WEK'EEZHII LAND AND WATER BOARD

DIAVIK DIAMOND MINE PKMW WATER LICENCE AMENDMENT

W2015L2-0001

PUBLIC HEARING

Board Members:

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Board Member	Mason Mantla
Board Member	Mike Nitsiza
Board Member	Rachel Crapeau
Board Member	Alex Nitsiza

HELD AT:

Yellowknife, NT

December 17, 2020

Day 2 of 3

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2	DDMI will propose new language for the scope of licence W2015L2-0001. This language will align with the Board's standard conditions	203
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NO.	DESCRIPTION	PAGE NO.
4	DDMI will clarify whether chloride and sulphate measurements should be retained when sampling seepage from the drainage control and collection system as currently written in licence W2015L2-0001, under part H, condition 22(e)(ii). If not, please provide the rationale for why DDMI believes that chloride and sulphate are not required to be sampled in this seepage	205
5	DDMI will indicate whether its responses to Board staff questions 24, 27, 28, 32, 34, 37, 39, 40, 41, and 45, raised during the August 2018 public review, in relation to proposed changes to the draft water licence for W2015L2-0001 still reflect the DDMI position on appropriate licence contents.	206

--- Upon commencing at 9:04 a.m.

THE CHAIRPERSON: Good morning, everyone. (INDISCERNIBLE) yesterday. Ryan will be chairing the meeting. Go ahead.

MR. RYAN FEQUET: Morning, Joe, and thank you. Thank you, everybody. So just a couple of quick items before we get started. And like Joe said, we're continuing off from yesterday with the agenda where we left off, which is we go into questions for the Independent Review Panel.

Just before that, I just wanted to remind everyone that the -- the Facebook live feed that is happening through Cabin Radio and being also live streamed on the Wek'eezhii Land and Water Board's website does not form part of the record for this proceeding, i.e., it will not form a part of the record or be presented to the Board for consideration.

Just the questions that come through the various filters we have in place that are being read into the record are part of the proceeding. So I just wanted to reassure people that, whatever happens in internet land stays in internet land, and no one in this room is responsible for that, and we understand that. So it's just those questions that are being

read into the record that are forming part of this proceeding.

We also just wanted to let everyone know that Dr. Scott Wells does have to leave at ten o'clock. He has a prior professional commitment that we were aware of, so we will try to make the most of our morning and get right into it.

Again, the -- the Panel's presentation that everyone saw yesterday which is up on the screen was focussed on the report that came in on October 15th. And we understand and wanted to reiterate that this came in before everything else that came in, before everyone else's submissions.

So the Panel is absolutely ready and eager to -- to take any questions about their recommendations and how they feel those have been addressed or -- or not, and -- and how they think about those.

So we'll start with the -- the line of questioning, and DDMI is up first.

QUESTION PERIOD:

MR. GORD MACDONALD (by phone): Thanks, Ryan, and good morning. First, I'd like to thank and reiterate our -- our appreciation for the

Panel's review. We share the view that was articulated by Dr. Wells yesterday about the value of peer review, and we also wanted to pass on appreciation from the Golder modellers. They found the -- the webinars and the process quite helpful in -- - in finalizing the models.

I appreciate your participation in these hearings may be confusing, and my questions are intended to -- to clarify information for the record. So I apologize in advance if I'm repeating things that were previously discussed and resolved during the webinar.

In the preamble to your presentations yes -- presentation yesterday, you described the presentation as a summary of the -- of the final report. But we found it kind of unusual that the presentation didn't include the conclusions from Section 6 of your report.

I'm not sure if there was a reason for that, but can you -- could you summarize the conclusions of the report for us? It was kind of left -- kind of left hanging at the end there.

DR. SCOTT TINIS (by phone): Yes. Scott Tinis, IRP. I suppose -- do you want us to go line by line through the recommendations?

MR. GORD MACDONALD (by phone): Gord MacDonald, with Diavik.

So it was more the -- the four (4) points of the summary. I -- I didn't -- it wasn't the detail of the recommendations, it was the -- the opinion, the final opinion, in Section 6.

DR. SCOTT TINIS (by phone): Scott Tinis, IRP. Just a moment while I pull that up.

MR. RYAN FEQUET: And to the members of the Independent Review Panel, we do have the presentation up, as -- as you guys can see. So please just let us know if you'd like us to navigate to a particular slide.

(BRIEF PAUSE)

DR. SCOTT TINIS (by phone): Scott Tinis, IRP. Yeah, I'm not sure that we have that on any particular slide. I believe what Gord is referring to is the summary section of our report. Sorry, I'm just scanning through the report as I go.

(BRIEF PAUSE)

DR. SCOTT TINIS (by phone): Oh, there

we go. Okay. Pardon me. It's Section 6. I don't know if that has been submitted as an item for people to access, but it's Section 6 in the -- in the final report. And the easiest thing for me to do I think is just to go through them one at a time and -- and read them aloud.

So this was the Panel's opinion, and there are four (4) -- four (4) points. The first:

> "The modelling effort put forward to examine the long-term water quality in pits A418 under the processed kimberlite to mine working scenario is appropriate, and that the modelling software are of sufficient quality."

I believe that was a point in Diavik's presentation yesterday. Number 2:

> "The base case results of the updated model, which includes previously expressed recommendations from the Panel, may be interpreted to show that the water quality in the upper 40 metres of pit 4 -- A418 are not expected to exceed the A -- AEMP Water Quality Guidelines."

Point number 3:

"Sufficient sensitivity runs have been completed to support the conclusion that water quality in the upper 40 metres of A418 is unlikely to be exceeded under anticipated variability enforcing possible outside conditions."

And finally, number 4:

"Certain model parameters require ongoing testing and monitoring to sufficiently understand their uncertainty which may not be currently taken into account in either the base case model or its sensitivities. And these will be the..."

(TECHNICAL DIFFICULTIES)

MR. RYAN FEQUET: Gord, can you hear Scott? Scott, I think we just lost you there about thirty (30) seconds ago. We can see you but we can't hear you.

(BRIEF PAUSE)

DR. SCOTT TINIS (by phone):

"... effort put forward to examine the long-term water quality in pits A418 under the processed kimberlite to mine working scenario is appropriate and that the modelling software are of sufficient quality."

I believe that was a point in Diavik's presentation yesterday. Number 2:

"The base case (AUDIO CUTS OUT) which includes previously expressed (AUDIO CUTS OUT) to show that the water quality in the (AUDIO CUTS OUT) are not expected to exceed (AUDIO CUTS OUT)."

Point number (AUDIO CUTS OUT):

"(AUDIO CUTS OUT) to support the conclusion (AUDIO CUTS OUT) 418 is unlikely to be (AUDIO CUTS OUT) possible outside conditions."

And finally, number 4:

" (AUDIO CUTS OUT) case model or its sensitivities."

(TECHNICAL DIFFICULTIES)

MR. RYAN FEQUET: Scott, maybe we'll ask you to turn your video off. We're just losing you on the audio here.

DR. SCOTT TINIS (by phone): Okay.

MR. RYAN FEQUET: Gord, you can still hear us okay?

MR. GORD MACDONALD (by phone): Yeah. Gord MacDonald, with Diavik. I think while Scott sorts out his -- what may be going on, I think we can -- I can proceed with that, Ryan, if that's all right.

MR. RYAN FEQUET: Sure. Thanks, Gord. Keep going.

MR. GORD MACDONALD (by phone): Yeah. I think there may have been a bit of confusion yesterday, and it relates to a sentence in the middle of Recommendation 2 which is where you -- where the Panel says that:

> "which includes previously expressed recommendations from the Panel."

And that's in -- in bullet number 2 of the Summary that Dr. Tinis just -- just read in. What we wanted to -- what we -- maybe if whoever's got the

presentation, if they could go back to the slides, Diavik slides, we summarize some of these what were recommendations that came through during the -- during the webinars.

MR. RYAN FEQUET: Which slide would that be, Gord?

MR. GORD MACDONALD (by phone): Up a bit more, more. It's the tables. More. Next two (2). Go back a little. Yes, that -- that's -- right there would be perfect. Thank you.

Panel, what -- what we -- what we wanted to clarify, and it became a bit confusing from your presentation, and I think it was mostly from Dr. Wells' presentation, you repeated some of the -- some of the items that we discussed during the webinar which is -- which is obviously appropriate.

But what I -- what we didn't understand or was -- wanted to make sure was clear was that those items -- and they're not the first three (3) on this table, but the remainder of this table and the following table are the -- are some of the items that the Panel and particularly I think Dr. Wells brought up during the review that we did address or that we, as in including Golder, did address.

And we just wanted to be clear that

this -- this phrase that you've got in Section 2 of -- which includes previously express -- expressed recommendations from the Panel, means that these were all addressed.

You know, you raised yesterday the issue of the -- the concern you had about the portal -- getting through the portal. I think all of these were addressed during the -- during the webinar and included in our final report.

If there was any comment, maybe Dr. Wells?

(BRIEF PAUSE)

DR. SCOTT WELLS (by phone): Yeah, this is Scott Wells. Just your question was did -- your response to our comments, was that did that satisfy us completely. Is that your question, Gord?

MR. GORD MACDONALD (by phone): That -- that all of our responses to those ongoing recommendations that were during the webinar were included -- were considered when you -- in your preparation of your final report?

DR. SCOTT WELLS (by phone): Not all the information. I had not received all the

information from Golder before we finished our final report, so there was still some information that I had not received.

In fact, you know, in the end, I didn't have time to actually receive their updated model files and view those, things like that.

So, basically, it was based on our discussion in the webinars. And there was some preliminary information, I think, provided. But I think some final tests were done just within the last few weeks.

MR. GORD MACDONALD (by phone): Okay. That's --

DR. SCOTT WELLS (by phone): (INDISCERNIBLE).

MR. GORD MACDONALD (by phone): Gord MacDonald, with Diavik. Thanks, Dr. Wells. That's -- that's unfortunate. We did get the report to the Panel prior to their final report, so it's a bit disappointing that they didn't address that.

But the conclusions are what the conclusions are. We did -- we think we did address all of these items before the Board. Thanks.

I'd like to go to -- I realize that we're -- the Panel's scope is not to respond to the

rec -- our -- is not to consider our responses to the recommendations and now I'm referring to the twelve (12) bulleted recommendations that are in the Panel report.

But I'd like to just say that many of the recommendations from the Panel report relate to the consolidation modelling.

And, Dr. Azam, during the webinar, we discussed that, in our view, if anything, the modelling might be over predicting the consolidation rate, meaning that we might over estimate the volume of porewater that will be released and under estimate the volume of consolidated solids.

Is that a reasonable summary of your view of -- of the centrality, if you will, of the modelling?

DR. SHAHID AZAM (by phone): Thank you very much. Shahid Azam, from IRP.

In general, the long-term assessment of the consolidation is okay. My primary focus, and I -- as I explained in my presentation, also, is the -- the ability within the initial phase of deposition. And -- and, therefore, that was probably the most important for me.

So, long-term, the water quality may be

okay provided the decant water is the same as the porewater.

So -- and we can go back to that discussion which depends on a number of factors, actually, of the geology of the ore body, the mineral composition of the ore, the confidence in the degrading process, and the process water that is used.

So, all of those combined will result in the released porewater quality, basically. The rate and amount may be okay in the long run.

MR. GORD MACDONALD (by phone): Gord MacDonald, with Diavik. Thank you for clarifying that, Dr. Azam. It's -- it's that initial decant water and, therefore, the fill modelling that would be sensitive to those results.

And maybe just a final question for -- I think it's Dr. Tinis who looked at the -- the fill modelling.

While we -- we agree that the -- we agree that there's two (2) factors in the fill modelling that are sensitive, it's the chemistry and the volume.

So, if -- to address Dr. Azam's concerns, that controlling the volume -- controlling the volume of that -- of that decant water can be an

effective mitigation. I guess that's a question to the -- or I'm looking for the clarification from Dr. Tinis that that's -- that it -- that it could -- it's a combination of the volume and the chemistry that influences those -- those results, the fill results.

DR. SCOTT TINIS (by phone): Yes, Scott -- Scott Tinis, IRP. Just to -- first, a sound check. Can you hear me okay?

MR. GORD MACDONALD (by phone): I can, yeah.

DR. SCOTT TINIS (by phone): Okay, great. I'll -- I'll go without video for now just in case that was the issue.

Yes, absolutely. And I just need to clarify, too, that the reason that volume was not considered as part of the recommendation was simply because that had never been raised as a -- as a possibility of even removing and treating some of that water.

So, to be clear, yes, the -- the influence on the final water quality would be the initial condition to the long-term model. It depends on both the water quality, or the concentration, and the volume of water, which multiplied together, it forms the total loading.

MR. GORD MACDONALD (by phone): Thanks very much, Dr. Tinis. Again, thanks for -- thanks to the whole Panel for your time here and in the past. And no further questions, Mr. Chairman.

MR. RYAN FEQUET: Thank you, Gord. We'll move on to Environment and Climate Change Canada. If you have any questions for the Independent Review Panel at this time, please proceed.

MS. ANNA GRAHAM (by ZOOM): Anna Graham.

MR. RYAN FEQUET: And, again, just let us know if you need us to navigate to any particular slide in -- in DDMI's or the Panel's presentation.

MS. ANNA GRAHAM (by ZOOM): This is Anna Graham, Environment and Climate Change Canada. Thank you, Mr. Chair. Meagan Tobin would like to pose a question.

MS. MEAGAN TOBIN (by ZOOM): Hi. Meagan Tobin, Environment and Climate Change Canada. So, thank you, Panel, for being open to taking our questions.

My question was in relation to the response to IRP Recommendation 9. So, in your recommendation, you had recommended that the anaerobic porewater sampling program be completed prior to PK

deposition into A418.

And the response from Diavik is that they will be completing this after deposition has began and will be only updating the model during stage 2.

So, my question is: Based on your review of the data associated with the fill model, do you feel that this information, so the anaerobic testing, is necessary prior to deposition to address the uncertainty or is the proposal proposed by Diavik to delay this appropriate? Thank you.

DR. SCOTT TINIS (by ZOOM): Yeah, Scott Tinis, IRP. I guess there are a lot of moving parts to that recommendation. And I would like to say that the idea of sampling in situ after deposition is -- is obviously a good one.

There are physical processes during deposition which could affect the water quality of the decant water, things that might not be anticipated by simply doing a laboratory test on the -- on the ore beforehand.

The -- what I envisioned with the original recommendation was that there is an obvious data gap in that there's a limited number of samples upon which the water quality is based presently.

And I'm always of the opinion that -- that collecting data before you do something material with -- with that data, in other words, you're going to, you know, based on the water quality being good, for example, you know, there's no problem going ahead and -- and doing the deposition.

Generally, any monitoring program that you do has got to be tied to an Adaptive Management Plan. In other words, if you see something that's trending the wrong way, what are you going to do?

And so, if you are measuring beforehand, as was envisioned in the recommendation, would that lead to different consequences down the road? In other words, would you -- would you not backfill?

So, it -- it's -- it's hard to separate the two (2). I would -- I think -- I think both have merit. Even if you are going to deposit no matter what, knowing what you're dealing with ahead of time will help with other mitigation procedures, such as, how are we going -- what are we going to need to treat, what is that water quality going to look like.

If we have to remove all of the water, then what do you do with -- do you re-engineer the way you form the freshwater cap? Do you bring the water

in differently.

Those are all questions that are sort of hypothetical questions that if I were doing this that I would be asking myself.

So, the short answer is I think there's a lot of merit in what they're proposing, but it does -- it's not what was originally envisioned in the recommendation.

MR. MEAGAN TOBIN (by ZOOM): Thank you. Meagan Tobin, Environment and Climate Change Canada.

I do have one (1) follow-up then. So without this information in advance of deposition, is it still appropriate for the next model iteration to be completed after all the PK has been deposited in the pit, or is another check-in required?

MR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. It's -- it's a -- a difficult question again.

I would say that it would certainly be beneficial to acquire more data, run the models and I don't know -- and -- and I would leave it between Diavik and the Board to decide whether this is a licence condition or not.

But certainly you would want to run

some checks with the filling model to make sure that the water quality that you are measuring prior to deposition is going to not lead to unexpected water quality in A418.

Again it's an internal check that were I doing the -- the pit filling, I would want to do that. But again, as being a necessary condition to run the model with the new inputs prior to PK, really I have to leave that as a question to be answered between the Board and -- and Diavik.

MR. MEAGAN TOBIN (by ZOOM): Thank you. Meagan Tobin, Environment and Climate Change Canada. I have no further questions.

MR. RYAN FEQUET: Thank you, Meagan. We'll look to the GNWT now. At this time if the GNWT has any questions for the Independent Review Panel, please proceed.

MR. RICK WALBOURNE (by ZOOM): Thanks Ryan. Rick Walbourne, ENR. First of all, we would like to thank the Panel for all the work they've done.

ENR and our consultant, Dr. Barry Zajdlik, had provided some questions to the Panel previously, which some responses had been provided to us.

The timing didn't allow for us to

include that in our intervention, but we do thank him for the information. But I think Dr. Zajdlik has some clarification questions and follow-up questions he'd like to ask the Panel.

So I'll pass it over now to Dr. Zajdlik.

DR. BARRY ZAJDLIK (by ZOOM): Thank you. Can everybody hear me?

MR. RYAN FEQUET: Yes, we can, Barry. Thanks.

DR. BARRY ZAJDLIK (by ZOOM): Thank you, my first question is -- it's Barry Zajdlik speaking on behalf of GNWT.

My first question is a bit of a reaction to the dialogue that we had this morning and it's -- it is: What can we know about decant water composition at this time?

And maybe I'll flesh that out a bit, because it's -- it's a tough question to answer. I'll say that the modelling that's been conducted today was using best guesses as the porewater composition.

You know, I have a lot of reservations about the -- the input values that were used based on the PK samples that were available at the time.

But we seem to be stepping past that

now, because we're looking at decant water.

There will be a correlation between the porewater and the decant water, obviously because the decant water is expressed. But the decant water also contains site run-off and pit wall run-off, so it's not exactly porewater either. And there would also be some physical processes occurring as the water is expressed.

So you know, if we're relying on modelling that was based on what we believed about PK porewater, how much reliance should we be placing on it -- or around the modelling conclusions now that we're really facing a decant water situation?

MR. SCOTT TINIS (by ZOOM): Yes, Scott Tinis, IRP.

It was one (1) of the questions that was posed to Diavik because, as you note, most of that water in the initial fill is -- is decant water.

So the -- the question was posed: Does the composition of that decant water or is it expected to be the same as porewater or is assuming the porewater water quality to be applied to all of it, is that a conservative assumption?

And the response from Diavik was, yes, that -- that is the case, that is it's a conservative

assumption.

As to the specifics of how that conclusion is made and the data that it's based upon, I can't speak directly. So that may be a question to be posed to Diavik.

DR. BARRY ZAJDLIK (by ZOOM): All right, we may follow up on that then with Diavik, I'm not sure how we'll do that, in light of the proceedings.

Jumping ahead to a different sort of question. The word "conservatism" is bandied about a lot and the way it's used by Diavik is that everything -- the worst-case scenarios are used to model the potential effects of filling the pit with PK.

But it's possible that the more realistic scenario would lead to a weekly stable chemocline that would weep through materials to the surface.

How does the Panel feel about the use of a 200 year accumulation of PK porewater to form the initial conditions for the model?

MR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. I think I'll refer to Dr. Wells to answer that question.

MR. SCOTT WELLS (by ZOOM): Scott

Wells, IRP. The question was how do the initial conditions effect the model results. Is that correct, Barry?

Or are the initial conditions subject to interpretation? Could you clarify that question?

DR. BARRY ZAJDLIK (by ZOOM): Yes. Barry Zajdlik here, on behalf of GNWT.

The initial conditions do obviously effect the modelling results. What I'm concerned about is the accumulation of 200 years of porewater as used in the modelling.

To my mind, that would buy us the outcome towards a stable chemocline when in reality there won't be 200 years of porewater in the initial condition.

So I'm concerned that we're overstating the efficacy of meromixis as a strategy for depositing PK.

DR. SCOTT WELLS (by ZOOM): Yes, the 20 -- this is Scott Wells, IRP.

What those initial conditions are, and what the initial density regime is in the pit, A418 pit, is not part of my expertise in terms of taking the PK and understanding how that's going to produce porewater with a certain chemistry.

But the existing modelling results are very stable. As we've mentioned before it's a -- the chemocline and everything is -- is not -- there's not much motion down there to move things upwards.

So I think that's your question or...

DR. BARRY ZAJDLIK: Yes, that stable chemocline is -- is the result of the initial inputs to the model being a 200 year accumulation of porewater.

But in 2030, we won't have two hundred (200) years of porewater. So how stable will the initial conditions actually be?

DR. SCOTT WELLS (by ZOOM): Scott Wells, IRP. I think that's a question for the sampling and monitoring. So I think that's where adaptive management is a key here.

You really don't know until you start depositing the material in the A418 pit. So that's where you have to sample and see how things go as you move through the project. I don't think modelling can answer that question right now.

DR. BARRY ZAJDLIK (by ZOOM): Thank you for that response. I have a slightly different line of questioning now. It has to do with best practices when depositing slurries.

Is it typically the case when depositing mine waste slurries that water content is controlled to ensure consolidation behaviour that would lead to a desirable outcome?

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. I'd refer to Shahid Azam for that response.

DR. SHAHID AZAM (by ZOOM): Thank you very much. Shahid Azam, with IRP.

