MACKENZIE VALLEY ENVIRONMENTAL

IMPACT AND REVIEW BOARD

EA14314-01: Jay Project,

Dominion Diamond

Public Hearing

Mackenzie Valley Review Panel:

Chairperson	Joanne Deneron
Board Member	Kirby Marshall
Board Member	Yvonne Doolittle
Board Member	James Wah-Shee
Board Member	Bertha Norwegian
Board Member	John Curran

HELD AT:

Yellowknife, NT

September 16, 2015

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18 Shin Shiga   Member of the Public

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24   LIST OF UNDERTAKINGS

25 NO.   DESCRIPTION   PAGE NO.

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1   11              Dominion Diamond will undertake to

2                   provide the results of the recent

3                   supplemental sediment sampling to the

4                   Review Board by October 9, 2015      39

5   12              Dominion Diamond to provide how

6                   much more time would be required

7                   under the lower bound scenario for

8                   the Misery Pit to fill               62

9   13              Dominion Diamond to explain how

10                  additive synergistic or antagonistic

11                  effects of multiple contaminants were

12                  addressed with respect to similar and

13                  different modes of toxic action,

14                  including modifying factors          67

15  14              Dominion Diamond will look at what's

16                  happened with reference to fish

17                  populations before and after the

18                  creation of these meromictic lakes and

19                  the pits that Mr. Unger mentioned     87

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25                       LIST OF UNDERTAKINGS
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15	Environment Canada will approach their wildlife toxicology expert and ask him, based on the water quality estimates we have for Misery and Jay, whether he anticipated any issues with harm to wildlife because the Migratory Birds Convention Act speaks specifically to harm	272

1   --- Upon commencing at 8:46 a.m.

2

3   THE CHAIRPERSON: Good morning,

4   everyone.   If we could have everyone take their seat

5   so we could begin?

6

7   (BRIEF PAUSE)

8

9   THE CHAIRPERSON: Good morning.   My

10   name is Joanne Deneron, and I'm the Chair of the

11   Mackenzie Valley Environmental Impact Review Board.

12   Welcome to day 3 of the public hearing for the Jay

13   Project.

14   Before we begin, I'd like to

15   acknowledge that we're holding this hearing in the

16   traditional territory of the Yellowknives Dene, and I

17   would ask that we all stand for August Enzoe, our

18   Elder from Lutsel K'e, to say the opening prayer.

19   ELDER AUGUST ENZOE: Thank you very

20   much. Good morning, everybody. So I'm going to --

21   opening prayer for -- to have a good meeting the last

22   day today, so.

23

24   (OPENING PRAYER)

25

1   THE CHAIRPERSON: Just an information

2 item. You have your trans -- translation devices

3 here. And on channel 2 we have English. Channel 4 we

4 have Chipewyan. And channel 5, we have Tlicho and

5 Weledeh.

6   Again, another reminder is I would ask

7 everyone to respect the time requirements of other

8 parties during the presentations and questioning and

9 to use their time productively. Keeping to your

10 allotted time is important to make sure that everyone

11 gets their fair chance to be heard.

12   We're starting day 3. And we're going

13 into the aquatics. We have several presentations in

14 front of us. I would ask if the Review Board has any

15 new members or staff to their table this morning.

16   MR. MARK CLIFFE-PHILLIPS: Mark

17 Cliffe-Phillips, with the Review Board. Yes, we have

18 two (2) of our technical advisors joining us today at

19 the table. We have Dr. -- keep the mic on -- Dr.

20 Kathy Racher and Dr. Neil Hutchinson.

21   THE CHAIRPERSON: Dominion, do you

22 have any new staff to your table this morning?

23   MR. RICHARD BARGERY: Thank you, Madam

24 Chair, and good morning, everyone. It seems like it

25 wasn't that long ago I -- we saw you. We have Cam

1 Stevens with Golder Associates at the end, Mike

2 Herrell with Golder Associates, John Faithful with

3 Golder Associates, and at the end of the table, Eric

4 Denholm with EDenholm Consulting.

5   THE CHAIRPERSON: Thank you -- thank

6 you. I would introduce the Board, but like Rick said,

7 We just saw each other. We -- not too long ago.

8 We're all the same. Okay, I will now ask Dominion for

9 their presentation, please.

10   MR. RICHARD BARGERY: Thank you, Madam

11 Chair. It's Richard Bargery, Dominion Diamond. Just

12 a -- just a few words before I turn it over to John

13 Faithful and our team to -- to get into the technical

14 presentation.

15   Similar to other value components and

16 some of the discussions we've had over the last couple

17 days for aquatics, we've also done, you know,

18 extensive engagement over the course of this process,

19 both at the -- within -- in communities and with --

20 with the parties, particularly with the -- the

21 Government of the Northwest Territories on some of the

22 modelling work we've done.

23   We've done, as Mike Herrell will

24 describe, some fairly extensive modelling of -- of the

25 water. We think we again have designed the -- the

1 project in a very responsible way environmentally.

2 And we look forward to answering questions on -- on

3 aquatics over the course of the morning, and then

4 listening to the presentations of -- of the other

5 parties, I guess, later this morning and -- and this

6 afternoon.

7   But with that said, I'll turn it over

8 to -- to John Faithful to -- to start our presentation

9 -- our technical presentation.

10

11 PRESENTATION re AQUATICS

12 Presentation by Dominion Diamond:

13   MR. JOHN FAITHFUL: Thanks, Rick.

14 Good morning, Madam Chair. Good morning, everyone.

15 As Rick introduced me, I'm John Faithful. I'm with

16 Golder Associates. Presenting with me today on the

17 aquatics components of the Jay Project, which will

18 focus on water quality and fish and fish habitat, are

19 Mike Herrell and Cam Stevens.

20   In addition to providing a summary of

21 the responses by Dominion Diamond to the parties'

22 technical report recommendations, we will also provide

23 an overview of all of the water quality modelling work

24 that has been undertaken since the submission of the

25 Developer's Assessment Report, or DAR. This work --

1 this work has been completed to address the parties'

2 concerns related to water quality during the

3 environmental assessment review process.

4   To begin, I would like to speak to the

5 application of traditional knowledge in the aquatics

6 component. For the Jar -- for the Jay Project, the

7 effects assessment for water quality and fish valued

8 components were assessed using an ecologically

9 relevant and conservative approach, which also

10 integrated traditional knowledge.

11   Traditional knowledge was used to

12 inform the importance of water quality, and fish and

13 fish habitat in the aquatics assessment. Dominion

14 Diamond has and will continue to engage with

15 communities on opportunities to build upon the

16 integration of traditional knowledge into the project

17 during all phases of the project.

18   I'm now going to pass over to Mike.

19   MR. MICHAEL HERRELL: Good morning,

20 Madam Chair. I'm Mike Herrell, of Golder Associates.

21   I'm going to discuss the supplemental

22 water quality monitoring work that has been undertaken

23 since submission of the DAR.

24   Within the DAR, a comprehensive water

25 quality model was developed to evaluate the impacts of

1 the Jay Project on surface water quality in Lac du

2 Sauvage and Lac de Gras. Water quality predictions

3 were made for each project's site flow and transfer,

4 and discharge to the receiving environment during

5 operations, closure, and during post-closure.

6   For context, the influence of the

7 discharges on the downstream receiving environment was

8 assessed in Lac du Sauvage and in Lac de Gras at

9 specific locations shown here by red boxes.

10   THE CHAIRPERSON: Excuse me, would you

11 slow down for the translators so they could keep up?

12 Thank you.

13   MR. MICHAEL HERRELL: Yes, I will.

14   The tables on this slide and the next

15 slide provide a list of all the supplemental modelling

16 work that has been completed since submission of the

17 DAR. Please note it is my intent to keep the

18 technical terminology in this presentation to a

19 minimum. We have tried to use plain language where

20 possible, but there will be some scientific terms

21 used. I hope this assists the translators and those

22 that may not deal with this subject matter on a day-

23 to-day basis.

24   Firstly, the updated assessment case.

25 This was completed to include the most recent version

1 of Diavik's Mine Water Management Plan that became

2 available after the DAR was submitted. This model

3 also included updates to the Pitt Lake (phonetic)

4 hydrodynamic model assumptions.

5   The reasonable estimate case was

6 completed to provide a less conservative estimate of

7 water quality associated with various sources from the

8 project. The last two (2) modelling tasks on this

9 list, the 2-dimensional Monte Carlo model and the 3-

10 dimensional first order approximation model, were the

11 result of discussions with GNWT and their consultants

12 following the technical sessions in April.

13   These are comprehensive models which

14 were used to assign a probability to each of the

15 groundwater model scenarios assessed in the site water

16 quality model.

17   The next four (4) models were focussed

18 on pit water quality. The lower bound case was

19 developed due to the Review Board expressing their

20 concern during the technical sessions that the EA

21 conservative case may have been too conservative

22 regarding predicted total dissolved solids, or TDS,

23 concentrations in the pits.

24   Under the conservative case, meromixis

25 was predicted to form in the pits and remain stable.

1 To evaluate if meromixis would form for lower TDS

2 concentrations. the lower bound case was developed.

3   The additional pumping model case

4 during the initial dewatering period and the dry year

5 water quality modelling case were sensitivity runs

6 completed at the request of the Review Board to

7 determine if assumptions around these cases would have

8 an influence on Misery Pit discharge water quality

9 during operations.

10   Finally, an extreme wind scenario over

11 the pits was also developed at the request of the

12 Board to text meromixis stability. All of this

13 comprehensive supplemental modelling supported the --

14 and confirmed the conclusions in the DAR. That is,

15 the water management strategy developed for the

16 project will result in meromixis in both the Jay and

17 Misery Pits, permanently isolating mine water from

18 interacting with Lac du Sauvage and Lac de Gras during

19 post-closure. And mining of the Jay Pit -- Jay

20 Project will not result in significant adverse effects

21 to surface water quality in Lac du Sauvage or Lac de

22 Gras during operations and post-closure.

23   The charts on this slide show the

24 results of the 2D Monte Carlo analysis. The 2D Monte

25 Carlo modelling focussed on the enhanced permeability

1 zone in the Jay Pit. That is, the pit inflow quality

2 and quantity are a function of the fracture zones

3 associated with the pit.

4   The charts shown here provide the

5 modelled cumulative probability of groundwater inflows

6 and mass occurring for the set of variable inputs.

7 The 'Y' axes represent the cumulative probability, and

8 the 'X' axes represent the total inflow and mass

9 respectively. The green, yellow, and blue vertical

10 lines represent the total inflow and mass for the

11 lower bound scenario, reasonable estimate case, and

12 the EA conservative case predictions.

13   The intercept of the vertical lines

14 with the cumulative probability curves represent the

15 percentile for that scenario. A comparison of the

16 deterministic model values to the cumulative

17 probability indicates the following. The EA

18 conservative case represents a reasonable upper bound

19 scenario and the lower bound scenario represents a

20 reasonable lower bound for the project.

21   Since groundwater stored in the bedrock

22 will also drain towards the Jay Pit, inputs to the 3-

23 dimensional model were varied to approximate

24 probabilities for groundwater inflow quantity and

25 quality to account for this additional factor. From

1 the table shown on this fli -- slide, the results were

2 similar to the 2-dimensional Monte Carlo model.

3 Dominion Diamond is therefore confident that the full

4 range of groundwater inflow quantity and quality that

5 is expected to occur at the Jay Project has been

6 modelled and considered for assessing impacts to

7 surface water quality for the Jay Project.

8   To put the lower bound scenario into

9 context, the results were carried forward into the

10 site water quality model to evaluate the Misery Pit

11 discharge water quality during operation. The results

12 are shown here on the figure. The Y-axis shows TDS

13 concentrations, and the X-axis represents the

14 operational mine year.

15   Two (2) trends are apparent on the

16 figure. The TDS concentrations are considerably less

17 in the lower bound scenario in comparison to the EA

18 conservative case, and the reasonable estimate case.

19 And for the lower bound scenario, operational

20 discharge from the Misery Pit to Lac du Sauvage is not

21 required until the last year of operations.

22   Taking these modelling outcomes

23 further, the results of the lower bound scenario and

24 the reasonable estimate case modelling were carried

25 forward to the hydrodynamic Misery and Jay Pit models

1   to determine if meromixis would still form under these

2   changed conditions. The X-axis on -- on this figure

3   represents the total dissolved solids concentrations,

4   and the Y-axis provides the depth below the water

5   surface. The solid lines represent the lower bound

6   scenario results, and the reasonable estimate case

7   results are represented by dashed lines.

8   For each time period assessed, there is

9   a consistent lower TDS concentration in the upper pit

10 layer, and a higher TDS concentration in the lower

11 layers. This indicates meromixis will form in the

12 Misery and Jay Pits following back flooding, and

13 remain stable over the two hundred (200) year

14 modelling time frame for both modelling scenarios,

15 including the lower bound scenario.

16   A key component of the supplemental

17 modelling has been to address concerns related to the

18 likelihood of meromixis to form in the Misery and Jay

19 Pits at closure. Based on this comprehensive

20 modelling work that has been completed as part of the

21 DAR, and during the review stage of the project,

22 Dominion Diamond is confident that they have bracketed

23 the range of conditions that will occur during

24 operations.

25   Under all scenarios modelled, including

1 a lower bound scenario and an extreme wind scenario,

2 which is not considered to represent a realistic

3 scenario for the project, meromixis in the Jay and

4 Misery Pits is predicted to develop and remain stable.

5   Madam Chair, now we will transition to

6 discussing the parties' recommendations. Firstly,

7 there was a recommendation from GNWT regarding an

8 alternative discharge period for Misery pit to Lac du

9 Sauvage. Dominion Diamond disagrees with this

10 recommendation on the basis that the delayed

11 discharge, based on the EA conservative case, avoids

12 concurrent Diavik mine discharges. It also provides a

13 longer period of time to collect operational pit

14 monitoring data, which allows greater time for water

15 quality verification, and time to identify and allow

16 adaptive management adjustments to be made if

17 necessary.

18   There were recommendations from

19 Environment Canada and GNWT related to Misery Pit

20 water quality, particularly in the closure period.

21 Dominion Diamond has demonstrated that varying the

22 depth of the freshwater cap in the Misery Pit for

23 closure would be an effective contingency measure, and

24 may be the most effective mitigation on the closure

25 concentrations of water quality constituents.

1   Site-specific water quality and other

2 environmental data in Misery Pit gathered over the ten

3 (10) year mine life of the project will be used to

4 update water quality predictions, and determine the

5 optimal depth of the freshwater cap. The optimal

6 depth may be greater or less than the 60 metres that

7 has been identified through modelling completed to

8 date.

9   This work can only be conducted once

10 operational monitoring data is available. Therefore,

11 Dominion Diamond plans to undertake this optimization

12 study for the Ekati mine Final Closure and Reclamation

13 Plan for approval by the Wek'eezhii Land and Water

14 Board.

15   There was a recommendation from GNWT

16 that MVEIRB include a measure in their decision report

17 that Dominion Diamond undertake an optimization study

18 during operations regarding the storage of fine PK in

19 the Panda and Koala pits. Dominion Diamond is

20 committed to undertaking this optimization study

21 during a future permitting process, prior to

22 kimberlite deposition.

23   Lutsel K'e Dene First Nation and Deninu

24 Kue First Nation recommended the establishment of an

25 independent panel for meromixis. Dominion Diamond

1 does not believe that such a panel is necessary for

2 the following reasons: Dominion Diamond has addressed

3 the issue of the establishment of meromixis in the

4 Misery and Jay Pits at great lengths through the

5 Environmental Assessment review process, and has

6 continued to provide evidence under a variety of

7 modelling scenarios that support the DAR conclusions.

8   Dominion Diamond also recognized that

9 this component of the Water Management Plan will be

10 reviewed further through the permitting process. This

11 process allows the Wek'eezhii Land and Water Board,

12 and the parties, and their technical consultants to

13 further review the closure plan.

14   Dominion Diamond believe that the

15 Wek'eezhii Land and Water Board process of the

16 Management Plan and review is the appropriate

17 regulatory review mechanism to meet the intent of this

18 recommendation.

19   I'm now going to pass the presentation

20 back to John.

21   MR. JOHN FAITHFUL: Thanks, Mike.

22 Madam Chair, John Faithful, of Golder Associates.

23   Diavik Diamond Mine provided a

24 recommendation to Dominion Diamond regarding a

25 commitment to advancing monitoring and mitigation for

 1 review and acceptance by the Wek'eezhii Land and Water

 2 Board and parties to the EA.

 3   Dominion Diamond has engaged with

 4 Diavik Diamond Mine during the Environmental

 5 Assessment review process to discuss potential effects

 6 from the Jay Project on water quality in Lac de Gras.

 7 Dominion Diamond is committed to continue to engage

 8 with Diavik mine on the development of mutually

 9 acceptable environmental monitoring plans for water

10 and wildlife where there is spacial overlap of

11 interests or needs.

12   Environment Canada -- Canada

13 recommended that Lac du Sauvage remained oligotrophic

14 during the project and that an appropriate benchmark

15 for monitoring be set to indicate this trophic level

16 condition. Dominion Diamond accepts this

17 recommendation.

18   GNWT recommended that the Review Board

19 include a measure that the Jay Project minimizes

20 impacts at the local scales to the extent possible.

21 Dominion Diamond does not agree that such a measure is

22 required. Dominion Diamond presented a DAR that was

23 comprehensive, which has been supported by a

24 substantial amount of follow-up work through the

25 Environmental Assessment review process.

1   The DAR and its supplemental modelling

2 included various levels of local and larger scale

3 assessments ranging from evaluated -- evaluating

4 changes to water quality in the mixing zone of the

5 Misery Pit discharge to Lac du Sauvage through to the

6 outlet of Lac de Gras and into the Stephanie Lake

7 (phonetic).

8   Dominion Diamond has also committed to

9 undertaking comprehensive operational and closure

10 monitoring programs within the mine footprint and in

11 the receiving environment. Recommendations from the

12 agency, Lutsel K'e Dene First Nation, and Yellowknives

13 Dene First Nation requested the preparation and

14 submission of management plans associated with water

15 management and with the waste rock storage area

16 through the permitting process.

17   Dominion Diamond accepts these

18 recommendations. The agency and Lutsel K'e Dene First

19 Nation made recommendations regarding the management

20 of lake sediments contaminated with mercury and their

21 deposition in the waste rock storage area.

22   Dominion Diamond is of the opinion that

23 mercury is not anticipated to be a water quality issue

24 in the receiving environment, either as a result of

25 the construction of the waste rock storage area, the

1 construction of the diked area, or from seepage during

2 the construction and operation of the waste rock

3 storage area.

4   As described by Elliott Holland in

5 Dominion Diamond's day 1 presentation, Dominion

6 Diamond commits to providing details regarding the

7 design, construction, and operational activities

8 associated with the Jay waste rock storage area with a

9 -- within a detailed design report for the waste rock

10 storage area, and an updated vergion -- version of the

11 Ekati Waste Rock and Ore Storage Management Plan.

12   This detail will include information

13 regarding the handling and storage of overburden,

14 which includes lake sediment, monitoring and

15 evaluation associated with the waste rock storage area

16 use, and adaptive management processes. This version

17 of the Plan will be addressed during the water licence

18 and land use permit -- permitting process.

19   A recommendation was made by the agency

20 regarding consideration of the ongoing use of Counts

21 Lake as a reference lake for the Ekati mine, AEMP.

22 Dominion Diamond commits to an ongoing evaluation of

23 Counts Lake as a reference lake for the Ekati mine

24 operation during the Jay Project operation.

25   Recommendations were presented from the

1 agency and Deninu Kue First Nation regarding toxicity

2 testing of mine water discharge from the project.

3 Dominion Diamond commits to not discharging mine water

4 that is acutely toxic. To meet this commitment,

5 monitoring of mine water in the Misery Pit as an

6 anticipated requirement under its water licence will

7 be undertaken during operations.

8   This monitoring will include chemical

9 analysis and acute and chron -- chronic toxicity

10 testing, which is expected to be similar to the

11 toxicity testing suite and requirements required under

12 the Ekati mine operation. Further detail on the

13 testing requirements from a site and receiving

14 environment perspective will occur as part of the

15 water licence permitting process.

16   The agency made a recommendation

17 regarding the assessment of taxonomic change in

18 plankton during the operation of the project.

19 Dominion Diamond is developing an AEMP, or an aquatics

20 effect monitoring plan, that will include monitoring

21 phytoplankton and zooplankton species composition,

22 abundance, and biomass. This monitoring is expected

23 to be consistent with that undertaken for the Ekati

24 mine operation under its AEMP. Further detail on the

25 testing requirements from a site and receiving

1 perspective will occur as part of the water licence

2 permitting process.

3   Now I'll pass on to Cam.

4

5   (BRIEF PAUSE)

6

7   MR. CAM STEVENS: Madam Chair, this

8 Cam Stevens of Golder Associates.   The agency

9 presented a recommendation to model wave turbulence in

10 areas of Lac du Sauvage within close proximity to

11 project activities that may be affected by dust

12 deposition.

13   Dominion Diamond does not agree with

14 this recommendation. As stated in the DAR and in

15 replies to the agency's Information Requests during IR

16 Rounds I and II, Dominion Diamond reiterates that the

17 accumulation of dust at nearby shoals is projected to

18 be non-measurable, and as a result, would have no

19 effect to water quality or on the suitability or

20 productivity of fish habitat.

21   Physical processes in the lake related

22 to wave action, lake currents, and the large volume of

23 water in the lake will be maintained.   These processes

24 will disperse dust to depositional areas in the lake,

25 and limit any accumulation on erosional areas such as

1 spawning shoal habitat in the lake. This view is

2 supported by the literature and various studies at

3 Diavik and Ekati mines.

4   DFO presented recommendations related

5 to the management of blasting activities. Dominion

6 Diamond commits to develop a blasting plan for the

7 project which will include a monitoring and mitigation

8 component and will engage with DFO as appropriate in

9 the development of the plan.

10   DFO presented several recommendations

11 related to stream crossings in minimizing the

12 potential for fish barriers to develop. Dominion

13 Diamond commits to these recommendations.

14   DFO presented a recommendation to

15 implement best management practices in the design of

16 the Sub-Basin B Diversion Channel. Dominion Diamond

17 is committed to an appropriate channel design to

18 mitigate serious harm to fish and will continue to

19 engage with DFO and Aboriginal parties on the design

20 of the channel.

21   Dominion Diamond is also committed to

22 operational monoring -- monitoring of fish use of the

23 Sub-Basin B Diversion Channel to confirm its -- its

24 expected functions, for example, as a migratory

25 corridor for fish.

 1   Madam Chair, related again to the Sub-

 2 Basin B Diversion Channel, DFO presented several

 3 further recommendation. Dominion Diamond commits to

 4 these recommendations. For example, Dominion Diamond

 5 will provide the detailed design plans to DFO for

 6 review during the regulatory phase of the project.

 7   DFO presented several recommendations

 8 for mitigating potential effects to fish habitat at

 9 the narrows, at Lake C1 and Stream C1. Dominion

10 Diamond commits to these recommendations. Dominion

11 Diamond will include hydrology monitoring of Lake C1,

12 Stream C1, and the narrows in the final design of the

13 Aquatic Effects Monitoring Program, the AEMP.

14   In addition, the response framework

15 within the AEMP will include early warning action

16 levels for hydrologic changes that require management

17 actions to prevent adverse effects to fish.

18 Regulators, such as DFO and communities, will continue

19 to be engaged in the design of the AEMP during the

20 water licence process, including the development of

21 any future response plans as needed.

22   DFO presented several recommendations

23 regarding the Conceptual Fish-out and Offsetting Plan.

24 Dominion Diamond commits to these recommendations.

25 Dominion Diamond will continue to engage DFO and

1 communities on the development of the fish-out plan,

2 including details related to the handling and fata

3 fish from the fish-out and on the development of the

4 offsetting plan for the project.

5

6   (BRIEF PAUSE)

7

8   MR. CAM STEVENS: Environment Canada

9 recommended that the effects study -- the study area

10 in the Developer's Assessment Report, the DAR, and the

11 proposed sampling program for the AEMP be aligned for

12 fish and fish habitat. Dominion Diamond disagrees

13 that the study area boundaries should be aligned.

14   The environmental assessment and

15 monitoring program have different purposes. For the

16 environmental assessment, the effects study area is

17 intended to capture the maximum spacial extent of

18 potential effects from the project and also capture

19 the predicted spacial extent of cumulative effects

20 from existing and reasonably foreseeable developments

21 in the Lac de Gras watershed.

22   Under these objectives, the effects

23 study area for fish and fish habitat considered the

24 highly mobile behaviour of fish value components as

25 well as the connectivity of the lakes that support the

1 fish species.

2   In contrast to the assessment, the main

3 objective of the AEMP is to collect monitoring data to

4 support protections -- protection of the VCs. This is

5 accomplished by designing the monitoring program to

6 detect early warning changes in measurement

7 indicators.

8   Further engagement on the AEMP with

9 parties and the Land and Water Board will occur during

10 the water licence permitting process. Madam Chair, a

11 substantial amount of work has been conducted for the

12 environmental assessment for this project. The recent

13 completion of eight (8) supplemental modelling and

14 analyse -- analyses tasks increases confidence in the

15 results for the water quality assessment.

16   In summary, Dominion Diamond has agreed

17 or made commitments to the majority of recommendations

18 for water quality and fish provided by the parties.

19 For the aquatics environment, Dominion Diamond is

20 committed to monitoring to support protection of the

21 receiving environment and the valued components.

22 Dominion Diamond has developed a conceptual AEMP

23 design plan, and will further develop the details of

24 this plan through engagement with parties and the

25 Wek'eezhii Land and Water Board under the permitting

1 process. Finally, Dominion Diamond would like to thank

2 the parties for their contributions during the project

3 environmental assessment review process.

4   MR. RICHARD BARGERY: Richard Bargery,

5 Do -- Richard Bargery, Dominion Diamond.   That

6 concludes our presentation, Madam Chair.

7

8   (BRIEF PAUSE)

9

10   THE CHAIRPERSON: Thank you for your

11 presentation. If we could go into questioning. We'll

12 ask the monitoring agency.

13

14 QUESTION PERIOD:

15   MR. EMERY PAQUIN: Emery Paquin, with

16 the monitoring agency. If we could have slide 21 put

17 up please.

18

19   (BRIEF PAUSE)

20

21   MR. EMERY PAQUIN: Thank you. In the

22 last bullet of this slide, Dominion Diamond states

23 that it has undertaken supplementals -- supplemental

24 sediment sampling in the proposed dike area, in order

25 to verify the reported -- the previously reported

1 sediment mercury concentrations.

2   Have the results of this supplemental

3 sampling been received by Dominion? And if so, can

4 these results now be provided to the Board?

5

6   (BRIEF PAUSE)

7

8   MR. RICHARD BARGERY: Richard Bargery,

9 Dominion Diamond. So I guess our -- our preference

10 would have been for the results to be available for

11 this -- for this time. But the weather was -- was not

12 overly favourable in the last -- the last few weeks.

13 So the -- the sampling actually just occurred last

14 week, and once the results are -- are available

15 they'll be made -- made available. But it'll be a

16 little while yet.

17   MR. EMERY PAQUIN: When you say 'it'll

18 be a little while', can you be a little bit more

19 specific? When do you expect the results? And can

20 they sub -- be submitted to the Board once -- once

21 they have been received by the Company? And this was

22 Emery Paquin.

23   MR. RICHARD BARGERY: Richard Bargery,

24 Dominion Diamond. Thanks, Emery. A little bit out of

25 our control, but we can certainly, we think, meet the

1 -- meet the undertaking period. So we can have them

2 before the end of the undertaking period, so before

3 October 9th.

4   MR. EMERY PAQUIN: Emery Paquin, with

5 the monitoring agency. So are you saying that this

6 will be a formal undertaking?

7

8   (BRIEF PAUSE)

9

10   MR. RICHARD BARGERY: Richard Bargery,

11 Dominion Diamond. I just want to make sure I get the

12 wording right, because it -- it is, you know, it --

13 it's a little bit out of our control. Someone else is

14 doing the -- the test results obviously.

15   But we'll undertake -- if -- I'm not

16 sure what the wording will be, but we will -- we will

17 make every effort possible to have the test results

18 available by -- by October 9th. But it is going to be

19 dependent on -- on getting the results back from the

20 lab.

21   THE CHAIRPERSON: Legal counsel...?

22   MR. JOHN DONIHEE: Thank you, Madam

23 Chair. It's John Donihee. We'll record that then as

24 Undertaking number 11.

25

 1 --- UNDERTAKING NO. 11:   Dominion Diamond will

 2   undertake to provide the

 3   results of the recent

 4   supplemental sediment

 5   sampling to the Review

 6   Board by October 9, 2015

 7

 8   MR. TIM BYERS: Continuing on with our

 9 line of questioning, Madam Chair. Oh, sorry. Tim

10 Byers, with the monitoring agency. I'll probably make

11 that mistake a few times. First off, if we go to

12 slide number 6. And on the bottom of that slide the

13 Company has reported that they have put together a

14 report on how extreme wind events may or may not

15 disrupt meromixis.

16   And I've looked at your report results,

17 Dominion's results, on that particular study and I

18 notice that they've modelled for below surface

19 turbulence generated by the surface waves created by

20 wind and -- and fetch, fetch being the length of a --

21 a lake.

22   If it's in tandem with the direction of

23 wind that could generate longer waves. I am wondering

24 if, because I -- I didn't see it in those results, did

25 you factor in possible seiche generated by the same

1 wind scenario?

2   And for folks that don't quite know

3 what 'seiche' is, seiche in a lake is created by

4 strong wind and atmospheric pressure. And this can

5 drive surface waves on a lake to the end of that same

6 lake so that the water level increases at that end and

7 then with rebound that wave, if you will, will rebound

8 across the lake again to the opposite sho -- shore, so

9 that it -- the -- the lake want -- wants to maintain

10 an equ -- equilibrium of its surface level.

