources other than the marsh? Because Three Pipes is not part of the marsh.

>> Paula Bond response summarized as:

Some seeps are discharging into Three Pipes ditch, which are acting as a continuing source. We are looking at that and how all of those interact together so that when you get to the point where you want to develop a remedy, you have all the information you need to develop a successful

remedy. Understanding those transport mechanisms better will result in a much more robust design developed to treat the problem.

>> Tim Sueltenfuss continued with Public Comments:

Great, well, we are just a couple of minutes out from the planned conclusion of our meeting tonight. Let me just—I turned to Dave for opening/welcoming comments, so Mark Henry let me turn to you as Community RAB Co-Chair for any closing comments.

- Mark Henry Closing Comments:

I think it was a pretty good meeting and I think most people's questions were answered, thank you very much!

>> Tim Sueltenfuss response summarized as:

Well, I know that was one of the outcomes you had on your list, Mark. Dave, any closing thoughts from your standpoint?

>> Dave Gibson response summarized as:

I appreciate everybody contributing. It's a good crowd that cares a lot about the situation. We are getting a lot of information. I hope that by listening to the presentation and all of the input that you are beginning to have a higher sense of confidence in the work that is going to be done. We will talk more about schedules and data as time goes by.

>>Tim Sueltenfuss response summarized as:

Alright, well, thank you for your participation tonight, and the Wurtsmith Restoration Advisory Board meeting is now concluded. Thank you, and have a good evening.

**(03h:9m50s)** Meeting adjourned.

ATTACHMENT 1  
ATTENDEE LIST

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Anderson	Janet	Neller	Mike
Baltusis (EGLE)	Matt	Newcomb	Tammy
Bauer	Charles	Nordeen	John
Becknell	Grace	Ogden	Jason
Bennett	jacob	Overholt	Marilyn
Bradley	John	Palmer	William
Bramer	Rebekah	Person	Ann
Bryan	Denise	Place	Beth
Carroll	Susan	Plank	Colin
Cole	Gregory	Plunkey	Joseph
Corsi	Dale	Ries	Divinia
Davidson	Carla	Roddy	Chloe
Dean	S	Schulz	Greg
Ellison	Garret	Siler	Matthew
Fuentez	Stela	Sliver	Steve
Gaines	William	Spaniola	Anthony
Gibson	David	Stock	Daniel
Hamp	Kiff	Stuntebeck	Jessica
Henry	Mark	Sueltenfuss	Tim
Hill	Jennifer	Techlin	Troy
Jury	Michael	Vaughn	Rex
Keatley	Andrea	Vij	Puneet
Kline	David	Weegar	Mark
Koppa	Marcia	White	Stephanie
Langie	Robert	Wiese	Ben
Leriche	Arnie	Winn	David
Major	Lee	Wusterbarth	Cathy
Manente	Susan	armbruster	amanda
Mattzela	Randall	auriemmo	leslie
Maxwell	Joe	bond	paula
Medina	Daniel	Bashore	Treva
Morrish	Ryan	Leeming	S
Morse	Jeremiah	Spaniola	Tony
Moss	Jeffrey	Sutton	Leisa
Munson	Miichael	TerMaath	Stephen
Murray	Michael	Warmbier	Liz
Nagy	Mary	wilson	fernanda
Nandula	Mounica		
Nelkie	Tess		