Generally, the answer is yes. The way we control that is the control of the solids content which can be converted to other content. And most -- more and more mining operations are actually going in that direction.

A normative value is usually known at deposition and then there is slight variation, depending on which ore body is processed on that day.

Also, mining operations use new technologies, such as thickening and paste technology and even filtration to actually remove part or most of the water at the onset of deposition.

So the -- to answer your question, the normative value is usually known. And I believe that should also be the case over the last so many years -- I think two (2) or three (3) years or something like

that -- at the PK deposition onsite.

DR. BARRY ZAJDLIK (by ZOOM): Follow-up question. Barry Zajdlik, on behalf of GNWT.

Should DDMI be considering dewatering the PK slurry before depositing it to the mine workings?

DR. SHAHID AZAM (by ZOOM): They -- they can do that. The question is how much? Is it partial or is it complete dewatering, and which new equipment will be needed, or which -- for example, add mixtures such as polymers or -- or flocculates will be needed. And all of that is a different field.

I think the practice onsite is what should be followed. With the caveat that the information on the grit-rich material has to be kind of known at some level. If the processing is the same and the process water that is used is about similar, and the confidence level in the variation in geology of the ore body is there, then they can proceed with regular -- as -- as their process is -- without dewatering the slurries at the outset.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

Do you think that we know enough about the grit-rich PK based on the samples that are

available?

DR. SHAHID AZAM (by ZOOM): I think only the -- so there are two (2) things. The sample - the original sample that was available was only one. And, obviously, they had difficulty in getting that sample.

But what they did is, in 2019, there was a site investigation where they looked into so many different materials which have segregated, and some of them were -- well, different ranges of grain-size distribution within the PKC facility, so -- within the containment facility.

So that is my question also, at some level, do we know enough and how much confidence there is in the grit-rich processing, as well as in the material type and -- and all of that is based on empirical understanding and experience at this site.

So again, the confidence will come from where Diavik feels that they are confident about. From an outsider, the different experience -- experience with different types of -- of materials, I think mine sites and experience there is quite important and significant because it is capturing intricacies of the local material and process and all of the above.

DR. BARRY ZAJDLIK (by ZOOM): Thank you for that response. Barry Zajdlik, on behalf of GNWT.

Another question. Yesterday, Bill Slater expressed some concerns regarding DDMI's decision not to conduct immediate laboratory testing of PK samples.

The response from Gord MacDonald was that mine -- the mine operates on different ore blends over time and that currently the mine is producing an ore blend that is not representative of what will be deposited in the mine workings.

That statement corroborates my concerns regarding lack of concern -- or lack of understanding in the variability of PK, both within and among pits which leads to the question for the IRP.

Does the IRP have concerns about the suitability of the PK data that went into the model?

DR. SHAHID AZAM (by ZOOM): So, again, only one (1) sample was available, right? Based on which the entire modelling was conducted, the consolidation modelling, that is.

There were other materials that were also subject to lab testing. As I'd shown yesterday, there were the fines which would not release water.

And then, there were the coarse materials, which will release water.

How will they release it, primarily, depends on the initial conditions of -- at deposition. And therefore, I was of the opinion that I do not know enough about the initial conditions. And therefore, in our original recommendations, we mentioned that some sort of baseline, based on whatever is available, can be developed, so as to get an understanding of where is the grit-rich with respect to releasing the water and how quickly it does release it. So that was our original thing.

With respect to variability, I don't know how big the variability would be with respect to different ore bodies. I think that overall the -- the process water would be very singular -- this is my assumption -- and the grit-rich in -- that -- that removal of that component from the ore processing to make it grit -- grit-rich, is probably okay.

But the material is -- what -- what it is is this. You can grind it as coarse or as fine as you can, but you can grind any material to that kind of grain-size distribution. It's the interaction of the process water with the mineral component and the metals that will result in the -- in the porewater.

And that part is unknown geologically, as mentioned also by Diavik.

DR. BARRY ZAJDLIK (by ZOOM): Thank you for that response.

I've got a slightly different line of questioning. The necessity with something that I was thinking about last night, in terms of the runoff from the site that I think is going to be uncontrolled. And we know that cryoconcentration can lead to local density gradients and that's been shown to induce currents in lakes.

Is it possible that cryoconcentration-induced currents could lead to instability of the chemocline?

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. I think that would be a good question for Dr. Wells.

DR. SCOTT WELLS (by ZOOM): Yeah, Scott Wells, from the IRP.

We did not look at that as a possibility in the modelling. It's not clear to me how much material and how big a density issue that would be in the A418 ponds that you describe.

So I think the most important thing is what are the details of that because one can't really

hypothesize about it being a possibility unless one had much more concrete information about the nature of what you were talking about.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

Unfortunately at this point we have no information on that. There are model predictions I think that will tell us what the surface water concentrations would be from runoff, and at that point we'd be reduced to rely on models to understand the -- the volumes and the concentrations and then the subsequent effects of cryoconcentration.

So I'm just -- I'm throwing it out there. Is this -- is this a totally crazy idea or is there a distinct possibility that there could be some destabilization?

DR. SCOTT WELLS (by ZOOM): And you raise an interesting point about there being a density current driven by differential density of an inflow, that is always a possibility, but it seems to me much smaller -- it seems just on the surface, I don't really know the quantities we're talking about, but perhaps it ought to be explored. But I think that doesn't -- that may or may not affect any of the PK stability down below.

DR. BARRY ZAJDLIK (by ZOOM): Thank you for that answer.

Going back to the decant water and variability, what -- obviously we don't know what the decant water composition will be, we can infer it, but I'm more interested in what the variability in the decant water will be and how that affects modelling conclusions.

Does -- does the IRP have any reasonable suggestions as to how Diavik could assess the variability in the decant water at this point in time?

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. The variability would simply come out of the sampling program, and as -- as Diavik mentioned, the -- the ore content or the ore structure may change, and so doing multiple samples closer to the time when you're actually going to deposit would probably give you the best estimate of what your initial water quality will look like in the decant water.

And if you're -- if you do several months or -- or several different samples, I mean that gives you automatically an idea of your variability, and from that you can draw, you know, both a base case

water quality and an upper case.

And going back to the sensitivities that were requested, that's exactly what -- what I was asking for specifically as input. So it just becomes a simple number's game. The more samples you have the better an idea you have of the variability and the better you can convert that into an upper case source term for your modelling.

DR. BARRY ZAJDLIK (by ZOOM): Thank you for that answer. Barry Zajdlik, on behalf of GNWT.

So I hear -- I hear what you're saying with respect to sampling PK closer to the time of deposition. But when you think about what is being sampled, it's a population of PK that varies within a pit and among pits, so in order to fully capture that variability my recommendation would be to start collecting samples now because all the PK is -- is part and parcel of those pipes and will contribute to variability that we expect to see. That wasn't really a question, though.

My question has to do with what Dr. Tinis just said. Should that sampling, that's the sampling of PK and its associated properties, be conducted prior to deposition and should the modelling

be updated prior to making a decision to deposit PK?

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. So just for clarification, that was the original intent of the recommendation that was made, however, there are many ways that you can approach the issue, and I think those are all very good points that you've raised and should probably form the basis of the discussion between the Board and Diavik.

DR. BARRY ZAJDLIK (by ZOOM): One (1) last question I think. The CE-QUAL-W2 model emphasizes the importance of calibration in using modelling results.

Does the IRP believe that the modelling results from an uncalibrated model should be relied on to inform irrevocable decisions?

MR. RYAN FEQUET: Barry --

DR. SCOTT TINIS (by ZOOM): This is Scott...

MR. RYAN FEQUET: -- sign language.

DR. BARRY ZAJDLIK (by ZOOM): Sorry, could you repeat that? I didn't quite hear that.

MR. RYAN FEQUET: Sorry, I was just trying to slow you down there so the translators could keep up. Just a reminder, I know this is a very technical topic for everyone, but wherever you can use

plain language please -- please do so.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of the GNWT. Then let me rephrase that question a bit more slowly.

A model was used to predict the results of depositing PK into the bottom of the pit. The model is an elegant structure built on -- on a series of mathematical relationships. That structure has to be fitted to the specific application, and that fitting is called calibration.

So it adjusts the model to the site's peculiarities, however, that can't be done in advance because we don't have that information.

So my question to the panel is: How should we rely on a model that hasn't been calibrated yet?

DR. SCOTT WELLS (by ZOOM): Scott Wells, from the IRP. Barry, thank you for your question.

In many cases where we have not built something, let's say a new reservoir, a new dam, and we do environmental impact assessment, we often use uncalibrated models because that's our best guess at the time.

So there's no way you can use a

calibrated model for a reservoir that's going to be built in the Amazon or in some other part of the world.

You use it, though, to assess the environmental impact, and that's the same thing that Diavik did here with the CE-QUAL-W2 model for the A418 pit. And in many cases when we do modelling if we get our boundary conditions correct, we do very little calibration in the end.

So it's all about understanding what's causing the water body to respond. Is it meteorological conditions, is it initial conditions? Things like that are probably more important than what I call calibration. In fact, most of the calibration that we do is not tweaking model coefficients, but it's getting the correct boundary conditions.

So I'm fairly confident that it's our best guess, and obviously if there's sampling done down the road, then that's there to help understand whether the -- the assumptions were correct, but we -- we do this routinely.

DR. BARRY ZAJDLIK (by ZOOM): Thank you for that answer. Barry Zajdlik, on behalf of the GNWT. It's -- it provides some comfort in moving ahead with this decision.

Thank you for your attention. I have no further questions.

MR. RYAN FEQUET: Ryan Fequet here. Barry, I just wanted to confirm.

You had made a comment kind of at the beginning of your questioning. Were you asking Diavik for an undertaking related to the decant water?

I don't remember the exact specifics, but if -- if you did want to ask, now -- now would be the time if there was some information you were requesting from Diavik or a different party. I just wanted to follow up.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT. Is there time to ponder that question?

MR. RYAN FEQUET: We're here until 3:00 on Friday, so you can ponder until then.

DR. BARRY ZAJDLIK (by ZOOM): All right. Thank you very much for that time. I have no further questions.

MR. RYAN FEQUET: GNWT, ENR, do you have any further questions at this time?

MR. RICK WALBOURNE (by ZOOM): Thanks, Ryan. Rick Walbourne, GNWT. We have no further questions at this time.

And, again, we'd like to thank the -- thank the Panel for their time and review and all their responses. Thank you.

MR. RYAN FEQUET: Thank you, everyone. The Environmental Monitoring Advisory Board is up next, so please proceed with your questions. And just noting that Dr. Scott Wells will have to sign off here in a couple minutes.

So, Dr. Tinis and Dr. Azam, if -- if a question you would like to defer to when Dr. Wells is back, please just note that and we'll -- we'll keep it in the queue here we can make sure we loop back to it either this morning, if we have a chance, if we're still going, or the next opportunity during the Hearing.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): Hello. Can you -- can you hear me?

MR. RYAN FEQUET: We can, John. Thank you.

MR. JOHN MCCULLUM (by ZOOM): Okay. Thank you. Thank you for your presentation, Panel members. That was helpful and -- and interesting and

it's amazing the work you do, and I wish I could grasp it better than I do.

Just a couple of simple questions. Were you given a chance -- and this is a question overall to the Panel -- to review Diavik's responses to your recommendations?

And, if you did, I know you were -- you were questioned about Recommendation 9 earlier, were there any other -- were you satisfied with all of the rest of the responses or is there anything you'd like to add in terms of how they could be addressed -- how they should be addressed differently?

DR. SCOTT TINIS (by ZOOM): Sure. Scott Tinis, IRP. I would just ask if -- if -- Scott Wells, if you have a moment, I don't know, you're probably running a bit late, if you could address those responses that you might have had some concerns with.

DR. SCOTT WELLS (by ZOOM): This is Scott Wells, from the IRP. I do know that we got some responses before we finished our final report, but some of them were still in the process of being run.

There are some -- I really, unfortunately, don't have time to get into it in detail because I got to run to another really

important call in two minutes, but maybe I could catch that question when I come back. I'll be back in an hour, or I'll be available Friday to answer it.

So, I'm going to pass on that for right now because I don't think I have sufficient time to answer that.

MR. RYAN FEQUET: Thank you, Dr. Wells. So, John, if you could just hold that one. We'll make sure that you get a chance to come back to it.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. I think I'll ask Shahid as well if he has any concerns with the responses to recommendations.

DR. SHAHID AZAM (by ZOOM): No, I do not have any concerns.

DR. SCOTT TINIS (by ZOOM): Okay. And Scott Tinis, IRP.

Yeah, I guess I've discussed the response to -- to Recommendation 9 in some detail. It -- it does stand that I personally would recommend that sampling be done before the porewater -- or before the PK is deposited.

However, there is a lot of merit in the sampling program that is -- or has been recommended or suggested by -- by Diavik looking at the porewater and

decant water in situ prior to re-running the models.

MR. JOHN MCCULLUM (by ZOOM): Okay. Thank you very much for those responses. John McCullum, EMAB. One (1) -- a couple of other questions.

EMAB had raised the -- the question of whether or not Diavik -- well, actually, EMAB had said Diavik -- we do not feel Diavik ran a reasonable -- or modelled a reasonable worst-case scenario.

We had discussions with Diavik. And -- and they asked us to describe what a reasonable -- you know, how -- how we should set up modelling a reasonable worst-case scenario.

And we were -- we felt that that was something the -- the modellers would -- would know best. And we sort of gave some general parameters for how that could be set up.

But while we have you experts here, I'm wondering if you could describe how you would set up a reasonable -- or set up a model of a reasonable worst-case scenario for this project. Thank you.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. That's a very interesting question.

There is a series of sensitivities that were run. And I don't believe that people have access

to the list. I have them in front of me.

And I have a list of, I think, of twenty-five (25) sensitivities that were run, and many of them were run with either boundary conditions or initial conditions that were very extreme compared to what's expected to be seen, for example, winds that were run for several days at the maximum wind speed that has been recorded in the area over, you know, either a period of record or -- or several decades.

And so, typically, when you run sensitivities, you want to examine what the effect of changing one (1) parameter and running that at an extreme is.

You run an ensemble of these. And then you essentially plot the results. And where it becomes tricky is -- is exactly what you are saying, are there interactions that you're not foreseeing when you're running these sensitivities.

So, there's -- there's multiple ways of -- of approaching that. For one, you could pick two (2) or three (3) parameters to vary at the same time. You could run a stochastic analysis; in other words, allow all of the parameters to vary stochastically and run multiple simulations, and perhaps the -- the worst-case will become evident.

And then you can look back and say, well, what are the inputs or what are the boundary condition levels that have to be met before we actually see this worst-case.

And so, most of the time, it's -- it's a question of what -- what is the confidence that you have that the -- the sensitivities -- or the adverse effects you see within these sensitivities add in a linear fashion.

In other words, if you had two (2) of these things go wrong at the same time, is the worst-case from both of them going to the extreme? Is that the sum of -- of what you see in the results?

If these -- the two hundred (200) year simulations are expensive in terms of time and computing, so it takes a long time to run these. And in many cases, it's not necessarily feasible to be able to run a stochastic -- a fully stochastic run which could involve several thousand iterations.

And so, what you tend to do then is, for your sensitivities, you do take your parameters and you put them to -- to extreme values.

And I think, looking through the list, there -- the parameters that were -- were varied and examined within these sensitivities are -- are the

appropriate ones.

They address density, mechanical mixing, and boundary conditions, including initial conditions.

And so, barring doing a complete stochastic analysis, I think that the list of sensitivities that were run are appropriate for this situation.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): Thank you very much for that answer, Dr. Tinis. I'm not sure you answered my question though. I was asking about how you would set up a reasonable -- to model a reasonable worst-case scenario.

So, I think what you're talking about is -- from what I understood, what you're saying is, when the sensitivity model is run, one (1) parameter is varied. And what we're looking for would be I guess a -- a range of those parameters all at -- at fairly extreme levels.

And -- and, again, this is something I don't -- I'm not really very familiar with, and -- and I -- so I'm looking for you guys to say what -- how

would you set up a reasonable worst-case scenario run?

DR. SCOTT TINIS (by ZOOM): Yeah. Scott Tinis, IRP.

I -- I think I would just simply take the sensitivities that were run, find which of the parameters when they were varied that the results are most sensitive to, and then run perhaps a limited stochastic run with varying a few parameters that are the most critical. I think that's probably the most sensible way to do a -- a reasonable worst case.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): Thank you, Dr. Tinis. So -- so I guess what I think I'm hearing is reason -- really the -- the best thing to do is -- is do some kind of a stochastic run rather than try to set up a -- a run for a reasonable worst-case scenario as a single run of the model.

DR. SCOTT TINIS (by ZOOM): Yeah. Scott Tinis, IRP. Yes, given -- given resources and time, that's generally a best-practices approach to it.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): Okay. Thank you. And one (1) final question.

I don't know if it's really a question or not, but one (1) of the things that -- that EMAB has advocated for is -- is some -- some fairly intense monitoring once the -- once the PK is deposited, and particularly once the -- the freshwater cap has been placed on top of the PK.

I -- I guess I -- I think I heard from -- from you and your colleagues this morning that really, I mean, you know, modelling is all very nice, but we're not really going to know what's -- what's happening in that lake until -- until we see what is happening in that lake by monitoring it.

So monitoring, I think you would agree, is very important. And the more detailed the monitoring, the better an idea of -- we'll have of how the lake is behaving once things get going. So I guess that's a would-you-agree-with-that question.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. Yes. Yes, I would agree completely.

MR. JOHN MCCULLUM (by ZOOM): Thank you very much. No further questions from EMAB.

MR. RYAN FEQUET: Thank you, John.

MR. JOHN MCCULLUM (by ZOOM): Yeah,

and that was John McCullum, from EMAB talking.

MR. RYAN FEQUET: Thanks, John.

Next up on our agenda is questions from the Tlicho Government to the Panel. And I -- I just wanted to check in with you guys across the room there. Knowing how many questions you have, would you suggest that we take a quick break, or would you like to start with your questioning right away?

MR. BRETT WHELER: Masi. It's Brett Wheler, Tlicho Government. We would be fine with a break. We have four (4) or five (5) questions. The -- the one (1) thing I'm wondering about is -- is we did have a -- a couple of similar questions to what EMAB asked, especially the one (1) that was deferred to a bit later.

So we -- we'd be comfortable with -- with whatever approach the Board wants to take with that, if it's moving -- delaying all the questions for -- for the Panel to the time when Dr. Wells is back or -- or proceeding after a break with keeping track of different ones like -- like we have started. Masi.

MR. RYAN FEQUET: Mr. Mackenzie has signalled that we'll take a quick break. So it's 10:11 Mountain Time, so maybe we'll come back at 10:20, 10:20, nine (9) minutes. We'll aim for that.

Come back at 10:20 and we'll -- we'll advise all parties how we'll proceed.

--- Upon recessing at 10:10 a.m.

--- Upon resuming at 10:25 a.m.

MR. RYAN FEQUET: Okay, good morning. Just going to get started up, everybody please take your seats, grab your coffee.

Okay guys, I just wanted to clarify something. So we're going to proceed with the questioning of the Independent Review Panel.

If any parties do have a question that Dr. Tinis and Dr. Azam would like to defer to Dr. Wells' return, we just ask the Panel to make a note of the question and we'll do -- on our side here we'll track who is asking that question.

And once we've gone through questioning from all of the individuals and the parties, we'll loop back around to those -- to those questions that are set aside for Dr. Wells. So that way we can make good use of our time and keep rolling and get through as much as possible.

So I'll turn it over to the Tlicho Government for their questions to the Independent

Review Panel.

MR. BRETT WHELER: Masi. It's Brett Wheler, for the Tlicho Government.

We first just wanted to say a big masi to the Panel for all your work on this project and for sharing your technical knowledge with us. We really value your independent expert peer review. We only provided our questions to you on Tuesday, so we understand if you cannot answer some of them.

The first question is: What are your thoughts about the approach to monitoring that the Tlicho Government proposed in our intervention and would you suggest any revisions to the timing or the approach? Masi.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. Thank you for the question.

As you mentioned, I haven't had a chance to look detailed through the monitoring approach. I did look through it and found there were a lot of synergies I think with what Diavik has proposed.

And one (1) thing that I recall that sticks out for me is a -- an emphasis on adaptive monitoring, which would mean that should something arise from the initial monitoring plan, that changes

would be made to the monitoring to -- to adapt to that.

And I believe that Diavik has intimated that that would certainly be part of their monitoring plan going forward.

If possible I would like time to go through in detail and can I give you a -- a written response?

MR. RYAN FEQUET: Dr. Tinis, when would you be able to provide that written response?

DR. SCOTT TINIS (by ZOOM): I can provide it before tomorrow morning's session.

MR. RYAN FEQUET: Is that okay to the Tlicho Government?

MR. BRETT WHELER: Yes, Brett Wheler, Tlicho Government, we would really appreciate that at that time or even at a later time if it took more time. Masi.

Okay, Brett Wheler, Tlicho Government. Yesterday Diavik suggested that after comprehensive monitoring when the pit is full if the water is good it may be better to reconnect to Lac de Gras sooner rather than later.

Does the modelling tell us anything about how water quality in the pit lake could be

affected by reconnecting sooner rather than later? Masi.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP.

Generally I would say that the water quality will be affected by the incoming water through the breach from Lac de Gras. Obviously it's a combination of the two (2).

So as to the question earlier than later, I don't -- I can't foresee if it's the space of a few months or a few years that it would make a large difference.

I would like to table this question for Dr. Wells as well, if that's okay with the Tlicho Government.