11   So basically you might say it's almost

12 like in a bathtub where if you put your hand through

13 it'll have that wave sloshing back and forth and that

14 in itself can create mixing below. And I'm wondering

15 if this type of phenomena was looked at in this model.

16 Thank you.

17

18   (BRIEF PAUSE)

19

20   MR. MICHAEL HERRELL: It's Mike

21 Herrell, of Golder Associates. So the -- the

22 modelling that was completed was done in the

23 hydrodynamic model. So the hydrodynamic model

24 accounts for the -- the wind driven currents within

25 the -- the lake itself and it'll account for those

1 effects inherently within the -- the factor that that

2 model accounts for.

3 So it includes the -- the wind speed

4 and the vertical mixing that can be associated with

5 the -- the wind driven forces.

6 MR. RICHARD BARGERY: Richard Bargery,

7 Dominion Diamond. Just -- just on -- on this, because

8 we -- we went fairly fast through -- through the

9 presentation because there were a lot of issues to

10 address. So just with respect to this scenario

11 itself, this came out of a -- a workshop we -- we had

12 with the GNWT and it was a suggestion from the Board's

13 -- the expert to do this.

14 I call it the Biblical case, because it

15 will never -- never happen, but it -- it is a --

16 something that would -- it -- it's a circumstance we

17 think would never ever happen. It's -- it's really an

18 extreme -- extreme case. So I just wanted to make

19 that point for the Board that what we're talking about

20 here is -- is something that -- that probably is far

21 outside the realm of possibility.

22 MR. TIM BYERS: Tim Byers, with the

23 agency. This particular modelling, again, with the

24 idea of a seiche potentially created, I could see

25 where that perhaps might not occur in a small pit lake

1 like Misery, however, Jay at closure will be

2 reconnected again with the larger Lac du Sauvage.

3   And we at the agency are wondering if

4 that particularly long -- long -- much longer fetch of

5 that lake may in fact create winds that -- or sorry,

6 waves over the -- the Jay portion of that lake. Thank

7 you.

8   MR. MICHAEL HERRELL: It's Mike

9 Herrell, of Golder Associates. So the -- the Jay pit

10 following back flooding will be surrounded by a dike

11 that will remain above the surface and the dike

12 elevation will be about 2 metres above the -- the lake

13 surface and it'll only be breached in -- in certain

14 parts.

15   So the -- the fetch of the full lat --

16 length of Lac du Sauvauge is irrelevant for generating

17 currents within -- within the -- the diked off area of

18 the -- the Jay pit. So the -- the fetch that was

19 included in the med -- modelling was within the -- the

20 diked off area, because that'll act as a wind barrier

21 for waves that are generated outside of the diked

22 area.

23   MR. TIM BYERS: Tim...

24

25   (BRIEF PAUSE)

 1   THE CHAIRPERSON: Dominion, do you

 2 have a response or more to that? No?

 3   MR. RICHARD BARGERY: No, I think -- I

 4 think that's fine, Madam Chair.

 5   MR. TIM BYERS: Tim Byers, with the

 6 Agency again. Onto my next question. If we go to

 7 slide 19, I have a bit of confusion.

 8   You don't -- you state that you don't

 9 agree with the -- the measure proposed by NWT yet you

10 seem to have designed a mine water management plan

11 that accomplishes the very thing that NWT is proposing

12 in their measure. So I'm not -- I'm not quite sure

13 why you would be opposed to the measure. I wonder if

14 you could explain, please?

15

16   (BRIEF PAUSE)

17

18   MR. RICHARD BARGERY: Richard Bargery,

19 Dominion Diamond. I think that's the point, Tim, that

20 because we've designed it in such a way that it was

21 protective, we don't think we need a measure.

22   MR. TIM BYERS: Thank you. Moving

23 onto my next question then, I noticed in a response to

24 NWT-IR-204, DDEC doesn't seem to answer the NWT's

25 question surrounding which species of aquatic life may

1 be harmed sublethally within the mixing zone. And

2 that brings us to the acute toxicity testing that

3 you're committed to.

4   And I am wondering if the appropriate

5 species of cladocera will be used? You're using

6 daphnia quite -- quite correctly, but I would submit

7 to you that your recent AEMPs for the lakes downstream

8 of the current Ekati mine are showing that it's not

9 daphnia that is declining in the zooplankton

10 community, but it is a separate species called

11 Holopedium gibberum. And that particular species I

12 noticed was found in your baseline study in Lac du

13 Sauvage at -- in the summertime 25 percent of the

14 community.

15   So I am wondering if the Company has

16 entertained the possibility of having a secondary

17 cladoceran species along with daphnia be tested for

18 acute toxicity?

19

20   (BRIEF PAUSE)

21

22   MS. CLAUDINE LEE: Claudine Lee,

23 Dominion Diamond. That -- that determination of

24 appropriate testing and species is a part of the

25 development of the Aquatics Effects Monitoring Program

1 Design Plan. And as discussed and in response to

2 parties' recommendations we have already, as part of

3 the engagement, provided a conceptual plan. And

4 further engagement will be completed both with

5 communities, regulatory groups, and the Water Board

6 during that regulatory process.

7   MR. TIM BYERS: Thank you. I only

8 have two (2) more questions, if I may? The next

9 question is on --

10   THE CHAIRPERSON: State your name,

11 please.

12   MR. TIM BYERS: Oh, sorry. Tim Byers,

13 Monitoring Agency. On slide 24, your last bullet has

14 said that:

15   "If there are any changes identified

16   in -- in the plankton community,

17   that response plans will be

18   developed within the AEMP response

19   framework as appropriate."

20   I find the -- the phrase, "If changes

21 are identified," is fairly vague. What I would seek

22 is what level of change in that community will

23 necessitate a response. So what are the triggers for

24 community change that will cause the Company to decide

25 that there may need to be some actions taken and what

1 are the lead times for changes occurring between the

2 time sig -- significant changes within that community

3 is identified and actions can be take to reverse any

4 significant adverse impacts to the community?

5   Thank you.

6   MS. CLAUDINE LEE: Claudine Lee,

7 Dominion Diamond. As it says, response plans would be

8 developed as part of the Aquatic Effects Monitoring

9 Program and as a requirement of the water licence. So

10 triggers, lead times, all of those things would be

11 discussed once a design plan is in place and the

12 aquatic response framework is updated to include

13 those.

14   That process if part of the regulatory

15 phase and does have an engagement process and

16 opportunity there for the -- the communities of the --

17 for IEMA and the -- and the regulators to be a part

18 of.

19   MR. TIM BYERS: Thank you. And my

20 final question -- final -- sorry, Tim Byers,

21 Monitoring Agency. There seems to be a bit of an

22 inconsistency related to what the Company has stated

23 in regards to the shoals in Lac du Sauvage.

24   In the DAR, specifically page 9-35,

25 they stated that, quote:

1   "Compared to Lac de Gras, shoals in

2   Lac du Sauvage are generally not as

3   numerous and provide less potential

4   spawning habitat of good or fair

5   quality than in Lac de -- Lac de

6   Gras."

7   But this assessment seems to be

8 contradicted in the Company's response to the agency's

9 tech report, page 2-12, when they state that:

10   "Any changes to habitat at the

11   spawning shoals are, therefore,

12   considered to be very small and have

13   no measurable effect to population,

14   the abundance for fish, due to the

15   high availability of suitable

16   spawning habitats in Lac du

17   Sauvage."

18   So there seems to be some uncertainty

19 as to whether Lac du Sauvage is habitat limited for

20 the very species that Aboriginal communities are

21 concerned about, such as trout, such as whitefish.

22 And this will be a serious consideration if it is

23 determined that Lac du Sauvage and Lac de Gras fish

24 populations are in fact isolated, which I've heard

25 from other -- other tech reports allude to.

 1   And I don't know if that's -- that's

 2 currently or if that's with a perceived drop in the

 3 narrows between the two (2) -- water -- water level

 4 drop between the two (2) lakes.

 5   So I'm wondering if the Company can

 6 clarify whether they see Lac du Sauvage as habitat

 7 limited for spawning of VC fish. Thank you.

 8

 9   (BRIEF PAUSE)

10

11   MR. CAM STEVENS: Madam Chair, Cam

12 Stevens, Golder Associates. To -- it is our

13 understanding there is no change in message or

14 consistency between the DAR and the response. There

15 is different use of terminology, and potentially

16 that's where the confusion lies.

17   But we do maintain that there is an

18 abundance of -- of spawning habitat in the effects

19 study area, most of which would be occurring in Lac de

20 Gras. And we also maintain that the two (2) lakes are

21 well connected and that fish in one (1) lake likely do

22 move into the adjacent lake and that individuals from

23 both sides do breed with one another.

24   And by that definition, Lac du Sauvage

25 and Lac de Gras was treated as one (1) unit in the

1 effects -- as an effects study area.

2   MR. TIM BYERS: Supplementary if I

3 may, Madam Chair. Tim Byers, with the agency.

4   I take your point and I agree with you

5 provided that the water levels withing Lac du --

6 within the narrows do not recede greater than

7 expectation and result in two (2) isolated lakes. If

8 that occurs then it would be most important, I think,

9 for the fish within Lac du Sauvage for us to know if

10 they're going to have a problem in finding enough

11 spawning beds to sustain the population. Thank you.

12

13   (BRIEF PAUSE)

14

15   MR. CAM STEVENS: Madam Chair, Cam --

16 Cam Stevens, Golder Associates. Would it be possible

17 to go to slide 30? Are we the controller? We are.

18 Okay.

19   So the response is presented here and I

20 would just like to direct your attention to the second

21 bullet, the AEMP -- the Aquatic Effect Monitoring

22 Program response fram -- framework will include early

23 warning action levels.

24   And these are the action levels that

25 the agency is -- is referring to, to hydro --

1 hydrologic changes that require management actions to

2 prevent further -- prevent adverse affects to fish.

3 These details will be discussed in a -- during

4 engagement with regulators and communities during the

5 water licence process.

6   MR. ELLIOT HOLLAND: Elliot Holland,

7 for Dominion Diamond. Just to -- to add to that, to -

8 - to be specific, during the -- the back flooding

9 process during closure the rate of -- of back flooding

10 will be -- will be under the -- the control of -- of

11 the project and we can adjust it in response to -- to

12 these concerns so that it -- we -- we don't encounter

13 the situation where -- where we have, you know,

14 greater than a generation for fish species where --

15 where there isn't conductivity.

16

17   (BRIEF PAUSE)

18

19   MR. TIM BYERS: Tim Byers, with the

20 agency. Thank you for your responses. We have no

21 further questions, Madam Chair.

22   THE CHAIRPERSON: Thank you.

23 Questions Government of the Northwest Territories?

24   MR. NATHEN RICHEA: Thank you, Madam

25 Chair. My name is Nathen Richea. I'm the manager of

 1 the water regulatory section with the water resources

 2 division with Environment and Natural Resources.

 3   We have a variety of questions for

 4 Dominion Diamond here today, but we've screened them

 5 to the most important ones in consideration of the

 6 time that is allotted for the hearing here today.

 7 Myself, I'll have a series of questions and also one

 8 (1) of our con -- technical consultants, Mr. Barry

 9 Zajdlik of Zajdlik and associates will have a few

10 questions as well.

11   So I have a bit of a preamble before I

12 start in my line of questioning and we'll start with

13 Dominion Diamond has responded to Information Requests

14 about water management indicating that they have

15 effectively mitigated strateg -- effective mitigation

16 strategies to address water quality issues and that

17 they will be implementing adaptive management should

18 issues become apparent during operations.

19   They note that deviations from DAR

20 predictions would be a trigger for adaptive management

21 for water storage and effluent discharge. They've

22 also stated that they would not discharge effluent

23 that's acutely toxic. Dominion Diamonds responded to

24 recommendations from the GNW -- the GNWT about water

25 management contingencies on slide 13.

 1   So the first question I have for

 2 Dominion is: What adaptive management options exist,

 3 if effluent is acutely toxic in year ten (10) of the

 4 development, and Misery pit is filled with mine water

 5 in year five (5)?

 6

 7   (BRIEF PAUSE)

 8

 9   MR. RICHARD BARGERY: Just one (1)

10 second, Madam Chair. We're just trying to find the

11 right -- the right reference.

12

13   (BRIEF PAUSE)

14

15   MR. JOHN FAITHFUL: Madam Chair, John

16 Faithful for Golder Associates. I think one (1) of

17 the -- the strong benefits of the -- of the Water

18 Management Plan is the -- the ability to -- to

19 undertake a lot -- operational monitoring within the

20 Misery pit right from the commencement of operations.

21 That provides a great opportunity to be able to -- to

22 monitor water quality and determine whether or not the

23 water quality is tracking towards a -- a condition

24 that would present potential acute toxicity concerns.

25   The DAR environmental assessment

 1 conservative case provided a -- provided a real

 2 conservative estimate of what -- of TDS

 3 concentrations, which are -- which I'll refer to in

 4 terms of -- of where the potential for toxicity li --

 5 lies. It presented a scenario where -- at -- at year

 6 ten (10) we're approaching conditions that could be

 7 potentially acutely toxic. That's the EA conservative

 8 case. The modelling has also provided an indication

 9 of what the overall bound around water quality

10 conditions in Misery pit could potentially be.

11   With that being said, the benefit is

12 the fact that the operational monitoring starts from -

13 - starts from the operation year one (1) of the

14 project, and is in place for a number of years before

15 operational discharge is required.

16   Now, in the event that contingencies

17 need to be considered based on water quality

18 conditions being outside that -- the bounds of which

19 have been carried forward in the assessment, there are

20 a number of -- of contingencies that the -- that

21 Dominion Diamond can consider in -- in dev -- in

22 mitigating any potential further concerns.

23   Now, they've been outlined in -- both

24 in the DAR, and in a number of Information Request

25 responses during this process. Now, I'm struggling to

1 find the location of that list. And I think -- I

2 think -- we actually have them here, so I will -- I

3 will speak to some of these now.

4   The -- I do -- I do refer to IR-Round-1

5 Response to Environment Canada Number 15. The list of

6 contingencies includes the capacity to actually

7 maintain a freeboard in Misery pit over the course of

8 operations. That's a 10-metre contingency which

9 allows for the additional storage of an extra three

10 (3) -- 3 million cubic metres of water.

11   The other alternative is to maintain

12 pumping capacity and a pipeline between the Misery and

13 Link Pits -- Lynx Pits throughout the operations stage

14 to allow for a lowering of the Lynx Pit water level to

15 generate again additional capacity for mine water

16 storage, if it's needed; increasing the storage

17 capacity in the Jay runoff sump and mine inflow sump

18 to augment temporary mine water storage capacity

19 within the diked area during operations; consideration

20 of direct discharge to the environment from the Jay

21 runoff sump if water is found to meet discharge

22 criteria; the use of storage capacity available at the

23 Ekati mine site; or the treatment of parameters of

24 concern prior to discharge to Lac du Sauvage, if

25 necessary.

1   MR. RICHARD BARGERY: Madam -- Madam

2 Chair, Richard Bargery, Dominion Diamond. So I just

3 want to make a point here with respect to this -- this

4 recommendation. We haven't precluded discharging from

5 years '03 to '08. That's not what we're saying when

6 we disagree with this recommendation.

7   We're just saying that it shouldn't be

8 a measure, and it shouldn't be decided today. We need

9 -- that oper -- that operational flexibility is -- is

10 a positive part of the -- of the Water Management Plan

11 that -- that we have, and we'd like to maintain that

12 flexibility because we think that that -- that is

13 operationally the -- the best -- the best situation

14 right now. Thank you.

15   MR. NATHEN RICHEA: Thank you, Madam

16 Chair. It's Nathen Richea, with ENR. Thank you for

17 the answer.

18   I, too, have seen the list of

19 contingency options that were presented by the

20 Developer. I guess in the event that some of those

21 contingency options were actually implemented, we

22 don't really understand what the implications or

23 potential significance of that would be.

24   For example, in the event that water

25 from Misery was moved to Lynx Pit, that hasn't been

1 included as part of the assessment for -- for this

2 process. But I do have a follow-up question to the

3 response, and that is: What contingency storage would

4 be needed and how much time would be required for the

5 Developer to create that contingency storage, if there

6 was toxicity issue in year ten (10)?

7

8   (BRIEF PAUSE)

9

10   MR. JOHN FAITHFUL: John Faithful,

11 Golder Associates. Year ten (10) of mine operations

12 is -- is right at the back end of the mine operations,

13 and I think that a number of the contingencies that we

14 provided are valid and appropriate. However, the --

15 the key piece -- or the key contingency that we can

16 speak to in this regard for that situation is the --

17 the 10-metre freeboard at the -- at the top of Misery.

18   But in saying that, again I come back

19 to the point that we have a raft of time with respect

20 to the Mine Plan, and the Water Management Plan, to be

21 able to track water quality conditions in the Misery

22 Pit prior to even the commencement of -- of discharge.

23 We are going to know well in advance how things are

24 tracking with -- with some confidence.

25   That also provides a great deal of time

1 to identify, if necessary should water quality

2 conditions change beyond that which has been

3 projected, to undertake adaptive management. And --

4 and that again speaks to -- speaks to the strength

5 around the Water Management Plan, and it also speaks

6 to the commitment Dominion have with respect to -- to

7 protecting the downstream environment.

8   MR. NATHEN RICHEA: Thank you, Madam

9 Chair. It's Nathen Richea again, with the GNWT.

10 Thank you for the response. I have one (1) other

11 question on this topic, and it's really just a matter

12 of clarification.

13   I noted in a lot of the information

14 that was provided in the response to questions about

15 water management that adaptive management would only

16 be applied if deviations from DAR predictions were

17 assessed during operations. And I note right now

18 there are a series of DAR predictions. One (1) is the

19 EA conservative case, which includes the effluent that

20 could be acutely toxic in year 10.

21   So I'm wondering if I can get a

22 clarification from the Company on at what point would

23 they apply the adaptive management? Would it be if

24 deviations from the EA conservative case were

25 monitored during project operations? Because that is

1 the issue that we're talking about here. One (1) of

2 the predictions is, in year 10 the effluent could be

3 acutely toxic, and that's part of the DAR assessment.

4

5   (BRIEF PAUSE)

6

7   MR. JOHN FAITHFUL: John Faithful,

8 Golder Associates. Dominion Diamond are committed to

9 not discharging acutely toxic water. I think we've --

10 we've talked a number of times around the -- the

11 capacity to -- to operationally monitor water quality

12 conditions in the -- in the Misery Pit.

13   Built alongside of that monitoring are

14 going to be thresholds that are going to be built

15 around the -- the conditions to determine whether or

16 not water quality is tracking beyond that EA

17 conservative case and allow the adaptive management to

18 be put in place accordingly.

19   It's not going to be a sense of

20 watching things change, and then making a decision in

21 year 10. It's providing the opportunity, which again

22 is one (1) of the benefits of the water management

23 plan, to allow early warnings to be ad -- to be

24 addressed accordingly.

25   Now, early mor -- warnings don't

1 necessarily mean that things are going to -- to

2 progress to an adverse state, but it allows the

3 Company plenty of time to be able to evaluate the

4 concern and adaptively manage it.

5   MR. NATHEN RICHEA: Thank you, Madam

6 Chair. It's Nathen Richea, ENR. I guess I have again

7 the same question because I think I heard in the

8 answer that if the monitoring deviated from the EA

9 conservative case adaptive management would be

10 applied.

11   And I think that's where we have the

12 issue because the EA conservative case shows that

13 there's going to be acute toxicity in year 10.

14

15   (BRIEF PAUSE)

16

17   MR. JOHN FAITHFUL: John Faithful,

18 Golder Associates. Dominion Diamond reaffirms its --

19 its position on -- on adaptively managing the Misery

20 Pit water quality conditions, so as that -- so as the

21 acutely toxic water will not be discharged to the

22 receiving environment.

23   MR. NATHEN RICHEA: Thank you. Madam

24 Chair, it's Nathen Richea, with ENR. I'll move on to

25 a couple other lines here -- I have here.

1   I think I heard in one of the answers

2   to previous questions here from me: Is it possible

3   that Domin -- Dominion Diamonds could discharge

4   effluent sooner than year five (5), from a logistical

5   standpoint?

6

7   (BRIEF PAUSE)

8

9   MR. JOHN FAITHFUL: John Faithful,

10   Golder Associates. We don't preclude that option.

11   However, again I come back to the -- the benefits of -

12   - of the Water Management Plan that they present to --

13   to Dominion and the receiving environment. There --

14   there is a great deal of flexibility associated with

15   the operational monitoring that's provided for for the

16   mine -- for the Misery Pit.

17   What that does is -- I'll come back.

18   We have -- we have provided a fairly substantial set

19   of modelling that has provided us with confidence

20   around what the likely conditions in Misery Pit will

21   be from the EA conservative case down through to the

22   lower bound scenario. So there's -- we can expect

23   with confidence that within those bounds, that's what

24   the water quality conditions are going to be like in

25   Misery Pit.

1   Now, in the event that we -- we rece --

2 we get Misery Pit water quality conditions that allow

3 discharge to be delayed for another year or two (2),

4 and in the -- as in the lower bound case we suggested

5 that -- that discharge would only be required in year

6 ten (10). There lies the benefit of the Plan.

7   It also speaks to Dominion Diamond's

8 commitment to be protective to the receiving

9 environment, and a limit -- and limit to the extent

10 possible the dire -- this direct discharge piece. And

11 so I -- like I -- I initially stated, We -- discharge

12 earlier is not precluded but where -- what we have

13 proposed in terms of the mine plan provides a great

14 deal of flexibility for Dominion Diamond, and speaks

15 to its commitment to downstream receiving environment

16 protection.

17   MR. NATHEN RICHEA: Thank you. Madam

18 Chair, I have one (1) final question, and then I'll

19 turn it over to Mr. Barry Zajdlik. My question is

20 actually prefaced by the response. Under the lower

21 bound scenario, how long would the pit walls be

22 exposed to the atmosphere?

23   In response to our proposed water

24 management strategy, one of the reasons, or one of the

25 rationale given for putting water into the pit and

 1 filling it sooner, so you say such year five (5), was

 2 that the metasediments in the walls would be

 3 incorporated in the water sooner, and then that would

 4 be less of a risk to the water quality in the future.

 5   But under the lower bound scenario, how

 6 long -- how much more time would be required for the

 7 Misery Pit to fill?

 8   MR. RICHARD BARGERY: Richard Bargery,

 9 Dominion Diamond. I -- I don't think we have that

10 sort of available here today. We can -- we can

11 certainly take that as an undertaking, and be happy to

12 provide that. But -- but we don't have it just off

13 the top of our heads, sorry.

14

15 --- UNDERTAKING NO. 12:   Dominion Diamond to

16   provide how much more time

17   would be required under

18   the lower bound scenario

19   for the Misery Pit to fill

20

21   THE CHAIRPERSON: Legal counsel...?

22   MR. JOHN DONIHEE: Thank you, Madam

23 Chair. It's John Donihee. Does GNWT want that

24 information? Do you want the -- are you accepting the

25 undertaking?

 1   MR. NATHEN RICHEA: Thank you. It's

 2 Nathen Richea, with ENR. Yeah, it would be important

 3 for us to understand the differences between the two

 4 (2) scenarios, and how long the pit walls would be

 5 exposed.

 6   MR. JOHN DONIHEE: It's John Donihee,

 7 for the Board. Thank you, Madam Chair. We'll record

 8 that as Undertaking number 12.

 9   MR. MARK CLIFFE-PHILLIPS: If -- if we

10 could just get a clarification from Dominion on what

11 they understand is -- is the undertaking? Mark Cliff-

12 Phillips, with the Review Board.

13

14   (BRIEF PAUSE)

15

16   MR. RICHARD BARGERY: I think we're

17 going to do a compare -- sorry, Richard Bargery,

18 Dominion Diamond. We'll do a comparison of the length

19 of time the pit walls are open between the

20 conservative case and the lower bound case and the

21 differences between those two (2).

22   Does that -- that -- Nathen's nodding,

23 so I think I've got it right.

24   THE CHAIRPERSON: Okay, carry on with

25 your questions. Sachi...?

 1   MS. SACHI DE SOUZA: Sachi De Souza,

 2 with the Board. Just to clarify something.

 3   So we're -- GNWT's request is to ask

 4 for the length of time that the walls would be

 5 exposed. I think the -- the implication of that

 6 actually gets at water quality within the Misery Pit

 7 given your -- your preamble about the exposed wall and

 8 the rock wa -- rock -- pit wall qual -- rock quality.

 9   So with that, I think the ques -- it

10 could be refined to how long it would take to also

11 fill the Misery Pit in that lower bound scenario and

12 where that water's coming from, I'm assuming it would

13 be based on your existing ICRP, and also, what would

14 the water quality in the pit be as a result. So what

15 would the water quality in the pit be in the lower

16 bound scenario at closure once full?

17

18   (BRIEF PAUSE)

19

20   MR. RICHARD BARGERY: Richard Bargery,

21 Dominion Diamond. Sachi, just -- Sachi, just for

22 clarity, water quality when -- as soon as -- when the

23 pit's full, that's -- that's what -- that's what you

24 said, right?

25   MS. SACHI DE SOUZA: Sachi De Souza,

1 yes.

2   MR. RICHARD BARGERY: Richard Bargery,

3 Dominion Diamond. Yes, we -- we can -- we can provide

4 that as an undertaking -- as part of the undertaking.

5   THE CHAIRPERSON: Okay, carry on with

6 questions, Government.

7   MR. NATHEN RICHEA: Thank you, Madam

8 Chair. It's Nathen Richea, with ENR. I'd like to

9 pass it over to Mr. Barry Zajdlik, a consultant to the

10 GNWT.

11   MR. BARRY ZAJDLIK: Barry Zajdlik, on

12 behalf of GNWT. I have a single question. The

13 question is: Do the conclusions regarding lack of

14 significant biological effects consider simultaneous

15 exposures to multiple contaminants?

16

17   (BRIEF PAUSE)

18

19   MR. RICHARD BARGERY: Just -- Richard

20 Bargery, Dominion Diamond. Just give us one (1)

21 second on -- on this particular one. We just want to

22 make sure we get the answer correct.

23

24   (BRIEF PAUSE)

25

1   MR. RICHARD BARGERY: Richard Bargery,

2 Dominion Diamond. It took us a few minutes to say

3 yes.

4   MR. BARRY ZAJDLIK: Barry Zajdlik, on

5 behalf of GNWT. I do have a followup question given

6 that response. So in -- in consideration of the

7 simultaneous effects, how did you look at additive,

8 antagonistic, and synergistic effects of contaminants

9 that have similar and different modes of toxic action?

10

11   (BRIEF PAUSE)

12

13   MR. RICHARD BARGERY: Richard Bargery,

14 Dominion Diamond. Given the -- given the complexity

15 of that question, I -- I think it deserves a -- a --

16 sort of a -- a full -- a full answer as opposed to us

17 trying to put one (1) together here. So we need to --

18 I think we need -- and -- and frankly I think we'll

19 need to talk to other people that have been involved

20 in -- in the work here.

21   So we'll commit, as Undertaking Number

22 -- I'm not sure what this is, John -- but as an

23 undertaking to provide a -- a fulsome response to that

24 -- that complex question.

25   MR. MARK CLIFFE-PHILLIPS: That's

 1 Undertaking 13. Mark Cliffe-Phillips.

 2

 3 --- UNDERTAKING NO. 13:   Dominion Diamond to

 4   explain how additive

 5   synergistic or

 6   antagonistic effects of

 7   multiple contaminants were

 8   addressed with respect to

 9   similar and different

10   modes of toxic action,

11   including modifying

12   factors

13

14   MS. SACHI DE SOUZA: Sachi De Souza,

15 with the Board. Can we please get that wording from

16 GNWT again?

17   MR. BARRY ZAJDLIK: Barry Zajdlik, on

18 behalf of GNWT. How were the additive synergistic or

19 antagonistic effects of multiple contaminants

20 addressed with respect to similar and different modes

21 of toxic action?

22

23   (BRIEF PAUSE)

24

25   THE CHAIRPERSON: Is that clear on the

1 undertaking?

2   MR. RICHARD BARGERY: Richard Bargery,

3 Dominion Diamond. I think from talking to our team

4 that -- that we understand the question that -- that

5 Barry is -- or the -- the information that Barry is

6 seeking. So we -- we can -- we can respond to that --

7 to that undertaking.

8   THE CHAIRPERSON: Okay. Thank you.

9 GNWT?

10   MR. BARRY ZAJDLIK: Barry Zajdlik. So

11 that would include an addition -- or the discussion of

12 toxicity modifying factors?

13   MR. JOHN FAITHFUL: John Faithful for

14 Golder Associates. Yeah, that undertaking will

15 include modifying factors in the response.

16

17   (BRIEF PAUSE)

18

19   MR. NATHEN RICHEA: Thank you, Madam

20 Chair. It's Nathen Richea, with EN -- ENR. We have no

21 further questions.

22   THE CHAIRPERSON: Thank you.

23 Questions, Yellowknives Dene First Nation?

24   MR. RANDY FREEMAN: Thank you. I'm

25 Randy Freeman, with the Yellowknives Dene. I have a

1 couple of questions. During traditional knowledge

2 work done in the mid-1990s, Yellowknives Dene Elders

3 identified a number of areas in Lac de Gras, and Lac -

4 - Lac du Sauvage as places where in the spring the ice

5 would melt early. And these are shallows that they

6 would then -- the Yellowknives Dene would then go and

7 fish in those areas. And they -- they talked about

8 the fishing, and they talked about the spawning of

9 fish in these areas.

10   The areas they identified in Lac du

11 Sauvage were fairly small. There are two (2) areas in

12 the northeast, one (1) area around the eastern end of

13 the narrows, and one (1) apparently under -- or -- or

14 sorry, above Jay pipe. The -- the fact that they

15 talked about this -- these particular areas as fishing

16 and spawning areas, they didn't seem to make the

17 distinction back then that -- that there may be areas

18 that they fished in where they didn't see fish

19 spawning or vice versa.

20   I would like to know whether any of the

21 studies done by Golder identified Jay pipe bay, the

22 shallow bay, as a fish spawning area?

23

24   (BRIEF PAUSE)

25

1   MR. CAM STEVENS: Cam Stevens, Golder

2 Associates. There were a number of baseline data sets

3 considered and described in the baseline report

4 including the -- the traditional knowledge information

5 provided by the Yellowknives Dene in the -- in the

6 report completed in the '90s.

7   The information is consistent across

8 data sets including -- including the information the

9 Golder collected in 2013, ResCan in 2006, and -- and

10 other -- and other spawning shoal surveys that were

11 performed in -- in the 1990s. To follow up on -- on

12 the -- the information provided in -- in the

13 traditional knowledge report by the Yellowknives Dene

14 and to follow up on -- on some of our findings and

15 results in the assessment, Dominion recently performed

16 a -- a spawning shoal survey last week and -- to -- to

17 follow up on the baseline report and the assessment.

18

19   (BRIEF PAUSE)

20

21   MR. CAM STEVENS: We -- we all -- this

22 is Cam Stevens, Golder Associates. And we -- we also

23 had somebody from the Yellowknives Dene with us during

24 those surveys.

25   MR. RANDY FREEMAN: Randy Freeman,

1 Yellowknives Dene. You seemed to stop short of saying

2 yes or no to -- to the question. Is the shallow area

3 where Jay pipe is a -- a spawning area?

4   MR. CAM STEVENS: Cam Stevens, Golder

5 Associates. There are some spawning areas. There's

6 spawning -- small spawning shoals throughout Lac du

7 Sauvage and Lac de Gras. There's larger shoals in --

8 in other locations of the lake and in -- and

9 especially in Lac de Gras.

10   So the answer to the question is yes

11 there are some spawning shoals there and we have

12 recorded some spawning fish as we -- as we have -- as

13 others have reported in other parts of the -- of Lac

14 de Gras and Lac du Sauvage.

15   MR. RANDY FREEMAN: Well, it's good to

16 hear that -- that -- sorry, Randy Freeman,

17 Yellowknives Dene. It's good to hear that science at

18 least backs up what -- what traditional knowledge

19 says.

20   You also -- this is a supplemental

21 question. You also talked about the connection

22 between Lac du Sauvage and -- and Lac de Gras. And I

23 think you used the word 'likely' which doesn't bring

24 any confidence to me. Likely fish move between the

25 two (2) lakes and I agree. They likely do, but -- but

1 do you have any evidence that they actually do.

2   And -- and I guess this is -- looking

3 at the -- the fact that there are a few spawning areas

4 within Lac du Sauvage while there appear to be many

5 within Lac -- or -- yeah, Lac du -- Lac de Gras.

6   So have there -- has there been any

7 work towards, I guess, bringing the -- that you could

8 -- you could bring some -- some more confidence to --

9 to the movement of fish between the two (2) lakes?

10

11   (BRIEF PAUSE)

12

13   MR. CAM STEVENS: Cam Stevens, Golder

14 Associates. So just to clarify there's -- there's lot

15 -- there is lots of spawning habitat in Lac du

16 Sauvage, but we -- the key point is that there's --

17 there -- there's certainly more of it and larger

18 shoals in -- in Lac de Gras. Fish move. Large fish

19 move even further than smaller fish. And some of

20 these species can move hundreds of kilometres between

21 a spawning habitat and over wintering habitat or a

22 foraging habitat and a spawning habitat. This is well

23 documented in the literature.

24   Our fuel crews have done -- have

25 performed snorkel surveys of the narrows. There's a

1 lot of traditional reports of fish in the narrows

2 moving through the nar -- narrows. There was other

3 research performed in the narrows suggesting that fish

4 likely do move between the two (2) lakes.

5   There's just no reason to believe that

6 fish aren't moving through the narrows, to be quite

7 honest. It's an open connection. It's a deep -- it's

8 a relatively deep connection. It's a short

9 connection. And -- and because of the life hi --

10 history characteristics of the -- the large body

11 species in the lake, there's -- it is very -- it's

12 highly likely that -- I'm almost certain that fish, 98

13 percent certain, if that's better, that it's one (1) -

14 - it's one (1) population unit.

15   And there's sufficient movement between

16 those two (2) lakes to warrant or to suggest that the

17 -- the population is operating at a much broader scale

18 than just one (1) lake.

19   MR. RANDY FREEMAN: Randy Freeman,

20 Yellowknives Dene. I'm going to make a -- I mean,

21 IEMA had -- a question had revolved around, you know,

22 possible drop in level of water flow and the effects

23 that that may have on fish, and -- and I agree. I

24 mean, it's highly unlikely that fish don't migrate

25 between the two (2) lakes, but that brings it around

 1 to, you know, possible water fluctuations in flow.

 2   And you had mentioned that you were --

 3 will be monitoring the flow of water during open water

 4 season. I'm now going to make this -- make this

 5 connection to caribou, which may not seem possible.

 6 But I -- I have a question about the -- the nature of

 7 the equipment to monitor that water level.

 8   I'm not a -- I'm not a water person. I

 9 -- I just was wondering if -- if this is something

10 that would be highly visible or invisible or highly

11 colourful or, you know, letting off rays that chase

12 caribou away. I don't know. I'm just wondering what

13 -- if you had thought of caribou in your plans to

14 monitor the water level as a -- as it being a very,

15 very, very important water crossing for caribou.

16

17   (BRIEF PAUSE)

18

19   MS. CLAUDINE LEE: Claudine Lee,

20 Dominion Diamond. So to measure water levels we would

21 install and have on our projects installed

22 transducers. They're just a small piece of equipment

23 installed in the water. They're very -- they're very

24 inconspicuous and -- and low profile and -- and don't

25 take up much space.

1   Yeah, non -- non-colourful and don't --

2 and don't... Yeah, and we don't -- sorry, they don't

3 emit any UV or -- or anything like that. We do have

4 some installed in the narrows right now. We are

5 collecting data there. For those of you that have

6 been there, I don't -- I don't know if you've -- you

7 even noticed them because they're -- they're...

8   Yeah, we -- we use them all the time or

9 -- or they're fairly standard to be used in -- in all

10 projects, both in the North and -- and across Canada,

11 so it's -- it's very well-known technology. It's very

12 low profile. It's -- it's not invasive fish and --

13 and obviously caribou, as well, which is the concern,

14 have not had an issue. We've never had any issue with

15 any -- any entanglement or anything like that in any

16 of the lakes or in the narrows that we have been

17 measuring with the transducers that are in place now.

18

19   (BRIEF PAUSE)

20

21   MS. CLAUDINE LEE: That was Claudine

22 Lee, with Dominion. I can't remember if I said my

23 name after that.

24   MR. ALEX POWER: Alex Power,

25 Yellowknives Dene. I guess I'd first like to thank

 1 the Proponent for their presentation. I don't envy

 2 the task of having to give a plain language discussion

 3 on, you know, this computational model, and I just

 4 want everyone to know that I'm really resisting making

 5 jokes about gambling on Monte Carlo, and -- but it's

 6 hard.

 7   So -- so with the -- with the Jay Pit

 8 and, you know, you're -- you're taking -- you're

 9 making a fairly substantial hole in the ground, and

10 then of course following its closure it'll -- the

11 dikes will be breached and, you know, let water flow

12 back in.

13   In the model, was there an account made

14 for simultaneous very low water levels going into, you

15 know, day one (1) of breaching the dike say, you know,

16 if there were a drought in the Northwest Territories,

17 or something unforeseeable like that, coupled with,

18 you know, draining water back into this pit and what -

19 - how that would affect water levels particularly

20 connectivity between lakes?

21   For instance Paul Lake is a lake that

22 Elders are -- are -- and Yellowknife Dene Elders are

23 very concerned about being cut off, and how this might

24 affect spawning grounds.

25   MR. RICHARD BARGERY: Richard Bargery,

 1 Dominion Diamond. So the concern would be the -- the

 2 flow of water once we've breached the dike, and how

 3 that may affect the narrows and -- and fishing? So

 4 the -- the dike wouldn't be breached until it's --

 5 it's partially full, so we're going to backfill before

 6 we -- before we breach so it's going to be partially

 7 filled.

 8   And then as Elli -- Elliott said

 9 earlier, we have control of the backfilling, and --

10 and we can -- we can modify that depending on water

11 levels, which we -- which we would monitor. So -- and

12 we could, yeah, monitor water levels and climate. So

13 we think that by do -- doing that -- we know by doing

14 that we can control water levels.

15   Like I said, there aren't very low

16 water levels at the narrows as a result of the

17 backfilling of -- of the Jay -- the Jay diked area.

18   MR. ALEX POWER: Alex Power,

19 Yellowknives Dene. Okay, thank you. Has Dominion

20 evaluated the possibility of -- of treating the saline

21 water?

22   Because of course all this is -- you

23 know, a lot of this is in response to the saline

24 groundwater fluxing into -- into these pits through a

25 method like reverse osmosis either directly of the

1 most saline water or -- or less saline water that will

2 then be pumped into, you know, the water shed. Or I

3 don't know, maybe even something more exotic, like

4 using reverse osmosis to maintain the salinity

5 gradient between the cap on meromictic lakes, you

6 know, keeping it -- keeping the water fresher, or

7 something. I don't know.

8   MR. RICHARD BARGERY: Richard Bargery,

9 Dominion Diamond. Well, I -- I -- well, first of all

10 I would say that we think we've -- we've developed a

11 very -- a very good mine water management plan to

12 manage -- manage the water.

13   The modelling indicates that that

14 treatment isn't needed, but it is sort of one of the

15 contingencies that are -- that's on our list at the

16 very -- but it would be one that would be, you know,

17 considered probably well down the list because it

18 brings its own issues and complexities.

19   So but I think the important point

20 here, Alex, is that we -- we think we have a very,

21 very solid mine water management plan that -- that

22 addresses all the issues with -- with the saline

23 water.

24   MR. ALEX POWER: Alex Power,

25 Yellowknives Dene. Thank you. So again, meromixis I

1 think, is -- is a really counterintuitive thing

2 initially. You know, you're -- you're relying on the

3 saline water not mixing with the -- with the

4 freshwater by virtue of it being saline and not fresh.

5 And of course the -- the stability of this system is -

6 - is largely dependent on maintaining that gradient.

7   So, you know, the more saline the one

8 side, and the -- the fresher the other side the

9 better. Part of this is dependent on, you know, water

10 not moving in and out say at -- at different levels of

11 -- of differential salinity. So, for instance, if --

12 you know, as has happened in -- in other meromictic

13 lakes, where you have water moving in at, you know,

14 upper levels of -- of the lake that have higher

15 salinity, like groundwater, for instance,

16 destabilizing the gradient and resulting in increased

17 mixing.

18   So with, you know, the planet getting

19 warmer and destabilization of permafrost seeming

20 imminent, is that a concern that -- that's been

21 addressed, i.e., you know, the ground melts, water

22 rushes in -- or, not rushes, but you know, water moves

23 in, destabilizing the gradient?

24

25   (BRIEF PAUSE)

1   MR. ELLIOT HOLLAND: Elliot

2   Holland, for Dominion Diamond. First I'd -- I'd like

3   to just spend a few seconds talking about meromixis.

4   It's a -- it's not a familiar word to -- to many lay

5   people. But I -- I don't want the -- the Board to

6   come away with the impression that -- that it's exotic

7   any way.

8   Differentiating liquids based on

9   density is, you know, what separates oil and water.

10 It -- it's present in a cappuccino. This is a -- this

11 is a fairly standard physical law. So with that as

12 context, I'll hand it over to our -- our consultants

13 to start confusing us again.

14   MR. MICHAEL HERRELL: It's Mike

15 Herrell, from Golder Associates. Just to provide some

16 additional context to the -- the water quality

17 modelling that was done. Hydrodynamic modelling was

18 completed for both the -- the Jay and the Misery pits.

19 The purpose of these models was to assess the

20 likelihood of meromixis developing within the pits for

21 the -- the designed Water Management Plan, and then

22 whether that meromixis would remain stable into the

23 future.

24   The latter part of that considered all

25 of the inflows to the pit at different depths. So you

1 mentioned the other -- other pit lakes, such as those

2 mentioned in Peters and Lawrence (phonetic) in 2014,

3 where there were other inflows that influenced the

4 chemistry of those pit lakes. Those -- those are

5 unique pit lakes that have different water management

6 strategies from the -- the Jay pit. So considering

7 all the inflows at the Jay pit and also the -- the

8 Misery pit, the pits were predicted to remain

9 stratified throughout the two hundred (200) year

10 modelling time period.

11   In a -- in addition -- in addition to

12 the -- the modelling that was done as part of the DAR

13 we've, through a engagement with MVEIRB and the GNWT,

14 we have done several other modelling scenarios to see

15 if there are conditions that would turn over the --

16 the pits for these -- the Water Management Plan for

17 the -- the Jay Project.

18   And all scenarios modelled the pits

19 were actually predicted to remain stratified, even at

20 lower TDS concentrations. So I agree it -- it's not

21 always immediately intuitive what meromixis is, but

22 the -- the science behind it supports that the -- that

23 meromixis will form in these pits and remain stable in

24 the future.

25   MR. ALEX POWER: Alex Power, YKDFN.

1 Not to quibble, but oil and water aren't separate by

2 meromixis. They -- they stay separate because of, I

3 guess, differential ionicity, but -- and -- and, you

4 know, I -- I understand that the model shows them --

5 shows them staying separate. But, you know, it's a

6 probabilistic model, and it's saying that, you know,

7 given the, you know, parameters that have been

8 selected based on what we know, this is the -- the

9 expected outcome within some range of error.

10   So, like I said last night, model --

11 models aren't prescriptive. It doesn't predict the

12 future. I recognize their -- their value and I -- I

13 think this is -- this is -- is a thoughtful model and

14 I'm not -- I'm not disparaging it in any way. So

15 again -- so going back to things that can go -- go

16 wrong.

17   And now in the event that -- did the

18 model account for things like wall collapse within the

19 pit? Because that, of course, is something that's

20 happened in other meromictic lakes where, you know,

21 it's -- you know, you think of -- you -- you said a

22 cappuccino. And, of course, if -- a good example is

23 when you -- you pour sugar into your cappuccino and

24 you don't stir it, the sugar is nicely at the bottom

25 and gives you a -- a disgusting mouthful of sugar at

1 the end. And -- and so we -- we stir it up.

2   Now in the case of, you know, one (1)

3 of these pits, let's look at Bear Claw, because part

4 of the wall has degraded from -- it's -- it's trivial

5 degradation, granted, but a little bit of it's

6 collapsed because of where the processed kimberlite

7 has been pumped in as a slurry right at that point.

8   Let's say there's a catastrophic

9 collapse in the wall. That's -- you know, that's your

10 stir stick going in there. Has -- has that been

11 evaluated as a possibility?

12

13   (BRIEF PAUSE)

14

15   MR. RICHARD BARGERY: Richard Bargery,

16 Dominion Diamond. We have -- we have actually

17 responded to this. So we're just going to -- it's a

18 similar kind of question so we'll -- we'll dig that

19 out.

20   I would note that for Alex is that we

21 did run a case where we essentially put a -- a full

22 case of sugar in to create some energy and it didn't

23 overturn, so.

24   MR. ALEX. POWER: Alex -- oh, sorry.

25

1   (BRIEF PAUSE)

2

3   MR. RICHARD BARGERY: Madam Chair,

4 Richard Bargery, Dominion Diamond.

5   We -- we have discussed that in

6 previous IRs. We can't -- we can't locate it right

7 now, so I -- I can't -- I can't give that answer, but

8 I'll -- I will dig out the -- the number of the IR

9 response and -- and provide that here later today.

10   MR. ALEX POWER: Alex Power,

11 Yellowknives Dene. Thank you for that. And if I

12 missed that response I credit it to the not over

13 abundance of capacity. And I appreciate you're

14 carrying the analogy of sugar forward.

15   So in the event of, you know,

16 catastrophic failure of the meromictic state either by

17 virtue of -- well, just by virtue of just some

18 unanticipated event, I don't know what, what's the

19 response -- what -- like, you know, to -- to borrow

20 from physics, because that seems to be what this is

21 about today, how do we uncrack that egg?

22   If the -- if the water all gets mixed

23 up and now we've got this, you know, little inland

24 sea, or, you know, whatever, this -- this highly

25 saline area whether it's at Misery or, you know, at

1 Bear Clar, or in the Jay pit where it's just through

2 no foreseeable scenario it -- it all just starts

3 mixing.

4   What -- what -- yes. What's -- what's

5 the response to that? How do we uncrack that egg?

6 How do we -- how do we fix that?

7

8   (BRIEF PAUSE)

9

10   MR. RICHARD BARGERY: Richard Bargery,

11 Dominion Diamond. Sorry. Just in response to the --

12 to the earlier question, Alex, about -- about a

13 collapse of pit walls and -- and there is a -- a full

14 answer in IEMA IR-17 which is the First Round of IRs

15 and I can provide a copy of that to you.

16   In the case of -- of what -- what do

17 you do, I -- we have answered that as well in -- in

18 the IR rounds, but in the -- you know, in a low

19 likelihood event, a very low likelihood event, I mean,

20 really there's nothing you can do. But what our

21 models show is that the -- the pit would restratify

22 over time.

23   Thank you, Madam Chair.

24

25   (BRIEF PAUSE)

 1   MR. ALEX POWER: Alex Power,

 2 Yellowknives Dene. I have no more questions -- or

 3 Yellowknives Dene have no more questions. Thank you.

 4   THE CHAIRPERSON: Okay, thank you.

 5 Just a comment in regards to the presentations. If

 6 you could please keep on track with your questions and

 7 have them limited to the project. And at this time,

 8 we'd like to call a ten (10) minute break. Thank you.

 9

10 --- Upon recessing at 10:39 a.m.

11 --- Upon resuming at 10:57 a.m.

12

13   THE CHAIRPERSON: Questions from

14 Lutsel K'e Dene First Nation?

15   MR. PETER UNGER: Peter Unger, Lutsel

16 K'e Dene First Nation. Just before I start my

17 questions I really wanted to thank the Board, but most

18 especially the Board staff. I'm pretty tired from

19 yesterday, and I didn't have to set any of this stuff

20 up, so thank you very much.

21   So my first question is: When talking

22 about meromixis Dominion cited several analogous lakes

23 as examples of meromixis at mine sites. These include

24 Gunnar Pit, Faro Pit, Grum Pit, and Vangorda Pit.

25   Does Dominion have any information

1 about how fish populations have changes in these lakes

2 before and after? Thank you.

3

4   (BRIEF PAUSE)

5

6   MR. RICHARD BARGERY: Richard Bargery,

7 Dominion Diamond. We haven't looked at that, to be --

8 to be frank, Peter. But we -- we are prepared to take

9 that away and -- and find out the information and come

10 -- and come back as an undertaking, but we -- we

11 haven't -- we haven't looked at it.

12   Richard Bargery, Dominion Diamond. I -

13 - I should note that we're not sure what information

14 is available, so we -- we'd -- I had to put that

15 caveat on it.

16   THE CHAIRPERSON: Legal counsel...?

17   MR. JOHN DONIHEE: Thank you, Madam

18 Chair. It's John Donihee.

19   I understand then that Dominion will

20 look at what's happened with reference to fish

21 populations before and after the creation of these

22 meromictic lakes and the pits that Mr. Unger

23 mentioned. And that would be Undertaking number 14.

24

25 --- Undertaking No. 14:   Dominion Diamond will look

 1   at what's happened with

 2   reference to fish

 3   populations before and

 4   after the creation of

 5   these meromictic lakes and

 6   the pits that Mr. Unger

 7   mentioned

 8

 9   MR. RICHARD BARGERY: Richard Bargery.

10 Yes, we have a list of those -- of those pits from --

11 I think that's from a response to one (1) of the IRs,

12 so, yes, we would do that. We would provide that if

13 the information is available.

14   MR. PETER UNGER: Peter Unger, Lutsel

15 K'e Dene First Nations. Thank you for that. So these

16 analogous lakes that I just listed off there, they're

17 all relatively closed. They're closed off pits.

18   Does Dominion have any examples of

19 analogous situations where a pit is connected to an

20 extensive network of water bodies, as the Jay Pit

21 would be?

22

23   (BRIEF PAUSE)

24

25   MR. MICHAEL HERRELL: It's Mike

 1 Herrell, from Golder Associates.

 2   So, no, we don't have an example where

 3 there aren't any pits on land. But I do want to

 4 clarify that -- that as we mentioned this morning,

 5 there will be a dike that'll be built around the --

 6 the Jay Pit area that will remain at 2 metres above

 7 the -- the lake water surface, which will somewhat

 8 connect that to the -- the land mass itself, and that

 9 the -- the dike its -- will behave as a -- as a wind

10 barrier to the pit lake.

11   So it will behave in a similar fashion

12 to some of those lakes that are isolated more from

13 direct water bodies.

14   MR. PETER UNGER: Thank you. Peter

15 Unger, Lutsel K'e Dene First Nation.

16   But it will be connected to the water

17 body. So is it fair to say that there are no previous

18 examples of what Dominion is proposing to attempt in

19 the Jay Pit? Thank you.

20

21   (BRIEF PAUSE)

22

23   MR. MICHAEL HERRELL: It's Mike

24 Herrell, from Golder Associates.

25   Personally, I'm not aware of any pits

1 that are analogous to -- to this site in the North.

2 However, I -- I do want to be clear that we -- we have

3 modelled the processes of this pit, and the -- the

4 process of -- of development of meromixis in this pit

5 will be similar to all the other pits that we've sited

6 as analogous pit lakes to this -- this particular

7 project.

8   One (1) of the benefits of it actually

9 being exposed to an open-pit lake is that, in the

10 mixolimnion, the water that will -- that will flow

11 through the -- the upper layer of the pit will be --

12 will provide a constant flow of freshwater into the --

13 into the upper layer of the pit lake, creating a -- a

14 lower density mixolimnion, which will increase

15 stability in time.

16   And these processes are accounted for

17 in the -- in the water quality model. And for all the

18 scenarios we've modelled, there's no reason to believe

19 that meromixis won't form in these pits. And there's

20 confidence around the -- the predictions that

21 meromixis will remain stable in -- in the pits in the

22 long term.

23   MR. PETER UNGER: Thank you. Peter

24 Unger, Lutsel K'e Dene First Nation. I -- I just want

25 to be clear, though. So, I mean, we're basically

1 relying on the model, then. This kind of situation or

2 something very, very similar has really never been

3 attempted before.

4   Is that true? Thank you.

5

6   (BRIEF PAUSE)

7

8   MR. MICHAEL HERRELL: It's Mike

9 Herrell, from Golder Associates. Just to clarify, no.

10 Meromixis has been used at other projects, and it is -

11 - it is a phenomenon that it -- has occurred at other

12 projects. So it's not unique to the Jay -- Jay

13 Project itself.

14   Meromixis is a -- is a -- a mine water

15 management strategy that has been used at other mines,

16 so it's not just unique to this particular project.

17   MR. PETER UNGER: Thank you. Peter

18 Unger, Lutsel K'e Dene First Nation. I'm not talking

19 about the concept of meromixis being used at -- at a

20 mine site. My point is is that if you have a closed-

21 off lake or a pit lake, you know, however low the risk

22 of turnover is, the impacts of turnover seem much like

23 sig -- less significant.

24   My question is is: Has it ever been

25 tried before where a pit is part of a much larger

1 lake, and -- and that's where the meromixis is

2 occurring?

3   I'm going to get into whether the

4 meromixis will stay -- stay stable and all that stuff

5 in a moment. Right now, I'm just wanting to make it

6 clear that this is a relatively unique situation in

7 that it's connected to a much larger lake.

8   I -- I understand that the model, you

9 know, favours that meromixis will stay stable. I just

10 want to know that we don't really have any previous

11 examples of this specific situation.

12   Is that true? Thank you.

13   MR. ELLIOT HOLLAND: Elliot Holland,

14 for Dominion. Peter, I -- what I would say is there's

15 no perfect analogies. I mean, we -- we can't find a -

16 - a pit which is exactly the same in every way.

17   But meromixis in general is a -- is a

18 principle that -- that's -- that's quite common. And

19 because that this project does have certain elements

20 which are -- which are unique, we haven't just done a

21 model. I

22   n fact, we've done a -- a raft of

23 models ranging from, you know, conservative to very

24 conservative to -- to what Rick described as Biblical,

25 where we have winds that -- that typically only occur

1 at the ten thousandth (10,000th) of a time -- of the

2 time blowing across the surface of the lake for a

3 year.

4   So -- so we think that our -- our

5 modelling -- our -- our models, you know, multiple,

6 taken as a whole, appropriately address the -- the

7 circumstances which -- which are unique, and -- and

8 give good confidence to -- to the Board that we've --

9 we've appropriately assessed the -- the situation.

10 Thank you.

11   MR. PETER UNGER: Thank you. Peter

12 Unger, Lutsel K'e Dene First Nation. So again, I'm

13 not disputing the model. I just -- I just want to

14 make it clear that this specific situation hasn't been

15 tried before.

16   Moving on, I understand it's a one (1)

17 in ten thousand (10,000) chance, but let's say the one

18 (1) in ten thousand (10,000) chance happens through --

19 however improbable it may be. Has Dominion done any

20 analysis of what the impacts would be if there was to

21 be a turnover in the Jay Pit? Thank you.

22

23   (BRIEF PAUSE)

24

25   MR. MICHAEL HERRELL: It's Mike

1 Herrell, from Golder Associates.

2   Just to be clear, the -- the wind speed

3 that occurs at one tho -- one thousandth (1,000th) of

4 the time, that -- that's the wind speed occurring. We

5 sustained that wind speed for a period of a year, just

6 to give an example of how extreme that -- that

7 situation is. It's not likely to occur.

8   And in that scenario, for the upper --

9 we ran that scenario for both our -- the EA

10 conservative case, the reasonable estimate case, and

11 the lower bound scenario. And under all of those

12 scenarios, the pits were not predicted to overturn.

13 The meromixis formed in that.

14   The second part of your question, you

15 asked if we have evaluated what is -- what is the

16 water quality if the pit does overturn? We did do

17 that in -- I believe it was IR Round I, and we'll dig

18 that out and we can provide you with a reference to

19 that. Thanks.

20   MR. PETER UNGER: Thank you. Peter

21 Unger, Lutsel K'e Dene First Nation.

22   In IR-I, I know we're going to get to

23 that, did you also evaluate, you know, potential

24 residual impacts? So how this water quality would

25 effect aquatic life, and even terrestrial life that

1 depends on this water? Thank you.

2

3   (BRIEF PAUSE)

4

5   MR. RICHARD BARGERY: Richard Bargery,

6 Dominion Diamond. So we did compare it to -- to

7 current guidelines, but we don't -- we don't have what

8 parameters we -- we compared. So we're going to have

9 to dig out the -- the full IR ref -- reference, and --

10 and provide that, Peter, because it is fairly -- I

11 think fairly lengthy.

12   MR. PETER UNGER: Thank you. Peter

13 Unger, Lutsel K'e Dene First Nation.

14   So you mentioned that, you know, I've

15 heard in terms of time, two hundred (200) years

16 mentioned, and -- and things like that. So Lutsel K'e

17 Dene First Nation intends to use this land in

18 perpetuity forever.

19   So, you know, again, I don't -- I don't

20 have the technical expertise to -- to follow a lot of

21 what's going on, but basically can you guarantee the

22 Jay Pit will never mix, not just in fifty (50) years,

23 not centuries from now, and not millennia from now?

24 Thank you.

25

 1   (BRIEF PAUSE)

 2

 3   MR. MICHAEL HERRELL: It's Mike

 4 Herrell, for -- from Golder Associates.

 5   So as part of the DAR, there was

 6 actually two (2) models that were done on -- on the

 7 pit lake to evaluate water quality in -- in the long-

 8 term. So there was the -- the CE-QUAL model, which

 9 was a ran for a period of two hundred (200) years.

10 That's the hydrodynamic model. The purpose of that

11 model is to look at the hydrodynamics in the pit and

12 see if meromixis will -- will form and -- and remain

13 stable.

14   We also -- the reason that it's run for

15 a period of two hundred (200) years is it's

16 computationally intensive, and to run it for a much

17 longer period of time, it -- it's not always amenable

18 to the permitting process. However, to look at long-

19 term stability within the pit lake and the long-term

20 concentrations, we also did a vertical slice

21 spreadsheet model. And that's -- that's provided in

22 Appendix 8G of the -- of the DAR. And that was also

23 updated as part of the compendium for the -- the

24 reasonable estimate case.

25   The -- the outcome of that model

1 indicates that the -- in the Misery Pit, since there

2 isn't a groundwater inflow into the pit, the -- the

3 lower levels of the pit will actually -- there's --

4 there's a conduit that will drain out into Lac de

5 Gras. It's about 42 metres cubed per day. So it's a

6 very small rate that the -- the lower part of the pit

7 will drain or seep out of the -- out of the bottom of

8 the pit.

9   And as that happens, the model

10 indicates that the lower part of the pit will be

11 fleshed out with -- with freshwater from the -- the

12 upper layer. And then that'll be recharged by surface

13 runoff. So what that modelling indicates, which was

14 run for a period of fifteen thousand (15,000) years,

15 is that it will become fresher in the long term, and

16 be a -- a freshwater body in -- in the long term, even

17 at depth.