MR. BRETT WHELER: Masi, yes. That's certainly fine with us.

Next question. Does the panel have any suggestions for the Board on how to structure the Panel review process and participation going forward so that it is most effective and so that your recommendations result in a more robust model and a better understanding of predictive water quality through the model stages? Masi.

DR. SCOTT TINIS (by ZOOM): Scott

Tinis, IRP.

Forgive me if a take a bit of time on this. The majority of the recommendations from the Panel were accepted without condition, I believe, by Diavik. And some that were not accepted are okay from -- from the Panel's point of view.

So for the -- to be honest, I'm not quite sure what the interaction between the Board and the -- and Diavik will be going forward. And I don't know if it's appropriate for me to recommend or for the Panel to recommend that any of our recommendations be written into the licensing.

I think the best thing that the -- the best use of the Panel recommendations is to simply guide the Board and Diavik to come to a reasonable set of licence conditions that would allow for the safe deposit of -- of PK to A418.

And I think the dialogue that's going forward here and I think that the questions from all Interveners have been extremely useful and I've been highlighting really those areas that we need to focus on to give everyone confidence in the process going forward.

So I'm afraid that's not a definitive answer to your question, but I -- I believe that's the

best that the Panel can recommend at the moment.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government.

Just to confirm, you've -- that it sounds like you've found the process this fall that -- that you went through with Diavik to be -- I think you said good dialogue. That you found that to -- to be effective.

And the reason we are asking about this is we are thinking ahead to the Panel's involvement in the next stages of -- of model development. Masi.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. Yes, the -- we found generally that this has been a -- a very large effort on the part of Diavik and the modelling team. I believe they have done an extremely professional job and they've looked at the problem many ways.

And I know that a lot of sweat equity has gone into refining these models so that they are -- are giving the best reasonable results that they can. In other words, the -- the model inputs, the way they're run, the interpretation of the parameterizations within the model -- or models, excuse me -- a lot of thought has gone into it and a lot of thought went into the sensitivities.

And the -- the interaction with the Panel during our review was -- was excellent. Anything we asked for was -- was done or considered promptly and -- and very well done.

And so, I would expect that would carry forward to the stage 2 modelling and whether it is the present Panel that will be doing the review on that or a new panel, I think they'll find the same professional interaction.

MR. BRETT WHELER: Brett Wheler, Tlicho Government. Masi for that answer.

We -- we know that there's uncertainty in the quality of the porewater and the water that will come out of the processed kimberlite.

We are wondering how much that matters and how much can that be -- how much can that be mitigated by Diavik removing and treating the porewater and the PK water before filling the pit? Masi.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. The question of the -- the decant water from the PK, I believe could be addressed through the response to Recommendation 9, which was they could not only consider the water quality, but also the volume.

And if need be, Diavik has suggested --

at least in the response to that recommendation -- that the water could be pumped and treated or treated in situ, depending on what's appropriate for the -- the parameter they're tyring to treat.

As to the porewater, only a small amount of porewater is expected to be present before the pit is filled. And the remainder -- the remaining porewater, depending on how much is released, will remain within the pit after the pore -- after the freshwater cap has been put on.

And so, the water chemistry of that porewater, where that becomes important, is on what the actual mixing and diffusive processes are in A418 over the long term.

And so, as per the Recommendation 9, it was envisioned that a good knowledge of what this porewater chemistry may look like would go a long way in assessing the results of the stage 2 modelling.

And that knowing ahead of time what mitigations might be required once -- once the PK was in place, would be -- would be extremely beneficial. And that's why the original program, as envisioned, began before PK was -- was placed in the pit.

MR. BRETT WHELER: Brett Wheler, Tlicho Government. Masi for that answer.

Short follow-up. How much -- how much of a benefit could be achieved by -- by waiting longer before filling the pit to -- to be able to, for example, treat as much of the porewater -- to treat a little bit more of the porewater before filling the pit? Masi.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. So I think there's possibly two (2) parts to this answer. I would like to address the first part, and then, maybe ask Dr. Azam if he would weigh in on the second.

The first would be the net groundwater flux out of pit A418 and into pit 154. So during the -- the pit -- or when examining the pit filling model, this was a loss of an initial decant and porewater through the groundwater system to the adjacent pit.

So, in my mind, it becomes a bit of a trade-off. The longer you wait, theoretically, the more porewater you have available. And if you need to mitigate, you could pump or treat in situ, the water that's available.

However, at the same time, you may be losing some of that to the groundwater system. And that might render it less treatable and -- and that's Just a hypothetical idea on my part.

The second part of the question is: How much of the porewater will we see in the first, say, year or two? That's the time frame that -- that your question envisions. And for that, I would like to ask Dr. Azam to maybe weigh in on -- on how much porewater he would expect to come out of the PK in the first couple of years.

DR. SHAHID AZAM (by ZOOM): Thank you very much. Shahid Azam, IRP.

So that will depend on the initial conditions of the -- of the tailings of the PK, basically.

If it is a dilute slurry, it's going to release more water. If it is a concentrated slurry, with a higher solids content, it will release the water slowly. So the rate depends on the initial solids content of the slurry.

(BRIEF PAUSE)

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government.

I believe Diavik referred, yesterday, to a number around 80 percent water in the -- in the slurry -- in the tailings slurry.

Does that -- does that affect your response to -- to that question? Masi.

DR. SHAHID AZAM (by ZOOM): Shahid Azam, again, from the IRP. So 80 percent water released or 80 percent water to start with?

MR. BRETT WHEELER: Brett Wheeler, Tlicho Government. To start with.

I -- I understood to be in the pipe coming in to the pit to have about 80 percent water and -- and 20 percent solids. Masi.

DR. SHAHID AZAM (by ZOOM): That is the -- I think this was asked earlier, so that I think still remains to be the question. What is -- what are the initial conditions of this material?

If we have confidence in those initial conditions, well, then these are kind of known. But I -- again as I mentioned earlier, based on geology and processing, and -- and what then, there may be variation in that initial conditions because of which the rate of release of porewater and the overall amount of porewater in the first two (2) years will be dependent on those initial conditions.

MR. BRETT WHEELER: Brett Wheeler, Tlicho Government. Okay. Masi.

I have one (1) question about

monitoring. We see that a lot rests on the monitoring done at SNP 1645-88 in the pit. There's three (3) parts to this one.

First, do you have a su -- do you have suggestions for fine-tuning that sampling?

Second, is there any particular monitoring that would help calibrate the -- the final model, the long-term model or -- or set the right boundary conditions, as was described earlier?

And third, do you have observations about the most important time for data collection during PK deposition or -- or at any time before flooding the pit? Masi.

DR. SCOTT TINIS (by ZOOM): Scott Tinis, IRP. My understanding of the monitoring program is that you're possibly describing two (2) different phases.

The first phase is the monitoring of the PK porewater and decant water prior to filling, and as I understand it, that would simply be a water sampling program that I assume would go on for some period of time at -- at regular frequency simply to -- to examine what the -- what that water is going to look like prior to filling.

And the -- the second, the longer term

monitoring at the -- the station, the SNP station that you mentioned, was the -- the multi-phase monitoring where there was continuous conductivity sampling in the center of the pit supplemented by occasional water sampling for chemistry.

And so I'd like -- like to address the -- the second one which is the -- the longer term monitoring.

So this -- the station location in the center of the pit, a single station in the center of the pit should be sufficient. There can be some wave action, internal wave action, that is between the interface along the chemocline which would be a -- a density interface as well, and a round pit could have some very complex motion around there.

But in general, if you're not -- I think if you were to design a sampling program from scratch you might take one (1) or two (2) initial sampling programs which would -- which would have multiple stations, and you -- you want to do those as close together as possible to try and get a single snapshot in time to look to see if there's any spatial variability.

And when you're confident that there's not a lot of spatial variability and there's not a lot

of activity going down along that density interface, then setting up a single station is appropriate, and I believe the continuous sampling was to be done every month or so when possible, and then that's supplemented by water sampling quarterly or -- or four (4) times a year; whether it's equally spaced or not, I'm not sure.

So you asked about fine-tuning that sampling for modelling purposes. So it might be good to consider a more spatially dense set of -- of conductivity casts either once at the beginning of the program or every once in a while to simply assure yourself that you're not missing some spatial variation within the pit.

As far as -- as temporal sampling, it's always good to understand the physical processes within the pit, and -- and we've heard many suggestions about where possible sources of vertical density currents might come from, and those would be important to understand if they do exist.

And so, for example, spread overturning is -- is an important point, and whether -- I'm not sure at this site if there's a fall overturning event or not, so those are definitely times that you want to be -- be sampling either more frequently or simply

understand when they occur and -- and sample before and after.

As far as calibrating the model's concerned, I think that being very strategic in your sampling and understanding the processes goes a long way and -- into calibrating the model.

So, when modellers look at events within their -- their model they sometimes say did we see that in the data, and I know I do that all the time, and so it's good to have a comprehensive data set to go back to and say no, we're not really seeing that, so maybe we need to change our paramaterization or understand where the -- the boundary condition is -- is getting away on us here or -- or something to that effect.

And you asked -- I'm sorry, my -- my notes are -- are fairly bad. Could I ask you to repeat the third part of your question?

MR. BRETT WHEELER: Brett Wheeler, Tlicho Government. Masi.

I -- I think you -- you covered most of it. It was about the -- if there's any critical timing windows for the monitoring, and -- and I think you addressed that by -- by talking about the two (2) different times to monitor prior to filling and then -

- and then longer term. So masi for that.

I -- we did have a question earlier that -- that I think was deferred. I'm getting the thumbs up that I could ask that again. And -- and I think the -- yeah, I think -- I think the -- the main one that -- that was deferred was our question about Diavik's suggestion that it may be better to reconnect to Lac de Gras sooner rather than later, of course, after doing comprehensive testing of the water.

So, does the modelling tell us anything about how water quality in the pit lake could be affected by reconnecting sooner rather than later? Masi.

(BRIEF PAUSE)

DR. SCOTT TINIS (by ZOOM): It's Scott Tinis, IRP. So, for Dr. Wells' information, this was a question that was tabled in his absence.

And it was hoped that he could expand on the idea that there may be some advantage or possible disadvantage to opening the breach sooner than later.

DR. SCOTT WELLS (by ZOOM): Thank you. This is Scott Wells, I'm back, from the IRP.

The advantage of opening the breach is that you're going to bring in high-quality water to basically dilute any of the surface runoff in the A418 pond.

And so, that would be one (1) of the advantages is to make the water quality in the pit itself, the surface concentrations, perhaps better. So, that's the -- the only impact of opening it up earlier that I can think of. Thank you.

(BRIEF PAUSE)

MR. BRETT WHELER: Masi. Any impact on Lac de Gras water quality related to that timing? Masi.

DR. SCOTT WELLS (by ZOOM): This is Scott Wells, from the IRP. It really depends on what the concentrations and chemistry are in the pit lake itself. And I think that's the advantage.

I think Diavik has stated that they would be doing sampling work before they open a breach. And so, that's -- that's the proof right there, is what is the water quality in the A418 pit. And that is going to be determined primarily from sampling.

MR. BRETT WHELER: Brett Wheler, Tlicho Government. Masi for that.

Mr. Chair, would it be appropriate to re-ask the question that EMAB asked which Tlicho Government also had at this time?

MR. RYAN FEQUET: You read my mind, Brett. This -- kill two (2) birds with one (1) stone, if you don't mind, since you guys still have the floor.

MR. BRETT WHELER: Okay. Masi. Something happened here to my note.

But -- but anyway, the question was -- was: Does the Panel have any outstanding concerns based on Diavik's responses to all the Panel's recommendations, in particular, beyond the -- the one about anaerobic testing that -- that was already talked through this morning, but any outstanding concerns with Diavik's responses to the Panel's recommendations? Masi.

DR. SCOTT WELLS (by ZOOM): So, this is Scott Wells, from the IRP.

For the long-term modelling of the CE-QUAL-W2 and the breach modelling that was done that I reviewed, Diavik and the Golder team responded to every point that I brought out. So, I appreciated the

fact that they were responsive and they responded to all those points.

As I mentioned earlier, I don't think it was our charge to dig in after their response, to re-review their responses in detail. Were some of their responses exactly what I would have done; maybe, maybe, maybe not?

But I think, in the end, they made a good-faith effort to do their best on the modelling. And I think the modelling does tell us that the PK in the A418 pit, if the initial condition is correct, will likely stay down there.

And so, I think that's the -- that's the issue that we were primarily looking at.

Now, whether there's lots of little, fine things that could be corrected, maybe there are still some fine things. But will they change the result from white to black? I don't -- my gut feeling is they would not.

(BRIEF PAUSE)

MR. BRETT WHELER: Masi for that. Brett Wheler, Tlicho Government. We have no further questions.

MR. RYAN FEQUET: Masi to the Tlicho Government. Next up is the Deninu Kue First Nation, DKFN. If you have any questions for the Independent Review Panel, please proceed.

DR. MARC D'ENTREMONT (by ZOOM): Yes. Good morning. It's Dr. Marc D'Entremont, here for the Deninu Kue First Nation.

I guess one (1) of the advantages or disadvantages of being at this point in the questioning is, again, most of the questions we had have already been asked and -- and answered. However, I do have one (1) question which I'll just say for the record with a bit of a preamble.

So, the DKFN, in its closing arguments to the environmental assessments, recommended to the Review Board that the project not be approved primarily because of the level of uncertainty in some of the effects, again, associated with the modelling at the time and the prediction on the effects to water quality.

However, here we are in the water licence amendment stage. And then, as we've heard from the Panel and with some of the previous questions, there still remains a certain level of uncertainty in the predictions which is inherent in

any model, and -- and output, as well.

So, I'd like to thank the IRP for their work. It was very important. And -- and I think their involvement in the process was critical in terms of addressing some of these uncertainties.

However, I would ask the question for the record. And I understand if the Panel wants to defer to their previous responses, but, again, just for the record, I'd like to ask:

What should the Wek'eezhii Land and Water Board consider to ensure uncertainties regarding water quality are addressed within the permitting process? Thank you.

(BRIEF PAUSE)

DR. SCOTT TINIS (by ZOOM): Yeah, Scott Tinis, IRP. Yeah, thank you for the question.

And I -- I will refer to our -- our previous responses to that and that I think that the Water Board engagement going forward with respect to how the uncertainties can be addressed in the licencing is a very important question.

DR. MARC D'ENTREMONT (by ZOOM): Marc d'Entremont, for DKFN. Thank you for that response.

We have no further questions.

MR. RYAN FEQUET: Thank you, Marc. North Slave Metis Alliance, do you have any questions for the Independent Review Panel at this time?

MS. ADELAIDE MUFANDAEDZA (by phone): Hello. Good morning. It's Adelaide, from the North Slave Metis Alliance. I would just like to thank the Independent Review Panel for their great work that they've done in reconciling and explaining this to us in a very clear manner.

I would just also want to reiterate. As we noticed that a detailed adaptive monitoring approach should be done. And I will stand firm on that word. Thank you. But I have no further questions.

MR. RYAN FEQUET: Masi, Adelaide. The Yellowknives Dene First Nation, Sarah and/or Ryan?

MS. SARAH GILLIS (by ZOOM): Thank you, Ryan. Sarah Gillis, for YKDFN. As Mark said, one (1) of the benefits of coming up here (INDISCERNIBLE). No further questions, and thank you.

MR. RYAN FEQUET: Thank you, Sarah.

We did receive confirmation from the Fort Res -- Resolution Metis Government that they don't have any questions for the Independent Review

Panel, but I'll just ask if there's any other members of the public at this time in the room or online that have any questions.

(BRIEF PAUSE)

MR. RYAN FEQUET: Nothing from Kevin. Okay. We'll move -- move to the next. So Board staff, if you have any questions for the Independent Review Panel, please proceed.

(BRIEF PAUSE)

DR. KATHY RACHER: Hi there. It's Kathy Racher, on behalf of the Board, and, yes, as everyone else has said, thank you very much to the Panel for your patience and hanging out with us remotely and answering all our tough but very important questions.

I think some other people have asked questions generally about whether you are okay with Diavik's responses to some of your recommendations. As the -- as the Board, though, we -- we need specific evidence on -- on these things to help write our reasons for decision.

So I -- I apologize if this seems repetitive, but I -- I just want to clarify a few more things. And in particular, I'm going to go through a couple of different recommendations.

So let's start with the Recommendations Number 2, 3, 4, and 5 which I believe mostly came from Dr. Azam. You recommended that Diavik do additional assessments of how the processed kimberlite will consolidate during and after deposition.

And Diavik accepted these recommendations, but proposed only to implement them during the deposition of the PK, not prior to.

And I just want to check that this proposal of theirs is acceptable in your opinion, and if not, what are the potential consequences to the model results?

DR. SHAHID AZAM (by ZOOM): Shahid Azam, with the IRP. Thank you very much.

I think I kind of alluded to this earlier, but what I will mention is, in the mine waste management, there is what we call the observation method, which is very similar to adaptive management in that there -- if you allow me a few components of that which is: Identify the baseline, assess unfavourable conditions, observe field behaviour, and

identify a course of action for correcting those.

So within that regime or -- or within that framework, if you will, I mentioned that there should be a baseline. However, with -- if we have confidence in the variability of the ore body, there is the geological variability which then relates to the mineral composition, as well as the processing of the ore body in terms of the degritting process and the type of water that is added, I think we will be in decent shape with respect to the timing of the -- of the data that is proposed to be collected.

DR. KATHY RACHER: Okay. Thank you very much, Dr. Azam. That's helpful. The next one, the Panel Recommendation Number 7, was a recommendation to monitor temperature at depth during deposition.

Diavik has not accepted this recommendation since they have -- they say they've confirmed thawed conditions during operation of the underground mines.

So my question for you is: Do you accept their reasoning for not accepting this recommendation?

DR. SHAHID AZAM (by ZOOM): Shahid Azam, with the IRP. I think this is based on

empirical understanding and experience at the site. I also checked internally with my colleagues, and I think they're also okay in terms of the phthalic conditions or underwater at least.

My experience is primarily based on uranium mining in Saskatchewan where there is frozen lenses within the containment facility, although that is not as deep as what is being proposed here, which is the A418.

So I think I'm okay. I think they confirmed, and if they have confidence, then it should be okay.

DR. KATHY RACHER: Kathy Racher, for the Board. Thank you. Okay. So let's move on to -- we've -- we've talked about Recommendation Number 9. I'm good there. So let's move on to Recommendation number 10.

And as part of your response to Recommendation 10, which was about assessing or doing additional analysis on the breach model, Diavik says they -- they have performed some additional analysis, including sensiti -- sensitivity runs on the breach model.

And, in your opinion, has this additional work satisfied your concerns?

And I believe this is for Dr. Wells. And based on your previous responses, it's possible that you have not had an opportunity to look at the additional runs and additional work that Diavik did in their October 16 submissions. So you can just let me know where you stand with this one.

DR. SCOTT WELLS (by ZOOM): This is Scott Wells, from the IRP.

I did review the October submission, and some of the work was still being worked on. I noticed that the current submission in December had some additional information in it that was not included in the October material because in the October material they were saying they still would do this or that.

So one (1) of the things that they did with the breach model was, besides cleaning up the temperatures, they also did an analysis of the flows in and out of the breach. And they tried to do a sensitivity run where they made the wind go to zero.

And I did notice that they had a -- a result in their latest document which was submitted just I guess a week or so ago, and it had the flows being basically close to zero with no wind. So that -- that was helpful to see that.

I did notice there was some tiny oscillations in there which still would be of concern. And I think it's at the point where, you know, they made a good-faith effort to look at it, and the issue about the breach flow really has to -- it's probably more important to deal with the sampling and opening of the breaches than at this point looking at the modelling.

So I don't think the breach flow itself is going to be impact the stability of the PK in the pit; that would be a different issue. It has to do with the surface concentrations and surface runoff which may be better served by doing adaptive management by looking at actual field data before the breaches are opened.

DR. KATHY RACHER: Okay. Kathy Racher, for the Board. Thank you. Thank you very much. Okay.

IRP Recommendation Number 11 was to correct minor errors and follow suggestions for turbulence, closure and wind speed in the long-term model.

And again, I will ask Dr. Wells if he had a chance to review that update and did they -- did they -- had they corrected all of those errors to your

satisfaction?

DR. SCOTT WELLS (by ZOOM): Scott Wells, from the IRP.

Again, the documents that we received said that they would do those, it wasn't part of our purview, I think, to re-review their final work on this or modelling. But basically their responses were, as I would expect them, and I was happy with them.

DR. KATHY RACHER: Okay, Kathy Racher for the Board. Thank you.

And so lastly Recommendation Number 12 asked Diavik to consider running climate change scenarios for the model and they've noted that they have done some already and concluded they've done enough to inform stage 1, but they will consider it for stage 2, and I just want to check that that response is acceptable.

DR. SCOTT WELLS (by ZOOM): Yes, that's reasonable. It's such an uncertain -- this is Scott Wells, from the IRP.

It's a very uncertain simulation to do, the climate change scenarios and the more information one has and, obviously, if you do it in stage 2 it will probably be a better estimate than in stage 1.

DR. KATHY RACHER: Okay. Kathy Racher, for the Board.

So one (1) thing I just wanted to clarify in -- it was a response to a question that EMAB asked the Environmental Monitoring Advisory Board asked earlier today.