18   And the -- the modelling for the -- the

19 Jay Pit also indicates that the -- the net groundwater

20 outflow from the pit is positive. So more groundwater

21 will leave at depth from inflow into the Jay pit. So

22 that will also become fresher in the long-term, too,

23 in -- in periods of -- of fifteen thousand (15,000)

24 years, so.

25   MR. PETER UNGER: Thank you.   Peter

 1 Unger, Lutsel K'e Dene First Nation.

 2   I'm going to move on to the waste rock

 3 storage area. So the waste rock storage area is very

 4 close to several water bodies, which is a big concern

 5 for the community of Lutsel K'e. And -- and again,

 6 we've -- we've gone over this a few times before.

 7 Basically, we're -- we're again looking at the very

 8 long term, so not fifty (50) years, not a hundred

 9 years, but you know, millennia from now.

10   Can you guarantee that there won't be

11 any seepage, you know, accounting for climate change?

12 Assuming it does get much warmer up here, can -- can

13 Dominion guarantee that there will be no seepage from

14 the waste rock storage area ever? Thank you.

15

16   (BRIEF PAUSE)

17

18   MR. JOHN FAITHFUL: John Faithful,

19 Golder Associates. Guarantees, Peter. Yeah -- yeah,

20 we -- we're always looking for guarantees.

21   But I've got to -- got to provide you

22 with the -- the confidence that the -- the waste rock

23 storage area has been designed to -- to promote

24 runoff. And -- and that -- that input has been

25 included in -- in the operational and -- and closure

1 modelling for -- for the -- for the project.

2   As part of the construction and the

3 operation, and in the closure periods, they'll be

4 monitoring, and to -- to determine the performance and

5 to make sure that it is meeting the expectations that

6 -- that the Company has put in terms of its

7 performance.

8   The -- certainly, the -- the seepage

9 chemistry that -- that has been included as part of

10 the -- as part of the -- the assessment has -- has

11 been accounted for in the site water quality model,

12 and has been included in the -- in the Lac de Gras,

13 and Lac -- and -- and Lac du Sauvage hydrodynamic

14 water quality models.

15   And so we're -- we're confident that --

16 that that input has been accounted for, and -- and

17 supports the conclusion that -- that no adverse

18 effects are -- are expected as a result of the runoff

19 or the seepage that will be generated from that

20 facility.

21   MR. PETER UNGER: Thank you. Peter

22 Unger, Lutsel K'e Dene First Nation.

23   So I guess the concern is is that the

24 mine will eventually close, you know, in however many

25 years that may be. And then the mine staff will go

1 and, you know, Dominion may still exist, or it may

2 not. We're very confident that Lutsel K'e will still

3 exist. Our concern is is that either of these things,

4 the Jay Pit overturning or seepage from the waste rock

5 pile happens long after you're gone, and then what do

6 we do?

7   Is there anything Dominion can do? Are

8 there any assurances Dominion can offer? Are there

9 any measures that Dominion can think of, like, to

10 propose to -- to put our minds at ease? Thank you.

11

12   (BRIEF PAUSE)

13

14   MR. RICHARD BARGERY: Richard Bargery,

15 Dominion Diamond. We -- we have a -- an interim

16 closure and reclamation plan in place now for -- for

17 Ekati and the waste rock piles. It's regulated by the

18 Wek'eezhii Land and Water Board. The Jay waste rock

19 storage area would -- would similarly have a plan that

20 would be included in the closure plan. It would be

21 regulated by the Board and would go through the full -

22 - the full regulatory review.

23   So I'm not sure if that gives you the

24 comfort you're looking for, Peter, but that's --

25 that's the process.

1   MR. PETER UNGER: Thank --

2   MR. RICHARD BARGERY: Sorry, just --

3 John just reminded me. It's -- I don't think we've

4 said it, but I mean, our -- our commitment is -- is to

5 meet all those closure objectives in that plan,

6 obviously, including those related to the waste rock

7 storage areas.

8   MR. PETER UNGER: Thank you. Peter

9 Unger, Lutsel K'e Dene First Nation.

10   So, you know, we're confident that the

11 Company has the best intentions and we're confident

12 that all the companies around the Company is going to

13 do what it can to address any issues.

14   My question is: Do you have any

15 provisions at all for post-closure? And I'll be

16 frank, I don't really know what that would look like,

17 but I'm just asking you: Do you have any provisions

18 at all for post-closure? Thank you.

19

20   (BRIEF PAUSE)

21

22   MR. RICHARD BARGERY: Richard Bargery,

23 Dominion Diamond. So the -- the post-closure period,

24 there's a monitoring period for all parts of Ekati

25 post-closure for a -- a period of -- of ten (10)

1 years, I believe. And there would be other mechanisms

2 in place. For example, our friends at IEMA will be in

3 place to ensure that we meet -- meet those

4 requirements, and IEMA's going to continue during that

5 period, so.

6   I -- I'm not 100 percent sure I've

7 answered your question exactly, Peter, but -- but

8 hopefully, I have.

9   MR. PETER UNGER: Yeah, you -- you

10 kind of have. Sorry, Peter Unger, Lutsel K'e Dene

11 First Nation.

12   I mean, again, we're thinking on

13 different time scales here. Lutsel K'e wants to

14 ensure that the land is -- is clean and healthy and

15 that the water is also clean and healthy forever.

16   So, you know, ten (10) years seems very

17 small on that scale. And I'd -- I'd love to see if

18 there's something we could think of for longer term,

19 if there's anything we can think of to -- to address

20 that. Thank you. I have no further questions.

21 Thanks.

22   THE CHAIRPERSON: Thank you.

23 Questions, Tlicho Government?

24   MS. GRACE MACKENZIE: Grace Mackenzie,

25 Tlicho Government. No questions.

 1   THE CHAIRPERSON: Questions,

 2   Environment Canada?

 3   MS. MEAGAN TOBIN: Meagan Tobin, with

 4   Environment Canada. We have a few questions. So the

 5   first of our questions is related to slide 14 on the

 6   post-closure equality of Misery Pit.

 7   So given that the adjustment of the

 8   depth of the freshwater cap is the contingency options

 9   provided by Dominion, and -- and this would involve

10   additional transfer of poor quality water from Misery

11   to Jay, how sensitive is the Jay Pit stability to

12   further inputs from Misery if this larger freshwater

13   cap is needed to maintain the water quality in the

14   Misery freshwater cap below guidelines?

15

16   (BRIEF PAUSE)

17

18   MR. MICHAEL HERRELL: It's Mike

19   Herrell, for -- for Golder Associates.

20   So we have done the modelling of

21   various fresh-water caps and evaluated what the

22   influence of pumping additional water in the vent that

23   a -- a deeper fresh-water cap would be used in -- in

24   the -- the Jay Pit, and looked at the TDS

25   concentrations and the mixolimnion of the Jay Pit

1 following back-flooding of that pit.

2   And the outcome of that modelling is

3 that the -- the TDS concentrations in the mixolimnion

4 are not that sensitive to the increased volume for the

5 scenarios that we've modelled.

6   MS. MEAGAN TOBIN: Thank you. Meagan

7 Tobin, with Environment Canada.

8   My next few questions relate to slide

9 32. So Dominion had stated that they disagree with

10 the idea that the study area boundaries needs to be

11 aligned between the AEMP and the effects study area,

12 because the AEMP has different specific objectives

13 than the effects study area.

14   Does Dominion acknowledge that one (1)

15 purpose of the AEMP is to also verify the EA

16 predictions?

17   MR. CAM STEVENS: Cam Stevens, Golder

18 Associate. Yes.

19   MS. MEAGAN TOBIN: Meagan Tobin, with

20 Environment Canada. So with that, how will the larger

21 assessment area allow for validation of the statement

22 that mining of the Jay Project will not result in

23 significant adverse impacts to the surface water

24 quality and aquatic life in Lac du Sauvage

25 specifically?

1   (BRIEF PAUSE)

2

3   MR. CAM STEVENS: So it -- this is a -

4 - Cam Stevens, Golder Associates.

5   This is accomplished by essentially

6 designing a monitoring program to detect early warning

7 changes in the measurement indicators. These are the

8 quantifiable expressions of the aquatic environment

9 that influ -- influence the assessment end points,

10 which for fish was ongoing fisheries productivity.

11   As such, the monitoring of the health

12 of small-bodied fish is -- is proposed as a

13 measurement indicator, and providing a surrogate to

14 conduct -- to -- to conducting a -- a large-bodied

15 fish program which -- and for, as -- as mentioned

16 earlier, the -- the larger -- larger-bodied species

17 occupy a -- a larger area than -- than some of the

18 smaller species that occur in the lake.

19   And this approach is well-established

20 in the literature because environmental impacts should

21 be identified in small-bodied fish before they're

22 detected in top predators such as lake trout and lake

23 whitefish. And this approach is consistent with other

24 monitoring programs in the North.

25   Furthermore, monitoring will initially

1 be focussed in Lac du Sauvage where local-scale

2 effects, if any, are likely to occur, with additional

3 monitoring areas potentially added to the AEMP study

4 design to address late operations during future

5 iterations of the AEMP design plan.

6

7   (BRIEF PAUSE)

8

9   MR. CAM STEVENS: So if -- if small-

10 scale effects are -- are reported, a -- a response

11 action would be -- would be developed. And -- and

12 this may include, for example, non-lethal testing of -

13 - of large-bodied fish, the collection of tissue

14 plugs, for example. This would be considered as a

15 response if a low action is triggered for the health

16 of small-bodied fish.

17

18   (BRIEF PAUSE)

19

20   THE CHAIRPERSON: Dominion, is that

21 your final answer?

22   MR. RICHARD BARGERY: Yes. Richard

23 Bargery, Dominion Diamond. Yes.

24   MS. MEAGAN TOBIN: Meagan Tobin, with

25 Environment Canada. So you'd mentioned that the

1 current study design for the AEMP is small-bodied fish

2 as a surrogate for large-bodied fish. We had noted

3 previously that the numbers of small-bodied fish in

4 Lac du Sauvage may not be sufficient to be able to

5 complete such a study.

6   Has further information on the fish

7 populations been collected, and if there aren't enough

8 small-bodied fish, how will the EA predictions be

9 verified?

10

11   (BRIEF PAUSE)

12

13   MS. CLAUDINE LEE: Claudine Lee,

14 Dominion Diamond. So we don't think that that's

15 accurate, that there would not be enough of a

16 population of small-bodied fish. In the Developer's

17 Assessment Report, we did outline the fish that we

18 have found and expect to occur from the baseline

19 study.

20   Again, the development of the Aquatic

21 Effects Monitoring Program, we have submitted a

22 conceptual plan on that and do intend to complete

23 further engagement on what -- what would be

24 appropriate. We have in the conceptual plan, for

25 various reasons, identified that small-bodied fish is

1 -- is what we -- what we're proposing.

2   Again, as -- as Cam Stevens, from

3 Golder, mentioned, that response framework would be

4 developed, and triggers around that would also be

5 developed. And if we were to see something along

6 those lines, a response plan would be put in place.

7 And that response plan would potentially consider

8 other ways of collecting that information to determine

9 the -- the assessment -- to compare against the

10 assessment that's been completed.

11   MS. MEAGAN TOBIN: Thanks for that.

12 Meagan Tobin, with Environment Canada.

13   Just one (1) last question again with

14 regards to the AEMP and the potential for baseline

15 monitoring.

16   So what progress has been made on the

17 selection of a suitable reference lake for Lac du

18 Sauvage specifically, and will there be a collection

19 of sufficient baseline data prior to construction?

20

21   (BRIEF PAUSE)

22

23   MS. CLAUDINE LEE: Claudine Lee, from

24 Dominion Diamond. So on the conceptual Aquatic

25 Effects Monitoring Plan that we've put in place, we

1 have done some engagement. And during that

2 engagement, we -- I think the last workshop was in --

3 in July, we did talk about a study to determine an

4 appropriate reference lake. We're not sure that there

5 is one, which is why we have committed to going ahead

6 with the study which is currently underway.

7   As well, during that engagement

8 session, we did talk about having another engagement

9 meeting in December. And we would be pulling together

10 the information that we had already collected on that

11 commitment to determine whether or not there's an

12 appropriate reference lake, and that would be -- that

13 would be a part of that, as well, part of that

14 discussion with the ongoing engagement with the

15 Aquatic Effects Monitoring Program design plan.

16   MS. MEAGAN TOBIN: Thank you. Meagan

17 Tobin, with Environment Canada.

18   So if a suitable reference lake cannot

19 be found, would an in-lake reference area be used

20 instead?

21

22   (BRIEF PAUSE)

23

24   MS. CLAUDINE LEE: Claudine Lee,

25 Dominion Diamond. We -- you know, part of -- part of

1 this work to determine whether or not there is an

2 appropriate reference lake, that -- that would be part

3 of it. And we -- our plan, and what we've put forward

4 in our -- our engagement plan for -- for the Aquatic

5 Effects Monitoring Program design plan going forward,

6 includes the engagement with communities and

7 regulators on this. So again -- again, it's a -- a

8 work in progress. We're -- we're starting on that

9 early. We're -- we're putting some of this

10 information together.

11   And -- and in consideration as well,

12 not just looking at what may be appropriate, if there

13 is something appropriate, but also taking into

14 consideration all reference lake information, you

15 know, for Ekati and Diavik that we do have for the

16 last sixteen (16) or -- or however many -- many years

17 that the -- those two (2) locations have been in

18 operation.

19   So we -- we would include all of that

20 information in our -- in our study of determining

21 whether or not there is an appropriate reference lake.

22 And we'll continue to engage on that through both the

23 permitting process, and through the engagement that we

24 have already committed to as part of some of the

25 workshops and engagement that's been completed to

1 date.

2   MS. MEAGAN TOBIN: Meagan Tobin, with

3 Environment Canada. I guess, do you guy -- do you

4 commit to collecting sufficient baseline data prior to

5 construction, giving that the timeline for collection

6 of this data is starting -- is shrinking?

7

8   (BRIEF PAUSE)

9

10   MS. CLAUDINE LEE: Claudine Lee,

11 Dominion Diamond. So, you know, we -- we commit to --

12 to this reference lake study to -- to determine

13 whether or not there is an appropriate reference lake.

14   Just a note of clarification that there

15 isn't effluent discharge until year 5, so the timeline

16 is -- is not short. And, you know, as mentioned quite

17 a bit this morning, we -- we do have time for some

18 operational monitoring as well that will -- will go

19 into that. And we are currently working on the

20 Aquatic Effects Monitoring Program design plan some of

21 these components would fall into.

22   MS. MEAGAN TOBIN: Meagan Tobin, with

23 Environment Canada. Thank you. We have no more

24 questions.

25   THE CHAIRPERSON: Thank you.

1   Questions from Fisheries and Oceans Canada?

2   MS. JULIE DAHL: Julie Dahl, Fisheries

3   and Oceans Canada. I just have one (1) question and

4   one (1) point of clarification.

5   I would like Dominion Diamond to

6   confirm that their assessment of impacts to fish and

7   fish habitat in Lac du Sauvage considered the lake as

8   -- as a separate entity, in addition to considering it

9   with respect to Lac de Gras as well.

10   There's been a lot of talk about

11 whether or not fish do or do not move through the

12 narrows, and I just want to confirm that they have

13 considered the impacts to Lac du Sauvage as an entity

14 of -- in and of itself.

15

16   (BRIEF PAUSE)

17

18   MR. CAM STEVENS: Cam Stevens, Golder

19 Associates. The answer is yes, through -- within the

20 DAR itself, and -- and through a -- a number of the

21 responses to the Information Requests during Round I

22 and Round II.

23   MS. JULIE DAHL: Julie Dahl, Fisheries

24 and Oceans Canada. Thank you. No more questions.

25   THE CHAIRPERSON: Questions, North

1 Slave Metis Alliance?

2   MR. SHIN SHIGA: Thank you, Madam

3 Chair. Shin Shiga, North Slave Metis Alliance. I

4 have a couple questions.

5   After the closure of the Jay pipe, how

6 is the fish habitat in the area above the Jay -- Jay

7 pipe going to be compared to the baseline?

8

9   (BRIEF PAUSE)

10

11   MR. CAM STEVENS: Cam Stevens, Golder

12 Associates. The -- so the diked area will be

13 reconnected when water quality meets standards. And

14 when it meets those standards, the -- the notches in

15 the dike will be opened, allowing some movement --

16 some cur -- natural currents and flows to -- to

17 reestablish in that area of the lake.

18   The pit will remain. The -- the Jay

19 Pit will remain within the dewatered area. That's

20 approximately 65 hectares. There'll be -- the remnant

21 portions of the dike along the dike area, that will

22 remain at closure. And -- but everything else will be

23 relatively intact, and we're expecting the -- the area

24 to recover quickly.

25   Species occurring in -- in the area

1 will reestablish in that area, and we expect the

2 functions to be similar to other functions provided in

3 other areas of the lake following closure.

4   MR. SHIN SHIGA: Shin Shiga, North

5 Slave Metis Alliance. I just wanted to -- to get a

6 clarification.

7   So comparing the baseline to post-

8 closure, are you saying, then, that the habitat

9 quality does not change?

10

11   (BRIEF PAUSE)

12

13   MR. CAM STEVENS: Cam Stevens, Golder

14 -- Golder Associate. I -- I guess the point I want to

15 make is that the habitat will be different, and for

16 any permanent losses incurred by -- by the project,

17 those losses will be addressed in the Final Offsetting

18 Plan, and -- and finalized during the -- the review

19 process -- or the permitting process with DFO.

20   MR. SHIN SHIGA: Thank you. Shin

21 Shiga, North Slave Metis Alliance.

22   Just a -- a quick preamble. The area

23 under the consideration is a very, very culturally

24 important area. That's where people camped, fished

25 while they waited for caribou. That's where they

1 gathered.

2 The -- the permanent loss of fish

3 habitat is going to be significant, not -- not just

4 because of the -- it's not something that can be

5 easily replaced by restoring fish habitat elsewhere,

6 because of that cultural importance. I just wanted to

7 make that statement, and one (1) more question.

8 Is -- in the offset plan that Dominion

9 Diamond is required to do, is Dominion Diamond going

10 to be responsible for the restored habitats remaining

11 functional in the future?

12

13 (BRIEF PAUSE)

14

15 MR. RICHARD BARGERY: Richard Bargery,

16 Dominion Diamonds. Shin, just to be clear, which --

17 the habitat under the offsetting plan, is that the

18 habitat that you're -- you're asking about, or the

19 habitat in the -- in the Jay Pit area?

20 MR. SHIN SHIGA: Shin Shiga, North

21 Slave Metis Alliance. The offset plan.

22

23 (BRIEF PAUSE)

24

25 MR. RICHARD BARGERY: So -- Richard

1 Bargery, Dominion Diamond. So it's -- it's the --

2 it's the habitat under the offsetting plan, yes, we

3 are responsible for that habitat.

4   MR. SHIN SHIGA: Shin Shiga, North

5 Slave Metis Alliance. Is there a duration of time

6 you're going to be responsible for that habitat?

7

8   (BRIEF PAUSE)

9

10   MR. RICHARD BARGERY: Richard Bargery,

11 Dominion Diamond. So that would be determined in --

12 in our offsetting discussions with -- with DFO, I

13 believe, and would be a subject of -- of discussion

14 during our engagement with -- with communities on that

15 offsetting plan as well, I would -- I would note.

16   MR. SHIN SHIGA: Shin Shiga, North

17 Slave Metis Alliance. Thank you. That's all my

18 questions.

19   THE CHAIRPERSON: Questions, Deninu

20 Kue First Nations?

21   MR. MARC D'ENTREMONT: Thank you,

22 Madam Chair. It's Marc d'Entremont, for the DKFN.

23   First, I'd just like to acknowledge

24 that we have Dr. Elmar Plate on the line, who is our

25 fish and aquatic specialist. He's provided me with a

1 few questions. I'll -- I'll proceed with those. And

2 afterwards, if there's any clarifications, I'll get

3 Elmar to ask those.

4   So first of all, with regards to your

5 modelling for the meromictic conditions, we just want

6 to confirm in the consideration of these models, that

7 you scouted the literature and particularly looked at

8 those existing conditions, so those exam -- other

9 examples that you had -- had mentioned in terms of

10 other pits that have done these mero -- meromictic

11 processes.

12   So in your model, did you -- did you

13 consider any situations where the case may have been

14 that meromictic conditions did not form as predicted?

15

16   (BRIEF PAUSE)

17

18   MR. MICHAEL HERRELL: It's Mike

19 Herrell, from Golder Associates. So the modelling as

20 part of the DAR indicated that based on the inputs to

21 the model, the Water Management Plan that was

22 considered in the modelling indicated that meromixis

23 would form.

24   As part of the -- the review process,

25 there's been a lot of questions about meromixis and

1 the stability of meromixis in -- in response to -- to

2 those -- those Information Requests. A lot of

3 additional modelling has been done, as everyone here

4 is familiar with, which includes the lower bound

5 scenario, the reasonable estimate case.

6   The meromixis is -- was predicted to

7 form and then in an attempt to try and turn over the

8 pits, we did the extreme case scenario and the pits

9 didn't -- didn't overturn. So there's confidence in

10 the modelling that has been completed to date that

11 meromixis will form and remain stable.

12   However, in IR Round II, and Peter, you

13 were asking about this earlier and we said we would

14 get that reference for you, and, Madame Chair, I'm

15 hoping it's okay that I provide this at this point in

16 time, because it'll address both parties.

17   In -- in the MVEIRB IR Round II-24,

18 they -- they asked us to model the -- the influence of

19 a fully mixed pit in Lac du Sauvage and Lac de Gras.

20   So modelling was done where the pits

21 were actually forced to be turned over, and the

22 effects of that turned-over chemistry was evaluated in

23 Lac du Sauvage and Lac de Gras at the assessment

24 locations that were included in the DAR.

25   So to answer your question, have we

1 considered a -- a scenario where the pits have

2 overturned, yes, we have.

3   MR. MARC D'ENTREMONT: Marc

4 d'Entremont, for the DKFN. Okay. Thanks for that

5 answer. So my next question -- so I think you've

6 mentioned this in your presentation, but I just want

7 to confirm.

8   So is Dominion committing to chronic

9 sub-lethal toxi -- toxicity testing in the Jay Pit

10 before the dikes are breached for post-closure, or for

11 closure?

12

13   (BRIEF PAUSE)

14

15   MR. JOHN FAITHFUL: John Faithful,

16 Golder Associates. Sorry, Marc. It was my

17 misinterpretation of your question. The answer to

18 that is -- is a -- is a yes to that as well. And that

19 would be done during the -- the back-flooding and --

20 and particularly well before any decision to -- to

21 reconnect the Jay Pit to the Lac du Sauvage.

22   I think the commitment that Dominion

23 have made there is that you -- that water quality

24 within the -- the back-flooded diked area has to meet

25 regulatory criteria.

1   MR. MARC D'ENTREMONT: Thanks.   Marc

2 d'Entremont, for the DKFN. So one (1) final question

3 then relating to fish. Will Dominion Diamond be using

4 -- for any water course crossings, will it be using

5 bottomless culverts?

6

7   (BRIEF PAUSE)

8

9   MS. CLAUDINE LEE: Claudine Lee,

10 Dominion Diamond. In the case of culverts and the

11 design of culverts, we would be working with DFO to

12 determine what the best type of culvert would be for

13 that appropriate location. Yeah. Thank you.

14   MR. MARC D'ENTREMONT: Marc

15 d'Entremont, for DKFN. Okay. Thanks for that.

16 Unless Elmar has any points of clarification, I think

17 that's the end of our questions.

18   MR. ELMAR PLATE (BY PHONE):   Can you

19 hear me? Elmar Plate, for the Dene Kue. Can you hear

20 me? Can you please confirm?

21   THE CHAIRPERSON: Yes, we can.

22   MR. ELMAR PLATE (BY PHONE):   Okay.

23 Thank you. So this is Elmar Plate for Deni -- Deninu

24 Kue. I just wanted to add a little bit to Marc's

25 comments.

 1   So in the meromictic -- the meromictic

 2 condition is not quite as stable as you describe it to

 3 be. In the example of the ground mine, the Vangorda

 4 mine, the water line and the main zone and the Z2P

 5 mines -- and I've -- I've provided all the information

 6 before.

 7   The meromictic condition under similar

 8 conditions then here -- here was not permanent, though

 9 there are quite a few examples where the meromictic

10 condition is not permanent. And so the one (1) in ten

11 thousand (10,000) chance, or a characterization of a

12 one (1) in ten thousand (10,000) chance I think is

13 only based on the model but not on the real world

14 where actually the meromictic condition all -- doesn't

15 always seem to persist.

16   That's my first comment. Probably --

17 I'll let you answer to that first.

18

19   (BRIEF PAUSE)

20

21   MR. MICHAEL HERRELL: It's Mike

22 Herrell, from Golder Associates.   I do want to

23 clarify a couple of things here.

24   First, the -- the one (1) in ten

25 thousand (10,000), that -- that doesn't relate to a

1 predication or a chance of these pits overturning. We

2 haven't actually done that analysis. That relates to

3 the wind speed that was selected as part of the

4 extreme case scenario.

5   So what we did in that scenario was we

6 picked a wind speed equal to the 99.99th percentile

7 observed wind speed on the MET4 data that was used for

8 the project, and sustained that wind speed for the

9 period of one (1) year. So related to the -- the pit

10 lakes that you referred to, Elmer, they're not 100

11 percent similar to the Jay Project, so they can't be

12 necessarily used to stated that the Jay Pit will not

13 be as stable as we think it is.

14   The Jay Pit is quite unique from these

15 particular sites. So in -- those sites that you're

16 referring to are well documented in Pieters and

17 Lawrence in 2014, and three (3) of them were -- were

18 reported to be meromictic, one (1) was uncertain, one

19 (1) was holomictic, and one (1) was intermittent.

20   The -- the reason for the -- the

21 overturns in those pits are -- were for several

22 different reasons, as documented in that paper. For

23 example, one of the pits overturned as a result of ARD

24 sludge being placed in the pit, which comes back to a

25 comment made earlier this morning regarding putting

1 sugar in the bottom of the pit. So that would be an

2 analog for that.

3   Another key difference of those pits is

4 the -- the TDS concentrations in the mixolimnion

5 compared to the -- the monimolimnion, or the -- the

6 density grading is not as great as we see at the --

7 the Jay -- in the Jay Pit. So there what we see is

8 the salt deficit ratio is much less in comparison to

9 the Jay Pit, and we've done that analysis as part of

10 IRs in Round 2 at the request of -- of GNWT.

11   A key difference for the -- the Jay

12 Project is that it's going to be an engineered pit

13 lake. None of the pit lakes in those papers were

14 engineered pit lakes where saline water was actually

15 placed in the bottom of a pit, and then capped with

16 freshwater. And that in -- is one of the -- the main

17 differences, and the key strengths of meromixis at the

18 Jay Project is that the saline water is going to be

19 deliberately moved to the bottom of the Jay Pit, and

20 then capped with freshwater in a way to preclude

21 mixing of the -- the two (2) water bodies.

22   And for that purpose, that's a reason

23 that we get much different salt deficit ratios, and

24 higher meromictic ratios in comparison to the pits

25 that are presented in those papers.

 1   MR. ELLIOT HOLLAND: Elliot Holland,

 2 for Dominion Diamond. Let me just add a little less

 3 technical comment. Again, we -- we don't have -- have

 4 perfect -- perfect analogs here. There -- there are

 5 differences. We -- we discussed that during the --

 6 the questions from -- from Lutsel K'e Dene First

 7 Nation.

 8   I mean, what we can -- we can certainly

 9 say with -- with a lot of certainty from Dominion is

10 that we've run multiple, multiple models at the

11 request of -- of multiple parties, and -- and

12 consultants to -- to multiple parties, and the results

13 of -- of every one of those analyses from -- from a

14 range of -- of people once they've spent time with our

15 -- our experts who are -- are really worldwide leaders

16 in the field, has been ultimately the conclusion that

17 our -- our design is robust. And we feel comfortable

18 about the design.

19   You know, we can certainly continue to

20 have discussions about, you know, different --

21 different parameters and different modelling runs but,

22 you know, we would submit that the -- the modelling in

23 this area has gone, you know, above and beyond in

24 response to -- to a number of parties' requests.

25 Thank you.

1   MR. ELMER PLATT (BY PHONE):   Okay.

2 And thank you for those answers. And I have one (1)

3 more. This is Elmer Platt calling -- talking again.

4   THE CHAIRPERSON: If you could please

5 identify yourself again.

6   MR. ELMER PLATT (BY PHONE):   Yeah,

7 it's Elmer Platt for Deninu K'ue. Just -- you always

8 say at the closure there will a dike will remain

9 around the Jay pit. It -- it's only interrupted

10 basically in a few areas.

11   Can you just for my memory tell again -

12 - tell us again how much of the dam will actually be

13 breached, and how much of the dike will be left?

14

15   (BRIEF PAUSE)

16

17   MR. ELLIOT HOLLAND: :   It's Elliot

18 Holland, for Dominion Diamond. The -- the total dike

19 length is on the order of 5 kilometres. Our -- our

20 proposed design has four (4) narrow breaches. We

21 don't have a -- a very detailed design, but the

22 breaches are expected to be on the order of -- of 10

23 metres in length. So we're -- around 1 percent of the

24 -- the dike's total length. Thank you.

25   MR. ELMER PLATT (BY PHONE):   Okay.

1 Thank you. That was the one (1) clarification I still

2 needed. Just -- this is Elmer Platt. The last

3 question or clarification is: You have said you're

4 committing to sub-lethal testing before you are going

5 to breach the dike.

6   And my question is whether you're

7 committing to the sixty (60) day midge and forty-eight

8 (48) day hyalella azteca tests, or whether you're

9 going for much shorter tests that are typically done.

10

11   (BRIEF PAUSE)

12

13   MS. CLAUDINE LEE: Claudine Lee,

14 Dominion Diamond. That is still to be determined.

15 And the -- the plan for that is to be worked on

16 through the Aquatic Effects Monitoring Program.

17   MR. ELMER PLATT (BY PHONE):   Okay.

18 Thank you for that answer.

19   I highly encourage you to go by those

20 tests, and not any of the lower standard tests. We

21 have found, in many cases, differences between ten

22 (10), forty (40) days exposures and sixty (60), forty-

23 eight (48) day exposures. That's my last question.

24 Thank you.

25   MR. MARC D'ENTREMONT: It's Marc

1 d'Entremont, for the DKFN. That concludes all our

2 questions. Thank you.

3   THE CHAIRPERSON: Thank you.

4 Questions, Diavik Diamond Mines?

5   MR. GORD MACDONALD: Hi, Gord

6 MacDonald, with Diavik. Slide 17, if you could.

7   On this slide you say that the -- that

8 DD -- DDEC has adequately addressed the potential

9 effects of the Jay Project on downstream users.

10 Appreciate the -- that DDEC is a predicted downstream

11 water quality and compared these to guidelines for

12 aquatic life and drinking water. And well, we're not

13 aquatic life, and Diavik is a drinking water user.

14   But -- but have the -- other than those

15 comparisons, have you evaluated the effects of Jay on

16 Diavik as a downstream user?

17

18   (BRIEF PAUSE)

19

20   MR. RICHARD BARGERY: Richard Bargery,

21 Dominion Diamond. I -- we did provide a response to a

22 question that came from the technical sessions, I

23 believe, on -- on Diavik's use. And we provided that

24 in -- I -- I don't remember the exact day, Gord, but -

25 - but if that -- is that your -- your point, sorry?

 1   MR. GORD MACDONALD: Gord MacDonald,

 2   with Diavik.   In that assessment, you've basically

 3   said that, if it's -- if the water around Diavik meets

 4   aquatic standards or drinking water standards, that

 5   there wouldn't be an impact on Diavik.   That was as

 6   far as the evaluation went.

 7   Did -- my question is: Did it go any

 8   further than that?   We -- we think there are other

 9   potential effects to Diavik.   That's what's in our

10   technical submissions.   We just wanted to confirm that

11   you haven't done any further evaluation on that.

12

13   (BRIEF PAUSE)

14

15   MR. RICHARD BARGERY: Richard Bargery,

16   Dominion Diamond.   The -- the extent of our assessment

17   is -- is in MVEIRB IR232, and we have not gone further

18   than that.

19   MR. GORD MACDONALD: Gord MacDonald,

20   with Diavik.   Thank you.

21

22   (BRIEF PAUSE)

23

24   THE CHAIRPERSON: Questions, Fort

25   Resolution Metis Council?   Questions, Transport

1 Canada?

2   MR. CHRISTOPHER AGUIRE: Chris Aguire,

3 with Transport Canada. We have no questions.

4   THE CHAIRPERSON: Questions, Review

5 Board staff and counsel? Okay, we'll break for lunch

6 right now. And we'll come back to the staff.

7

8 --- Upon recessing at 12:02 p.m.

9 --- Upon resuming at 1:07 p.m.

10

11   THE CHAIRPERSON: Okay, we left off at

12 lunch with questions from Review Board staff and

13 counsel.

14   MS. SACHI DE SOUZA: It's Sachi De

15 Souza, with the Review Board. There have been a fair

16 number of questions about the long-term stability of

17 meromixis, and this ties into the -- the closure for

18 Misery Pit Lake.

19   The question is: The current ICRP

20 states that -- or the current closure plan states that:

21   "The objectives for closure are to

22   facilitate the establishment of a

23   self-sustaining aquatic ecosystem in

24   the pit lakes and to ensure that the

25   pish -- pit lakes are safe for fish

1   pass -- passage."

2   The Jay Project will affect what

3   Dominion does at closure. For the Misery Pit, this

4   will involve moving water from the Jay Pit into the

5   Misery Pit. And for Panda and Koala, it involves

6   putting fine processed kimberlite into the Panda and

7   Koala Pits.

8   Given that there is this change, or

9   proposed change, does the Jay Project affect Dominion's

10 ability to meet the established closure objectives and

11 how confident are you about this?

12

13   (BRIEF PAUSE)

14

15   MR. RICHARD BARGERY: Richard Bargery,

16 Dominion Diamond. With respect to the closure plan for

17 -- for Ekati and some of those elements, that the

18 closure objectives are -- are the closure objectives,

19 we expected to meet them. Some of the specific

20 reclamation activities may change as a result of the

21 Jay Project coming online. Thank you.

22

23   (BRIEF PAUSE)

24

25   MS. SACHI DE SOUZA: Sachi De Souza,

1 with the Board. So we appreciate that Dominion will

2 make the attempt to meet the closure objectives and the

3 closure objectives aren't changing. The second part of

4 that question relates to confidence about the ability

5 to meet those closure objectives.

6   So specifically for the Misery Pit,

7 Dominion's proposed a water management plan of

8 establishing a meromictic pit lake. And parties have

9 suggested that they're still concerned about this water

10 management plan for closure.

11   So, first of all, with the confidence, I

12 guess, confirm that you're confident that you can meet

13 the closure objectives for Misery -- Misery Pit Lake.

14   And related to that, for Misery Pit

15 specifically, are there other examples of what can be

16 done for a contingency to meet those closure objectives

17 beyond a freshwater cap?

18

19   (BRIEF PAUSE)

20

21   MR. RICHARD BARGERY: Richard Bargery,

22 Dominion Diamond. So two (2) parts to that question, I

23 think, Sachi. First, whether we have confidence that

24 we can meet the closure objectives. And -- and we do

25 have confidence that's -- that's, you know, that's why

1 we've developed the plan, because we do have that

2 confidence.

3   The second issue relates to

4 contingencies. First of all, I'd say that we -- we

5 think that the freshwater cap is -- is the preferred

6 approach to deal with. What we've also committed to is

7 an optimization study that would allow us to -- to look

8 at ways to ensure that that -- that that occurs. Thank

9 you.

10

11   (BRIEF PAUSE)

12

13   MS. SACHI DE SOUZA: Hi, it's Sachi De

14 Souza, with the Board. So as of right now for closure

15 there are no other contingencies, aside for the

16 freshwater cap?

17

18   (BRIEF PAUSE)

19

20   MS. SACHI DE SOUZA: And, sorry, this

21 is Sachi De Souza. Just to clarify, this is

22 specifically for the Misery pit right now.

23

24   (BRIEF PAUSE)

25

1   MR. RICHARD BARGERY: Richard Bargery,

2 Dominion Diamond. So as I -- as I said earlier in --

3 in response to an earlier question, we believe the

4 freshwater cap is -- is the most appropriate mechanism.

5 And -- and the modelling that we've done shows -- shows

6 that.

7   In addition, there -- there will be

8 required a final Closure Plan two (2) years prior to

9 closure, I believe. And it's -- it's at that stage,

10 you know, we determine if -- if other contingencies are

11 -- are required. And that's -- that's the process.

12 Thank you.

13   MS. SACHI DE SOUZA: It's Sachi De

14 Souza, with the Board. Part of your previous answer

15 also related to an optimization study for the

16 freshwater cap. And I was hoping you could define that

17 a little bit better.

18   With respect to an optimization study

19 what part -- in particular are you optimizing for?

20 What are the objectives and the goals of that

21 optimization study for the Misery pit freshwater cap

22 for Misery pit stability?

23

24   (BRIEF PAUSE)

25

1   MR. JOHN FAITHFUL: John Faithful,

2 Golder Associates. The optimization study is going to

3 be driven primarily by the operational data that we

4 collect through project -- through the operations of

5 the project in Misery pit.

6   It's going to -- it's going to evaluate,

7 track the water quality conditions, and feed back into

8 an Adaptive Management Plan that will inform first the

9 need to adjust the freshwater cap, as a result of -- as

10 a result of the operational data. And if so, inform

11 what specifically that freshwater cap depth needs to

12 be. And ultimately the -- the key driver to that is

13 the ability -- well, the -- the meeting of the closure

14 objectives in terms of water quality conditions in

15 Misery pit.

16

17   (BRIEF PAUSE)

18

19   MS. SACHI DE SOUZA: It's Sachi De

20 Souza, with the Board. So now moving on to the closure

21 objectives for the Panda and Koala pits, which will

22 receive the fine processed kimberlite. To con --

23 you've stated that your intent is to meet the same

24 closure objectives for that.

25   Is the -- is part of that an intent to

1 reconnect Panda and Koala to Kodiak Lake?

2

3   (BRIEF PAUSE)

4

5   MS. CLAUDINE LEE: Claudine Lee,

6 Dominion Diamond. Currently, the plan is to connect

7 Kodiak and Panda -- or Panda and Koala to Kodiak, and

8 that will remain the plan through the operation of JN

9 through closure.

10   MS. SACHI DE SOUZA: Sachi De Souza,

11 with the Board. Given that the plan is to reconnect to

12 Kodiak Lake, what evidence or what can Dominion provide

13 in terms of confidence to parties and the Board that

14 they can achieve tho -- those objectives?

15   Are there water quality predictions for

16 what Panda and Koala's overflow to Kodiak Lake will

17 look like at closure?

18

19   (BRIEF PAUSE)

20

21   MS. CLAUDINE LEE: Claudine Lee,

22 Dominion Diamond. So we are currently putting

23 processed kimberlite into Beartooth Pit, of which are

24 collecting information on to see what this looks like.

25   We also are -- have in place or have

1 talked about a 30 -- 30-metre cap. And we will have

2 again operational monitoring in place and data

3 collected to inform how that is -- is looking. And --

4 and we -- we will be meeting our closure objectives as

5 stated the -- before. Thank you. Claudine Lee,

6 Dominion.

7   MS. SACHI DE SOUZA: Sachi De Souza,

8 with the Board. So we appreciate that Beartooth is

9 currently being used for -- for putting the fine-

10 processed kimberlite. And there were questions about

11 this as the technical session.

12   So a couple of -- of questions here is -

13 - is, first of all, when will the data for Beartooth be

14 available? And will it be available prior to when the

15 fine-processed kimberlite needs to be placed into the

16 Panda and Koala Pit?

17   And related to that, if the -- the data

18 from Beartooth demonstrates that the fine-processed

19 kimberlite being placed into mined-out pits doesn't

20 result in water quality that meets closure objectives,

21 what is the contingency plan? Where would the fine-

22 processed kimberlite go if Beartooth proves potentially

23 unfeasible?

24

25   (BRIEF PAUSE)

1

2   MS. CLAUDINE LEE: Claudine Lee,

3 Dominion Diamond. The current plan for Beartooth is

4 for it to be closed in 2019 from use. Data or results

5 from there may come out in stages between now and then.

6 We don't have a time line for that. It depends on

7 operational monitoring collection of data.

8   We did commit to within this process

9 putting together an operational plan for Panda/Koala

10 during the Water Board water licence process. And as a

11 contingency, one (1) of the options, if -- if needed to

12 be considered, could be the use of Cell D in the Long

13 Lake Containment Facility, which is already approved in

14 the Wastewater Processed Kimberlite Management Plan

15 approved by the Water Board.

16   Claudine Lee, Dominion Diamond.

17

18   (BRIEF PAUSE)

19

20   DR. KATHY RACHER: Kathy Racher, for

21 the Board. We're going to take turns beating you up,

22 so. Just to follow up to that. We talked about the

23 optimization study for Misery. The original

24 commitment, I think, that you made for an optimization

25 study to the GNWT was with respect to Panda and Koala.

 1   And we just wanted to confirm with you

 2 what your objectives are for that study, what you're

 3 hoping to learn and what the time frame is for that

 4 study if that relates to Claudine's answer on the last

 5 question perhaps.

 6

 7   (BRIEF PAUSE)

 8

 9   MR. RICHARD BARGERY: Richard Bargery,

10 Dominion Diamond. So those two (2) different

11 commitments that we're talking about here, I think the

12 objectives of the studies would be -- would be largely

13 -- largely the same in order to meet our closure

14 objectives, that the time lines may be a bit different.

15   So the time lines on the Panda and Koala

16 would be to provide the results of that optimization

17 study to the Board before we begin putting kim --

18 processed kimberlite into the Panda and Koala Pits.

19 Thank you.

20   Sorry, the Water Board. Sorry.

21

22   (BRIEF PAUSE)

23

24   DR. KATHY RACHER: Kathy Racher, for

25 the Board. So just to clarify, you were saying in the

1 last answer that you expect the results from Beartooth

2 to be available 2019 and -- so the -- the optimization

3 study for Panda and Koala doesn't necessarily need the

4 results from a fully closed Beartooth Pit then?

5

6   (BRIEF PAUSE)

7

8   MR. RICHARD BARGERY: Richard Bargery,

9 Dominion Diamond. Just to clarify, I -- I think what

10 Claudine said was that Beartooth closes in 2019. We

11 get results in stages. And -- and so we'd have results

12 between now and 2019 that could feed in and -- and help

13 inform the optimization study.

14

15   (BRIEF PAUSE)

16

17   DR. KATHY RACHER: Kathy Racher, for

18 the Board. So this morning we heard discussions about

19 the mine water management strategy for the mine. And

20 specifically, you highlighted the importance of

21 operational flexibility based on monitoring data that

22 you were collecting over time.

23   And you also mentioned, for example,

24 that you haven't precluded wanting to discharge water

25 from Misery to Lac du Sauvage prior to year 5. The

1 GNWT suggested year 3. You haven't precluded that as a

2 -- as a potential.

3   And that makes sense, but it does leave

4 the Board with a little bit of an information gap

5 because the modelling that you have presented -- and

6 you have done a number of models, we appreciate that --

7 for Lac de -- Lac de Gras water quality, all the models

8 have been done with the assumption that discharge from

9 Jay and discharge from Diavik won't overlap.

10   And so now, you know, we're seeing that

11 there's a possibility that they -- that they will. And

12 I don't necessarily see that as a problem, but we --

13 it's a little information gap that we don't -- we don't

14 know what the water quality in Lac de Gras would look

15 like if they did overlap.

16   And we're wondering if you could provide

17 us with an analysis of that scenario.

18

19   (BRIEF PAUSE)

20

21   MR. RICHARD BARGERY: Richard Bargery,

22 Dominion Diamond. So, I mean, we're -- we were trying

23 to answer a question from the GNWT at the time. I

24 think we've been clear that we don't think it's

25 preferable to discharge in year 3. That's why we've

1 modelled it on discharge on -- on year 5.

2   What we -- what we're trying to say is

3 that the flexibility in the plan is -- is a good thing.

4 And -- and once we begin to get operational data, that

5 flexibility allows us to adaptively manage water in

6 future.

7   But we think that what we've modelled is

8 the appropriate -- appropriate scenario. And so I

9 think that that's -- you know, that -- that's the

10 answer from -- from our perspective anyway.

11   DR. KATHY RACHER: Kathy Racher, for

12 the Board. But would you agree that if you were

13 discharging at the same time as Diavik, you would

14 expect concentrations in Lac de Gras to be higher than

15 what you've modelled?

16   I suspect, from knowing the numbers,

17 that it won't -- that it -- it won't be significant,

18 but we haven't seen that. And now, you know, we're --

19 we're -- we -- the only modelling data we have doesn't

20 give us that scenario, doesn't check that box that

21 we've done our due diligence to say that if -- if the

22 Mine Water Management Plan changes because of adaptive

23 management, which is what you've highlighted again and

24 again that you -- you need that flexibility.

25   But we haven't seen what the effect on

1 Lac de Gras would be, which is why, I think, we're

2 asking for some sort of worse -- I don't know what the

3 modelling would entail, but some sort of worse case

4 just to check the box that says, Yes, if -- if we

5 discharge at the same time as Diavik the effect to Lac

6 de Gras would be...

7

8   (BRIEF PAUSE)

9

10   MR. RICHARD BARGERY: Richard Bargery,

11 Dominion Diamond. So I -- I just want to reiterate

12 that we don't see this as a preferable scenario. And I

13 think we've said that now repeatedly.

14   I suppose if the modelling was required

15 to be done, these -- these are complex models that --

16 that take some time to run, we could commit to

17 providing that modelling information at -- during the

18 permitting stage. But it would take some time to -- to

19 do that.

20

21   (BRIEF PAUSE)

22

23

24   DR. KATHY RACHER: Kathy Racher, for

25 the Board. I think we're going to think about that, so

1 we'll get back to you as to whether we have a -- a

2 request as well later.

3   In the meantime, in -- in several of

4 your responses you've -- you've -- you have reiterated

5 that the discharge from the Misery pit will not be

6 acutely toxic. And you've never said acutely toxic to

7 what. So you've committed to doing acute toxicity

8 testing, I believe, on daphnia and on rainbow trout.

9   And I just wanted to confirm that you're

10 -- when you say the discharge won't be acutely toxic,

11 you are talking about at least those two (2) organisms

12 that you have recommended to -- to test in the

13 discharge.

14

15   (BRIEF PAUSE)

16

17   MS. CLAUDINE LEE: Claudine Lee,

18 Dominion Diamond. Yes, that's correct. We would -- we

19 would include those two (2) species, as well as

20 continuing with the engagement during the permitting

21 process on the Aquatic Effects Monitoring Program.

22

23   (BRIEF PAUSE)

24

25   DR. NEIL HUTCHINSON: Neil Hutchinson,

1 for the Board. Just a couple easier questions to get

2 started on. In slide 28 this morning you talked about

3 operational monitoring of the Sub-Basin B Diversion

4 Channel for fish habitat purposes. And you were

5 committed to do this.

6   My question is: Do you see this

7 monitoring occurring under the regulation of DFO as

8 part of your fisheries authorization, or by the

9 Wek'eezhii Land and Water Board under the water

10 licence?

11

12   (BRIEF PAUSE)

13

14   MR. CAM STEVENS: Cam Stevens, Golder

15 Associates. It'd be under DFO's authorization.

16   DR. NEIL HUTCHINSON: Neil Hutchinson,

17 for the Board. Thank you. And I'm sure Wek'eezhii

18 Land and Water Board thank you, too. I -- just a -- a

19 point of clarification from your response to the

20 Yellowknives Dene First Nation question this morning.

21   I believe I heard you say that in the

22 event of a catastrophic breakdown of meromixis, that

23 the pit -- Misery Pit would restratify, or the Jay Pit

24 would restratify.

25   Did I hear that correctly and could you

1 describe how that might occur?

2

3   (BRIEF PAUSE)

4

5   MR. MICHAEL HERRELL: It's Mike

6 Herrell, from Golder Associates. So I -- I'd like to

7 start saying that I -- this is going to be a conceptual

8 answer based on my understanding of the -- of -- of the

9 -- the project itself.

10   In response to the -- the question this

11 morning about the catastrophic overturn, I'm not sure I

12 like the word 'catastrophic', but I'll just use

13 'overturn', we referred that we -- we did do an

14 analysis of this as part of an Information Request.

15 And this actually came from MVEIRB. It was DAR MVEIRB

16 IR II-24.

17   And as part of that IR, what we looked

18 at were a few scenarios of where the -- the pits

19 overturned. So we looked at -- we did an assessment of

20 the water quality in Lac du Sauvage and Lac de Gras for

21 an overturned Misery Pit and overturned Jay Pit, and

22 also for an overturned -- overturning the both of -- of

23 the pits.

24   And an outcome of that was, even when

25 those pits overturned, there wasn't any significant

1 adverse effects to surface water quality at the

2 assessment locations that were considered.

3   As for your question on how the lake

4 could restratify, once the pits overturn, in the -- the

5 Jay Pit, it'll be fully mixed. However, the tap

6 doesn't switch off at that point in time, so there will

7 still be flows through the dike, freshwater flow, which

8 will have a residence time in -- in the upper layer of

9 the pit.

10   So there'll be a fleshing of the upper

11 layer of the pit from natural catchment runoff, also

12 lake water making its way into the diked off area. And

13 that'll create another stratification of -- of

14 different densities of the -- the upper and the lower

15 layers, causing stratification. But just to be clear,

16 that's a conceptual answer. We haven't actually done

17 that analysis to say to what extent they would

18 restratify.

19   DR. NEIL HUTCHINSON: Neil Hutchinson,

20 for the Board. Thank you. And -- and sorry, I -- I

21 apologize for using the term 'catastrophic'.

22   I -- I guess there's lots of -- some

23 academic debate on how lateral transmission of

24 freshwater would reestablish a vertical stratification,

25 but -- so I think we just have to leave that answer

1 where it is and move on to the next.

2   We've talked a bit about cumulative

3 effects water quality model. One (1) of the issues

4 that's been raised by Diavik is the impact of discharge

5 from the Jay operations on their ability to meet

6 closure objectives for their own project.

7   I just want to ask you if you think that

8 you've developed a cumulative effects model that looks

9 at inputs from both projects. Could you use this model

10 to separate out the influence of your project from the

11 influence of the Diavik project on water quality at

12 select locations in Lac de Gras.

13   Is that feasible?

14

15   (BRIEF PAUSE)

16

17   MR. RICHARD BARGERY: Richard Bargery,

18 Dominion Diamond. We -- I think we believe the -- the

19 answer to that question, Neil, is -- is yes, we can.

20   But it's important to note that, in the

21 recommendations in the -- the technical report from --

22 from Diavik, we've agreed to engagement on a mutually

23 agreeable monitoring plan going forward as well that

24 would -- would help inform that -- or provide some of

25 that data. Thank you.

 1   DR. NEIL HUTCHINSON: Neil Hutchinson,

 2 for the Board. Yes, that was my next question, that

 3 you -- you have agreed to -- to work on a monitoring

 4 program for that. I would stress, though, that the

 5 monitoring program results need to be compared to -- to

 6 predictions as well to -- to interpret the effects.

 7   Neil Hutchinson, from the Board. I have

 8 one (1) more question on -- on models. Dominion

 9 Diamonds have proposed adaptive management through the

10 water licence process and the AEMP to address

11 uncertainties in their water model and variance in

12 their predictions.

13   You've used a series of models to make

14 predictions for -- for your hydrody -- dynamic model.

15 You've used the conservative model from the DAR report,

16 you've used a reasonable estimate model, you've used a

17 lower-bound model.

18   Any response framework or adaptive

19 management plan that's developed will need to be based

20 on water quality triggers, on comparison of monitoring

21 results to predictions in order to trigger an adaptive

22 management response.

23   So what model would Dominion Diamonds

24 recommend that they use for the development of these

25 triggers in the AEMP and the adaptive management

1 process?

2

3   (BRIEF PAUSE)

4

5   MR. JOHN FAITHFUL: John Faithful,

6 Golder Associates. A -- a good question, Neil. I

7 think I -- I -- the -- the most appropriate model to

8 use moving forward at this stage is the reasonable

9 estimate case.

10   And -- and why I -- why I -- we

11 recommend that is -- is a function that it provides

12 more conservatism around any thresholds that would be

13 developed for triggers as part of the -- as part of the

14 water licensing or AEMP, you know, for example.

15   What -- what can then happen as

16 operational data comes into play is it -- it allows for

17 updates if necessary to that modelling that can be also

18 considered in terms of setting of any thresholds.

19   But the answer at this stage in time,

20 due to the conservatism that it provides, would be that

21 the reasonable estimate case would be -- would be a

22 good starting point.

23   DR. NEIL HUTCHINSON: Neil Hutchinson,

24 for the Board. Thank you. That's all my questions.

25   MR. ALAN EHRLICH: My name's Alan

1 Ehrlich, for the Board. I'm -- I'm not going to ask

2 you technically detailed, gruelling questions of the

3 sort you've been dealing with all morning.

4   I'm going to ask you stuff that has more

5 to do with very directly what the Board's decision is.

6 The Board has to make determinations about the

7 potential significance of likely adverse impacts.

8   I'm going to talk a bit about -- I only

9 have two (2) questions. One (1) is about the fish-out.

10 Dominion has predicted that its proposed fish-out will

11 remove 3.6 percent of the fish in Lac du Sauvage.

12   Now, based on the high end of your

13 estimate of the population range for that lake, this

14 would kill up to -- and that's the maximum -- thirty

15 thousand (30,000) fish approximately.

16   Now, I understand that you're not going

17 to waste the fish. You've got plans to share it with

18 communities and -- and that kind of thing. But with

19 regards to the killing up to thirty thousand (30,000)

20 fish, please explain to the Board why you believe that

21 this is not a significant impact.

22

23   (BRIEF PAUSE)

24

25   MR. CAM STEVENS: Cam Stevens, Golder

1 Associates. I'd just like to clarify some of those

2 numbers.

3   Whatever density estimate we use, it's

4 still 3.6 percent of the population. So if we use the

5 -- the median statistic, I believe there is going to be

6 -- there's -- there's a prediction of about two hundred

7 thousand (200,000) fish in the lake; 3.6 percent of

8 that would be approximately seven thousand (7,000)

9 fish.

10   MR. ELLIOT HOLLAND: Elliot Holland --

11   MR. CAM STEVENS: Let me keep going.

12 It's -- oh, sorry. One (1) -- one (1) other statistic.

13   If we use the 75th percentile, that's

14 eight hundred thousand (800,000) fish. And then 3.6

15 percent of that is, I think, twenty-four thousand

16 (24,000) or -- or something to that effect.

17   MR. ELLIOT HOLLAND: Elliot Holland,

18 for Dominion. I would just add on to that that's the -

19 - that's the -- the fish-out that we'll have.

20   We're -- we're fairly sure that our --

21 that the Department of Fisheries and Oceans will --

22 will require a -- an offsetting scheme to -- to

23 mitigate that impact. And the -- the goal of that

24 offsetting scheme will be to -- to -- again, to -- to

25 offset any impact that we do -- do have. So the, you

1 know, the residual impact based on DFO's process is --

2 is designed to be -- to be negligible.

3   I -- I would also say that, you know,

4 we've done this process very successfully this -- this

5 year at the Lynx Lake. We can report that both our

6 engagement process with the communities and our -- our

7 -- the process we went through with DFO, you know,

8 resulted in a very successful fish offset that -- that

9 we're very proud of. And -- and we'd intend to -- to

10 take many of those lessons learned on to -- to Jay.

11   MR. ALAN EHRLICH: That helps, and

12 leads brilliantly into my second question.

13   Can you please explain to the Board how

14 the offsetting that you've just described affects your

15 view of the aquatic impact significance? In other

16 words, besides the basic legal requirement of DFO, why

17 do you consider this offsetting to be an appropriate

18 action for impacts that you can't minimize or avoid?

19

20   (BRIEF PAUSE)

21

22   MR. ELLIOT HOLLAND: Elliot Holland,

23 for Dominion. First, we will -- just want to clarify

24 that the -- the impact on the lake itself, we've --

25 we've assessed to be not significant.

 1   And -- and that's on -- on the basis of

 2 the -- the statistics and the analysis that -- that Cam

 3 mentioned. You know, however, we know there -- there

 4 will be a -- an impact on Lac du Sauvage from our

 5 activities. And, you know, the reason we're -- we're

 6 quite comfortable with DFO's process for offsetting is

 7 because, I mean, first of all, it's -- it's an

 8 established regulatory mechanism.

 9   Second of all, it's -- it's been used

10 many times at -- at the site, including recently. In -

11 - in our view, to the satisfaction of -- of the parties

12 involved.

13   And, you know, lastly, it -- it provides

14 a enhanced habitat in culturally significant areas for

15 -- for communities. And therefore, it's a -- you know,

16 we believe it's -- it's an appropriate mechanism for us

17 to use going forward.

18   MR. ALAN EHRLICH: Thank you very much.

19   THE CHAIRPERSON: Questions from Board

20 members?

21   MR. JOHN CURRAN: Thank you. John

22 Curran, Review Board.

23   You were talking earlier about the --

24 the narrows. What is the depth, or the average depth,

25 of the narrows, just so that we have a better idea of

1 that? Thank you.

2

3   (BRIEF PAUSE)

4

5   MR. CAM STEVENS: Just one (1) second,

6 Madam Chair.

7

8   (BRIEF PAUSE)

9

10   MR. CAM STEVENS: It's Cam Stevens,

11 with Golder Associates. Just hand on a sec. We have -

12 - the -- the stream length is 210 metres, the bank full

13 width is 45 metres, and the -- and the wedded width is

14 very similar, but wedded width depends on time of the

15 year.

16   And I need two (2) more minutes to find

17 the statistic.

18   MR. RICHARD BARGERY: Apparently that

19 sheet has everything except the depths, so.

20

21   (BRIEF PAUSE)

22

23   MR. RICHARD BARGERY: Madam Chair,

24 rather than sort of -- sort of waste time here, why --

25 why don't we come back with the -- with the -- the

1 depth. And we'll let Cam find it in -- you know, in --

2 in one (1) of our responses here, and -- and have

3 everyone look at him while he's trying to find it.

4   MR. JOHN CURRAN: Okay. Yeah. Just

5 one (1) other question as well. I think you'd talked

6 earlier about a -- a 98 percent chance that the two (2)

7 populations of fish are connected. And I thought I'd

8 seen in some of the -- in the TK reports, talk of the

9 narrows being a key fishing point.

10   And I'm just wondering if -- if using TK

11 might fill in the other 2 percent, that those

12 populations of fish are moving through the narrows.

13   MR. RICHARD BARGERY: Richard Bargery,

14 Dominion Diamond. Yes, I -- I think Cam mentioned

15 this, but I think that that's -- that's an important

16 consideration that TK does tell us that fish do move

17 between -- between the two (2) lakes through the

18 narrows.

19   So, yes, we would agree with that, and,

20 yes, give us even greater certainty. Thank you.

21

22   (BRIEF PAUSE)

23

24   THE CHAIRPERSON: Question from Board

25 member? And you're still looking for the information

1 for the depth, right?