It was a question on a reasonable worst-case scenario. I believe Dr. Tinis answered this question and I got a bit confused. It felt a little bit like you were making a new recommendation that may have been just a bit different than the conclusion that you reached in your report, which is that sufficient sensitivity analysis had been done and to -- to confirm the results of the model.

So I just wondered if you could clarify that for me.

DR. SCOTT TINIS (by ZOOM): Yes. Scott Tinis, IRP.

I apologize for the opacity of my response earlier. I was struggling in my mind with the idea of a worst worst case versus a reasonable worst case.

And my suggestion about looking stochastically at variations of input variables and parameters was mainly around assessing what the worst-

worst case, the unforseen worst case within the boundaries of your model. You know, within the boundaries of those parameters that you're actually modelling.

The concept of a reasonable worst-case I think goes back to where I believe my discussion ended, which is looking at a few of those parameters which have the largest effect on the outcome and which were identified in previous sensitivity tests.

And I -- I think what I came to was answering the question what would I do if it were me, and I kind of couched it in -- I have unlimited time and resources to do this, I might look at running a stochastic analysis by varying those few important parameters.

It was not a suggestion for either an undertaking or even a -- a future approach that Diavik might take.

The Panel's conclusion was that sufficient sensitivities were performed to identify what, essentially, amounts to a reasonable worst case. And I think that the Panel's statement on that should stand and that no further action be taken.

DR. KATHY RACHER: Okay, that's very, very helpful. Thank you very much for that

clarification. I have no further questions for the Panel.

MR. RYAN FEQUET: Masi, Dr. Racher. Any other Board staff have questions at this time?

Okay, the Board's legal counsel has no questions at this time as well.

Joe, to the Board, if there is any questions for the Panel?

THE CHAIRPERSON: Mason Mantla...?

BOARD MEMBER MASON MANTLA: Mason Mantla, Board member, I have no questions at this time.

THE CHAIRPERSON: Rachel...?

BOARD MEMBER RACHEL CRAPEAU: No question at this time, thank you.

THE CHAIRPERSON: Mike Nitsiza...?

BOARD MEMBER MIKE NITSIZA: Mike Nitsiza, Board member. No further questions, thank you.

THE CHAIRPERSON: Alex Nitsiza...?

BOARD MEMBER ALEX NITSIZA: Board member, no questions at this time. Masi.

THE CHAIRPERSON: Okay, thank you. Joe Mackenzie, no questions.

MR. RYAN FEQUET: Thank you, Members

of the Board.

So next on our agenda is the presentation from Environment and Climate Change Canada. So we'll just cue up that presentation.

And thank you very much to the Panel members for responding to those questions. We'll talk to you again tomorrow morning. And I believe there was one (1) written commitment for the Tlicho Government, just a reminder.

And we'll let you communicate through Board staff to Tlicho Government if there's any clarification that's required on making sure that's received before tomorrow morning.

So Anna, take it away.

PRESENTATION BY ECCC:

MS. ANNA GRAHAM (by ZOOM): Thank you. And thank you to the Board for this opportunity to make this presentation.

My name is Anna Graham and I am an environmental assessment coordinator with Environment and Climate Change Canada. With me on Zoom here is Meagan Tobin, our water quality analyst.

Before we get to our review of the Application, I'd like to note Environment and Climate

Change Canada's mandate, and the acts and regulations that govern that mandate.

Next slide, please. And next one as well. Thank you.

In brief, Environment and Climate Change Canada's mandate covers the preservation and enhancement of the quality of the natural environment, including water, air, soil, flora, and fauna, as well as species at risk and migratory birds.

We are also responsible for enforcement of rules and regulations and we participate in environmental project reviews such as environmental assessments and water licences. Next slide, please.

We fulfill our mandate through several acts and regulations, including the Department of the Environment Act, the Environmental Protection Act, the provisions of the Fisheries Act that relate to pollution prevention, the Migratory Birds Convention Act, and the Species at Risk Act.

The recommendations that we make regarding environmental assessments and water licence applications such as this are provided in accordance with program-related responsibilities and the guidelines and policies of environment and climate change.

I will pass this on to Meagan Tobin now to go over our specific recommendations. Thank you.

MS. MEAGAN TOBIN (by ZOOM): Hi. Meagan Tobin, with Environment and Climate Change Canada. If we can go to the next slide, please.

So Environment and Climate Change Canada comment 1, related to the recommendations from the Panel. And specifically, Environment and Climate Change Canada agreed with and reiterated the Independent Review Panel's recommendation relating to uncertainty of porewater characteristics.

As noted by the Panel, the limited data set for porewater used in the fill model may underestimate the actual variability.

And this has implications for water quality in pit A418 as porewater concentration was identified to be a key driver of water quality upon filling. Next slide, please.

(BRIEF PAUSE)

MS. MEAGAN TOBIN (by ZOOM): Oh, back one (1). Thank you. So, Environment and Climate Change Canada recommended that Diavik first provide a response to the Panel's recommendations, including

identification of which recommendations they intended to adopt.

Environment and Climate Change Canada also recommended that Diavik provide a time line for implementing the porewater sampling recommended to improve geochemical characterization and that this characterization be completed prior to deposition of PK in A418.

So, Diavik has not fully accepted this recommendation. And while they do intend to update modelling for porewater characterization, they depose to defer this until stage 2 of modelling, which will be completed after the pit is filled with processed kimberlite rather than prior to deposition. Next slide, please.

Environment and Climate Change Canada comment 2 related to the model update approach, specifically that the proposed approach does not explicitly outline or provide a mechanism for verification of decant water quality during deposition of processed kimberlite prior to filling with freshwater. Next slide, please.

Environment and Climate Change Canada recommended that monitoring data collected at SNP 164588 should be compared to the predicted porewater

quality used in the fill model.

Clearly defined action levels should be established for porewater and decant water such that if water quality is trending outside of predictions or the relevant sensitivity scenarios, that analysis of implications to pit filling and mine closure be analyzed.

If quality is sufficiently outside of the previous model inputs, additional model iterations may be required. In their response to interventions, Diavik does acknowledge that they will have internal action levels and will analyze this dating -- sorry, this data accordingly.

However, ECCC does recommend that information on these internal action levels be disclosed and that reviewers be provided with comparisons of observed decant water to the concentrations used in the fill model.

This will be used in order to identify implications to water quality if observed decant water quality is different from the model inputs. Next slide, please.

Environment and Climate Change Canada Comment 3 related to the closure criteria for re-connection of put A418 to Lac de Gras. Diavik has

proposed monitoring leading up to dike breach and in response to intervention has also elaborated on their proposed approach. Next slide, please.

Environment and Climate Change Canada recommended that Diavik develop clear criteria for assessments of stability of water quality, establishment of the chemocline in A418, and duration of sampling such that required conditions for a dike breach are well defined.

Specifically related to duration of sampling, Diavik has proposed the duration of sampling not be specified. However, Environment and Climate Change Canada would reiterate that stability over time will need to be demonstrated, including over seasonal changes. Next slide, please.

Thank you for your time and for allowing us to present our recommendations. And, at this time, Anna and I are available to take questions.

QUESTION PERIOD:

MR. RYAN FEQUET: Masi, Meagan and Anna. So, DDMI, you're up first. If you have any questions for ECCC, please proceed.

MR. SEAN SINCLAIR: Sean Sinclair, Diavik. Thank you, Meagan and Anna. And we have no

questions.

MR. RYAN FEQUET: Thank you, Sean. GNWT, Rick and Bill and Barry, if you have any questions for ECCC, please proceed.

MR. RICK WALBOURNE (by ZOOM): Thanks, Ryan. Rick Walbourne, GNWT. I'm going to pass this over to Bill Pain, who has a question for Environment Canada.

MR. BILL PAIN (by ZOOM): Yes. Thanks. Bill Pain. And I'll you know, Barry Zajdlik will have a question following my question. Mine's just a quick one.

Based on your Recommendation 2 on -- I don't know what slide it was, but Recommendation Number 2, it's pretty simple, but do you feel that the IRP review is necessary for additional model iterations if you feel water quality is outside previous model inputs or scenarios?

MS. MEAGAN TOBIN (by ZOOM): Meagan Tobin, with Environment and Climate Change Canada.

So, I'm not a modeller, so I don't know the implications of updating the values to the fill model in terms of how much work that entails and how much -- if that would warrant a full review by the IRP.

But I do think that, I guess, any future model updates should be presented in general to reviewers to provide more certainty that the conclusions of the model, that the top 40 metres remains under benchmarks are maintained.

MR. BILL PAIN (by phone): Excellent. Sorry. Thank you. I'll pass it over to Barry Zajdlik to ask a question.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

Meagan, does Environment Canada think that porewater action levels that trigger additional analyses should be part of a water licence condition?

MS. MEAGAN TOBIN (by ZOOM): Meagan Tobin, with Environment and Climate Change Canada.

So, I would leave that up to the Board as to whether it should be a condition. However, we would like to see transparency in action levels and how that monitoring data feeds into action levels.

As discussed by the Panel earlier today, that adaptive management and how the monitoring data will inform future mitigations is an important aspect.

(BRIEF PAUSE)

MR. RYAN FEQUET: GNWT, any further questions?

MR. BILL PAIN (by ZOOM): I don't see any from Barry, so, no, that's it. Thank you very much.

MR. RYAN FEQUET: Thank you. Environmental Monitoring Advisory Board, John, Do you have any questions for ECCC at this time?

MR. JOHN MCCULLUM (by ZOOM): Thanks, Ryan. No questions on the Environment Canada presentation.

MR. RYAN FEQUET: Thank you, John. Next is the Tlicho Government. If you have any questions for Environment and Climate Change Canada, please proceed.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government. I have a question about the -- your recommendation for action levels.

(BRIEF PAUSE)

MR. BRETT WHELER: Do you have any suggestions on how action levels could be implemented during deposition? And do you have any comments on what Diavik said earlier during this Hearing, that the

main controls in terms of adaptive management are on the volume of PK water that would be left at the time of filling? Masi.

MS. MEAGAN TOBIN (by ZOOM): Thank you. Meagan Tobin, with Environment and Climate Change Canada. So for your first part in relation to action levels, I think that how we would foresee it is Diavik has information on what was input to the current model.

And those -- that boundary of values could be used in the form of an action level such that, if observed decant water quality is trending outside of what was input into the model, that that would warrant taking a closer look at whether the assumptions in the model and the -- the outcomes would still be valid.

In terms of the comment on volume, based on the discussions that have occurred over the past two (2) days, it seems like quantifying the volume during deposition may be difficult. And in that case, the component of the load that we can monitor easily would be the concentration and the chemistry of that decant water.

So although we may not be able to well monitor both aspects, the volume and the

concentration, Environment and Climate Change Canada would believe that the concentration still does provide valuable information.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government. No further questions.

MR. RYAN FEQUET: Masi, Tlicho Government. Deninu Kue First Nation, DKFN, any questions for Environment and Climate Change Canada at this time?

MR. MARC D'ENTREMONT (by ZOOM): Thank you. It's Marc D'Entremont, for DKFN. Thanks to ECCC for its presentation, and we have no questions.

MR. RYAN FEQUET: Thanks, Marc.

North Slave Metis Alliance, Adelaide, do you have any questions at this time for Environment and Climate Change Canada?

MS. ADELAIDE MUFANDAEDZA (by phone): Adelaide Mufandaedza, for the North Slave Metis Alliance. Thank you. We have no questions for ECCC.

MR. RYAN FEQUET: Thanks, Adelaide.

Yellowknife Dene First Nation, Sarah and Ryan, any questions for ECCC -- CCC -- CCC?

MS. SARAH GILLIS (by ZOOM): Thank you, Ryan. Sarah Gillis, YKDFN. Thank you to

Environment and Climate Change Canada for your presentation. We have no questions at this time.

MR. RYAN FEQUET: Thank you, Sarah. From any -- this is the opportunity for any members of the public to ask any questions of Environment and Climate Change Canada. We haven't received any through the live Facebook feed, and I don't see anyone waiting in the room, so I'm just going to check on the phone if there's any questions for Environment and Climate Change Canada.

I know Shawn Mckay from the Fort Resolution Metis Government is in transit at the moment, and I believe Katy was online. Just checking if you guys had questions at this time.

(BRIEF PAUSE)

MR. RYAN FEQUET: Okay. We'll come back if someone jumps in, but we'll move -- we'll keep moving.

Board staff, if you have any questions for ECCC, please proceed.

DR. KATHY RACHER: Kathy Racher, for the Board. Thanks for your presentation.

So in Recommendation Number 1 in

section 3.1 of your intervention, you recommend that:

> "Initial improvements in geochemical porewater characterization be completed prior to deposition of PK."

And in Diavik's responses to those recommendations, they've said they don't believe the information is needed prior to deposition, but will collect information during deposition. And I just -- and -- and then they will update the model prior to filling the pit with water.

And I just wanted to know if that proposal was accept -- acceptable in your opinion, given your recommendation.

MS. MEAGAN TOBIN (by ZOOM): Meagan Tobin, Environment and Climate Change Canada.

So we do accept that the proposal to use observed data is -- rather than the lab scale test is a reasonable approach provided that contingency plans for treatment and disposable -- disposal are also feasible.

I think, ideally, it would be beneficial to have this information in advance of disposal, but, yeah, I guess we would also defer to the response from the IRP and how they responded to

IRP-9 and support that response as well.

DR. KATHY RACHER: Okay. Thanks very much, Meagan. And just one (1) last question because everybody wants to question you about your action levels recommendation.

It just -- it wasn't clear to me in your intervention -- or actually in your responses, it's not crystal clear that you are talking about reporting against action levels during deposition as opposed to when deposition is finished, which is I believe what Diavik is thinking.

Can you comment on that, please?

MS. MEAGAN TOBIN (by ZOOM): Thanks, Kathy. Meagan Tobin, with Environment and Climate Change Canada.

Yes, I can definitely clarify that we were intending that, during deposition of processed kimberlite, the data collected at SNP 164588 be continually fed into an action level and adaptive management-type system.

DR. KATHY RACHER: Okay. Thanks, Meagan. I have no further questions.

MR. RYAN FEQUET: Thank you. There are no questions from the Board's legal counsel at this time, so I'll just look to the Board. So, Joe,

if you have any questions for Environment and Climate Change Canada at this time for Meagan or Anna.

THE CHAIRPERSON: Any questions from the Board? Mason...?

BOARD MEMBER MASON MANTLA: Mason Mantla, Board member. No questions.

THE CHAIRPERSON: Okay.

BOARD MEMBER RACHEL CRAPEAU: Rachel Crapeau, from the Board. No questions. Thank you.

(BRIEF PAUSE)

BOARD MEMBER MIKE NITSIZA: Mike Nitsiza, Wek'eezhii Land and Water Board. (INDIGENOUS LANGUAGE SPOKEN). Masi.

BOARD MEMBER ALEX NITSIZA: Board member Alex Nitsiza. No question at this time. Masi.

THE CHAIRPERSON: Joe Mackenzie, Board chair. No question.

MR. RYAN FEQUET: Thank you to the members of the Board. Obviously I've been watching too much "Frozen". Sorry, Anna. I said Anna. Gees. Too much "Frozen".

So it's 11:45. We're at a predicament. The GNWT is up next to present. They believe it will

be between twenty (20) and thirty (30) minutes for their presentation.

I'm going to suggest we hear their presentation before lunch -- I'm just looking around the room -- so that people can absorb that. And we can come back and we can always add an extra ten (10) or fifteen (15) minutes on at the end of lunch if we need to, just so we can make the best use of our time.

I know people's food isn't quite ready yet also, so with everyone's indulgence, I would like to ask the GNWT to proceed with their presentation. I'm just looking around the room again and looking at the chat in case there's any objections, but I think that would be a great use of our time.

Okay. GNWT, it's all yours.

PRESENTATION BY GNWT:

MR. RICK WALBOURNE (by ZOOM):

Thanks, Ryan. Yeah, I'm thinking it'll be about twenty (20) minutes, so we'll see how it goes.

Good morning, Mr. Chair. My name is Rick Walbourne. I'm the manager of the Water Regulatory Section in the Water Management and Monitoring Division with the Department of ENR with the Government of the Northwest Territories.

I'd like to thank you for the opportunity to present ENR's recommendations related to Diavik's Type A water licence application to allow for a deposition of processed kimberlite, or PK, into mine workings.

I'm joined here in the ENR boardroom by Mr. Nathan Richea, who is the Director of the Water Management Monitoring Division, and Mr. Bill Pain, also from the Waters Division.

Joining us on the phone, we also have Dr. Barry Zajdlik of Zajdlik & Associates. Also on the phone we have, from GNWT Department of Justice, we have our legal counsel, Mr. Rohan Brown. As well as a couple of representatives from the Department of Industry Tourism and Investment, Dianna Beck, Senior Socioeconomic Specialist, and Dinah Elliott, Senior Policy Analyst.

I'd also like to note, we have Mr. Tom Bradbury on the line, who is the inspector for the Diavik mine site.

Next slide, please. In our presentation today, we will briefly outline ENR's concerns and recommendations to the Board. As identified on this slide, the topics we will be covering include: consolidation model inputs, review

of the IRP final report, time lines and contingency planning, and, finally, administrative water licence condition changes. Next slide, please.

Mr. Chair, as part of this amendment process, a Board-appointed Independent Review Panel, or IRP, was required to review the updated water quality monitoring performed by Diavik.

A key area of concern by ENR on the IRP's final report are found in their recommendations regarding the consolidation model. ENR and its retained consultant assessed the consolidation model inputs as part of the submission, as they are important to correctly establish this model and appropriately link other subsequent models to predict conditions over time.

As detailed in our intervention, ENR is uncertain if the samples of PK collected by Diavik to support the modelling work were truly representative or appropriate. This is related to the characteristics of the samples collected. Next slide, please.

Mr. Chair, this review of the model inputs led to a series of questions posed to the IRP, through Board staff, by ENR via email on November 9th, 2020. Responses were received by ENR on November

23rd. However, there was insufficient time to include the responses or update our recommendations within the intervention at that time.

As you are aware, ENR has received further clarification of these responses from the -- from the IRP this morning in follow-up to their presentation yesterday. We greatly appreciate the effort and response from the Panel. Next slide, please.

Mr. Chair, ENR's first recommendation was a request that Wek'eezhii Land and Water Board provide clarity on how the current process will allow the IRP responses to be incorporated into the recommendations of parties following the Hearing.

As noted by Board staff during the opening comments yesterday, opportunities were provided to allow Interveners to ask additional questions of the IRP this morning.

ENR will consider the responses provided by the Panel and will provide any updates to our recommendations during the closing argument, as required. Next slide, please.

We will now move on to -- to a discussion of our assessment of the pit filling model reviewed by the IRP.

In the Panel's final report, it is noted that the geochemical testing that generated the porewater source terms for the fill model is based on a single sample that was measured several different times in 2019.

This reliance on a single sample led to the Panel's recommendation that there be subsequent anaerobic test monitoring of randomly selected porewater samples between now and PK deposition to ensure that the model inputs have not varied substantially prior to pit filling.

This recommendation is strongly endorsed by ENR as outlined in the following recommendation. Next slide, please.

Mr. Chair, ENR's second recommendation is as follows. ENR recommends that DDMI accept the IRP's recommendation that there be subsequent anaerobic test monitoring of randomly selected porewater samples between now and PK deposition to ensure that the model inputs have not varied substantially prior to pit filling. Next slide, please.

The next series of recommendations by ENR are related to the IRP's review of the long-term A418 pit hydrodynamic and water quality model. Key

findings by Dr. Scott Wells of the Panel pertained to uncertainty in modelling results, specifically the assumptions made in the breach model.

This led the Panel to recommend that Diavik re-assess the compatibility to the breach model due to the impacts to the surface runoff dilution.

As noted in our intervention, this recommendation by the Panel may, in retrospect, be -- be more important than previously thought due to the possible proximity of aluminum, cadmium, manganese, and copper concentrations to AEMP benchmarks and the unknown degree of precision in model predictions.

Another analog of potential interest in the pit lake is mercury, due to its potential for biomagnification. Mercury in the A418 pit lakes has not been modelled and was not measured in PK porewater from the samples submitted to the University of Alberta by Diavik.

Diavik has noted that they believe that the mine is not a source of mercury input to Lac de Gras, as mercury is not a constituent in mine affluent discharged to the lake.

However, ENR notes that, in 2019, mercury was detected in snow, the PKC pond, non-discharged SNP locations including collection ponds,

and in affluent discharge to Lac de Gras.

Also, mercury was still detectable in dilute affluent at the edge of the mixing zone in Lac de Gras, but not at any more distant AEMP sampling stations.

Given that mercury biomagnifies and that biomagnification can be exacerbated by eutrophication, which is occurring at least in the Diavik -- Diavik near filled area, ENR has included recommendations on this topic. Next slide, please.

Mr. Chair, ENR makes the following set of recommendations on this topic.

ENR recommends that DDMI closely monitor and report on copper, manganese, cadmium, and aluminum concentrations during filling of the pit -- of the pits to better inform future modelling updates and to better assess impacts to Lac de Gras from the pit lakes.

Mr. Chair, ENR understands that DDMI has agreed to this recommendation in their responses to interventions.

Continuing with ENR's recommendations, ENR recommends that DDMI estimate the total mercury loads to Lac de Gras from the pit lakes.

And ENR recommends that DDMI estimate

the total mercury loads to Lac de Gras by SNP sample and provide a timed series of loads for the past ten (10) years of operation. This could be compared to estimates of mercury loads to Lac de Gras from receiving watersheds to assess the relative contribution of DDMI's operations mercury loads to Lac de Gras and estimates of mercury loads to Lac de Gras from the pit lakes to assess the contribution relative to historical loadings from operations. Next slide, please.

Mr. Chair, ENR will now discuss our recommendations regarding the time lines and contingency planning of the project.

The IRP has made various recommendations regarding items that should be completed prior to deposition of PK to the mine workings that will lead to updated model input parameters and updated model productions. It is unclear to ENR whether there is adequate time to complete the recommendations of the Panel before Diavik plans to deposit PK to the mine workings.

Based on Diavik's response to interventions, ENR now better understands the time line for the project, including the clarification that a dam raise decision must be finalized by Diavik by

late 2020, rather than late '21 -- 2021.

ENR also understands that Diavik has made the commitment last month for the procurement of pipeline material. Next slide, please.

However, Mr. Chair, ENR is still of the opinion that the completion date for the collection of sufficient and relevant model input data to achieve statistical design criteria should be such that sufficient time is available for public review of collected data, updated modelling, review of updated modelling by the Panel, review of Panel conclusions and recommendations by interested parties, as well as time for the Panel to respond to comments and questions from interested parties.

This review of information should occur prior to the deposition of PK and any mine workings consistent with the Review Board's measure 3A. Next slide, please.

As such, ENR has the following two (2) recommendations on this topic.

Within their response to interventions ENR recommended that DDMI provide timelines related to responses to the IRP recommendations. Specifically, timelines should include when the compressibility testing and assessment of consistency limits, liquid

limit and plastic limit, will be completed and when porewater characterization will be completed.

As well, ENR recommends that DDMI and the Board commit to a completion date for the collection of sufficient and relevant model input data to achieve statistical design criteria. This date should allow sufficient time for public review of collected data, updated modelling, review of updated modelling by the Panel, review of Panel conclusions and recommendations by interested parties, and time for the Panel to respond to comments and questions from interested parties.

This date should be no later than the latter part of 2021. Next slide, please.

Mr. Chair, ENR will now discuss our recommendations regarding administrative water licence conditions changes, the first one being related to a Surveillance Network Program or SNP.

Diavik is proposing one (1) season of two (2) monthly bio profiles and quarterly sampling of several analytes of the pit lakes to demonstrate a stable chemocline prior to dike breaching.

The proposed sampling plan by DDMI should be modified to collect three (3) instead of two (2) samples within the top 40 metres as -- as that is

the depth for which current A&P benchmarks must be met.

Two (2) samples over a depth of 40 metres may not capture concentration effects associated with the thermocline in the pit lake. Next slide, please.

As such our recommendation is as follows. ENR recommends that DDMI amend the monthly bio profiles pit lake sampling program so that three (3) samples are collected instead of two (2).

It is recommended that one (1) sampling event occur immediately after the spring freshet, and the second occur immediately after spring turnover. Next slide, please.

Mr. Chair, we would now like to move on to our next topic regarding changes to water licence conditions.

ENR notes that the current conditions for assessing and approving when the dikes may be breached after PK has been deposited to the pits and back flooded are insufficient. Clear criteria are required so that the Board and inspector can make an informed decision on when to breach the dike after the required monitoring period has elapsed.

These criteria would be used to design

a pit lake sampling program that would be captured in appropriate water licence conditions.

ENR notes that DDMI has provided some of this information in their response to interventions, however, ENR needs to consider these responses in further detail, and we will provide clarification on our position in our closing arguments. Next slide, please.

Mr. Chair, our recommendation is as follows: In their response to interventions ENR recommended that DDMI provide clear criteria for assessing and approving when the dikes may be breached after PK has been deposited to the pits and back flooded. Next slide, please.

Mr. Chair, ENR noted that some of the information requests, attachments by DDMI were marked as draft.

ENR has reviewed Diavik's response and understands that while some were marked as draft, these are to be considered final by the Board. If this is correct, ENR respectfully removes its Recommendation Number 10 on this topic as it can be considered resolved. We can confirm this in our closing arguments as well. Next slide, please.

Mr. Chair, our final topic is about

cultural water quality criteria. ENR noted that updated water quality modelling must demonstrate that both ecological, that is AEMP benchmarks, and cultural water quality criteria are met prior to the deposition of PK in mine workings.

The requirement to demonstrate that both ecological and cultural water quality criteria will be met before depositing PK into mine workings as required by measure 3A has the same line -- has the same timeline as measure 2 which states that cultural use criteria will be approved before Diavik puts processed kimberlite into the pits and underground. Next slide, please.

Mr. Chair, our final recommendation is the following: In their response to interventions ENR had recommended that DDMI provide an update on the progress of the development of the cultural water quality objectives and how these water quality objectives will be incorporated into water licence plans and submissions.

ENR does note that DDMI has addressed the recommendation partly in their responses to interventions on the progress of the objectives, however, ENR is still uncertain how these water quality objectives will be incorporated into water

licence plans and submissions. Next slide, please.

That concludes our presentation, and ENR will be happy to take questions I assume after lunch. Thank you.

MR. RYAN FEQUET: Well, you guys are welcome to hang out in your boardroom, but we're going to take lunch. Thank you very much, ENR.

As we agreed let's -- let's recess and everyone will reconvene, try to start right up at 1:15. So if everyone could try to be back a couple minutes before that, that would be great, and it'll be the opportunity in the agenda to ask questions of the GNWT. Thank you, everyone. Masi.

--- Upon recessing at 12:03 p.m.

--- Upon resuming at 1:20 p.m.

THE CHAIRPERSON: Okay, we'll start -- resume.

MR. RYAN FEQUET: Thanks, Joe. Okay, guys, we're just coming back. I'm just making sure the -- the GNWT, Rick and Bill and Nathen, you guys are back with us?

MR. RICK WALBOURNE (by ZOOM): Yeah. Hi. It's Rick here. We're here. I'm just trying go

get us up. We should be on there, Ryan. Yeah.

QUESTION PERIOD:

MR. RYAN FEQUET: Thanks, guys. Okay. I hope everybody had a good lunch. So, this is the opportunity on the agenda for parties to ask questions of the GNWT.

First off, we have DDMI. So, Sean and Gord, please take it away. And, again, if you -- if anybody needs to reference a certain slide, just let us know, and we'll -- we'll adjust it accordingly.

MR. SEAN SINCLAIR: Sean Sinclair, Diavik. Thank you, GNWT. We have no questions at this time.

MR. RYAN FEQUET: Thank you, Sean. Environment and Climate Change Canada, do you have any questions for GNWT at this time?

MS. ANNA GRAHAM (by ZOOM): Anna Graham, Environment and Climate Change. We have no questions. Thank you.

MR. RYAN FEQUET: Thank you. Environmental Monitoring Advisory Board. Mr. McCullum, do you have any questions for the GNWT at this time?

MR. JOHN MCCULLUM (by ZOOM):

Charlie...?

MR. CHARLIE CATHOLIQUE (by ZOOM): Hi. Good afternoon. It's Charlie Catholique here in Yellowknife here, EMAB boardroom. Thank you, Mr. Chair. I'd like to ask a question to ENR.

MR. RYAN FEQUET: Yes. Go ahead.

MR. CHARLIE CATHOLIQUE (by ZOOM): Okay. It's about that mercury in the fish. I wonder if that's going to be a continuation on that mercury at the mine site.

And, also, when's the last time they did that -- that fish tasting? We usually have yearly, but I think there's a big gap in-between now, hey. Like, I don't know how often they do that now.

MR. RYAN FEQUET: Thanks, Charlie. We'll give Diavik an opportunity to respond to that -- or GNWT, sorry.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Yeah, I was hoping you were going to give that to Diavik, Ryan.

So, I guess just to take a step back a little. Rick Walbourne, ENR. So, the comments that were made in our presentation were I think more of a water quality in that mercury has been detected in -- in different water monitoring, so we weren't specific

to speaking to fish tissue.

Regarding mercury and fish tissue, so that would be -- fish tissue would be a component of the Aquatic Effects Monitoring Program through reaction levels within the AMP if certain levels of mercury were observed in the fish tissue that would trigger different adaptive management.

I don't know offhand of -- I don't have the mercury and tissue results in front of me. Diavik may have more information on the specific monitoring results of their AEMP.

And, similarly, regarding the fish tasting at Diavik, GNWT wouldn't be directly involved with that, so I'm not sure if the Land and Water Board or Diavik can provide any information on the -- the past fish tasting or when the next one might be scheduled, but ENR aren't directly involved with fish monitoring -- or fish tasting programs at the mine site. Thanks.

MR. CHARLIE CATHOLIQUE (by ZOOM): Okay.

(BRIEF PAUSE)

MR. RYAN FEQUET: Gord or Sean, did

you want to take a first crack at that, about the fish tasting?

(BRIEF PAUSE)

MR. GORD MACDONALD (by phone): Gord MacDonald, with Diavik. Sorry, Ryan, I wasn't aware that questions were coming to us at this point. And we're -- we're happy to engage with EMAB. We meet with them regularly. We can provide that information to them. I don't have it at hand.

MR. RYAN FEQUET: Yeah, no worries. Charlie just asked the question. And we don't have it off the top of our cuff, so I just thought you might. We're happy to get back to you on that, about the fish tasting, Charlie.

MR. GORD MACDONALD (by ZOOM): Sean -- Sean might know though when the next -- when the next AEMP camp is. Do you know, Sean?

MR. SEAN SINCLAIR: Yeah. Sean Sinclair, Diavik. So -- so, the last AEMP camp where they did the fish tasting was 2018, and it's planned again this coming summer, 2021.

MR. GORD MACDONALD (by ZOOM): Thanks.

MR. CHARLIE CATHOLIQUE (by ZOOM): Mr. Chair, thank you very much. And thanks, Gord.

MR. JOHN MCCULLUM (by ZOOM): No further questions from EMAB. John McCullum.

MR. RYAN FEQUET: Thanks, John. Thanks, Charlie. Next up is the Tlicho Government. If you have any questions for GNWT, please proceed.

MR. BRETT WHELER: Masi. Brett Wheler, for the Tlicho Government.

The first question is about ENR's Recommendation Number 1. What are the forthcoming IRP responses about? Can you give us a sense of the implications of these questions and responses and are the questions on the public record? Masi.

(BRIEF PAUSE)

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, ENR. Thanks, Brett. So, as we -- as I mentioned this morning, so we had -- we had put some questions to the IRP a while back, and some responses were provided.

So, most of what we were speaking to in the recommendation were the -- were the topics that we discussed and -- and cross-examined the Independent

Review Panel on this morning, so those were the topics.

But I'll -- I'll pass it over to Barry if -- if he has anything more to add on any information he was expecting from the IRP.

Barry, do you have anything to add to that or in response to Brett?

DR. BARRY ZAJDLIK (by ZOOM): I'm not sure whether the response that the IRP presented to GNWT was made public. Do -- do you know the answer to that?

(BRIEF PAUSE)

MR. RICK WALBOURNE (by ZOOM): Thanks, Barry. No, we -- we're not sure on -- we're not sure on that, so -- and to Brett's answer, we're not sure if the information has -- has been made public.

DR. BARRY ZAJDLIK (by ZOOM): So, if 21 -- if it's appropriate, I could go through the questions and the responses very briefly or, in the -- in the interest of time, we could perhaps send that along. I'm not sure. I'm looking to the Board for direction on that.

MR. RYAN FEQUET: Sure. Ryan -- Ryan here. Any written questions and the responses from the Panel that were received in advance are or will be very shortly placed on the public registry, so they will be part of the record for this proceeding.

That whole process, again, just to reiterate, was to help give the Panel a heads up on what kind of questions they might be receiving and help them prepare and, also, in case it informed interventions or any lines of questioning that might have happened during the Hearing.

So, to your answer from the Tlicho Government question, they -- they will be -- all of that will be on the record.

MR. BRETT WHELER: Okay. Masi for that. Brett Wheler, Tlicho Government.

During your presentation you mentioned the status of a few of your recommendations that Diavik had accepted. Masi for those updates.

Now that Diavik has responded to your recommendations and the Independent Review Panel recommendations, do you have any major outstanding concerns with Diavik's responses? Masi.

MR. RICK WALBOURNE (by ZOOM): Thanks, Brett. Rick Walbourne, GNWT. I'll provide a

first response. And then I'll see if Barry has anything specifically on -- on technical -- on the technical side.

So, we do appreciate the responses that were received from Diavik as well as the Independent Review Panel; that did provide us some additional information to help us make an assessment.

I guess, overall, one (1) of the, if any, major concerns we still have are I think a perceived lack of contingency. So, a question that we put to Diavik yesterday was contingency planning around PK deposition in and of itself if it couldn't go into the pit.

It sounded from their responses yesterday that there wasn't really any contingency right now on managing that PK if this Application was not approved.

So what we're looking at next then is potentially depositing PK into the pit without the certainty we would probably like to see with the modelling results which were -- as you could see from our intervention and from some of the questions from -- from Barry where we were going with that to try to get some additional certainty.

So I think our major concern at this

point is it's not clear to us -- should the PK be deposited into the mine workings and future modelling, Stage 2 modelling, illustrate that the water quality is not going to reach the benchmarks that we'd like to see, the AEMP benchmarks or potentially the cultural criteria which are yet to be developed.

It's not clear to us what options exist for managing that PK in the pit should that future modelling show us that the results are not favourable.

Barry, did you have anything to add to that from a technical standpoint or from the modelling?

DR. BARRY ZAJDLIK (by ZOOM): Yeah. Well, there's one (1) recommendation that Diavik did not adopt, and that's the recommendation to put out -- put out a break -- breakdown of mercury contributions to Lac de Gras from the pit lake versus from operations and contextualize all that in terms of what is actually loaded to Lac de Gras through the different watersheds.

The hope is that we can lay this to rest very easily and say that mercury is not an issue, and all that would require is measurement of mercury in porewater and then doing those calculations.

It's a fairly straightforward exercise

at least to estimate the loads 'cause that comes right out of the SNP data, so -- and we know the volume, so it's straightforward and -- and easy to dismiss. And hopefully it can be dismissed very easily.

Another question or outstanding issue is -- is disagreement on what comprises an adequate or satisfactory Phase 1 model. Obviously, Diavik is -- is asserting that the model is sufficient to provide evidence that deposition of PK should be allowed.

We still have concerns, and the concerns are those that were in part of my line of questioning with the IRP. And in fact the IRP themselves recommended that additional monitoring occur prior to deposition.

We agree with that. We still agree with that. I can go through some technical reasons for that or I can just let it rest for now.

MR. BRETT WHELER: Masi for that. It's Brett Wheler, Tlicho Government. That's -- that's good for our purposes for now. Thank you, Barry. And thank you. You also answered my question about mercury.

(BRIEF PAUSE)

MR. BRETT WHELER: Next question is: How much of an issue do you think the uncertainty in porewater quality is? And in particular, how much do you think that uncertainty can be mitigated by Diavik?

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Thanks for that, Brett. Yeah, I think -- first of all, we think that it's something that, you know, could have been or should have been a future considered by the Panel, but we'll -- we'll take a stab at it.

That's one (1) of the reasons I think we're looking for additional modelling and additional certainty in the modelling. Right now, the degree of certainty is unknown, so it's difficult to quantify what the uncertainty is or how much that would be impacted by the removal of water.

One (1) thing we would add is to my earlier comment regarding outstanding concerns, and one (1) of those were obviously lack of contingency or options that could be used should the modelling appear unfavourable.

So, in our opinion, the -- the process you described there, Brett, by removing that water prior to backfilling, I think those are some of the options we'd like to see explored through additional

contingency planning. So maybe the removal of that decant water would be something that could fall into that category of additional contingencies.

(BRIEF PAUSE)

MR. BRETT WHELER: Masi for that. Brett Wheler, Tlicho Government.

A different type of question: Regarding Measure 6 of the Environmental Assessment which requires GNWT to support Indigenous governments to develop community-specific cultural well-being indicators to monitor and evaluate cultural well-being, can you report on efforts to implement this measure? Masi.

MR. RICK WALBOURNE (by phone): Thanks, Brett. Rick Walbourne, from GNWT. I'll pass that over. I believe there are some representatives on the line from Department of ITI who can provide you a response to that question.

MS. DIANNA BECK (by ZOOM): Dianna Beck, ITI. So Measure 6 will be implemented in three (3) main stages.

The project is currently in the planning phase where we're working -- where the

working group will draft the necessary documents to hire an independent consultant and to reach out to Indigenous Interveners to create a technical advisory panel that will review the engagement plan produced by the independent contractor.

The second phase will be comprised of the work of the independent contractor collecting data, engaging with the communities, and formulating recommendations.

And then the final phase will be drafting up a final report of recommendations.

So invitations to participate in that technical advisory panel will be going out early in the new year. Thank you.

(BRIEF PAUSE)

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government. No further questions.

MR. RYAN FEQUET: Thank you, Brett. Masi to the Tlicho Government.

Just to respond before we move on, to answer the question from the Tlicho Government, on November 25th, the interventions were circulated, and along with that was a hyperlink to the Wek'eezhii Land

and Water Board's public registry on which you can find the written questions from both ENR and EMAB and responses from the Independent Review Panel. The document is called "Diavik Water Licence Amendment PK to Mine Workings, Panel Responses to Questions, November 23rd_20."

So Board staff are happy to help anybody find that if they're looking for that, but it was sent out on November 25th.

So now we'll move on to the Deninu Kue First Nation, DKFN, Marc, if you have any questions for GNWT at this time.

MR. MARC D'ENTREMONT (by ZOOM):

Thank you. Marc D'Entremont here, for the DKFN. I do have a couple of questions.

So again, in reference to the information you presented on total mercury, can you comment on mercury methylation in the project area, and whether this is an item that land users should be concerned about and subsequently addressed in the water licence amendment?

(BRIEF PAUSE)

MR. RICK WALBOURNE (by ZOOM):

Thanks, Marc, for your question. Rick Walbourne, GNWT. So, yeah, I think I'll kind of refer back to our previous response.

So the mercury we did reference in our intervention was regarding various SNP stations including surface runoff. I think it's our understanding that some of the methodlization (sic) would be covered off currently in the AEMP. So if that is occurring and we'll potentially see it in the -- start to move up the aquatic environment, hopefully that will be picked up in the -- in the AEMP.

Barry, did you have anything to -- to add to that, regarding that question?

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, no, not at this time, thank you.

MR. MARC D'ENTREMONT (by ZOOM): Marc D'Entremont from DKFN. Okay, great. Thank you for that response.

I did have another question, but it was around Measure 6, and Brett asked the exact same question that I was going to ask, so thank you Brett for that and thanks to the GNWT for that response as well. So we have no further questions.

MR. RYAN FEQUET: Thank you, Marc, and I suspect Brett stole that question from everybody's

list.

Okay, moving on, the North Slave Metis Alliance, Adelaide?

MS. ADELAIDE MUFANDAEDZA (by ZOOM): Good afternoon. My question again was on Recommendation 6 and that has been answered. So no further questions. Thank you.

MR. RYAN FEQUET: Thank you, Adelaide. The Yellowknife Dene First Nation? Sarah...?

MS. SARAH GILLIS (by ZOOM): Thank you, Ryan. Sarah Gillis, Yellowknife Dene First Nation. Thank you, GNWT for your presentation. No questions at this time.

MR. RYAN FEQUET: Thank you, Sarah. The Fort Resolution Metis Government is here in the room and online with us. So I just want to check with them if there is any questions for GNWT at this time?

MS. KATY DIMMER (by phone): Hi, this is Katy Dimmer, with Fort Resolution Metis Government. We do have a couple of questions.

MR. RYAN FEQUET: Sure, and if Pido could just make sure that mic is on, that wireless mic too, guys. Yes, go ahead, Katy.

MS. KATY DIMMER (by phone): Thank you.

Just as a follow-up in their response to the timelines and updates on Measure 6, thank you for that.

I just wanted to confirm that there will be capacity provided for First Nation groups like Fort Resolution Metis Government to participate?

MR. RICK WALBOURNE (by ZOOM): Thanks for that question. Rick Walbourne, ENR. I'll pass it over to representatives from ITI.

MS. DIANNA BECK (by ZOOM): Dianna Beck, ITI. Yes, there will be, once we send out that request for participation early in the new year, the Indigenous Interveners that respond back willing to participate, we will be entering into contribution agreements for that capacity. Thank you.

MS. KATY DIMMER (by phone): Thank you for that. Also related to this I know in your presentation you had spoken to your recommendation that it be finalized for water -- cultural water quality objectives prior to deposition.

I was just wondering if you could speak to how that information that Diavik is collecting will connect with your work on monitoring project-specific and cumulative effects to cultural use, and if anything from your project needs to be in place

related to those objectives before deposition.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, ENR. Thanks for that. We'll pass this over to ITI again, regarding Measure 6.

MS. DIANNA BECK (by ZOOM): Sorry, can I get you to repeat the question?

MS. KATY DIMMER (by phone): Sure. I was wondering if you could provide a description of the timelines for your project and -- as well as how you expect the findings of Diavik taking the lead on the identification of cultural water quality objectives and how those findings will feed into developing the -- the follow-up program for measuring potential impacts to cultural use.

MS. DIANNA BECK (by ZOOM): Okay, for the timeline we have already begun the process to fulfill the requirement.

The timing of the activities is expected to reach completion about mid-July. So we'll work with the Indigenous Interveners to ensure that the timeline is reasonable and our commitment would be to report progress by June 5th, 2021.

MS. KATY DIMMER (by phone): Thank you for that. Just in the follow-up, is there any expectation that any preliminary results from your

work will have connections to the finalization of Diavik's cultural water quality objectives, and are you working with Diavik to find synergies and align those timelines?