2

3   (BRIEF PAUSE)

4

5   MS. BERTHA NORWEGIAN: Good afternoon,

6 it's Bertha Norwegian. I just want to touch a bit on

7 the questions that were asked of our staff regarding

8 Lac de -- de Gras. Can you hear me? Oh. Yeah. More

9 mics, please.

10   Bertha Norwegian, Board member. Sorry

11 about that. I just wanted to touch on one (1) of the

12 questions, or two (2) of the questions, actually, that

13 were asked by our staff regarding Lac de Gras.

14   I've got a document here that was

15 provided to you by Diavik Diamond. And I just want to

16 touch base on the first sentence on the fifth page,

17 fourth paragraph:

18   "The use of Lac de Gras for waste

19   assimilation is predicted to increase

20   with the development of the Jay

21   Project."

22   Can you tell us a little bit about what

23 kind of wastes we're talking about? Are we talking

24 about only chloride or mercury, methane? I mean, I'm

25 not really sure. I wonder if you could provide us with

1 that info. Thank you.

2

3   (BRIEF PAUSE)

4

5   MR. JOHN FAITHFUL: John Faithful,

6 Golder Associates. The -- the modelling that has been

7 undertaken for -- for the project, the cumu --

8 cumulative effects portion of the project quite rightly

9 does -- does account for how the Jay Project activities

10 do contribute to the -- the changes in water quality

11 from Lac du Sauvage to Lac de Gras.

12   And the principle sources of input to

13 that change in Lac de Gras are effectively the Misery

14 Pit discharge that occurs in the latter period of time

15 with respect to the project operation, the Jay Project

16 operation. It also includes a -- a proportion of waste

17 rock storage area runoff that makes its way into Lac de

18 Sauvage, and then into -- to Lac de Gras.

19   They're -- they're the -- they're the

20 two (2) key inputs to Lac de Gras from a cumulative

21 effects point of view during operations. During

22 closure there -- there is also Misery Pit inflow that

23 goes directly to Lac de Gras. And there's also the --

24 there's also the reconnection of the Jay Pit to -- to

25 Lac du Sauvage.

1   So -- so they're the principle

2 components that -- that provide a cumulative

3 incremental change to -- to Lac de Gras. And, you

4 know, I -- I think also, as -- as what we've discussed

5 this morning with regard to -- to the -- the Mine Water

6 Management Plan, all of those aspects have been

7 considered in terms of -- of Dominion's commitment to

8 minimizing the potential impacts to the receiving

9 environment, which include the cumulative effects to

10 Lac de Gras.

11   MS. BERTHA NORWEGIAN: Thank you very

12 much. So what exactly -- what type of wastes are we

13 talking about, do we know?

14

15   (BRIEF PAUSE)

16

17   MR. JOHN FAITHFUL: John Faithful,

18 Golder Associates. So the -- the primary composition

19 of the waste based on those source inputs is going to

20 be related to water quality. And we have a fairly

21 substantial influence on that water quality by the

22 groundwater management.

23   And so with groundwater -- it's -- it's

24 primary groundwater constituents that -- total

25 dissolved solids that are going to comprise major ions

1 that include chloride and calcium, sulphate. And there

2 will be other constituents that -- that -- trace

3 metals, for example, which are consistent with -- with

4 that material present in -- currently in Lac du Sauvage

5 and Lac de Gras.

6   MS. BERTHA NORWEGIAN: Thank you very

7 much. No more questions.

8   THE CHAIRPERSON: Just for Dominion,

9 did you find the depth?

10   MR. RICHARD BARGERY: Richard Bargery.

11

12   (BRIEF PAUSE)

13

14   MR. RICHARD BARGERY: Potentially. I

15 could make a joke that it's over my head, but -- but

16 hopefully -- all right. Yes.

17   MR. CAM STEVENS: Cam Stevens, Golder

18 Associates. Thanks for your patience. So we have a --

19 we've -- we've done a number of profiles across the --

20 across the channel. And during -- some variability in

21 flows by about 60 to 80 centimetres over the course of

22 -- of a season, but the depths seem to be, on average

23 around about a metre in depth.

24   And depending on the season, it's --

25 it's a bit higher than that or a bit lower than -- low

 1 -- lower than that. Some part of the channels are

 2 wadable. Other -- other parts of the channel, you

 3 cannot wade across. The -- the most depth would be

 4 approximately about a metre and a half, metre, metre

 5 and a half, 1.3 metres, to be exact.

 6   THE CHAIRPERSON: Okay. Thank you. We

 7 would like to start with the presentations now, and we

 8 would ask the -- IEMA to -- you could either sit at the

 9 table or probably come up. Would you like to come up?

10 You're right at the front anyway.

11   You could do it right at your table,

12 since you're right at the front there. Yeah.

13

14 PRESENTATION BY IEMA:

15   MR. BILL ROSS: Here we go. Thank you,

16 Madam Chair. My name is Bill Ross. I'm the chair of

17 the Independent Environmental Monitoring Agency. And

18 as soon as Kevin flips to the next slide, we will see

19 that our presentation -- there we go -- starts with

20 service water and mine water management.

21   I -- I will now simply turn it over to

22 Emery Paquin, who will deal with -- with that. And at

23 some point shortly thereafter, he will turn it over to

24 Tim Byers. Emery...?

25   MR. EMERY PAQUIN: Thank you. Emery

1 Paquin, with the Monitoring Agency. And given the time

2 of day, I -- I will do my best to be brief.

3   So Section 7.3.1.1 of the terms of

4 reference requires the Company to describe and evaluate

5 contingent water treatment alternatives during all

6 phases, including the use of Lynx and Misery Pits,

7 mechanical, and other water treatment options.

8   As we heard this morning, the Company is

9 confident their water management approach using

10 meromixis will be successful. The Monitoring Agency at

11 this point cannot state whether meromixis will or will

12 not occur in the Misery and the Jay Pit.

13   The Agency is concerned that, in the

14 event that meromixis -- meromictic conditions do not

15 become established, or if they become interrupted, then

16 the implementation of the adaptive management

17 strategies identified by the Company would require

18 sufficient lead time to plan and implement.

19   At this time, there are no specific

20 triggers or timeline -- time frames for early warning

21 or actions that would have to be provided by the

22 Applicant.

23   The agency wishes to acknowledge

24 Dominion Diamond's response to our measure in its

25 August technical report responses. In this response,

1 Dominion states it expects that a revised mine water

2 management plan will need to be submitted to the

3 Wek'eezhii Land and Water Board.

4   It further states that the plan will

5 include details of contingencies, monitoring and

6 evaluation, trigger thresholds, timelines for

7 implementation, and that the revised plan would be

8 provided to the Land and Water Board for approval

9 within two (2) years of dewatering of the Jay Pit. Or

10 actually, to clarify, within two (2) years of

11 dewatering being initiated.

12   The Monitoring Agency believes that

13 should the anticipated meromixis state fail to be

14 established, it is likely that effluent quality

15 standards would not be achieved, significant impacts to

16 water quality in Lac du Sauvage may result, and the

17 effective and timely impen -- implementation of a

18 adaptive management contingencies would be required in

19 order to protect the waters of Lac du Sauvage and Lac

20 de Gras.

21   Therefore, the agency requests that the

22 Review Board make the commitment that Dominion has made

23 that a updated Mine Water Management Plan will be

24 submitted. We request that the Review Board make this

25 a regular -- regulatory requirement of the Wek'eezhii

1 Land and Water Board. And with that, I will turn the

2 mic over to my colleague. Thanks.

3   MR. TIM BYERS: First of all, our

4 apologies for the -- sorry. Tim Byers, with the

5 Monitoring Agency. First of all, our apologies for the

6 typo in the -- in the title there. It -- we all know

7 it's Lac du Sauvage, not Lac du Savauge.

8   So, anyways, Dominion plans on

9 monitoring only small fish species, such as sculpin,

10 for -- during their AEMP, rather than the larger

11 whitefish and trout for the reasons that impacts on the

12 small sculpin will show up well before contaminant

13 impacts emerge in the larger species higher up the food

14 chain.

15   Dominion also wants to avoid killing

16 large fish of value to the Aboriginal communities,

17 which is a noble objective to obtain biological and

18 contaminants info. However, we're concerned that

19 contaminant loading may be massed by the short life

20 span of sculpins, and may remain undetected in older

21 trout which live, in the case of trout, over -- well

22 over twenty (20) years, and bioaccumulate things like

23 mercury over that time span.

24   I would like to take this opportunity to

25 correct something in the agency technical report. We

1 stated that the life span of a sculp -- a slimy sculpin

2 is only three (3) to four (4) years, but that was the

3 average age of sculpin disco -- found in the -- in the

4 monitoring of the -- the other lakes. The actual life

5 span is up to ten (10) years.

6   Large species that live for a long time,

7 such as lake trout and burbot, can naturally accumulate

8 mercury in their bodies that surpass Health Canada

9 guidelines for safe eating. The Adaptive Management

10 Plan for this mine includes heavy metals such as

11 mercury in fish muscle and internal organs, like liver,

12 as something that is measured and should have, for

13 adaptive management, an early warning of impending

14 health risks for fish consumers of those fish, as well

15 as human consumers.

16   It's important to have this system in

17 place in -- sorry. It's important to have a system in

18 place that addresses Aboriginal concerns about these

19 type of risks from contaminants. A measure that

20 incorporates non-lethal sampling of large fish in Lac

21 du Sauvage can address Dominion's concerns about

22 possible harm to trout populations from sampling them.

23   In fact, Dominion is already doing this

24 in the smaller lakes in the current AEMP, where they

25 can take a plug of skin and muscle from a live fish and

1 not kill the entire fish, and apparently the -- the

2 fish live happily ever after, or we hope they do.

3   We note that technical reports from the

4 NWT and Can -- Canadian governments also stress the

5 importance of monitoring the larger species. The DAR

6 focusses on impacts on water quality only from dust

7 deposition over Lac du Sauvage from the mine rather

8 than effects also on the lake bottom.

9   The Company believes that potential

10 impacts on fish reproduction will not occur from dust

11 deposition over -- or potential dust deposition over

12 fish shoals due to wave action sweeping away that dust

13 sediment that may settle on the fish shoals. But the

14 agency does not believe DDEC, Dominion Diamonds, has

15 proven beyond a doubt that dust produced by its Jay

16 mine will not adversely impact trout and whitefish

17 spawning beds.

18   Dominion predicts that dust produced at

19 the perimeter, so the outside edges, of the Jay Pit

20 would reach a maximum deposition rate of 5.12

21 milligrams per decimetre -- I never knew how to

22 pronounce that word -- but decimetre per day. Research

23 by fisheries biologists show that if sediment

24 accumulates over whitefish spawning beds in the range

25 of only 1/3 to 1.4 milligrams per decimetre, this can,

1 in fact, create a signi -- a significant impact to egg

2 survival.

3   As well, the agency is unsure of

4 Dominion's contention that any dust deposited on

5 spawning beds will be swept away by waves. We note

6 that -- or at least the DAR notes that spawning shoals

7 in Lac du Sauvage are 2 to 6 metres below the -- below

8 the surface.

9   And the average wave height in the lake

10 is a 1/3 to 7/10 of a metre high. So it is not clear

11 to the agency -- none of us are hydro -- or

12 hydrologists. It is not clear to the agency, given the

13 evidence in the DAR and their supporting documents,

14 that this wave height could create the depth of

15 turbulence below the water surface of the lake to reach

16 the dusted shoals, nor do we know where lake currents

17 are located and their direction of flow in relation to

18 those shoals.

19   I -- I am not at all sure whether wave

20 turbulence and lake currents that Dominion is telling

21 us will sweep away dust -- sediment, rather, whether

22 they will be sufficient to suck out, if you will,

23 particles from interstitial spaces within the gravel.

24 So in other words, a trout will -- will lay the eggs

25 over a gravel bed. Many, or if not most, of those eggs

1 will fall within the spaces between gravel.

2   And so if dust or other type of sediment

3 does settle within those spaces, can it literally

4 suffocate eggs and the alevins, that is, the baby fish

5 that still have their yolk attached and haven't emerged

6 from the gravel yet? We believe that Dominion should

7 present a model of depth of wave turbulence to support

8 their argument that dust will be naturally swept off

9 spawning shoals.

10   Our next topic of concern is reference

11 lakes. Counts Lake is a reference lake used in the

12 current AEMP, Aquatic Effects Monitoring Program, as a

13 gauge of natural lake conditions which are supposed to

14 be untouched by mining. But we learned from the DAR

15 that dust produced by the Jay Project is expected to

16 increase suspended sediment in Counts Lake.

17   So the Company has stated that it will

18 determine through their AEMP monitoring whether Counts

19 Lake will continue to be suitable as a reference lake,

20 which is good for us to know. But this does not

21 venture to predict whether the Company expects this

22 lake to continue to provide pristine conditions that

23 the current AEMP requires. So Jay -- the Jay Project

24 should not disrupt the integrity of the current AEMP,

25 which is designed to identify environmental changes and

1 their source.

2   The Jay Project would increase total

3 suspended solids above historic levels in a lake that

4 is supposed to be untouched. So two (2) -- well, no

5 suitable reference lakes for Jay have yet been proposed

6 in the DAR or the AEMP design plan, and possible

7 impacts on Counts Lake from Jay-generated dust have not

8 been considered.

9   So our recommended measure, then,

10 Dominion has -- Dominion should evaluate the Jay

11 Project's impacts on Counts Lake as a -- an AEMP

12 reference lake. They have stated that a desktop

13 reference lake study will be conducted for the project

14 to identify whether a suitable reference lake can be

15 found for comparisons to Lac du Sauvage in addition to

16 the three (3) currently, which counts as one (1).

17   So the agency would be interested in

18 getting, if possible, a short list of the lakes being

19 considered in that reference lake study, and if this

20 could be provided to the Review Board and regulators,

21 we think that would be beneficial.

22   As we've heard a -- a couple times

23 earlier today, the Company has stated that Jay effluent

24 will never be acutely toxic to life in Lac du Sauvage,

25 and further states that data collected as part of the

1 monitoring program, that is the SNPs, the AEMP, would

2 be used to assess the need for adaptive management

3 strategies in the event that trends in surface water

4 and mine water quality differ from what they expect --

5 what the Company expects.

6   The agency is concerned that aquatic

7 life within that mixing zone could be exposed to

8 acutely toxic effluent. Cladocerans were predicted in

9 -- or, sorry, cladocerans in their tox testing --

10 toxicity testing were exposed to predicted Jay effluent

11 qual -- Jay effluent quality, and only 45 percent

12 survived the effluent. So this is a -- a significant

13 toxic effect, it would seem.

14   Also, in that same tox test -- toxicity

15 testing, there seems to have been a methodological

16 problem for the water flea particularly. Not so much

17 for -- for trout, but for the water flea, Daphnia,

18 which is a major prey of -- of fish species, I might

19 add, in the AEMP lakes. The laboratory test water was

20 warmer than the water normally found in Lac du Sauvage.

21   So under the Fisheries Act, acute

22 toxicity is not permissible at end-of-pipe discharge

23 point. And because of this, we believe Dominion should

24 determine how likely it is that effluent tox --

25 effluent that is toxic to zooplankton will be released

1 into the mixing zone in Lac du Sauvage.

2   We would like the Company to ensure that

3 any test conditions are representative of natural Lac

4 du Sauvage conditions so that the toxicity test results

5 are comparable to natural pre-mine conditions.

6   Onwards to zooplankton. The agency

7 fears that effluent from the Jay Project may result in

8 a shift in the dominant zooplankton species to species

9 that may not be edible to fish.

10   Dominion, on the other hand, does not

11 think any zooplankton changes caused by -- sorry, any

12 changes in the zooplankton community caused by mine

13 enflu -- effluent will be harmful to fish.

14   And the Company states that if a low

15 action level is triggered for plankton as part of their

16 AEMP response framework, determining how changes in

17 communily -- community structure could ultimately

18 impact fish populations could be proposed as part of a

19 response plan.

20   However, we note that thresholds and

21 action levels within that response plan have yet to be

22 established for plankton community changes -- that is,

23 taxonomic changes. So we are left with no clear

24 indication that the Company will be capable of

25 determining impending adverse impacts to plankton

1 communities that fish rely on in these lakes.

2   The DAR does not recognize that

3 significant shifts in zooplankton community structure

4 can impact fish health through creating conditions for

5 poor nutrition. That is, if the -- the plankton change

6 so that there are too many inedible ones, you have less

7 food for fish.

8   Shifts in zooplankton communities caused

9 by either phytoplankton changes or water quality

10 degradation can impact the food that especially the

11 young fish eat.

12   Phosphorus, which is a plant nutrient,

13 is predicted to increase above the level at which Lac

14 du Sauvage will no longer be oligotrophic. This could

15 result in a greater biomass of phytoplankton. So in

16 other words, there'll be a lot more food for the

17 zooplankton higher up the chain to feed on.

18   So one would think intuitively that this

19 a benefit to the next community up the food chain --

20 that is, the zooplankton. However, along with

21 increasing biomass, there is the potential for changes

22 in the dominant species of that community.

23   If the change is more - if the change in

24 that community is from more edible species to more

25 inedible species of phytoplankton, then one can see

1 that this is a -- has the potential to reduce, not

2 increase, food for zooplankton.

3   And we're down to our last two (2)

4 slides. In fact, the current AEMP has -- has recently

5 shown significant declines in populations of two (2)

6 major parts of the zooplankton communities in lakes

7 downstream of the LLCF, the tailings pond, the Long

8 Lake Containment Facility.

9   For the record, these are rotifers and

10 cladocera have declined sharply. We're not sure

11 whether this decline in these two (2) major parts of

12 the communities of zooplankton is caused by

13 nutrification, or by high potassium concentration, or

14 higher TDS concentration.

15   That isn't exactly known yet, so we

16 cannot be certain whether the same significant impacts

17 to Lac du Sauvage zooplankton won't occur and, most

18 importantly, what impacts that would have on

19 planktivorous fish -- that is, fish that eat plankton

20 mostly -- such as whitefish and juvenile lake trout

21 that rely more on zooplankton than fish to eat.

22   And finally, we believe -- or we feel

23 that Dominion should show that it is willing to assess

24 plankton community changes every year. And it seems

25 that Dominion has, in its responses to reviewers,

1 committed to do this, which we're happy to see. But we

2 would also like to see that differential impacts up the

3 food chain to various fish species and also various

4 fish age classes.

5   So not just the adults, but also perhaps

6 the fry or juvenile fish. We believe those should be

7 part of the assessment. And with that, I think you

8 very much for your time.

9

10 QUESTION PERIOD:

11   THE CHAIRPERSON: Thank you for your

12 presentation. Questions from the Government of the

13 Northwest Territories?

14   MR. NATHEN RICHEA: Thank you, Madam

15 Chair. It's Nathen Richea, with Environment and

16 Natural Resources, Government of the Northwest

17 Territories. I just have three (3) questions for IEMA.

18 First off, thank you very much for your presentation

19 today.

20   I guess my first question is: Does IEMA

21 believe based on their technical assessment that

22 flexibility in Dominion Diamond's Water Management Plan

23 is required to avoid toxicity issues to plankton and

24 zooplankton?

25   MR. EMERY PAQUIN: Emery Paquin, with

1 the Monitoring Agency. Predictions are -- are just

2 that, they're predictions. Model outputs are the

3 result of complex mathematical calculations based upon

4 certain initial input data. The -- the only way that

5 Dominion Diamonds or anybody can be assured of -- of

6 what is happening in the natural is -- environment is

7 by putting into place a robust monitoring program.

8   You asked whether the agenc -- the

9 Monitoring Agency believes that flexibility needs to be

10 built into the Water Management Plan. Definitely, yes.

11 Flexibility does need to be built into it, simply --

12 for the simple reason that right now, any conceptual

13 management plans are built upon predictions and model

14 results.

15   The other comment that I would like to

16 make now is that lead times are extremely important in

17 the -- when developing any water management plan. If

18 what is happening in the environment is -- differs from

19 the predictions or model outputs, you need sufficient

20 time in order to implement the contingencies.

21   So the simple answer to your question

22 is, yes, flexibility does need to be built in.

23   MR. NATHEN RICHEA: Thank you, Madam

24 Chair. It's Nathen Richea, again, with ENR.

25   Just a quick follow-up. You mentioned

1 the monitoring, and I'm assuming adaptive management.

2 Does IEMA believe that adaptive management will be

3 required in the event that the EA conservative case

4 becomes a reality for Dominion Diamonds?

5   MR. EMERY PAQUIN: Emery Paquin the --

6 Paquin, with the Monitoring Agency. Again, the short

7 answer is, yes.

8   Adaptive management will be required

9 whenever triggers are exceeded or regulatory

10 requirements are approached, regardless of -- of

11 whether you use the conservative case or any other

12 planning approach.

13   MR. NATHEN RICHEA: Thank you, Madam

14 Chair. I just have one (1) final question. A preamble

15 to the question is, IEMA issued an Information Request

16 to --

17   THE CHAIRPERSON: State your name,

18 please.

19   MR. NATHEN RICHEA: Sorry, it's Nathen

20 Richea, with Environment and Natural Resources. IEMA

21 issued an Information Request in the First Round of IRs

22 to all parties. I think the IR number was number 52.

23 It was specifically in regards to significance

24 determinations and the assessment end points.

25   I guess my question to IEMA is: Does

1 IEMA have any comments on the use of the assessment end

2 points and special -- spatial scales that have been

3 used to determine significance to value components by

4 the Developer in their project assessment?

5   MR. BILL ROSS: Bill Ross, Monitoring

6 Agency. There was a flurry of exchanges in the First

7 Round of IRs related to significance criteria, as I

8 would call them, or this assessment end points as -- as

9 Dominion Diamond calls them.

10   The most broad request came from the

11 Review Board in its IR number 77, and we replied to it.

12 Let me skip through much of it very quickly. We -- we

13 have no mandate to deal with socio-economic effects,

14 and so we won't comment on the end points used there.

15   We took strong issue with the suggestion

16 that -- I'm trying to find the right phrase again, here

17 -- self-sustaining and ecologically effective

18 populations as a -- as a suitable significance

19 criterion for wildlife for the -- for caribou and --

20 and the like. And we -- we indicated most importantly

21 that -- there and elsewhere, that societal values can

22 and should be used as a -- as an important tool in

23 determining significance.

24   The -- if -- if I focus more on water

25 quality and quantity, and on fish and fish habitat, I -

1 - let me read, because it's quite short, our response

2 at that time:

3   "Regarding water and -- water quality

4   and quantity, the agency was

5   surprised to see that continued and

6   future safe use of waters such as Lac

7   du Sauvage and Lac de Gras for

8   drinking water and domestic fisheries

9   were not identified as end points for

10   water quality. CCME and Health

11   Canada have developed measurement

12   indicators for safe water. With

13   respect to fish and fish habitat, the

14   agency suggested that DDEC should

15   include parasite inf -- infestation

16   rates and other health indices as

17   measurement indicators in its

18   assessment of -- of Jay."

19

20   (BRIEF PAUSE)

21

22   MR. NATHEN RICHEA: Thank you, Madam

23 Chair. I just have -- to discuss here. I'm not sure

24 if we need to rephrase the question or -- or what. But

25 I'll -- just a second, a quick second.

1   (BRIEF PAUSE)

2

3   MR. NATHEN RICHEA: Thank you, Madam

4 Chair. It's Nathen Richea, GNWT. Apologize for the

5 short pause there. I -- I guess to get back to the

6 question, I guess in a blunt way, does IEMA believe

7 that a more localized scale for impact assessment is

8 required, in that a measure may be required to limit

9 the extent of impact on local scales?

10

11   (BRIEF PAUSE)

12

13   MR. BILL ROSS: Bill Ross, Monitoring

14 Agency. I -- sorry, I -- I misunderstood the question.

15   The spatial scale issue is something --

16 clearly differs for different valued components,

17 principle of impact assessment, I guess. And the scale

18 for Bathurst caribou, for example, I thought was quite

19 appropriate, it's a very large area.

20   On the other hand, if we're dealing with

21 fish or with water quality, the -- the effects may be

22 relatively local and focussing on dealing specifically

23 with local areas where there could be concerns would be

24 appropriate.

25   MR. NATHEN RICHEA: Thank you, Madam

1 Chair. It's Nathan Richea, ENR. We have no further

2 questions.

3   THE CHAIRPERSON: Thank you.

4 Questions, Yellowknives Dene First Nation?

5   MR. ALEX POWER: Alex Power,

6 Yellowknives Dene First Nation. We have no questions.

7 Thank you.

8   THE CHAIRPERSON: Questions, Lutsel K'e

9 Dene First Nation.

10   MR. PETER UNGER: Peter Unger, Lutsel

11 K'e Dene First Nation. As mentioned yesterday and as

12 mentioned in our technical report, LKDFN is especially

13 concerned about the waste rock storage area and its

14 proximity to water bodies.

15   As the agency responsible for monitoring

16 Ekati, could IEMA please provide a brief assessment of

17 the management of Ekati's current waste rock piles?

18

19   (BRIEF PAUSE)

20

21   MR. KEVIN O'REILLY: Thanks. Kevin

22 O'Reilly, on behalf of the agency.

23   I guess the agency has had a

24 longstanding concern with some of the current waste

25 rock piles, and at least a couple of them are not

1 freezing or freezing as predicted by the Company. And

2 there's limited thermal monitoring that's happening in

3 some of the waste rock piles, and we've suggested that

4 that be improved.

5   I guess more importantly, though, the

6 Wek'eezhii Land and Water Board has initiated a major

7 review of the current waste rock storage area

8 management by the Company. And there's an ecological

9 risk assessment that the Company is working on.

10 There's a thermal monitoring assessment they're working

11 on, and I may not get all of this right, but some

12 geotechnical -- or sorry, geochemical characterization

13 work and so on.

14   So there's sort of three (3) components

15 of that work that are going on. And I think they --

16 they've completed at least a first go-around on that

17 for the operations phase of the project, but there's

18 still work to be done on the closure phase.

19   In any event, the age -- the agency has

20 been involved in -- in that work that the Wek'eezhii

21 Land and Water Board has ongoing. We've made a number

22 of recommendations around waste rock storage area

23 management at the site for a number of years,

24 particularly, with regard to thermal monitoring. And

25 it seems to be -- I guess the Company's now addressing

1 some of that, so we -- we're -- we'll be very

2 interested to see the -- how that plays out. Thanks.

3   MR. PETER UNGER: Thank you. Peter

4 Unger, Lutsel K'e Dene First Nation. No further

5 questions. Thank you.

6   THE CHAIRPERSON: Thank you.

7 Questions, Tlicho Government?

8   MR. HENRY ZOE: Thank you, Madam Chair.

9 Henry Zoe, Tlicho Government. Well, I have a couple

10 questions for IEMA, and it's in regards to your

11 technical -- your report that you submitted.

12   You made a suggestion that Canada and

13 GNWT investigate, and publically report on the

14 establishment of our permin -- participating funding

15 program for environmental assessments held under Part 5

16 of the Mackenzie Valley Resource Management Act within

17 one (1) year of the acceptance of the report of

18 environmental assessment.

19   We would like to comment that the lack

20 of funding has been a significant constraint to public

21 engagement, causing some groups to have -- some groups

22 to patch together funds from internal sources.

23   Our question to you is: What kind of a

24 consultation would you consider to be advisable in the

25 establishment of a partic -- participant funding

1 program? Thank you.

2

3   (BRIEF PAUSE)

4

5   THE CHAIRPERSON: A reminder, please,

6 that the questions have to be directed to the scope of

7 the Project.

8   MR. BILL ROSS: Then I'll be very

9 succinct, Madam Chair. Bill Ross, Agency. The most

10 important thing is to get a funding program in place,

11 and a precursor to that would be a reasonable

12 consultation.

13   MR. HENRY ZOE: Thank you. I have one

14 (1) more further question, Madam Chair.

15   IEMA, I think -- I believe you're

16 recommending that the Review Board make a significant -

17 - make a finding of significant adverse impact, and it

18 seems implicit that you are suggesting a decision track

19 of assigning measures, and not suggesting that the

20 Review Board proceed to a full environmental impact

21 review.

22   However, we would like to ask for

23 clarification in this regard. Are you asking that the

24 Review Board to recommend that the approval of the

25 proposal be made subject to the imposition of such

1 measures as they consider necessary to prevent the

2 significant adverse impact? Thank you.

3   MR. BILL ROSS: Bill Ross, Agency.

4 Most importantly, the recommendation was that the

5 Review Board should find a significant adverse

6 cumulative effect on the Bathurst herd. In addition,

7 we identified some of the kinds of measures that could

8 be used to mitigate that significant adverse cumulative

9 effect, and others have commented on them.

10   The decision about whether those

11 measures are sufficient or not is in the hands of the

12 Review Board, and we would never suggest that we would

13 -- to tell them what to do there. They must find

14 whether they are sufficient, and the Review Board will

15 make that determination.

16   MR. HENRY ZOE: Thank you. No more

17 questions, Madam Chair.

18   THE CHAIRPERSON: Questions from

19 Environment Canada?

20   MS. SARAH-LACEY MCMILLAN: Sarah-Lacey

21 McMillan, with Environment Canada. No questions.

22   THE CHAIRPERSON: Questions, Fisheries

23 and Oceans Canada?

24   MS. JULIE DAHL: Julie Dahl, Fisheries

25 and Oceans Canada. I have two (2) questions.

 1   In your presentation, you spoke to a

 2 concern with using small-bodied fish to detect

 3 contaminate loads. And I was just wondering if you

 4 could clarify: Is the Agency suggesting that small

 5 bodied fish not be used, or a combination of small

 6 bodied fish with a -- what you referred to as the

 7 tissue biopsies for the large bodied fish?

 8   MR. TIM BYERS: Thank you for -- sorry,

 9 Tim Byers, with the Agency. Thank you for that

10 question.