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, ENR. I'll just -- yes, ITI can go ahead and answer on that follow up.

(BRIEF PAUSE)

MS. DIANNA BECK (by ZOOM): Sorry, I'm having trouble getting my mute button to unmute.

So what we -- the plan is to be able to work with Indigenous Interveners and collaborate with Diavik along throughout the process, where appropriate and on the -- the final report or recommendations.

But that will be done in collaboration with the Indigenous Interveners to ensure that that's done in an appropriate time and place throughout the process.

MS. KATY DIMMER (by phone): Okay, thank you. No further questions, Mr. Chair.

MR. RYAN FEQUET: Thank you, Katy. Sean, I know the -- we got the mic working for you there, just checking in, did you have any questions at

this time?

MR. SEAN SINCLAIR: Nothing further at this time.

MR. RYAN FEQUET: Thank you, Sean. Any other questions from the members of the public?

While we're just double-checking on that, maybe we'll proceed. Any questions from Board staff or GNWT?

DR. KATHY RACHER: Hi there, it's Kathy Racher, for the Board. I have some questions for the GNWT.

For your Recommendations 3 and 4, which relate to estimating mercury loads, in your response to a question earlier, I believe Barry mentioned the need to have a sample of porewater for the concentration of mercury.

And I just wondered if you had considered appendix 5 to Diavik's response to interventions where they -- they gave a -- I believe it was ten (10) years of data on the concentrations of mercury measured in PKC pondwater samples and whether that has an influence.

All of those concentrations, most of them were below detection. If you could just comment on that.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Thanks for your question, Kathy, I'll pass that over to -- to Barry to provide a response. Barry?

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

Yes, we did look at those data. Those data pertain to dissolved mercury, not total mercury. So the total mercury concentrations will be higher.

We did request total mercury data from Diavik and they did provide that to GNWT. And when I looked at that, the concentrations were definitely higher and I think some of them were approaching the normal range for the -- that was set for Lac de Gras.

The other thing to think about when looking at PKC porewater -- or pondwater, rather, is that we don't know what the contribution is from the kimberlite versus site run-off versus aerial deposition. And so it -- it's a bit of a mixed bag when we look at those numbers, right? The bottom line is that it's there and its detectible.

DR. KATHY RACHER: Kathy Racher, for the Board.

So in terms of -- of this -- of your recommendations to estimate total mercury loads to Lac

de Gras, including from the pit lakes, are you suggesting those be done before -- prior to deposition of PK?

Or is that something more applicable to stage 2 modelling, when we will have actual concentrations of porewater -- concentration of constituents in porewater before the -- the next update of the model in stage 2?

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

I think that, at this point in time, we are still recommending that porewater be characterized prior to deposition. And so, there is the opportunity, if that adoption -- or that recommendation is adopted, to also obtain mercury data.

MS. KATHY RACHER: Kathy Racher, for the Board.

In your Recommendations 6 and 7, you're asking for Diavik to provide time lines related to responses to the IRP recommendations. And I assume it's all the recommendations relevant to additional model input data or additional sampling.

Diavik's response to those questions was, basically, that -- I mean, they gave their

responses to the Panel's recommendations, each one specifically. And predominantly, their answer was that they would be collecting additional data on all of these things during deposition of the PK into the pits. As that would give them the most certainty as to the answer. Otherwise, it's -- it's just more modelling.

And I just wanted to know how you felt about those responses to your Recommendations 6 and 7?

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Just give us a second here. We'll get right back to you, Kathy.

(PAUSE)

MR. NATHEN RICHEA (by ZOOM): Thank you, Mr. Chair. It's Nathen Richea, with Environment and Natural Resources. And thank you for the question.

I guess, we took a bit of time here to do a bit of a huddle. I guess, the -- the way I would answer the question is the Application before us is to approve the deposit of PK into the open pits and -- and the mine workings. And the only modelling that's available today is the first phase of that modelling.

And some of the concerns that we've addressed and raised in questioning of the -- of the Panel, as well as in our recommendations for the Board's consideration, is there is some uncertainty in the modelling that's been conducted to date.

Going forward, our recommendation is that there is additional data being collected and potential additional modelling runs before PK is put into the pits.

And the idea of that additional monitoring and modelling is to ensure that, once PK is put in the pits, we are assured that it meets the objectives at the end of operations and that the criteria or objectives in -- in the pit lake -- cultural and other -- are appropriately met at closure.

If that modelling suggests that -- if phase 2 modelling suggests that those objectives won't be met, then the contingency aspect of this process is critically important to ensure that the measures are being implemented as through our -- through this process and has approval to -- to move PK into the -- into the open pits.

So, I guess, getting back to the question on whether we feel that more modelling is

needed prior to putting PK into pits, I think it's important for us to understand with full clarity what the implications of putting the PK into the pits are.

And based on the modelling that's available to date, I think there's some uncertainty on whether that's sufficient to make a definitive answer on whether the PK should be put into the pits. Thank you.

MS. KATHY RACHER: Kathy Racher, for the Board.

When we heard from the Panel earlier, Dr. Wells talked about how, essentially, uncalibrated models are not uncommon when pursuing projects. Not necessarily exactly like this one, but in projects in general.

So I -- I guess, I'm tyring to get a sense of how you ever get absolute certainty or how the GNWT views enough certainty? You know, when -- when is a model -- a model can never give you a hundred percent certainty.

So how do you -- how do you judge when it's enough?

(PAUSE)

MR. RICK WALBOURNE (by ZOOM): Thank

you, Kathy. Rick Walbourne, GNWT.

I'm going to pass this over to Barry to provide some more information on that. Thanks.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

First off, I'll say that I was very comforted by the response that we got this morning from Dr. Wells with respect to the calibration.

What I heard was that the boundary conditions really drive the -- the model and that the calibration -- usually a bit of tweaking at the end. So I'm much less concerned with the calibration issue, in terms of certainty and uncertainty.

What we don't have certainty on, though, is the porewater composition. We -- we have a sample size of one for the porewater -- the PK that actually represents what could be deposited. And even to that, we found out yesterday that Mr. MacDonald feels that that -- that ore sample is not really representative either.

So that's -- that's the source of uncertainty. We're not sure that the model inputs that were used or contextualized by the available data because we're not sure of the relevance of the available data.

So now, coming back full circle to your question about how to assess adequacy, that's by understanding variability. And we can't do that with a sample size of one. We can't put narratives around the degree of acceptable variability that we're willing to accept.

Typically, when I venture off into the unknown like this, I would look at a parameter and say, you know, I'm using this for modelling. It's a driver of something. I want to be plus or minus 50 percent for that parameter.

And then, looking at a few samples, you could estimate the sample size required to achieve that.

There is time to do this. We could start collecting PK samples now and conducting the consolidation tests that were recommended by the IRP and the porewater characterization, and build a data set. And, you know, if we took monthly samples, we'd start to get an idea of the pit run variability with respect to PK. And then, in a short period of time, we'd be able to address the question how much is enough.

MR. RYAN FEQUET: Thanks, Barry. Just -- just a reminder to everybody to keep -- keep the

pace reasonable.

(PAUSE)

DR. BARRY ZAJDLIK (by ZOOM): Shall I give a precis of that then?

MR. RYAN FEQUET: I think you did pretty good. I just wanted to slow you down there for a second and let the -- let the translation catch up.

But, yes, your approach earlier this morning was great, when you re-stated it in plain language. But I think we got you.

(PAUSE)

MR. RYAN FEQUET: Please continue, if you guys had more to that response.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT. I did not have anything to add.

MS. KATHY RACHER: Okay. Kathy Racher, for the Board. Thanks. That was a hard question, so good job.

One -- one -- one (1) thing I heard from Diavik though in their response to questions is

that the ore blend that will be representative of the processed kimberlite that actually goes into A418 will not be available -- samples of that processed kimberlite will not be available until six (6) months prior to the planned deposition, which -- so your statement that samples could be taken right away isn't actually feasible.

And so I'm not sure if you heard that or if you have a response to that.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT. Yes, I -- I did hear that, and I did already discuss this in my discussion this morning with Dr. Tinis to some extent.

There is going to be variability in -- in the PK composition, you know, laterally and with changes in depth and from pit to pit, and so we're talking about understanding the sum total of that variability in the context of the PK that could be deposited. At this point in time we have no information on that.

Sampling now would begin to address the sum totality of the variability of PK in the remaining workings, right. If we find that PK composition is changing radically between now and -- and a year from now then we'll know that we'll have to place less

emphasis on the earlier collected samples.

But we will have something to work with if we start collecting now, and I think that is probably going to be useful in characterizing the variability of the PK that will be deposited.

DR. KATHY RACHER: Okay, Kathy Racher, for the Board. Thanks. We can move on.

Recommendation Number 8 from ENR was about the monthly bio profiles for pit lake sampling program, and Diavik provided a response saying that -- that -- that they thought you kind of misunderstood what -- what profiling they were -- or what kind of sampling they were proposing to do.

I just wondered if that recommendation still stood or if you were satisfied with Diavik's response.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. I'll pass this over to Dr. Zajdlik. I believe he's had some further conversations with Diavik on that.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT.

Yes, there was substantial misunderstanding that was clarified with a conversation directly with Diavik, so now we

understand what is meant by a monthly pro -- bio profile and how it's intended to be used, and that -- that there was an adaptation to the proposed sampling following our intervention, and that adaptation is captured in one (1) of the slides that Diavik presented.

So we're happy to see that there was a modification or an improvement to the proposed monitoring and the monthly bio profiles. That said, we don't necessarily agree with everything that's being proposed, but at least with respect to the monthly bi -- bio profiles that has been clarified.

DR. KATHY RACHER: Okay. Thank you. I just have one (1) more question for you then, clarification on your Recommendation Number 9, to provide criteria for assessing and approving when the dikes may be breached.

I believe you said earlier that you would provide further clarification on this in your closing comments. I just wondered if -- in terms of when the criteria are needed, if it's more appropriate to have them be discussed as part of the closure and reclamation process or if you had a different idea.

(BRIEF PAUSE)

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Thank you, Kathy. Sorry, we needed another little huddle there to make sure we're giving you all the information you needed.

So we think the answer is twofold. It does fall into the closure category obviously when looking at what will be I guess more related to closure criteria of the -- of the pit lake before breaching the dikes.

We do, however, think it's related to this process as well given that we're trying to approve whether or not the PK is deposited into the pit and whether or not those criteria can be met or obviously linked to that as well.

However, I think one of the -- one (1) of the other issues here we're -- we're trying to establish a timeline. As you know, there are requirements from the Review Board, multiple measures regarding cultural water criteria and other cultural well-being that there are timelines established by both GNWT and ITI. So, I think one (1) of the main objectives is to ensure those Review Board measures are met related to the development of those criteria.

So -- and I know that answer is -- it's not clear related to closure or -- or this process,

but I think there are other processes running concurrently here that need to be considered, so we'll just have to make sure that those are all developed prior to them being finalized.

DR. KATHY RACHER: Kathy Racher, for the Board. Okay, I think I'll leave it there and -- and then we'll look forward to your -- your final answer in your closing comments.

Any other questions from staff? No. So no more questions from Board staff. Thank you.

MR. RYAN FEQUET: Thank you, Kathy. There are no questions from the Board's legal counsel at this time for the GNWT. So I look to the Board if there's any questions for GNWT.

THE CHAIRPERSON: Joe Mackenzie, Chair. I've got no questions.

BOARD MEMBER MASON MANTLA: Mason Mantla, Board member. I have no questions.

BOARD MEMBER RACHEL CRAPEAU: Rachel Crapeau. I was just kind of curious about the mercury. I believe I heard that it -- it was -- was more information going to be gathered? That's just what I was just wondering about.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Thank you for that question.

So I think the -- I think the answer there is that we've recommended in our intervention that additional data be analyzed and provided, so the status of that recommendation is unknown at this time, so that's a recommendation we're making for inclusion in the water licence.

Barry, do you have anything to add specifically on that, the mercury request?

DR. BARRY ZAJDLIK (by phone): No, I don't. Thank you.

BOARD MEMBER RACHEL CRAPEAU: All right. That's good to know that we're going to have an answer sometime, whenever, but -- but the information will be -- have gotten by the end of this year or next year before pit filling starts?

Just -- I'm sorry, I forgot to say Rachel Crapeau. And that's the end of my question.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Thanks for that.

Yeah, so I -- I guess it's -- it's -- the GNWT can't provide the mercury data, so just to reiterate or to clarify our recommendation to the Board is that a requirement for DDMI to undertake that work. That was our recommendation to the Board.

So, depending on the decision of the

Board that would determine whether or not that information is required from DDMI. Yeah, I'll leave it there for now.

BOARD MEMBER RACHEL CRAPEAU: Masi cho for answering my question.

BOARD MEMBER MIKE NITSIZA: Mike Nitsiza, Board member. I have no questions. Thank you.

BOARD MEMBER ALEX NITSIZA: Alex Nitsiza, Board member. No question. Thank you.

MR. RYAN FEQUET: Thank you. At this time continue with the agenda, the Environmental Monitoring Advis (AUDIO CUTS OUT).

... Charlie and John to take it away. And maybe what we'll do is we'll get through this presentation. And we'll plan to take a quick break afterwards before we start the questioning.

So, John and Charlie, take it away.

MR. JOHN MCCULLUM (by ZOOM): Thanks very much, Ryan. Can everybody hear me okay?

MR. RYAN FEQUET: We can. Thank you, John.

PRESENTATION BY EMAB:

MR. JOHN MCCULLUM (by ZOOM): Okay.

John McCullum, from EMAB. Charlie Catholique, the Chair of EMAB, is here with me. And online we also have Megan Colley, from North/South Consultants and Bill Slater, from Slater Environmental. And the next slide, please. Next slide, please. Thank you.

So, just quickly, these are the areas that we're going to be making comments and recommendations on during our presentation. I won't read through them. So, next slide, please.

One (1) last thing to note before we start making this presentation, EMAB is an independent environmental watchdog on Diavik. We don't -- our board member -- a number of our board members are from communities, but we do not speak for communities. We're an independent monitor. Okay, next slide, please.

I'll try to go through this quickly. This is really a comment about the -- the application that was submitted back in 2018 and the summary impact statement that followed up that was submitted to MVEIRB.

Some of the -- some of the approaches that Diavik included in there are -- are outdated, but we felt we should address them just to make sure that people understood them. We think they're outdated.

And so, the -- the map you're seeing there was the -- the 1-kilometre zone around East Island that Diavik had originally proposed as the mixing zone and that any -- any water quality parameters measured would not have to -- or -- or sorry, would not have to meet AEMP benchmarks within that zone, and even at the edge of the mixing zone would be 20 percent above AEMP benchmarks.

So, we -- we -- EMAB just wanted to clarify that we feel that this should be -- should not be part of the proposal in any form. Next slide, please.

MR. RYAN FEQUET: Thanks, John. And just -- Ryan here. I just wanted to interject. Just a friendly reminder to --

MR. JOHN MCCULLUM (by ZOOM): Talking too fast?

MR. RYAN FEQUET: A little bit. A little bit.

MR. JOHN MCCULLUM (by ZOOM): Sorry, I -- it's a -- it's a long presentation, and I'm trying not to keep people here too long. But I will -- I'll get that under control, apologies.

So, in addition to that comment, we are asking or recommending that Diavik propose mixing

zones inside the pit lake as -- as they calculated or modelled for -- for the rest of East Island in their ICRP4.1.

We are noting that water quality in the pit lake must meet AEMP benchmarks to at least 40 metres. There's been a lot of talk about 40 metres during a number of these presentations.

The point of the 40 metres was to protect aquatic life that was expected not to go below 40 metres, but the 40 metres is simply a minimum. And that was also set out in measure 1 from -- of the REA.

And, again, we refer to Table 4.3 -- 4-3 in the SIS; that's the one that sets water quality thresholds that are 20 percent above AEMP benchmarks. So, we're saying that should not be applying. Next slide, please.

Okay, now the next thing, we're calling it reliability of predictions. This is about the -- the water quality modelling. The -- the water quality modelling and the -- the work of the IRP, very impressive, definitely addressed a lot of the concerns that EMAB had for the -- the original modelling.

There are still some uncertainties, as a number of people have pointed out. And it is our view that the -- the sensitivity analyses, as we

discussed this morning, vary one (1) parameter at a time.

We don't feel that's -- that represents a reasonable worst-case scenario where a number of different parameters might be at their extreme instead of just one (1) at a time. And that's why we call it a reasonable worst-case scenario. Next slide, please.

How's my speed? Am I talking too fast?

MR. RYAN FEQUET: Doing pretty good, John.

MR. JOHN MCCULLUM (by ZOOM): Okay.

MR. RYAN FEQUET: Doing pretty good.

MR. JOHN MCCULLUM (by ZOOM): Okay. I'll -- I'll try to emulate Bill Slater as our standard.

So, recommendations. This is a summary. Or there's actually quite a few more recommendations in our intervention. Additional porewater characterization, just like many people have said before us, some additional model inputs, some additional information about the model inputs.

They should be predicting any accedences of AEMP benchmarks anywhere throughout the -- the area above the -- the chemocline, not just the top 40 metres.

As discussed, model of reasonable worst-case scenario. And we'd like to see a prediction of post-breach water quality in Lac de Gras. Okay, next slide, please.

Freshwater tap filling design. Very quickly, we know Diavik is going to place a freshwater cap. Depending on how they do that, they could decrease the amount of mixing with porewater so that their -- their model initial condition, I guess, would be -- would not be that the entire porewater and freshwater were mixed together.

And so, we're recommending that they provide a design for approval by WLWB to minimize that disturbance. Okay, next slide, please.

Benchmarks for unanticipated mixing scenarios. Essentially, this is about that Table 4-3 that we talked about earlier from the summary impact statement, so just reiterating that ecological thresholds for water quality should be protective of aquatic life. Next slide, please.

The decision to reconnect to Lac de Gras. So, Diavik is proposing water quality and cultural criteria will determine when to connect or reconnect the pit lake to Lac de Gras. We think it should include sediment quality, as well.

And we think it's very important that the cultural criteria can be shown to reflect community objectives. So, next slide, please.

So, recommendations in summary. There should be sediment quality criteria set. Water and sediment quality should be monitored comprehensively to ensure conditions are protective of aquatic life. And we'll provide quite a few more comments on the monitoring later in the presentation.

The cultural reconnection criteria should be able to be demonstrated that they have been accepted by communities before being submitted to the WLWB.

And, in addition, the partings -- parties to the proceeding should all be able to review and comment on those cultural criteria once they are submitted to the WLWB.

And we've -- we've got one (1) in there that relates to the last line of part H, section -- section 18, of the -- the proposed wording that Diavik used linking the cultural criteria to -- I'm trying to remember the wording now, but -- but, basically, to the results of the -- the water quality objective 1.

So, yes, we think the cultural criteria should align with the -- the environmental assessment

report, but we don't think that -- we think that line is too restrictive. Okay, next slide, please.

Effects to fish and fish habitat. So, we are noting here it's a -- there is a critical assumption in terms of aquatic life that fish or aquatic life will not go below 40 metres in the pit.

We had some concerns about the dissolved oxygen predictions only being made for A418. We note that a number of forms of aquatic life are not able to move away from contaminants in the same way that large bodied fish like lake trout can.

Just a note, that post-breach fish and habitat monitoring are not described anywhere in the -- - in the Application and that fish tissue monitoring for metals is not described either. And we take the viewpoint that users must feel assured that fish from the pit lakes are safe to eat. Okay, next slide, please.

So, summary of recommendations. We -- we need to confirm that fish only use the upper 40 metres of the pit lake.

We need to confirm the depth of contaminated water in the pit lake.

We need to monitor fish used of the enhanced -- enhanced habitats, the fish habitat that's

created around the outside of the pit.

We think that dissolved oxygen mask balance model should also be run for A154 pit since Diavik is including that in its -- in its Application.

We would like to see dissolved oxygen surveys throughout the pit lake.

We'll want -- we'd like to see a fish tissue metal survey on large bodied fish that use the pit lake. And should there be any aquatic life in the pit lake before it's breached through the filling process or some other process, that should be sampled before breaching. Okay, next slide, please.

Effects on wildlife. Just a note. Open water in the pits could attract wildlife, and we're particularly thinking of waterfowl in the spring. The pit lakes very likely will have open water sooner than the -- the water around there, Lac de Gras.

And we -- we note that Diavik had committed to provide an updated Wildlife Management and Monitoring Plan that would address wildlife safety. And our review of that plan did not see anything that directly addresses wildlife safety during PK placement. So, next slide, please.

So, basically, we're saying Diavik

should revi -- develop or refine the management plans for the -- the project to include specific requirements for wildlife monitoring and response protocols during PK placement in the pits.

Okay, next slide, please. Monitoring pre- and post-dike breach. So, our -- our review of the monitoring is that we don't think it's adequate. Right now, there's the one (1) SNP station proposed to be monitored over time at four (4) depths in the pit lake and one (1) transect sampled once before reaching the pits after the -- the central station shows water is at adequate quality, and then a proposal to reduce the monitoring in the pits to twice a year after they breach. Next slide, please.

So, as I've noted here, there are sixteen (16) recommendations related to monitoring. I'm not going to go through them all, but, basically, we're looking for a comprehensive moner -- monitoring program that will confirm the model predictions.

We'd like to see water quality modelled throughout the entire pit lake in all seasons so we get a sense of variation over time and over space. We think sediment quality should be monitored, and that would include the wraps and benches and the enhanced habitat areas.