11   Yes, we would definitely want to see

12 both the small bodied fish, which are lower on that

13 food chain, and the large bodied fish both be used,

14 especially for contaminates monitoring.

15   MS. JULIE DAHL: Julie Dahl, Fisheries

16 and Oceans. Thank you. My second question is related

17 to the use of tissue biopsies.

18   I've been an advocate for non-lethal

19 sampling for many years, and I'm aware that tissue

20 biopsies are successful for mercury, and they've been

21 successfully used to detect changes in mercury levels

22 in northern pike with reservoir creation.

23   I'm not aware of other parameters that a

24 tissue biopsy could be used for simply because there

25 isn't a lot of material. And for other analysis, you

1 need a lot more tissue than you can get through a

2 biopsy.

3   So I'm just wondering if the agency is

4 aware of advancements in the tissue biopsy methodology,

5 such that it can now be used for other parameters other

6 than mercury?

7   MR. TIM BYERS: Tim Byers, with the

8 agency. No, actually, Julie, I'm not aware of -- of

9 such. I know fisheries consul -- fish consultant --

10 consulting friends of mine working on other projects

11 tell me that if they need, for example, a sample of

12 biopsy tissue from ten (10) trout, and they're looking

13 at three (3) different heavy metals, then they probably

14 want to take thirty (30) biopsy samples, so they can

15 have ten (10).

16   As you suggest, not enough material. So

17 ten (10), that would only be looked -- used to look at

18 mercury; ten (10) that would be used to -- for, say,

19 selenium; ten (10) for another heavy metal. And that's

20 the only method I'm aware of to tackle that issue.

21   MS. JULIE DAHL: Okay. Thank you.

22 Julie Dahl, Fisheries and Oceans Canada. Just one (1)

23 more follow-up question then.

24   To use the large-bodied fish for can --

25 contaminants analysis we are aware that if you try to

1 apply some sort of para-analysis the sample size that

2 you would need for a statistical value to detect a

3 change could decimate the population of a -- of a

4 large-bodied fish if they're small.

5   So do you have a suggestion for the --

6 the sample size that we could be -- that the -- that

7 Dominion Diamond could be looking at in order to get a

8 significantly significant value -- sorry, statistically

9 significant value, in order to detect change in

10 contaminants level?

11

12   (BRIEF PAUSE)

13

14   MR. TIM BYERS: Tim Byers, with the

15 agency. To answer your question, Julie, no, the -- we

16 -- that is the agency has not looked hard enough at

17 what sample size is required through -- through a para-

18 analysis to answer these questions.

19   But we would like to point that

20 currently in the present AEMP for the small lakes, the

21 Company is sampling for large-bodied fish at a

22 frequency of every -- once every six (6) years to avoid

23 those type of impacts, as you're suggesting.

24   And that is because the current AEMP

25 lakes are very small. They're -- one would almost call

1 them ponds, if you're living in Newfoundland. But

2 anyways, they're much smaller, is what I'm getting at,

3 than the Lac du Sauvage and Lac de Gras lakes. And if

4 we're talking only of Lac du Sauvage, one would expect

5 that you'd be able to increase that sample size over

6 and above what's currently collected for the -- the

7 current AEMP.

8

9   (BRIEF PAUSE)

10

11   MR. TIM BYERS: Sorry, the -- Tim

12 Byers, with the agency. The -- the -- so as a

13 corollary to that, if it's for Lac du Sauvage, if we're

14 able to increase the frequency from every six (6) years

15 down to, I don't know, every two (2) or three (3)

16 years, I don't -- I haven't seen anything in the DAR

17 that would suggest that that would impact the -- the

18 large-bodied fish communities like trout, and burbot,

19 and whitefish. So that -- that's probably something

20 that needs to be assessed as well. Thank you.

21   MS. JULIE DAHL: Julie Dahl, Fisheries

22 and Oceans. I guess we just have to make sure that the

23 sampling of fish is not greater than the mine effects

24 themselves. No more questions.

25   THE CHAIRPERSON: Questions, North

1 Slave Metis Alliance?

2   MR. SHIN SHIGA: Shin Shiga, North

3 Slave Metis Alliance. We have no questions.

4   THE CHAIRPERSON: Questions, Deninu

5 K'ue First Nation?

6   MR. MARC D'ENTREMONT: Marc

7 d'Entremont, for the DKFN. We have no questions.

8   THE CHAIRPERSON: Questions, Diavik

9 Mines?

10   MR. GORD MACDONALD: Gord MacDonald,

11 with Diavik. No questions.

12   THE CHAIRPERSON: Questions, Fort

13 Resolution Metis Council?

14   MR. SHAWN MCKAY (BY PHONE):   Shawn

15 McKay, Fort Resolution. We have no questions.

16   THE CHAIRPERSON: Questions, Transport

17 Canada?

18   MS. ANITA GUDMUNDSUN: Anita

19 Gudmundsun, with Transport Question. We have no

20 questions. Thank you.

21   THE CHAIRPERSON: Questions, Dominion

22 Diamond?

23   MR. RICHARD BARGERY: Richard Bargery,

24 Dominion Diamond. I'd like to thank IEMA for their

25 presentation. No questions.

 1   THE CHAIRPERSON: Questions, Review

 2 Board staff and counsel?

 3   MS. SACHI DE SOUZA: Sachi De Souza

 4 with the Review Board. First off, not directly related

 5 to water but related to the Project description.

 6   Does IEMA think that an independent

 7 review panel for geotech engineering is needed, and why

 8 if you say, Yes?

 9

10   (BRIEF PAUSE)

11

12   MR. BILL ROSS: Bill Ross, Agency. The

13 technical review panel that we have suggested, or

14 recommended, was for dike construction that was agreed

15 to by Dominion Diamond, and we are thankful for that.

16   The second one that we mentioned en

17 passant was -- was the potential for such a -- such a

18 body in the context of the Jay Road, just because that

19 was getting complicated in the discussion around here.

20 I would say that the Agency has not recommended that,

21 only that, that was one possibility that could be

22 helpful. And -- and that's the Esker crossing

23 specifically.

24   The -- the rationale -- sorry, I -- I

25 think the second part of your question was, "And why?"

1 And the -- the dike construction is something that

2 wants to get done right because you don't want problems

3 to arise there. And so having good expertise is

4 something that Dominion Diamond agreed to, so we're --

5 we're comfortable with sticking with that one for sure.

6   MS. SACHI DE SOUZA: Sachi De Souza,

7 with the Review Board.

8   The next question is: Would an

9 inability of fish to move through the narrows represent

10 a significant adverse impact in IEMA's opinion?

11   MR. TIM BYERS: Tim Byers, with the

12 Agency. If they do in fact -- and I still don't know

13 the answer to this -- if they -- if they do in fact

14 currently move between the two (2) lakes, and then for

15 whatever reason passage at the narrows is obstructed so

16 they can't, then as we may have alluded to earlier in

17 the day the -- our question would be then:

18   Is there enough spawning habitat to --

19 to maintain the current fish species' reproductive

20 abilities within the lake because of the possibility

21 that there are an awful lot more sub-optimal habitats,

22 and not the best spawning beds within Lac du Sauvage,

23 and that perhaps a lot of the trout need to go to Lac

24 du Sauvage to -- to seek those out.

25   So I -- I hope that answers the

1 question.

2   MR. BILL ROSS: Bill Ross, Monitoring

3 Agency. I -- I would add, it depend -- the answer to

4 your question depends crucially on how long the

5 blockage lasts. If it's a ten (10) minute blockage,

6 I'm going to hazard to guess that spawning is not

7 crucial, although my fish experts may tell me

8 otherwise, but I doubt it.

9   If the blockage is much longer, I think

10 then -- you know, so the usual considerations of -- of

11 determinance of significance would apply. And it -- it

12 -- quite frankly the Agency has not taken an actual --

13 made a determination on whether that would be a

14 significant adverse environmental effect, or -- or not.

15   But there are some clear issues. It

16 would certainly be of concern if it were an extended

17 blockage, as my colleague has indicated.

18   MS. SACHI DE SOUZA: Sachi De Souza,

19 with the Board. IEMA -- one (1) -- one (1) of IEMA's

20 recommendations was that a specific surface and mine

21 water management plan be completed and required for

22 Dominion for the Jay Project.

23   Are there particular items that IEMA

24 believes are needed within this proposed water

25 management plan?

 1   MR. EMERY PAQUIN: Emery Paquin --

 2 Paquin, with the Monitoring Agency. The Monitoring

 3 Agency has included as part of its technical report as

 4 well as the presentation made here today a number of

 5 specific recommendations as to what should be included

 6 in -- in the revised plan.

 7   If you wish, I could read those into the

 8 record now, or I would simply refer the -- the Review

 9 Board to the presentation in our technical report.

10

11   (BRIEF PAUSE)

12

13   MR. EMERY PAQUIN: Emery Paquin, with

14 the -- with the Monitoring Agency. With the delay in

15 response, what I would like to do is I would like to

16 summarize our -- our specific recommendations.

17   So we -- we recommend in our technical

18 report that the plan include the identification of

19 specific surface and mine water management

20 contingencies, including capacities in terms of

21 effluent volumes and mine production as expressed as

22 operating days.

23   The plan should also include the design,

24 construction, and implementation timing for each

25 identified surface and mine water management

1 contingency plan -- or contingency option, detailed

2 monitoring of water quality and quantity to enable the

3 early detection of success or failure, and associated

4 adaptive management trigger thresholds for the

5 implementation of those contingencies.

6   We went on to recommend that the revised

7 plan for the Jay Project be submitted to the Wek'eezhii

8 Land and Water Board for approval within two (2) years

9 of initiating dewatering operations of the Jay Pit.

10   MS. SACHI DE SOUZA: Sachi De Souza,

11 with the Board. My last question relates to the waste

12 rock storage area seepage. The agency has stated that

13 they think poor quality seepage water reporting to the

14 receiving environment would represent a significant

15 adverse impact in the near field.

16   Confir -- we were just looking for a

17 confirmation that the near field in this situation is

18 the adjacent creek in Lac du Sauvage. And also, that

19 if IEMA believes that exceeding without adequate

20 mitigation measure -- measures such an exceedance is --

21 is likely and why they think so, of water quality

22 objectives, sorry.

23   MR. EMERY PAQUIN: In answer -- in

24 answer to the first part of your question, yes, near

25 field would include the adjacent streams and nearby

1 waters of Lac du Sauvage.

2

3   (BRIEF PAUSE)

4

5   MR. KEVIN O'REILLY: Thanks. Kevin

6 O'Reilly, with the Monitoring Agency. Sachi, I'm going

7 to try to put a little bit more meat on the bones to my

8 colleague's response.

9   I think part of the -- the concern for

10 the agency with the performance of the Jay waste rock

11 storage area is that the Company's proposing,

12 basically, co-disposal of potentially acid generating

13 rock with other non-potentially acid generating rock,

14 granite.

15   And, basically, they -- they've told us

16 that you -- they can't really separate those two (2)

17 types of rocks. So they're talking about having them

18 all together in the -- in the one (1) waste rock pile.

19 That's not something that's occurred before at this

20 mine.

21   The other waste rock piles, there are

22 segregated areas within the waste rock pile where the

23 potentially acid-generating rock is separated. And --

24 and the Company has used a strategy of permafrost

25 encapsulation to try to -- or to prevent bad seepage

1 from coming out of the waste rock piles.

2   So with this waste rock pile for Jay,

3 we're talking about a different method waste rock

4 storage and -- and management, something that hasn't

5 been done before at the mine.

6   But we -- I -- earlier, I mentioned that

7 their -- the agency is aware that even the current

8 waste rock piles, there are some issues with some of

9 them not freezing, and that the Wek'eezhii Land and

10 Water Board has initiated a review of the -- the

11 management of those waste rock piles.

12   We're -- we're not quite sure exactly

13 what the strategy is for the Jay waste rock storage

14 area in that the Company originally had -- had talked

15 about permafrost encapsulation not being required.

16 Then they said that it might be required. So there's

17 some uncertainty about whether permafrost encapsulation

18 is the strategy or not for the Jay waste rock storage

19 area, at least in our minds.

20   And if that's not the case, then how do

21 we ensure that the waste rock storage area actually

22 does stay frozen or that there's no seepage coming out

23 without knowing whether there's going to be rigorous

24 thermal monitoring, not at the end, but during the

25 operation of the -- the waste rock storage area?

 1   So I guess in our technical report, we

 2 did make a number of recommendations around how we

 3 thought that the -- the Jay waste rock storage area,

 4 given its proximity to Lac -- Lac du Sauvage and the --

 5 the creek and a new method of waste rock disposal, the

 6 problems with the current waste rock storage area, how

 7 do you design a system and -- and -- that uses adaptive

 8 management and has early triggers so if you see

 9 something that's going wrong, you don't have to wait

10 until you get acidic seepage because by then it's too

11 late to probably try to really do very much.

12   I -- I'm not sure I've answered the

13 question, but I just tried to paint that bigger picture

14 for you. Thank you. And that -- that's the basis for

15 our -- our concerns. Thanks.

16   DR. NEIL HUTCHINSON: Thank you. Neil

17 Hutchinson, with the Board. I have just one (1)

18 question. It's relating to slide 16 and your concerns

19 about dust deposition on spawning shoals for lake white

20 fish and lake trout.

21   You raised a concern. Do you think that

22 the dust deposition that you've talked about would

23 represent a significant adverse effect on these fish?

24

25   (BRIEF PAUSE)

1   MR. TIM BYERS: Tim Byers, with the

2   agency. Thank you for the question, Neil. I -- I'd

3   just like to clarify. Do you mean significant adverse

4   impact on the Lac du Sauvage fish habitat or on Lac du

5   Sauvage fish populations?

6   DR. NEIL HUTCHINSON: Good question,

7   Tim. Neil Hutchinson, for the Board. If in fact the

8   dust deposition occurred and had impacts on -- on the -

9   - the fish using those shoals, would that be

10 significant? And then secondly, would that be

11 significant in the context of those fish populations

12 for Lac du Sauvage?

13   MR. TIM BYERS: Tim Byers, with the

14 agency. I guess I would submit that -- again, there's

15 a -- a number of different variables that comes into

16 play to answer that.

17   But again, it seems to me if Lac du

18 Sauvage, either presently or in the future, becomes an

19 isolated lake -- that is, a lake isolated for fish from

20 Lac du Sauvage -- then the question becomes: How much

21 optimal habitat is there for spawning, specifically for

22 species of fish that would use any spawning beds that

23 could be impacted by -- by dust deposition?

24   And if again, there is a limited number

25 of spawning shoals, then one would assume that in -- in

1 a lake that's isolated from the larger Lac du Sauvage

2 watershed that that potentially could affect

3 recruitment of trout and whitefish that would use those

4 spawning beds.

5

6   (BRIEF PAUSE)

7

8   DR. NEIL HUTCHINSON: Neil Hutchinson,

9 for the Board. I -- I guess my -- my confusion comes

10 when you've asked the Developer to submit a report to

11 the Wek'eezhii Land and Water Board.

12   And, of course, they regulate a project

13 after people have determined whether or not it has

14 significant adverse effects. So I'm not quite sure

15 what use the model would be to the Wek'eezhii Land and

16 Water Board.

17   Maybe you could explain why you think

18 that that modelling should be done for their benefit,

19 and not for the benefit of this Board that has to

20 determine if the effects are significant or not.

21

22   (BRIEF PAUSE)

23

24   MR. TIM BYERS: Thank. Sorry, Tim

25 Byers, with the agency. Thank you, Neil, for that --

1 that question. I guess the -- the long and the short

2 of it is the agency at this point does not come down

3 one (1) way or the other as to whether this potential

4 impact would definitely be a significant adverse impact

5 or not.

6

7   (BRIEF PAUSE)

8

9   MR. TIM BYERS: The literature

10 information that we have at our disposal, as the slide

11 has said, shows that there does seem to be a potential

12 for dust sedimentation over at least Lake Whitefish

13 spawning beds, as being a potential problem for egg

14 survival within spawning beds of at least Lake

15 Whitefish.

16   And we do not, at this point, know with

17 the information that we have at our disposal whether --

18 whether the Company's reasoning of why this would not

19 be an impact on fish eggs and alevins would be -- why

20 this impact would not occur because of wave action and

21 current sweeping. So at this point, I can say that it

22 seems that that information would be very useful for us

23 to at least come to that kind of conclusion.

24   MR. BILL ROSS: Bill Ross. Look, this

25 is -- this is an issue that warrants a little bit more

1 study, and that would allow one to progress sat -- I

2 think satisfactorily. There's some loose ends here,

3 and we just thought it would be helpful to suggest they

4 be cleaned up. Thank you.

5   DR. NEIL HUTCHINSON: Neil Hutchinson.

6 Thank you. That's all.

7   MR. MARK CLIFFE-PHILLIPS: Mark Cliffe-

8 Phillips, with the Review Board, no further questions

9 from staff or counsel.

10   THE CHAIRPERSON: Questions from Review

11 Board members?

12   Okay. Thank you. I'd like to call a

13 five (5) minute break. And if we could have the GNWT

14 get their team ready at the front here for the next

15 presentation. Thank you.

16

17 --- Upon recessing at 3:13 p.m.

18 --- Upon resuming at 3:32 p.m.

19

20   THE CHAIRPERSON: As you can see by the

21 agenda we still have a lot to do this afternoon so our

22 legal counsel has met with some individuals and our

23 legal counsel would like to make a -- a statement in

24 regards to the presentations.

25   MR. JOHN DONIHEE: Thank you, Madam

1 Chair. It's John Donihee, for the Board.

2   I spoke to Mr. MacDonald at the break

3 and Diavik is fairly far down on the list of

4 presenters. Mr. MacDonald advised that he has an

5 airplane to catch at 5:30 and has been unable to make -

6 - make a flight change. And so the issue becomes

7 really whether any of the parties have questions for --

8 for Diavik in relation to their written presentation,

9 written materials, that are on the record.

10   The suggestion that I -- I make, Madam

11 Chair, is that we relieve Diavik, I guess of the

12 requirement to stay to answer questions, and instead

13 give any parties that might have a question for them

14 the opportunity to ask IRs, ask those questions in

15 written form to Diavik after the -- after this hearing

16 is over this week. And answers to that would come in

17 at the same time as the undertakings so that they'd be

18 on the record in time for people to deal with them in

19 argument.

20   And so my suggestion, Madam Chair,

21 subject to your approval, is that we move forward with

22 that approach unless there's a real objection from any

23 of the parties who are here.

24   So just to be clear then, if somebody

25 does have an objection would you speak to it, please?

1   (BRIEF PAUSE)

2

3   MR. JOHN DONIHEE: Madam Chair, hearing

4   none, I suggest that we proceed that way. So Diavik

5   will not make a presentation this afternoon and Board

6   staff will correspond with the parties tonight or

7   tomorrow setting out the arrangements.

8   But to put them in broad terms, there'll

9   be questions allowed -- written questions allowed

10   specifically on the presentation and technical report

11   filed by Diavik with timelines as indicated, questions

12   and answers to be received by Oct -- the October dates

13   for interven -- or pardon me, for undertakings.

14   And, Madam Chair, with that I -- I

15   suggest the Board can proceed with the Government of

16   Northwest Territories presentation.

17   THE CHAIRPERSON: Okay. Thank you.

18   The Government of Northwest Territories, your

19   presentation, please.

20

21   PRESENTATION BY GNWT:

22   MR. ROBERT JENKINS: Good afternoon,

23   Madam Chair. My name is Robert Jenkins. I'm the

24   director of water resources with the Government of

25   Northwest Territories, Department of Environment and

1 Natural Resources. Sitting with me on the panel today,

2 to my immediate left I have Mr. Nathen Richea; he's the

3 manager of the water regulatory section in the water

4 resources division. To my far left, I have Dr. Barry

5 Zajdlik of Zajdlik and Associates. To my far right, I

6 have Mr. Neil Van Der Gugten of AMEC Foster Wheeler.

7 To my immediate right, I have Dr. Jamie Vangulck with

8 Arktis Solutions.

9   There are also a number of GNWT staff in

10 the crowd today including legal counsel and inspections

11 -- inspection staff.

12   We're here today to present the water

13 related components of the Government of the Northwest

14 Territories's Department of Environment and Natural

15 Resources technical report, and our recommendations

16 associated with Environmental Assessment 1314-01 for

17 Dominion Diamonds Ekati Corporation Jay Project.

18   Madam Chair, first a brief presentation

19 overview. The presentation focusses on the following

20 topics: the influence of the assessment boundaries on

21 the water quality impact assessment; predicted water

22 quality in the Misery Pit, resulting effluent quality;

23 and potential strategies for improving Misery Pit water

24 quality; and finally, impact of disposing processed

25 kimberlite into the mined out Panda and Koala Pits on

1 post closure water quality at the main Ekati site.

2   Throughout the process, and as

3 summarized in our intervention, GNWT has identified

4 concerns with the assessment boundaries that have been

5 used to assess the significance of impacts from the

6 Project.

7   The DAR uses a large regional boundary

8 to determine significance. In other words, local

9 boundary extends from Lac du Sauvage to the outlet of

10 Lac de Gras. While the GNWT acknowledges that a larger

11 regional boundary is required for evaluating cumulative

12 impacts from a project, a more localized assessment

13 boundary is more appropriate for assessing direct

14 impacts.

15   Our concern with the approach taken by

16 Dominion is that use of the regional scale boundary may

17 mask impacts in a localized area, which in this case is

18 Lac du Sauvage. The next few slides will provide some

19 examples that -- that illustrate this concern.

20   The first example is associated with

21 fish abundance. As discussed in our -- in our

22 technical report, any reduction in the fish population

23 in Lac du Sauvage would be reflected as a much smaller

24 reduction in fish population over the larger study

25 area. For example, a 50 percent reduction in Lac du

1 Sauvage would correspond to only a 5 percent reduction

2 in the study area. GNWT believes that this is a large

3 difference, thus considering the significance of

4 impacts in the Lac du Sauvage/Lac de Gras study area

5 could significantly underestimate the magnitude of the

6 local impact in Lac du Sauvage.

7   With water quality, the total dissolved

8 solids, or TDS, concentrations at the end of the

9 discharge pipe could reach as high as 2,925 milligrams

10 per litre. TDS is composed of a number of different

11 site-specific constituents, and the TDS in the effluent

12 from the Jay pipe is estimated to be 60 percent

13 chloride, which corresponds to an effluent

14 concentration of 1,712 milligrams per litre.

15   GNWT is concerned that these

16 concentrations could be toxic to the aquatic ecosystem

17 in the area immediately surrounding the discharge pipe.

18   The second water quality example is

19 increased turbidity in the immediate vicinity of the

20 dike construction zones. Localized zones with high

21 turbidity could be created during the construction of

22 the dikes and the dewatering of a portion of Lac du

23 Sauvage. And there is the potential for impacts to

24 water quality, and fish and fish habitat, as a result.

25 The GNWT is concerned that Dominion has not adequately

1 described or characterized the impact of turbidity on

2 localized zones within Lac du Sauvage during winter

3 construction periods.

4   We also note that there has been a

5 limited evaluation of the potential impacts resulting

6 from the Jay related activities at the main Ekati site

7 on the local assessment boundaries. Processed

8 kimberlite from Jay Pit ore will be deposited into the

9 Panda and Koala Pits. This processed kimberlite may

10 have an impact on post closure water quality in Panda

11 and Koala Pits, as well as the LLCF discharge at Leslie

12 Lake.

13   The current closure plan is to reconnect

14 Panda and Koala Pits -- Pit lakes with Kodiak Lake at

15 the end of operations. However, there is limited

16 information provided on the significance of impacts to

17 Kodiak Lake post closure.

18   And to be clear, Madam Chair, the GNWT -

19 - GNWT is not looking to redefine the assessment

20 boundaries at this point in the process. However, we

21 maintain that it is important to recognize that there's

22 a potential for local impacts, in other words, within

23 Lac du Sauvage or -- or within receiving lakes at the

24 Ekati main site, as a result of the construction,

25 operation, and closure activities associated with --

1 with the Jay Project.

2   Our recommendation to the Board on this

3 issue is intended to draw attention to this issue and

4 to ensure that these localized impacts are not

5 overlooked in the licensing process.

6   So with that, the GNWT recommends that

7 the Review Board include a measure that minimize --

8 minimizes impacts at localized scales, from dike

9 construction, dewatering, operation, and closure of the

10 Jay Pit -- Jay Project site, and its associated project

11 activities at the Ekati mine site, and this is to the

12 extent practical. These include -- these local

13 boundaries should include the initial mixing zone, Lac

14 du Sauvage, Leslie Lake, and Kodiak Lake.

15   Madam Chair, our second topic relates to

16 the predicted quality of water in the Misery Pit. This

17 concern is relevant during operations when Misery Pit

18 water will be discharged as effluent to Lac du Sauvage

19 and during post-closure, when Misery Pit will exist as

20 a pit lake with a connection to Lac de Gras.

21   As described in the DAR, water from the

22 Jay Pit will be managed during operations by pumping

23 into the Misery Pit. However, the Misery Pit has a

24 finite storage volume and after year 5 Misery Pit will

25 nearly be filled. Thus, water in the Misery Pit will

1 need to be discharged to Lac du Sauvage in order to

2 continue using the Misery Pit to manage and store Jay

3 Pit inflows.

4   Initially, the water pumped from -- from

5 the Jay Pit will be of reasonably good water quality.

6 However, as the depth of the pit increases, the water

7 will become increasingly saline, and the overall water

8 quality in the Misery Pit will decrease as the

9 proportion of saline water increases.

10   The GNWT's concern is that there could

11 come a point during operations, as presented in the

12 DAR, when the Misery Pit water would not be suitable

13 for discharge to Lac du Sauvage due to toxicity. This

14 would likely only occur during the last year of

15 operations.

16   However, Dominion has limited

17 flexibility in their water management strategy for the

18 -- for the Jay Project. And at this time, it's not

19 apparent that -- that viable water storage

20 contingencies have been presented for managing inflows

21 if the effluent is potentially toxic to aquatic life.

22   Further, at the end of operations,

23 Dominion has proposed to manage water quality in the

24 Misery Pit by placing a 60-metre freshwater cap to

25 cover the poor quality water that's remaining in the

1 pit. However, over time, the quality of the cap water

2 will begin to degrade and concentrations of TDS are

3 expected to reach approximately 748 milligrams per

4 litre TDS after two hundred (200) years.

5 We do not believe that this water

6 quality, 748 milligrams per litre TDS -- consistent

7 with the naturally occurring conditions in the local

8 ecosystem and will not align with the current closure

9 objectives for the Ekati site. And further, that this

10 water will ultimately report to Lac de Gras post-

11 closure, which would not receive such high

12 concentrations of contaminants during mining

13 operations.

14 However, in an attempt to improve

15 conditions during operations and closure we've

16 suggested a modification to Dominion's water management

17 strategy that could improve the quality of effluent

18 discharge from Misery Pit during operations, as well as

19 the long-term quality in the pit, Misery Pit, post-

20 closure.

21 What we would like evaluated is -- is to

22 begin an evaluation of beginning discharging water from

23 the Misery Pit prior to year 5 of operations, and to

24 increase the depth of the freshwater cap for the Misery

25 Pit.

1   Information in the DAR suggests that

2   water quality in the Misery Pit will be better during

3   the early years of the operation before a significant

4   volume of saline water is pumped from the advancing Jay

5   Pit.

6   We suggest that by discharging water

7   from Misery Pit earlier in operations, perhaps Dominion

8   could increase the storage volume available to accept

9   high salinity water later in the mine life, thereby

10 reducing the amount of poorer quality water that will

11 need to be discharged later in the mine life and

12 improve the over -- overall quality of effluent that's

13 discharged to Lac du Sauvage over the life of the mine.

14   This would add a degree of flexibility

15 into the existing water management strategy at the end

16 of operations.

17   Storing more high-salinity water would

18 also have the effect of increasing the concentration of

19 TDS in waters remaining in the pit post-closure, which

20 would increase the concentration difference between the

21 pit water and the fresh water cap, which should in turn

22 improve the likelihood and stability of meromixis in

23 the Misery Pit.

24   Once operations cease, some of the water

25 in the Misery Pit will be pumped over to the Jay Pit to

1 make room for the proposed 60-metre Misery fresh water

2 cap.

3   The GNWT notes that a deeper fresh water

4 cap would improve the water quality in the Misery pit

5 during post-closure. And this would improve the

6 likelihood that the current closure objectives for the

7 Ekati site could be maintained. So we have a

8 recommendation as follows.

9   Recommend that, in order to prevent the

10 potential for significant environmental impact to VCs,

11 so, water quality and fish and fish habitat -- in Lac

12 du Sauvage and Lac de Gras during operations and post-

13 closure, we feel that a measure should be included

14 requiring that effluent discharge from Misery Pit be

15 managed such that sufficient storage volume is

16 available in later years to curtail effluent discharge

17 volumes in years 9 and 10.

18   So what we're asking for here is an

19 evaluation of discharging effluent in year 3.

20   The above evaluation of -- of management

21 actions should focus on accumulating the worst quality

22 mine water within the Misery Pit to reduce toxicity

23 concerns and impacts to Lac du Sauvage and promote more

24 stable meromictic conditions post-closure.

25   So, Madam Chair, I'd like to make --

1 make sure we're -- that we're coming across very clear

2 on this recommendation. So we heard earlier from the

3 Proponent that they've not precluded discharge earlier

4 than year 5. But they don't believe it's appropriate

5 to make a decision on this aspect right -- right now.

6   The measure that we're requesting is

7 that an evaluation be required moving forward. And

8 ultimately, this information will inform operational

9 decisions that are made during the regulatory process.

10 So I just wanted to -- to provide a little bit more

11 clarification on this recommendation.