And particularly, before reconnecting, we think there should be sampling for at least two (2) years throughout the pit lake in all seasons. And by that, we're -- we're talking in particular about spring turnover and fall turnover and -- and sort of bracketing that with -- with sampling.

And after breaching, at least two (2) years in the pit lake to confirm the chemocline remains stable and throughout the lake to determine water exchange with Lac de Gras and the effects on Lac de Gras. Next slide, please.

Contingency plans. Diavik mentions very briefly a couple of contingency plans to close the breaches in the -- in the dike if water quality in the pits, for some reason, becomes unsafe.

And our view is that we should be able to assess whether or not those plans are feasible and the potential effects on Lac de Gras. So, next slide, please.

So, we're looking for development of a more detailed description of how the contingency plan would work. Right now, it's -- it's basically a couple of sentences.

We'd like to see more information on the potential impacts associated with the contingency

plans and, particularly, the impact on Lac de Gras if there's an increased loading due to unanticipated mixing of the pit.

And we'd like to know how the views of affected communities were incorporated into or affected those contingency plans. Okay, next slide, please.

Revised closure objectives. Basically, we think that the PKMW project should include some -- some aspects of closure as part of it, any refinement to closure objectives or closure criteria, updating the PKC facility closure plan.

And we note that there's a number of other -- a number of the other sections of our presentation do relate to closure and that all of those should be incorporated into the closure portion of this project proposal. Okay, next slide, please.

So, there's a need for a timely updating of the closure plan to address the PKMW project, and that should include both objectives and criteria.

There's a need to address wildlife interactions and changes at the PKC facility once the -- once the PK is directed to the pit, and suggest revising -- or recommend revising closure objective M8

which relates to wildlife in -- wildlife protection in the pits. Next slide, please.

Cumulative effects on water quality. Essentially, our view is that the -- the cumulative effects description was not very clear as to its description of the methods used, and we'd like to see a more detailed description of that. Next slide, please.

And PK slimes. EMAB's view all along about this whole project has been that the -- relocating the slimes from the PKC pit, assuming it can be done safely, and those were his caveats, that that's the real benefit of this project.

And becau -- because there are a number of critical issues with -- with closing the PKC facility that, right now, there -- there is no credible plan to -- to close the PKC facility.

So, the pits would make an ideal location to the permanent physically stable location. And we'd like to see that study of the feasibility of -- of relocating those slimes take place as soon as possible. Next slide, please.

So, Diavik should be required to evaluate the feasibility of slimes relocation from the PKC to the pits as soon as possible as a condition of

the approval -- of any approval. Next slide, please.

And this is just a comment on the -- the work plan for this project. We -- we did find that it was a little bit compressed. The -- the revised schedule was -- was helpful. And we were able to complete our work, but we -- we had a hard time.

You know, we -- we had to really compress our approval process and our -- our internal review process, and so our -- you know, our -- our full and complete review could have been better given, you know, even a week or -- even a week or so more, so we felt the need to bring that up.

And, of course, if we're having trouble getting out consultants to be able to review the stuff and getting our board to -- to take a look at it, then there's concern that communities may also be limited in their ability to participate in the proceeding and -- and that their full and complete review may also be entered.

And I believe that's it. Next slide, please. Yeah, we're done. Thank you very much. So, I guess your -- the plan is to take a break. And then we'll come back and -- and answer any questions on the presentation?

MR. RYAN FEQUET: Yes, John. Thank

you very much for that. So --

MR. JOHN MCCULLUM (by ZOOM): Okay. I'm just going to -- just going to say, so consultants, Megan and Bill, please -- please stay online until after the -- the questions are completed. Thank you.

MR. RYAN FEQUET: Okay. So, we have 2:33 on my clock, so maybe we'll come back at 2:45. So, we'll give twelve (12) minutes, quarter to the hour everyone -- everyone back in their seats. Thanks.

--- Upon recessing at 2:33 p.m.

--- Upon resuming at 2:46 p.m.

QUESTION PERIOD:

MR. RYAN FEQUET: We were wondering -- wondering how many there were. Next I'll look to Anna and Meagan at Environment and Climate Change Canada, if you have any questions for EMAB at this time.

(BRIEF PAUSE)

MR. RYAN FEQUET: ECCC...? There we go.

MS. MEAGAN TOBIN (by ZOOM): Hi. Sorry. I wasn't sure if Anna was back yet. It's 3 Meagan Tobin, Environment and Climate Change Canada. We have no questions for EMAB. Thank you.

MR. RYAN FEQUET: Thank you, Meagan. To the Government of the Northwest Territories, if you have any questions for EMAB, please proceed.

MR. RICK WALBOURNE (by ZOOM): Hi, Ryan. Thanks. Rick Walbourne, GNWT. I have a couple of questions for EMAB, and then I'll pass it over to Barry Zajdlik.

John or someone in the room, would you be able to pull up the slide where the -- it outlined like the aquatic monitoring regarding some of the fish monitoring and things like that? I'm -- I'm not sure what slide. A recommenda -- yeah, a lot of recommendations.

MR. JOHN MCCULLUM (by ZOOM): Recommendation 6. That one?

MR. RICK WALBOURNE (by ZOOM): Yeah. Yeah, that's good. Thanks, John. Yeah, so I have a couple of questions.

I guess, John, regarding time line -- well, let me start. So Recommendation 3, you're talking about monitoring fish use of enhanced

habitats. I'm assuming are -- is that ref -- referring to inside the pits after the dikes are breached or what -- what's the time line related to point 3 there?

MR. JOHN MCCULLUM (by ZOOM): Yes. That would be after the dikes are breached. John McCullum, EMAB.

MR. RICK WALBOURNE (by ZOOM): Thanks, John. Rick Walbourne, ENR. Another question.

Regarding fish tissue metal surveys on large-bodied fish -- so I assume that's within the lake as well -- obviously, as you know, when we're looking at aquatic effects, depending on how far up the chain you go, there's usually a delay in effects.

So we see water quality first, and then we see, you know, benthics and plankton, and then maybe fish.

Do you have an idea of what type of time lines you're anticipating or you're recommending regarding some of the fish, large-bodied fish monitoring that you'd like to see inside the pit lakes?

MR. JOHN MCCULLUM (by ZOOM): Sure. I'll take a stab at that, and then maybe I'll -- I -- I -- anyway, yeah. So, I mean, obviously post-

breaching because like what we're interested in -- in doing here is -- is demonstrating to people who -- in communities who have concerns about mercury in fish and have concerns about this project, that the fish inside the pit lake or the fish that use the pit lake are safe to eat. So it would be -- it would be a post-breach situation.

And, Megan, if you want to step in there, feel free. I'm not sure if there's anything that needs -- really needs to be added to that.

MS. MEGAN COOLEY (by ZOOM): Megan Cooley here, with North-South. Can everyone hear me?

MR. RYAN FEQUET: We can, yes.

MS. MEGAN COOLEY (by ZOOM): Perfect. Okay. I -- I don't really have much to add there. I agree with you, John, that it would be clearly post-breach I think that would be of interest since there will be fish screens, as I understand it, to exclude fish from entering the pit prior to the breaching.

Beyond that, I'm not sure if we have any specific comment about, you know, whether it be year 1, 2, 3, et cetera when -- when monitoring may begin, but presumably some -- some time shortly after the breach.

MR. RICK WALBOURNE (by ZOOM): Rick

Walbourne, ENR. Thanks for that. Yeah, I'm just kind of curious about how long that might go, but I'll let that go. That's maybe a conversation for further down for post-closure monitoring.

I guess my final question regarding this topic -- so my understanding is EMAB is recommending, you know, monitoring of fish habitat, fish tissue, fish use below 40 metres, a few things like that.

So is my assumption correct that what you're proposing is that if there were potentially any impacts in any of those areas inside that lake once it's breached, are you -- would the next logical step that there would be some sort of action levels or triggers by which you would potentially propose that -- well, I guess that's my question.

I think from later in your contingencies, you're looking at the dikes being reclosed? I'm just trying to understand. I'm kind of seeing a response framework or adaptive management scenario playing out.

Im just trying to understand, if there were impacts in any of these monitor -- in any of this monitoring, what -- what would be the next step regarding adaptive management? Thank you.

MR. JOHN MCCULLUM (by ZOOM): Good question, and we -- we haven't really made a recommendation about that. I wasn't -- I wasn't really -- or we weren't really sure if this was something that would be incorporated into the AEMP or maybe an AEMP special effects study or -- or something like that.

So -- so we haven't taken it that next step, but for sure, if there was -- if -- if this was indicating problems, then it would be -- have to be handled through the same approach as -- as other problems which would be the response framework and -- and action levels.

That -- that makes sense to me. We haven't -- we haven't actually had that discussion, or the Board hasn't actually had that discussion, but that makes sense.

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. Thanks, John, for those responses. Yeah, I'm just curious how -- how that might play out way down the road if -- if that situation were to occur.

But I -- I think in -- I think we agree, high level, that, you know, there would be some action levels and some responses, but what those may

be I guess is a conversation for another day. So thanks for that.

I'd like to pass it now over to Dr. Barry Zajdlik who I believe have a couple of questions for EMAB.

DR. BARRY ZAJDLIK (by ZOOM): Barry Zajdlik, on behalf of GNWT. Yes, I have one (1) question. It's a clarification.

There was some discussion in your submission regarding ecological thresholds proposed by Diavik. And I gather that you're not in favour of the ones that were proposed, but it's not clear to me which ones you're actually proposing either.

So if you could clarify what numbers are what group -- body you're referring to when you mention an ecological threshold, that would be very helpful.

MR. JOHN MCCULLUM (by ZOOM): Sure, Barry. We're just -- we're just suggesting AEMP benchmarks.

DR. BARRY ZAJDLIK (by ZOOM): So the ones that exist now as opposed to anything that's been modified upwards?

MR. JOHN MCCULLUM (by ZOOM): Correct.

DR. BARRY ZAJDLIK (by ZOOM): Okay. Thank you for the clarification. That's all I have.

MR. RYAN FEQUET: Were there any other questions from the GNWT-ENR at this time?

(BRIEF PAUSE)

MR. RICK WALBOURNE (by ZOOM): Rick Walbourne, GNWT. No further questions from us at this time. Thank you, EMAB, for your presentation and your responses.

MR. RYAN FEQUET: Thank you, GNWT. I'll turn it over to the Tlicho Government, if you have any questions for EMAB at this time.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government. First question is about sampling before the pit is reconnected.

In response to your requests on sampling -- to your recommendations on sampling, Diavik suggests the following is required before reconnecting to Lac de Gras:

Number 1, sampling must demonstrate the top 40 metres of the water meets AEMP benchmarks; and

Number 2, Stage 3 modelling must demonstrate that the top 40 metres of the water will

continue to meet AEMP benchmarks in the long term.

Does this response and approach address your requests? Masi.

MR. JOHN MCCULLUM (by ZOOM): Thank you, Brett. John McCullum, EMAB.

I mean, I guess to the degree that -- that those are the benchmarks that we would like to see met. There are -- there are concerns that aquatic life may use an area of the pit lake below 40 metres

This seems to be an ongoing discussion that we've been having. So wherever aquatic life are present in the pit lake, the water should meach -- meet at a minimum AEMP benchmarks.

Am I answering your question?

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government. That's close enough, John. Next question is on sediment quality criteria and EMAB's recommendation for sediment quality criteria.

Diavik's response says that Diavik does not believe sediment criteria are applicable to a deep flooded mine working, and the response goes on a bit. I'm sure you've seen it.

My question is: Given Diavik's response and that it is unlikely that fish would travel as deep down as -- as the sediment will be, as

the processed kimberlite will be, why do you believe that sediment quality criteria are needed? Masi.

MR. JOHN MCCULLUM (by ZOOM): Thank you, Brett. John McCullum, EMAB.

Well, if it's -- if it can be demonstrated that there's no sediment, then I can see why sediment monitoring might not be required. Certainly doesn't prevent preparing or developing sediment quality criteria in advance of the monitoring.

And, I mean, sediment are -- sediment is a component, a key component, of the aquatic ecosystem and has a -- can -- it has the potential to have effect on -- on fish and health of aquatic life. So we -- we think that if -- that we should monitor it if it's there.

Maybe I'll just -- Bill Slater, do you have anything you want to add on that, or -- or Megan? I'll start with Bill and then, Megan, you can jump in if you want.

MR. BILL SLATER (by ZOOM): Hi. It's Bill Slater, from EMAB. You can hear me, I presume?

MR. JOHN MCCULLUM (by ZOOM): Yes.

MR. BILL SLATER (by ZOOM): Okay. Excellent. Yeah. I guess I don't have a lot to add

to what John said. There is -- you know, there -- if there is sediment there, then it should be monitored. It's an important component in the aquatic ecosystem.

I would agree that it's unlikely that you would be monitoring sediment deep down in the -- in the former pit, and there would unlikely be -- well, obviously, there would be sediment at the very bottom where we deposited PK.

But I think it's more relevant to be monitoring sediment in the benches, the upper benches that are -- that are to be developed into fish habitat.

And so there are a number of processes during development of that habitat and filling of the pit that could lead to sediment accumulation in certain areas, and it makes sense that -- and also through runoff even from the site. And it makes sense that you would be looking at that before you reconnect that to be fish habitat that is accessible to the -- to the lake. Thanks.

MR. BRETT WHELER: Brett Wheler, Tlicho Government. Masi for that. That does help to understand which sediments you're -- you're refer -- referring to.

So just to -- just to clarify. You're

referring to sediment that -- that may be present now and -- or is kind of in situ sediment there, rather than sediment that will be somehow introduced through the -- depositing the processed kimberlite? Masi.

MR. JOHN MCCULLUM (by ZOOM): Both. There is -- there is potential for some sediment to fall out on those benches and -- and there may be existing sediment there. And as well, on the -- the flatter areas around the outside of the -- the pit where the enhanced habitat is.

So whatever the source of the sediment is it should be at least checked for. And, again, I'll hand that off if anybody -- either of the other consultants wants to talk about it.

(BRIEF PAUSE)

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government.

Next question is about your recommendation for 3D modelling in relation to SNP 164588 and -- and the water in the pit.

Can you please elaborate on why you think that 3D modelling is required? And -- and also, can you please indicate why you're recommending that -

- sorry. I'll leave it there and ask the follow-up separate.

Can you -- can you please elaborate on why you think 3D modelling is required? Masi.

MR. JOHN MCCULLUM (by ZOOM): John McCullum, EMAB.

I think it's really just prudent. I mean, we -- we don't know what the variability in -- in the pit is going to be. I mean, there are -- there are benches. There are these flat enhanced areas around the outside. We -- as has been pointed out, there's a dike around the pit, which -- which reduces wind and wave action to some degree. And unless we sample for it, we're not going to know if it's there.

So -- and we're certainly not going to know that it's -- whether there's variability there from -- throughout the lake from the sample in the middle.

So -- and -- and further, as I mentioned earlier, I mean, we're looking for temporal variability as well, do things change over the seasons.

So, I guess, that covers both -- I guess, that's more 4D than 3D, but that's -- that's -- what we're looking for is a good sense of what the --

what's going on around the whole pit lake and area.

Again, if Bill or -- or Megan wants to add on to that, please go ahead.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government.

I -- I think I heard you speaking mostly about -- about monitoring just now. I was asking also -- I was asking more so about the 3D modelling. Masi.

MR. JOHN MCCULLUM (by ZOOM): Apologies.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): I'm -- maybe I'll -- Bill, are you able to speak to this? I'm -- I'm -- I'm struggling to recall our recommendations with -- with relation to the 3D modelling.

Sorry, John McCullum, EMAB. I'm trying to dodge the question.

(BRIEF PAUSE)

MR. BILL SLATER (by ZOOM): It's Bill

-- it's Bill Slater. I don't actually have much to add to what you said, John.

I -- I think we made recommendations around the -- the need to establish an understanding of conditions across space and time in the pit, which is really about monitoring.

With respect to modelling, the existing modelling does already include variability over space and time in the pit.

I guess, you might call it more 2D than 3D in terms of mixing in the pit in reality. But -- yeah. I don't think we've made specific recommendations around 3D modelling. Other than the modelling-related recommendations we've made in specific areas.

MR. BRETT WHELER: Okay. Masi. Brett Wheler, Tlicho Government. We'll leave that one (1) for now.

Next question is about your recommendation that two (2) years of sampling in the pit is vital before re-connection.

So given everything that has been discussed about this by Diavik during the hearing and also by the Independent Review Panel, do you -- do you still -- what is your thinking on that -- that

recommendation? Given the discussions about -- about re-connecting sooner verus later that we've had during the hearing? Masi.

MR. JOHN MCCULLUM (by ZOOM): John McCullum, EMAB.

Again, really, this is about characterizing the pit lake reasonably thoroughly and the -- it would be good to watch the lake, as it behaves, throughout a couple of seasons before doing the re-connection.

I'm pretty sure I heard from the -- the IRP members this morning that a few months or even a couple of years wouldn't really make a huge difference in terms of the -- the -- the water quality in -- in the pit lake. And it would give us a much better idea of what's -- what's going on there and whether we're comfortable with the level of variation variability before breaching the dikes.

Again, Bill or Megan, if you have something to add, please go ahead.

MS. MEGAN COOLEY (by ZOOM): Megan Cooley here, with North/South Consultants.

I think you pretty much summed that up well, John. Just -- yeah, just to reiterate, our thinking there was to, essentially, provide an

opportunity to acquire sufficient data and information to characterize the -- the pit lake before breaching.

So just thinking in, kind of, standard practice terms where two (2) years of baseline, for instance, is pretty common and, of course, to capture the seasonality there. Thanks.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government.

We -- we noticed EMAB's recommendation about a feasibility study of moving the slimes and -- and John's comments about that recommendation today.

So knowing -- so we know that the objectives for water quality in the pit lake have been set in the EA measures and the water needs to be good.

But does EMAB believe that some small water quality affects might be acceptable as a trade-off for making the processed kimberlite containment facility safer by removing the slimes? Masi.

MR. JOHN MCCULLUM (by ZOOM): Thank you, Brett. John McCullum, EMAB.

I think -- well, our -- EMAB's position is that the water quality has to at least meet AEMP benchmarks. You know, I -- the Board hasn't discussed this -- this possibility.

But the main point they've made is that the water quality would have to meet AEMP benchmarks. So I suppose that if it was better than AEMP benchmarks and putting the slimes in would decrease the water quality a little bit, but would keep it under the -- the AEMP benchmark, then maybe that would be acceptable.

It -- it really -- I shouldn't be putting words in the board's mouth and our -- our board really hasn't discussed that possibility, Brett.

MR. BRETT WHELER: Masi. Brett Wheler, Tlicho Government. Thanks for that, John. We have no further questions.

MR. RYAN FEQUET: Masi, Brett. I'll look to the Deninu Kue First Nation, if there's any questions for EMAB at this time.

MR. MARC D'ENTREMONT (by ZOOM): Thank you. It's Marc d'Entremont for DKFN. We have no questions for EMAB. Thanks.

MR. RYAN FEQUET: Masi, Marc. The North Slave Metis Alliance, Adelaide.

MS. ADELAIDE MUFANDAEDZA (by ZOOM): Thank you. We have no questions for EMAB.

MR. RYAN FEQUET: Masi. The Yellowknives Dene First Nation. Sarah...?

MS. SARAH GILLIS (by ZOOM): Thank you, Ryan, and thank you, EMAB for your presentation. We are -- it's Sarah Gillis from YKDFN and we have no questions at this time.

MR. RYAN FEQUET: Masi, Sarah. The Fort Resolution Metis Government, do you have any questions for EMAB at this time?

(BRIEF PAUSE)

MR. RYAN FEQUET: Sure, so it's Shawn from the Fort Res Metis Government.

(BRIEF PAUSE)

MR. RYAN FEQUET: Thanks, Shawn. We're just making sure the mic's on there so everyone in Zoom land can hear you. Go ahead.

MR. SHAWN MCKAY: Check, check. Okay, so on the slide of reliability of predictions my question is: What worst-case scenarios need to be included in the monitoring, and what are the worst-case scenarios for our wildlife as well?

I'll just leave it at that and I'll leave my comment, thanks.

MR. RYAN FEQUET: Thank you, Shawn. EMAB...?

MR. JOHN MCCULLUM (by ZOOM): Sure. Thank you. John McCullum, EMAB.

Worst-case scenarios, our -- our view is -- is that the individual sensitivity analyses, you know, are -- are good on themsel -- under themselves, but -- but really if you want to create a -- even a reasonable worst-case scenario you have to have a number of the factors that are all more towards the extreme end than -- than what Diavik has used, and so that's, you know, that's basically what we're looking for is something that combines the various factors being towards their outer limits.

And I think from there I'll -- I'll hand it off to Bill and Megan. Bill, maybe you could start, and then, Megan, you can jump in if -- if you want to add anything.

MR. BILL SLATER (by ZOOM): Thanks, John. It's Bill Slater.

Yeah, I can -- I can speak to that a little bit. Our -- our view is that the modelling that's been done is what we would call a -- a deterministic model which really means that it's a model that takes a bunch of assumptions and creates a

single scenario of what we predict could happen with respect to water quality.

And so that means that for all of the inputs to the model, we make a choice about what specific input we're going to select to put into the model to have it make this prediction for us.

And, of course, many of those inputs are not a single number, so water quality changes over time, weather changes over time, lake levels change over time, wind changes over time, and that affects its mixing. Runoff -- the water -- the quality in runoff might change. The quality of porewater might change.

So all of these things are not static and they're not single values even though we've used a model that takes a single value.

And Mr. MacDonald and I had a bit of discussion about this yesterday. Many of the inputs for the current model are inputs that represent kind of the middle of the range of what we expect could happen, and there are a few areas in which there are what we would call conservative assumptions that are made, for example, how much water might be in the pit at the start of the pit filling with clean water.

So largely the -- the model prediction

that's been made is one that represents kind of the middle of the range of expected conditions and perhaps a little bit above what the middle of the range might look like.

And then there's been some sensitivity analysis done, and what that means is that for any one (1) of the inputs, so for example, the water quality of the runoff or the -- not maybe the number, there was a number of sensitivities analyses that were done, but the water quality of the water in the pit at the time of the start of filling and those kinds of things.

There's been, you know, a different number selected. So, you know, for example something that represents what we would call the 75th percentile of the data or the expectation, so -- and that represents something a little more adverse that would happen, you know, only a quarter of the time or something like that.

So we can take those and we can run the model again and it can give us an idea of well, how much does it change if we -- how much the outcomes change if we take this one (1) particular parameter and we change it a little bit, and we might do that with two (2) parameters or something.

Some of the sensitivities analysis that were done include changes in two (2) different parameters, and that gives us an idea of -- of how much the outcomes are affected by that particular parameter that we put in.

But in terms of -- typically when one is looking at this kind of modelling, especially when you're running it for a model for a couple of hundred years, obviously, there's a lot of variability that happens over that time period.

And so typically you would have your modellers identify okay, well, what's a -- what's a reasonable kind of upper limit of the kinds of conditions we would expect to see, and let's -- let's build a different model scenario that takes a bunch of those upper limit conditions and puts them all in at the same time because, you know, over that 200 years there's a good chance that once or twice or whatever that there's going to be a whole combination of these things that come together in a way that we haven't addressed in the model as yet.

And so that's why we refer to it as a reasonable worst case. Let's take what these parameters are and -- and look at -- at how they might all combine and what the impacts would be, and I --

you know, given the sensitivity analysis that have been -- has been done, there's a good chance that -- that even when we do that it's going to be indicating that the water quality is fine.

But that's the kind of thing we should do in order to predict and understand that we have a system that we think is actually going to work through the variability of the next 200 years.

And so that's not a -- it's not what you would consider a -- an absolute worst case where you take the absolute most adverse conditions of everything and add them all up, but it is I think a reasonable worst case.

Sorry, that's a long explanation for a short question.

MR. SHAWN MCKAY: Thank you. Shawn Mckay, Fort Resolution Metis Government.

MR. RYAN FEQUET: Oh, just one (1) sec, Shawn. Sorry, we had to turn -- Pido, mic.

MR. SHAWN MCKAY: You need a foot pedal here.

MR. RYAN FEQUET: I think it's ready there, Shawn. Go ahead.

MR. SHAWN MCKAY: Okay. So my next question is so I understand you're referring to as

worst-case scenarios including mixing?

MR. JOHN MCCULLUM (by ZOOM): Yes. Sorry, John McCullum, EMAB. Yes.

MR. SHAWN MCKAY: Okay, I've just got one (1) more quick question.

How can the prediction of mixo -- mixolin -- limnion be made without the certainty of the meromixis?

(BRIEF PAUSE)

MR. RYAN FEQUET: John, Bill, did you guys --

MR. JOHN MCCULLUM (by ZOOM): Yeah, I -- sorry, I'm -- John McCullum, EMAB. I'm just trying to -- I -- I -- I'm not -- I mean, if the mic -- the mixolimnion is the area above the meromixis, so -- I don't know. Sorry, I'm going to hand this off to Bill.

MR. BILL SLATER (by ZOOM): Hi, it's Bill Slater. Thanks, John.

I guess, you know, your question is -- at least as I understand it, is about, you know, how -- how do we have certainty about the predictions in the -- in the mixolimnion, which is the upper portion,

without having certainty about whether we have meromixis. And -- and the answer is we can't.

And perhaps it's a question that -- you know, that may better be directed at -- at Diavik. But I guess I will say that, you know, models are predictions. And Diavik's model, as it currently stands, as I understand it, predicts that -- that there will be a stable meromixis.

And then, on that basis -- well, I shouldn't say on that basis. It also, at the same time, predicts then what the water quality conditions are in the -- in the upper layer of the pit.

And -- and all of that is -- is part of the complex black -- I shouldn't necessarily call it a black box, but it is -- it is part of the complex series of -- of equations that are the model. And it is a prediction and -- and there is uncertainty in all of it.

MR. SHAWN MCKAY (by ZOOM): Thanks. Shawn McKay, Fort Resolution Metis Government.

So, from what I gather with your answer just now, you said models aren't predictions. And then -- and I think towards the end of your answer there you were talking about predictions of models.

For -- can you explain? What do you

mean by "models aren't predictions"? Aren't models created as -- as a prediction?

MR. BILL SLATER (by ZOOM): Sorry. It's Bill Slater. Sorry, about that. If -- if I gave the impression that models were not predictions, then -- then I misspoke. My intention was to say that they are, indeed, predictions.

And -- but there's always uncertainty with those predictions because, of course, they are, as I said, you know, a series of equations that are -- and a series of inputs that are used to make a prediction of what might happen in the future, and -- and so, there's uncertainty with those outcomes.

And -- and, at the moment, you know, I guess as John said at the start of the presentation, the current state of modelling has come a long way forward from where we were. And the IRP has spoken to that.

You know, it's come a long way forward from where we were when the Application was submitted in 2018. And so, that has narrowed the -- the level of uncertainty that we have with the predicted outcomes.

But Diavik would be in a better position to speak to the level of uncertainty, I

guess.

MR. SHAWN MCKAY (by ZOOM): Okay. Thank you. Shawn McKay, Fort Resolution Metis Government. I just got one (1) last quick comment.

With respect to your slide -- what a minute, I'm just bringing it up here.

(BRIEF PAUSE)

MR. SHAWN MCKAY (by ZOOM): Just give me a second here.

(BRIEF PAUSE)

MR. SHAWN MCKAY (by ZOOM): Sorry, I -- I guess I should ask one (1) more last question. I think it's with respect to wildlife, worst-case scenarios with respect to wildlife. And then I'll have my last -- last comment after that.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): Thanks, Shawn. John McCullum, EMAB. We didn't -- I don't think anybody's made any predictions about worst-case

scenarios related to wildlife.

We were particularly concerned that -- that ducks and other waterfowl might -- might land on the -- the water, on top of the PK while it's being filled, because it will likely be -- it'll be -- likely be open water there where the rest of the lake might be frozen up.

But we didn't -- we didn't make any predictions for worst-case scenarios rela -- related to wildlife. We were just saying Diavik should develop its management and monitoring plans to hopefully make sure no worst-case scenarios take place, but it's not something we -- we had really addressed.

I hope -- I hope that answers your question.

MR. SHAWN MCKAY (by ZOOM): Thank you. Shawn McKay, Fort Resolution Metis Government. I -- I just want to make one (1) last comment. Thanks for bringing up that slide. That's the one I was looking for.

I just wanted to -- for the record that Fort Resolution Metis Government supports that recommendation with the inclusion of traditional knowledge from the -- the parties involved. Okay.

MR. RYAN FEQUET: Thank -- thank you very much, Shawn. Are there any other questions from any other members of the public at this time?

MS. KATY DIMMER (by phone): This is Katy Dimmer, also with Fort Resolution Metis Government. I just had one (1) followup question --

MR. RYAN FEQUET: Sure. Go ahead.

MS. KATY DIMMER (by phone): -- related to fish. Thank you. On your slide about -- your recommendations for fish and fish habitat, your first recommendation is to confirm fish only use the upper 40 metres.

What would be your recommendations for confirming this before breaching, or what are the proposed methods?

MR. JOHN MCCULLUM (by ZOOM): John McCullum, EMAB. We would be proposing this would be done after breaching.

MS. KATY DIMMER (by phone): Okay. Do you feel like there's any opportunity for doing any investigations pre-breaching?

I know from back at the hearings of MVEIRB, one (1) of our -- one (1) of Fort Resolution Metis Government's knowledge holders raised the issue that they already know of some species that can go to

depths of 100 metres.

MR. JOHN MCCULLUM (by ZOOM): Yeah, John McCullum, EMAB. Yeah, I think we actually might have quoted that person. It was a -- it was a member of Diavik's TK panel, at least the one that I'm thinking of, that said that fish might go down as far as a hundred metres.

And so, that was one (1) of the reasons we were saying we -- you know, we'd like something -- we'd like to verify that fish are only going to be using the upper 40 metres.

But as you say, you can't -- I mean, we -- we can -- that's -- until the fish go in there, we can't actually verify that. So, the point of this recommendation was to monitor what they do after the -- after the dikes are breached.

MS. KATY DIMMER (by phone): Okay. I know you said that you had, at this point in time, limited recommendations for adaptive management responses, but if you -- apologies for any background noise to the Board and Mr. Chair.

If you could provide any information or if you have any designs on what would be the response if there are fish confirmed to be using that for 40 metres? What would be your recommendation to Diavik?

MR. JOHN MCCULLUM (by phone): John McCullum, EMAB. So, the -- the point being that the -- the water quality should reach AEMP -- should -- should not exceed AEMP benchmarks wherever there are -- wherever there's aquatic life in the pit lake.

I think that's about as far as I'm prepared to go right now. I guess the hope would be that the -- the modelling, and then the sampling, would show that -- that the -- the AEMP benchmarks are met basically right down to the mix -- the chemocline, but we won't know that until the monitoring starts.

Yeah, I think -- like, the main -- the main reason we have this section in our presentation and in our intervention is that Diavik did not propose any monitoring of fish. And we felt that there does need to be a fish monitoring program associated with the PKMW project, so -- so that's where all of this comes from.

I have to admit we haven't gotten to the level of looking at -- at the respondent's framework and action levels related to these -- these things that would be measured.

Anybody else, Bill or Megan, want to speak to that?

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): Okay. I guess that's our answer.

MS. KATY DIMMER (by phone): Thank you for your answer and your presentation today.

Fort Resolution Metis Government is also concerned about the safety in -- of fish and the safe -- safety of the consumption of fish, so any further work in regards to this would be appreciated, and no further questions, Mr. Chair.

MR. RYAN FEQUET: Thank you very much. Board staff, any questions for EMAB at this time?

DR. KATHY RACHER: Kathy Racher, for the Board. Just one (1) general question 'cause I -- I -- obviously, I don't want to go through all -- all the recommendations individually.

I'm just wondering, at this stage, given Diavik's responses to your recommendations and the discussion so far, what your -- I want to get a sense of what your major con -- outstanding concerns are, understanding that you may give us more details in your closing comments.

MR. JOHN MCCULLUM (by ZOOM): John McCullum, EMAB. That's a big question.

All of the above. So I don't mean to be fatuous. I -- I don't know how to go through that and say this one's more important than that or --

DR. KATHY RACHER: Kathy Racher, for the Board. I guess I was -- I was looking for not individual recommendations, but sort of topic areas that are -- are of most concern, outstanding concern, for you, not individual recommendations.

Is it -- is it -- you know, is it -- like the -- some of the recommendations were for -- you know, for monitoring, was -- this can be considered in -- in Aquatic Effects Monitoring Program or Closure Programming -- Closure Plans, et cetera.

So I just -- I guess I just wanted to get a sense from you from everything that you -- you had a lot of responses from Diavik, and -- and just if there was anything in particular that's highest on your list in terms of -- of overall concerns. And like I said, topic areas, not recommendations. If you can't answer that, that's fine.

MR. JOHN MCCULLUM (by ZOOM): Okay. John McCullum, EMAB. Thanks again.

Well, I mean, there's a big focus on monitoring. A lot of the -- you know there are a lot of questions around the modelling and a certain amount

of uncertainty around that.

And so our -- we have detailed recommendations about monitoring for fish and for water quality and for sediment and, you know, to verify that what the modelling is saying is bearing itself out in reality. So that that would be a big thing.

We'd really like to see that PK slime study done; that was a -- that was a major thing that we've been talking about since the beginning.

The -- yeah, up -- up -- yeah. I'm sorry, Kathy. It -- it is hard for me to say exactly which is -- there -- there are a few things that are of -- of less importance than others probably, but -- but most of them were -- were pretty -- the -- the board's pretty behind and feel they need to be addressed.

MR. RYAN FEQUET: Okay. Just checking in with the Board's legal counsel. Any questions for EMAB at this time, John?

MR. JOHN DONIHEE (by ZOOM): No. It's John Donihee, for the Board. No, I have no questions. Thank you.

MR. RYAN FEQUET: Next through the Chair, Joe, any questions from the Board members for

EMAB?

THE CHAIRPERSON: John, thanks for the presentation. Joe Mackenzie, and no question.

BOARD MEMBER MASON MANTLA: Mason Mantla, Board member. No questions.

BOARD MEMBER RACHEL CRAPEAU: Rachel Crapeau, for the Board. I don't have any questions. Thank you.

BOARD MEMBER MIKE NITSIZA: Mike Nitsiza, Board member. Thank you, John, and I got no further questions.

BOARD MEMBER ALEX NITSIZA: Alex Nitsiza, Board member. No question. Masi.

MR. RYAN FEQUET: Okay, thanks, everybody. I just want to deal with two (2) -- two (2) procedural items. The first is just a request, I guess, from Board staff. In -- in talking with Diavik, we would like to just ask any parties if they have any objections.

Tomorrow morning, the Independent Review Panel will be available for any additional questions that folks have. And we were proposing to follow the order of questioning that's outlined on the agenda, but for tomorrow morning, we recognize that DDMI knows their -- their model the best.

And it might be more efficient for the -- everyone's time if they were the last Intervener to -- to ask any questions, just so if there's any lack of clarity around any of the recommendations from the Panel, they can help set the record straight so the Board will have clarity on the record.

So I -- I think we just wanted to ask Interveners and parties at the hearing if they had any objections to that for tomorrow morning.

(BRIEF PAUSE)

MR. BRETT WHELER: Brett Wheler, for the Tlicho Government. We have no problem with that. Masi.

MR. RYAN FEQUET: Thank you, Brett. And I would ask if any party could just confirm one way or the other.

(BRIEF PAUSE)

MR. JOHN MCCULLUM (by ZOOM): John McCullum, EMAB. No problem.

MR. RYAN FEQUET: Thanks, John. GNWT...?

MR. RICK WALBOURNE (by ZOOM):
Thanks, Ryan. Yeah, we weren't sure if you were going to do a roundtable or how this was going to work, but Rick Walbourne, for GNWT. We have no issue with that proposal.
MR. RYAN FEQUET: Thank you, Rick. Marc, from DKFN...?
MR. MARC D'ENTREMONT (by ZOOM):
Yeah. Thanks. Marc D'Entremont, for DKFN. No, we're fine with that proposal.
MR. RYAN FEQUET: Thanks, Marc. Anna or -- or Meagan, from ECCC...?
MS. ANNA GRAHAM (by ZOOM): Anna here, ECCC. We have no problem with that plan.
MR. RYAN FEQUET: Thanks, Anna. NSMA, Adelaide...?
MS. ADELAIDE MUFANDAEDZA (by ZOOM):
Thank you. We have no problem with that recommendation.
MR. RYAN FEQUET: Thanks, guys. Yellowknives Dene First Nation, Sarah...?
MS. SARAH GILLIS (by ZOOM): Sarah Gillis, Yellowknives Dene First Nation. No issue.
MR. RYAN FEQUET: Okay. Thank you, everybody. So we'll just -- we'll do that in the

morning.

The second item is we have the -- the undertakings that were discussed yesterday. Board staff have just tried to refine them to just be very clear before we read them into the record, so I believe they're ready.

Okay. And so John -- Mr. John Donihee, our legal counsel for the Board, will just read them into the record. Go ahead, John.

MR. JOHN DONIHEE (by ZOOM): Thank you, Ryan. Thank you, Mr. Chair. I'll jut read them in order.

Undertaking Number 1: DDMI will respond to the questions sent by the Board via email to Sean Sinclair on December the 16th, 2020. DDMI is asked to identify and explain any challenges and/or advantages to including the standard conditions identified in the email in licence W2015L2-0001.

--- UNDERTAKING NO. 1: DDMI will respond to the questions sent by the Board via email to Sean Sinclair on December the 16th, 2020. DDMI is asked to identify and explain

any challenges and/or advantages to including the standard conditions identified in the email in licence W2015L2-0001.

MR. JOHN DONIHEE (by ZOOM):

Undertaking Number 2: DDMI will propose new language for the scope of licence W2015L2-0001. This language will align with the Board's standard conditions.

--- UNDERTAKING NO. 2: DDMI will propose new language for the scope of licence W2015L2-0001. This language will align with the Board's standard conditions.

MR. JOHN DONIHEE (by ZOOM):

Undertaking Number 3: DDMI will list any concerns that it would have if the Board were to remove Section E from water licence 2015L2-0001, and provide a rationale for those concerns.

--- UNDERTAKING NO. 3: DDMI will list any concerns

that it would have if the Board were to remove section E from water licence 2015L2-0001, and provide a rationale for those concerns.

MR. JOHN DONIHEE (by ZOOM):

Undertaking number 4: DDMI will clarify whether chloride and sulphate measurements should be retained when sampling seepage from the drainage control and collection system as currently written in licence W2015L2-0001, under part H, condition 22(e)(ii).

If not, please provide the rationale for why DDMI believes that chloride and sulphate are not required to be sampled in this seepage.

--- UNDERTAKING NO. 4: DDMI will clarify whether chloride and sulphate measurements should be retained when sampling seepage from the drainage control and collection system as currently written in licence W2015L2-0001, under part H, condition 22(e)(ii). If not, please provide the rationale for why DDMI believes that chloride and sulphate are not required to be

sampled in this seepage

MR. JOHN DONIHEE (by ZOOM): And undertaking number 5: DDMI will indicate whether its responses to Board staff questions 24, 27, 28, 32, 34, 37, 39, 40, 41, and 45, raised during the August 2018 public review, in relation to proposed changes to the draft water licence for W2015L2-0001 still reflect the DDMI position on appropriate licence contents.

--- UNDERTAKING NO. 5: DDMI will indicate whether its responses to Board staff questions 24, 27, 28, 32, 34, 37, 39, 40, 41, and 45, raised during the August 2018 public review, in relation to proposed changes to the draft water licence for W2015L2-0001 still reflect the DDMI position on appropriate licence contents.

MR. JOHN DONIHEE (by ZOOM): Those are the undertakings that the Board has listed to date. Thank you, Mr. Chairman.

MR. GORD MACDONALD (by ZOOM): Gord MacDonald, with Diavik.

Can I ask a clarification?

MR. RYAN FEQUET: Sure, Gord. Go ahead.

MR. GORD MACDONALD (by ZOOM): Okay. On the one on -- Gord MacDonald, with Diavik.

On the one on scope, can -- can it be -- I mean, it's directed that we -- it sounds like it's directed like we must do this.

Can we -- can it also be an option that we -- we respond with why we -- why we don't think a change of scope is appropriate, if -- if we don't think it's appropriate?

MR. JOHN DONIHEE (by ZOOM): Mr. Chairman, I -- it's Diavik's undertaking and if they would prefer to word it in that fashion, I think that's appropriate. That's no problem.

So we would simply say that you will either propose new language for the scope or, if Diavik believes no change should be made, it will provide its rationale for staying with the scope as currently written.

MR. GORD MACDONALD (by ZOOM): Gord MacDonald, Diavik. Thanks, John.

(PAUSE)

MR. RYAN FEQUET: Thank you, John. And thank you, Gord, for that.

So it's 3:45. I think we did really good today and we're actually -- maybe it looks like we're behind on the agenda, but I think we're ahead, as far as we can tell, with all the timing of upcoming presentations. And I'll turn it over to -- to Joe here.

(INDIGENOUS LANGUAGE TRANSLATED IN TO ENGLISH)

THE CHAIRPERSON: We are going to the next item once you have agenda was (AUDIO CUTS OUT) Independent Review Panel (AUDIO CUTS OUT) tomorrow morning. So tomorrow morning, I guess, first thing on the -- on the agenda will be a presentation from Tlicho Government.

(TRANSLATED CONCLUDED)

(AUDIO ISSUES)

MR. BRETT WHELER: Okay. Masi for that. Brett Wheler, Tlicho Government.

Is there -- can you let us know the -- the order that we will be in tomorrow with the

Independent Review Panel? Masi.

MR. RYAN FEQUET: Thanks -- thanks, Brett. If the Tlicho Government can accommodate it, it would be probably ideal if you guys were after the questions for the Independent Review Panel, since they're kind of scheduled to join us for a specific window in the morning.

So if that's possible, it would be great to have the Tlicho Government just slide in after that. So if that works?

(BRIEF PAUSE)

MR. RYAN FEQUET: So it would be 10:00 a.m. or a bit earlier if -- if the questions are done before then. The Panel is available for -- from 9:00 till 10:00 a.m. tomorrow morning.

MR. BRETT WHELER: Masi.

MR. RYAN FEQUET: Okay. Masi, everybody. Thank you very much. And we'll call it a day and we'll see everyone here in the morning. As early as 8:30 this will be open and we'll be live streaming, so anyone can log in after 8:30 and show up for coffee here in person. With everything kicking off at 9:00 a.m. Thanks, everyone.

--- Upon adjourning at 3:47 p.m.

Certified Correct,

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Wendy Woodworth, Ms.

J