12   Our next recommendation is that the

13 Board include a measure requiring that additional

14 volumes of mine water from Misery Pit be pumped to Jay

15 Pit at closure, and an increase to the proposed water

16 cap over Misery Pit Lake to a depth greater than 60

17 metres.

18   Doing so would result in better water

19 quality in the near surface waters of the Misery Pit --

20 Pit Lake than predicted in the environmental

21 assessment, and result in better water quality post-

22 closure -- in other words, a goal for -- for long-term

23 mixolimnion concentrations of less than or equal to 500

24 milligrams per litre TDS.

25   Madam Chair, we'll now move on to our --

1 our final topic that'll speak to you today which is

2 water quality at the main Ekati site that could result

3 from mining the Jay Pit.

4   Processed kimberlite from the Jay Pit

5 will be deposited into the mine, to Panda and Koala

6 pits. At the end of mining, a 30-metre fresh water cap

7 will be placed on these two (2) pits, and they will be

8 reconnected to the Koala watershed. Dominion has

9 indicated that mero -- meromixis is not anticipated to

10 form within this surface water cap.

11   GNWT remains concerns with uncertainty

12 around potential interactions between the processed

13 kimberlite slurry and the overlying fresh water cap.

14 The slurry will be compri -- comprised of both

15 kimberlite solids and processed water, and with time

16 the solids will settle and the separated process water

17 will mix with the overlying water cap.

18   During winter, ice formation will expel

19 contaminants which will al -- also mix with the water

20 cap.

21   GNWT is concerned that these processes

22 could cause the water quality in the Panda and Koala

23 Pits to be poorer than expected, and also that Dominion

24 has not provided as a contingency alternative methods

25 managing processed kimberlite and slurry water within

1 the Panda and Koala Pits.

2   During closure, the Panda and Koala Pits

3 will be reconnected to Kodiak Lake, and it's not clear

4 whether the proposed water cover of 30 metres will

5 provide an appropriate buffer to ensure that surface

6 water quality will be acceptable and stable at closure,

7 and into the post-closure period.

8   Our technical report summarized the

9 objectives and criteria for the closure of the pit

10 lakes that are included in the current closure plan for

11 the Ekati site. And we would note that the current

12 closure plan does not consider the deposition or

13 storage processed kimberlite in the Panda or Koala

14 Pits, and limited details are available on potential

15 =impacts of this practice on the environment.

16   As such, the GNWT is uncertain Dominion

17 will be able to meet the current closure objectives if

18 processed kimberlite is deposited into the Panda and

19 Koala Pits. We recommend that additional work be

20 required to optimize the plans to store PK, and slurry

21 water, in Panda and Koala Pits in order to enhance

22 Dominion's ability to meet existing closure objectives

23 for the Panda and Koala Pit lakes.

24   So our last recommendation is that in

25 order to prevent the water quality within the water cap

1 in Panda and Koala Pits from degrading over time, and

2 potentially affect traditional use or valued

3 components, that the Board include a measure requiring

4 Dominion to conduct an optimization study regarding the

5 storage of PK and slurry water in Panda and Koala Pits

6 during the operational stage.

7   Outcomes of this study should be

8 implemented to enhance Dominion's ability to meet

9 existing closure objectives for the Panda and Koala Pit

10 lakes, and we're pleased that -- that Dominion has made

11 a commitment to undertake this work during future

12 regulatory processes.

13   I thank you, Madam Chair, and that

14 concludes our presentation to -- today.

15

16 QUESTION PERIOD:

17   THE CHAIRPERSON: Thank you. Questions

18 from the -- questions from the Monitoring Agency?

19   MR. TIM BYERS: Tim Byers, with the

20 Monitoring Agency. Thank you, Madam Chair. Just three

21 (3) quest -- sorry, three (3) questions from me and one

22 (1) from my colleague. And none of my three (3)

23 questions relate to what you've presented here. They

24 relate to other aspects of the Jay Project.

25   In the event of TSS approaching a

1 threshold during dike construction, Dominion's only

2 commitment seems to be a review of the local conditions

3 and -- and activities will be conducted. Now, that

4 leaves us with a question as to what -- as to what is

5 the proposed mitigation in the event that TSS plume

6 somehow escapes containment during construction as has

7 been recently seen in the Diavik construction of 821.

8   So my question is: Does the Government

9 of the Northwest -- Government of the Northwest

10 Territories expect to see an action level for TSS

11 during dike construction established in the adaptive

12 management framework? Thank you.

13

14   (BRIEF PAUSE)

15

16   MR. TIM BYERS: And, sorry, Tim Byers,

17 here. For the Board's benefit, TSS is total suspended

18 solids.

19

20   (BRIEF PAUSE)

21

22   MR. ROBERT JENKINS: Thank you. Madam

23 Chair, it's Robert Jenkins, with the GNWT. I think,

24 you know, this is a question that -- that definitely

25 will be addressed, you know, moving forward in the

1 regulatory phase of the Project. There will be an

2 adaptive management plan. It will cover, I'm sure,

3 aspects of construction and operation.

4   And there will need to be triggers

5 placed, and -- and obviously, you know, construction of

6 dikes and things that -- that you may do that could

7 potentially result in an increase to TSS. It's likely

8 a parameter that you may want to look at and develop

9 some thresholds and some management actions for.

10   MR. TIM BYERS: Tim Byers, with the

11 agency. Further to that, and this might have been -- I

12 apologize. This might have been a better question

13 directed to Dominion, but we just didn't have a whole

14 lot of time for all our questions. So I'll put it to

15 the NWT folks.

16   Since your mine inspector for the Diavik

17 operations already dealt with this at that particular

18 project, I am wondering to prevent TSS from escaping a

19 blown out silt curtain panel, does the NWT believe that

20 it may be feasible to put in a double wall of silt

21 curtains on the lakeward side of -- of the constructed

22 dike to prevent just the -- just the problem of TSS

23 plume escaping into the Lac du Sauvage water body?

24

25   (BRIEF PAUSE)

1   MR. ROBERT JENKINS: Thank you, Madam

2 Chair. It's Robert Jenkins, with the GNWT.

3   So again, I think there will be a bit

4 more of a detailed process associated with answering

5 these types of questions in the future. You know, we -

6 - we do understand that there -- there are mitigations

7 that are being proposed during summer construction.

8 We're not aware of -- we understand, actually, that

9 right now we -- that there -- there's no silt curtain

10 proposed during winter construction.

11   But, you know, again this is something

12 that, you know, when we move forward into the

13 operational phase and -- the operational and the -- the

14 licensing and the permitting phase of this project, it

15 is something that we would have to consider strongly,

16 the mitigations that get put in place, the -- the

17 triggers and the thresholds that would trigger action.

18   And obviously if there's past experience

19 at other -- other sites that we could build upon, then

20 that's something that would be -- need to be considered

21 as well.

22   MR. TIM BYERS: Thank you for that

23 answer. Tim Byers, with the agency again.

24   My -- my final question before I pass it

25 on to Emery Paquin, within the extreme wind -- extreme

1 wind effects modelling, which we learned about earlier,

2 that the Company has done for determining whether

3 meromixis would be stable, or whether wind would

4 disrupt the meromixis.

5   I'm wondering -- there was a CE-QUAL,

6 that is C-E-dash-Q-U-A-L model used in this -- in this

7 project. And I'm wondering, does this particular model

8 account for seiche that I -- that I had talked about

9 earlier in -- in our questions? Thank you.

10

11   (BRIEF PAUSE)

12

13   MR. ROBERT JENKINS: Thank you, Madam

14 Chair. It's -- it's Robert Jenkins, with the GNWT.

15 We're not aware if that's included in the model or not.

16   THE CHAIRPERSON: Okay. It's my

17 understanding that question was already asked to Ekati.

18   MR. TIM BYERS: My apologies.

19   MR. EMERY PAQUIN: Emery Paquin, with

20 the monitoring agency.

21   In the GNWT's technical submission, and

22 again on -- in slides 9 and 10 of your presentation,

23 you suggest that Dominion Diamond evaluate discharging

24 effluent from Misery pit as early as year 3, instead of

25 beginning in year 5 as has been suggested by -- or put

1 forward by the Company.

2   The rationale you provide includes that

3 water quality is better in Misery Pit during the

4 earlier years. Discharging earlier will increase later

5 year's storage capacities, and this would result in a

6 more stable meromictic condition in the Misery Pit.

7   I'm wondering, has the GNWT pre -- gone

8 on to predict the effect, the revi -- in the revised

9 schedule or earlier discharge from the Misery Pit, what

10 effect this would have on the long-term water quality

11 in the receiving environment of Lac du Sauvage?

12

13   (BRIEF PAUSE)

14

15   MR. NATHEN RICHEA: Thank you, Madam

16 Chair. It's Nathen Richea, with ENR.

17   I guess a short answer to your question

18 is we've done a qualitative assessment of the modelling

19 predictions made by the Company for discharge of

20 effluent in year 3 and curtailing discharge later in

21 the mine life, which would include part of year 9 and

22 year 10.

23   And it would appear to us that the

24 quality of water discharged to Lac du Sauvage would be

25 improved and the loadings to Lac du Sauvage would be

1 improved, but we haven't quantified any of that

2 assessment, it's a qualitative assessment only.

3   MR. EMERY PAQUIN: Emery Paquin, with

4 the Monitoring -- Monitoring Agency. That -- that

5 qualitative assessment is -- is satisfactory and I

6 thank you for that response.

7   THE CHAIRPERSON: Questions from

8 Yellowknives Dene First Nation?

9   MR. ALEX POWER: Alex Po -- sorry.

10 Alex Power, Yellowknives Dene First Nation. We have no

11 questions. Thank you.

12   THE CHAIRPERSON: Questions, Lutsel K'e

13 Dene First Nations?

14   MR. PETER UNGER: Peter Unger, Lutsel

15 K'e Dene First Nation. As indicted several times

16 earlier today and in our technical report, Lutsel K'e

17 is concerned about long-term impacts, specifically the

18 risk of meromixis being disturbed, and also seepage

19 from the waste rock pile among them.

20   I know it's pretty early days. But once

21 the mine is closed and Dominion has finished their ten

22 (10) years of post-closure monitoring, does the GNWT

23 have any plans for monitoring beyond that, af -- after

24 all this is said and done? Thank you.

25

1   (BRIEF PAUSE)

2

3   MR. ROBERT JENKINS: Thank you, Madam

4   Chair. It's Robert Jenkins, with the GNWT.

5   So one (1) of the things with -- you

6   know, when we move through and into the regulatory

7   process and -- and have the many discussions on

8   different aspects of the project, including --

9   including closure, essentially, the proponent, you

10 know, develops a plan. The closure planning process

11 includes designing for closure. There are a number of

12 monitoring requirements to make sure that the

13 objectives are met, that the criteria are met.

14   And those, you know, objectives --

15 closure objectives and -- and closure criteria are

16 basically, you know, included in the plan and approved

17 by the -- the Water Board. But, in essence, you know,

18 the processes that the Board undertake are to ensure

19 that input from all parties, you know, is included in

20 that process.

21   And so hopefully, in the end, all

22 parties are -- are, you know, okay with the criteria

23 and the -- the closure objectives for the site. And

24 the onus is on the proponent, in essence, to make sure

25 that those -- those criteria and those objectives are

1 met. And, you know, we look for walk-away solutions.

2   I can only speak to the monitoring that

3 the GNWT does now. I think that it would be

4 potentially career-limiting if I were to make a

5 guarantee that we were going to monitor ten (10) years

6 from now at every place we monitor currently.

7   But with that said, we do monitor a

8 number of stations and lakes downstream. We monitor a

9 number of locations in the Lockhart and in the Copper

10 Mine basins from both a water quality and a quantity

11 point of view. And there's no indication right now

12 that -- that that monitoring is going to stop any time

13 soon.

14   MR. PETER UNGER: Thank you. Peter

15 Unger, Lutsel K'e Dene First Nation. So the community

16 of Lutsel K'e is particularly sensitive. We've got a

17 contaminated site just south of us in Stark Lake, so

18 it's -- you know, long, long term is a -- is a big

19 worry for us.

20   Does the GNWT share Dominion's

21 confidence that meromixis would be established in the

22 Jay pit and maintained in perpetuity?

23

24   (BRIEF PAUSE)

25

 1   THE CHAIRPERSON: Are we close to

 2   answer, a response?

 3   MR. ROBERT JENKINS: We're getting

 4   there. If we could have one (1) more minute, please.

 5

 6   (BRIEF PAUSE)

 7

 8   MR. ROBERT JENKINS: Thank you, Madam

 9   Chair. It's -- it's Robert Jenkins, with the GNWT.

10   So the recommendation that we put

11   forward to the Board on the cap and on the discharge

12   strategies and different things were -- some of those -

13   - those recommendations are intended to reduce the

14   uncertainties associated with the stability of

15   meromixis.

16   But we have identified some concerns

17   with the modelling, and -- and we -- we will need to

18   have some more discussions moving forward into the

19   regulatory phase.

20   MR. PETER UNGER: Peter Unger, Lutsel

21   K'e Dene First Nation.

22   So basically, you know, I'm sure, you

23   know, meromixis is pretty well established, but, no,

24   you're not 100 percent sure?

25

1   (BRIEF PAUSE)

2

3   MR. PETER UNGER: I guess there should

4   be a question there. Is that correct? Sorry.

5   MR. ROBERT JENKINS: Thanks. It's

6   Robert Jenkins, with the GNWT. I -- I don't think that

7   I can give you a -- you know, a 100 percent guarantee.

8   Just to reiterate, you know, that we put

9   forward a number of recommendations to be able to, you

10 know, reduce the uncertainties associated with the

11 stability of meromix -- meromixis, and -- but we do

12 feel that there -- there will be a need to have some

13 additional discussion on this issue into the regulatory

14 phase.

15   MR. PETER UNGER: Thank you. Peter

16 Unger, Lutsel K'e Dene First Nation. So a similar line

17 of questioning about the waste rock pile. Earlier I

18 asked IEMA, and they mentioned some concerns about the

19 waste rock piles at Ekati currently.

20   Does the GNWT see a risk of seepage from

21 the waste rock pile, especially given impacts from

22 climate change? And I'm talking long term, so not in

23 fifty (50) years but in a hundred years, two hundred

24 (200) years, that kind of thing. Thank you.

25

1   (BRIEF PAUSE)

2

3   MR. ROBERT JENKINS: Thank you. Madam

4   Chair, it's Robert Jenkins, with the GNWT.

5   You know, this is a question that the --

6   the Company right now is -- is -- as it approaches

7   closure will go through different reviews and

8   iterations of its closure plan moving from what was

9   previously conceptual closure plan to now what is an

10   interim closure plan, and moving forward to a final

11   closure plan.

12   And I think the design of some of these

13   structures will need to be reviewed. Right now I think

14   that there's -- there's, you know, the approach to

15   closure but there's no final detailed designs have been

16   provided, and nothing finalized. So I think that, you

17   know, with things like climate change and -- and

18   potential warming, or climatic cycles in the future,

19   that the closure designs will need to be reviewed and

20   finalized, and they will be.

21   And I think that -- you know, we're

22   going to have a lot of discussion about that. And --

23   but again I reiterate that we're looking at sort of

24   walk-away solutions where -- you know, and in a walk-

25   away solution essentially you're planning for closure.

1 You're designing for closure. And you want sort of a

2 walk-away solution which is perpetual in nature.

3   MR. PETER UNGER: Thank you very much.

4 Peter Unger, Lutsel K'e Dene Fist Nation. No further

5 questions. Thank you.

6   THE CHAIRPERSON: Questions, Tlicho

7 Government?

8   MR. HENRY ZOE: Thank you, Madam Chair.

9 Madam Chair, I have a -- I want to make some comments

10 first.

11   All the issues that we've been dealing

12 with for the last few days during this technical

13 session is very important to us, the Tlicho Government,

14 because all the -- the caribou issue, water quality, et

15 cetera, are very important for us. And we're trying

16 our best to -- to participate effectively during these

17 hearings.

18   However, we're -- we have a concern in

19 regards to how -- how these -- these hearings are

20 going, and -- and also how -- how effective we are dur

21 -- during these hearings. The point I'm trying to make

22 is that -- Madam Chair, is that the same question I

23 raised with IEMA -- IEMA earlier today, I'd like to

24 pose that same question to GNWT because it's very

25 important because through these hearings you got to

1 have expertise so that you can participate effectively.

2   And without funding to groups like us,

3 Lutsel K'e, YKDFN, make -- makes it very difficult for

4 us to -- to participate effectively. So that's one of

5 the concerns I have. So I'd like to pose my question

6 to GNWT since they're in charge of funding now under

7 devolution.

8   It's in regards -- the GNWT and Canada -

9 - can GNWT and Canada investigate and publicly report

10 on the establishment of a permanent participant funding

11 program for environmental assessment held under Part 5

12 of the Mackenzie Valley Resource Management Act within

13 one (1) year of the acceptance of the report of the

14 environmental assessment? As -- as I said earlier,

15 Madam Chair, it's -- it's -- the lack of funding is --

16 is really concerning us.

17   And since the GNWT is in charge of that

18 now, we're -- we like to -- to ask -- our question is:

19 What kind of consultation would you consider to be

20 advisable in the establishment of this participant

21 funding program? That'll be my first question. I have

22 a couple more questions after that. Thank you.

23   THE CHAIRPERSON: I would ask that the

24 GNW -- GNWT take that under advisement, and they can

25 respond directly to the Tlicho government outside this

1 process.

2   MR. HENRY ZOE: Thank you for that

3 question. I have another question for GNWT.

4   Does GNB -- do you feel that you have

5 the information and tools needed to understand how

6 these two (2) different mines, the Jay and Diavik, will

7 contribute collectively to change -- to changes in

8 water quality effects in Lac de Gras? Thank you.

9

10   (BRIEF PAUSE)

11

12   MR. ROBERT JENKINS: Thank you, Madam

13 Chair. It's -- it's Robert Jenkins, with the GNWT.

14   You know, I think that -- that we do

15 have a number of in-house experts. We do from time to

16 time retain external expertise. We have experts in --

17 in, you know, land issues, water issues. We do have a

18 group, the Cumulative Impact Monitoring Program, that

19 does look at cumulative effects, and does a number of,

20 you know, undertakes a number of monitoring programs to

21 help better understand the -- the sort of additive and

22 cumulative effects of projects.

23   So I -- I think we do have the tools

24 moving forward to be able to -- to be able to review

25 work that's put forward by the Proponent, you know, in

1 this area. Yes.

2   MR. HENRY ZOE: Thank you, Madam Chair.

3 My second question is it -- you know, it may be very

4 hard to determine that Diavik's clean-up has been

5 effective.

6   Given the concern of Dominion Diamond

7 that there is no -- that there is not sufficient

8 information about water quality at closure, does there

9 need to be any collective closure planning? Thank you.

10

11   (BRIEF PAUSE)

12

13   MR. ROBERT JENKINS: Thank you, Madam

14 Chair. It's Robert Jenkins, with the GNWT.

15   I -- I do think that -- and -- and we've

16 heard today that both Dominion and Diavik have

17 committed to working together on a -- a mutually

18 acceptable monitoring program. I think that that's a

19 very positive sign.

20   And -- and it is a strong indicator

21 that, yes, there does need to be a review by both

22 parties to be able to sort of look at the information

23 and -- and the changes that are occurring in Lac de

24 Gras. And ultimately, to be able to -- to be able to

25 tease out, you know, when these operations get to

1 closure, what the -- you know, have a better under --

2 understanding of what's happening in Lac de Gras from

3 both operations.

4   MR. HENRY ZOE: Thank you. No further

5 questions, Madam Chair.

6   THE CHAIRPERSON: Questions,

7 Environment Canada?

8   MS. MEAGAN TOBIN: Meagan Tobin, with

9 Environment Canada. We have no questions.

10   THE CHAIRPERSON: Questions, Fisheries

11 and Oceans Canada?

12   MS. JULIE DAHL: Julie Dahl, Fisheries

13 and Oceans Canada. No questions.

14   THE CHAIRPERSON: Questions, North

15 Slave Metis Alliance?

16   MR. SHIN SHIGA: Shin Shiga, North

17 Slave Metis Alliance. I have -- I have two (2)

18 questions. The first one is:

19   Who holds liability after the closure?

20 So if the water mixes after the closure, who's

21 responsible for remediating the impacts?

22   MR. ROBERT JENKINS: Thank you, Madam

23 Chair. It's Robert Jenkins, with the GNT (sic).

24   I'm wondering if -- if the NSMA could

25 provide a bit -- bit more on that question. That -- he

1 had mentioned if the water mixes. So is -- if you

2 could maybe just provide a little bit more background

3 to what you're -- you're asking, it would be

4 appreciated. Thank you.

5   MR. SHIN SHIGA: Shin Shiga, North

6 Slave Metis Alliance. Thank you for that. So

7 meromixis, if that water -- stratified water overturns,

8 or if the mine rock piles seeps after the closure.

9 Thank you.

10

11   (BRIEF PAUSE)

12

13   MR. ROBERT JENKINS: Thank you, Madam

14 Chair. It's Robert Jenkins, with GNWT. I think in

15 terms of liabilities there, when you're talking about

16 mer -- meromixis and -- and things that the -- that

17 Dominion will be undertaking, I think unti -- you know,

18 until closure objectives and criteria are met and met

19 for a -- for an appropriate amount of time, you know,

20 the liability is -- is -- remains with the Proponent.

21   MR. SHIN SHIGA: Shin Shiga, North

22 Slave Metis Alliance. What if -- what if you determine

23 that the objectives are met, and then afterwards, it --

24 it mixed?

25

1   (BRIEF PAUSE)

2

3   MR. ROBERT JENKINS: Thank you, Madam

4 Chair. It's Robert Jenkins, with the -- with the GNWT.

5   I -- you know, this is a -- a very

6 speculative question. I think there would be some very

7 strict and defined closure criteria and objectives and

8 things that would need to be met for quite some period

9 of time. And there would be -- have to be high

10 confidence that that -- that those objectives are going

11 to be maintained in the future for the liability to --

12 to be, I guess, moved over to the government.

13   You know, that's about all I can offer

14 on that -- on that question.

15   MR. SHIN SHIGA: Shin Shiga, North

16 Slave Metis Alliance. I just wanted to make sure that

17 there's someone who will be responsible at all the --

18 oh, at all time. Is there going to be someone?

19

20   (BRIEF PAUSE)

21

22   MR. ROBERT JENKINS: Thank you, Madam

23 Chair. It's Robert Jenkins, with the -- with the GNWT.

24 You know, we -- we've -- we have examples of

25 contaminated sites now. And -- and this is -- this is

 1 coming as no surprise to anybody in the room. And

 2 there's a number of sites that government is

 3 undertaking where the liability has fell to government,

 4 either the federal government or territorial

 5 government.

 6   And so, ultimately, there will be

 7 someone responsible, should there be issues at a site

 8 that need to be addressed.

 9   MR. SHIN SHIGA: Shin Shiga, North

10 Slave Metis Alliance. Thank you. That's my questions.

11   THE CHAIRPERSON: Questions, Deninu Kue

12 First Nation?

13   MR. MARC D'ENTREMONT: Marc

14 D'Entremont, for the DKFN. We have no questions.

15   THE CHAIRPERSON: Questions, Diavik

16 Diamond Mines?

17   MR. GORD MACDONALD: Gord MacDonald,

18 with Diavik. In our technical submission, we described

19 how the Jay Project will change water quality in Lac de

20 Gras and -- and how it is likely to impact on Diavik's

21 closure.

22   For the GNWT, how will the -- how will

23 the GNWT separate changes in water quality caused by

24 the Jay Project when considering the relinquishment of

25 Diavik's closure security?

1   MR. ROBERT JENKINS: Thank you, Madam

2   Chair.   It's Robert Jenkins, with the GNWT.

3   You know, as I said in the previous

4   answer, the -- the onus is on the Proponent to prove

5   that their specific closure criteria and corresponding

6   closure objectives are met, you know, prior to any

7   securities being returned by government.

8   You know, in the case of Diavik or -- or

9   in the case of Dominion, there will be regulatory

10 processes in the future that will define closure

11 criteria.   And in the case of -- of Diavik, potentially

12 could be a refinement of closure objectives that have

13 been set.

14   Essentially, all pertinent information

15 is -- you know, it needs to be brought forward in that

16 process, and it -- and it will be, you know, considered

17 appropriately.   And, you know, as we heard earlier, you

18 know, Diavik and Dominion have both committed to

19 working together to undertake a -- a monitoring, and

20 obviously that information will be very useful to sort

21 of tease out if there are, you know, the -- sort of the

22 -- the -- I guess the implications of -- of discharge

23 from -- from Dominion on meeting the closure objectives

24 for -- for Diavik.

25   MR. GORD MACDONALD: Gord MacDonald,

1 with Diavik.

2   Will the GNWT commit to reviewing the

3 DDEC aquatic monitoring to ensure that it's adequate

4 for their purposes when making these security-

5 relinquished decisions?

6   MR. ROBERT JENKINS: Thank you, Madam

7 Chair. I -- I don't feel that there's a need for a --

8 a formal EA commitment, here.

9   I -- as I just described, this is the

10 process that will be undertaken. During the regulatory

11 process, there will be a closure plan. There will be

12 closure criteria. There will be closure objectives,

13 and there will be monitoring that will be required and

14 input from all parties is needed, including the

15 Proponent.

16   Any information that gets put forward

17 will be put forward through the regulatory process to

18 the Boards, and it will be duly considered and it will

19 be -- and decisions will be made appropriately. And so

20 I -- I don't -- I don't feel that there's a need to

21 make a -- in essence, a formal EA commitment to -- to

22 essentially, you know, as this is sort of the process

23 that -- that will occur in the future.

24   MR. GORD MACDONALD: Gord MacDonald,

25 with Diavik. And the reason -- the reason we're asking

1 is to -- this is the only way we could mitigate the

2 effects on Diavik of this potential consequence in the

3 future.

4   And it -- it can't be just up to

5 Dominion. They can -- they can do -- they can do their

6 work, but it also has to be up to the GNWT to do those

7 reviews in advance so that we can have assurances that

8 -- that tho -- that these kinds of consequences won't

9 occur in the future.

10

11   (BRIEF PAUSE)

12

13   MR. ROBERT JENKINS: Thank you, Madam

14 Chair. I didn't hear an explicit question in there.

15   I guess I would say, you know, the

16 GNWT's an active participant in all these processes and

17 that -- you know, and -- and this is the way that we've

18 been operating -- and operating for years and -- and

19 will continue to operate.

20   And so I don't see that they're -- I

21 guess I'm -- I'm sort of a bit wondering about the

22 concern that the GNWT and other parties and the Boards

23 will not consider any relevant information when they

24 make decisions in the future, and that there needs to

25 be commitments made to that effect. I guess it -- I'm

1 just -- I'm -- I'm wondering about the -- the cause for

2 concern for that.

3   MR. GORD MACDONALD: Madam Chair, I'll

4 let -- let it go there. Gord MacDonald, with Diavik.

5   THE CHAIRPERSON: Questions, Fort

6 Resolution Metis Council?

7

8   (BRIEF PAUSE)

9

10   THE CHAIRPERSON: Questions, Transport

11 Canada?

12   MS. ANITA GUDMUNDSON: Anita

13 Gudmundson, with Transport Canada. No questions.

14   THE CHAIRPERSON: Questions, Dominion

15 Diamond?

16   MR. RICHARD BARGERY: Richard Bargery,

17 Dominion Diamond. I'm just wondering if we could go to

18 the slide 4 for a second, please?

19   Robert -- Robert, I'm just wondering

20 where that 50 percent number under fish abundance came

21 from, which -- because it seems radically different

22 from what we've estimated in the DAR, which is 3.6

23 percent reduction in Lac du Sauvage and less than 1

24 percent in -- in Lac de Gras.

25   So is that -- is that number just for

1 illustrative purposes?

2

3   (BRIEF PAUSE)

4

5   MR. ROBERT JENKINS: Thank you, Madam

6 Chair. Yes, it is for illustrative purposes.

7   MR. RICHARD BARGERY: Thank you.

8 Richard Bargery, Dominion Diamond. No more questions.

9   THE CHAIRPERSON: Questions, Review

10 Board staff or counsel?

11   MS. SACHI DE SOUZA: Sachi De Souza,

12 with the Board. We have a couple of questions -- one

13 (1) question. The GNWT recommended an optimization

14 study for the placement of fine-processed kimberlite

15 into the Panda and Koala pits.

16   And earlier in the day, Dominion

17 described that the optimization goals were this study -

18 - would be to meet the closure objectives that they

19 described earlier in the day.

20   Are those goals in line with what the

21 GNWT envisioned for the optimization study?

22   MR. NATHEN RICHEA: Thank you, Madam

23 Chair. It's Nathen Richea with ENR.

24   I did hear the response from Dominion.

25 I think I'm supportive of the goals that they have

1 outlined.

2   From our perspective, we just to make

3 sure that the existing closure objectives are also

4 maintained. As we outlined in our intervention and in

5 our presentation today, there are some areas of

6 uncertainty. I think there's an opportunity that we

7 can take -- take full advantage of here to optimize

8 that. So, yeah, I guess that's all I have.

9   MS. SACHI DE SOUZA: The Review Board

10 staff and counsel have no further questions. Thank

11 you.

12   THE CHAIRPERSON: Okay. Thank you.

13 Review Board members, questions? Kirby...?

14   MR. KIRBY MARSHALL: Thank you, Madam

15 Chair. May you go to your slide number 6, please, just

16 for clarification. So thank you for your -- for your

17 presentation. And we appreciate it when you -- you

18 know, when we discuss these issues and you bring up

19 these -- these measures that we can consider.

20   So I'm -- I'm reading through this. I'm

21 doing pretty good till I got to "To the extent

22 practical." And then I sort of got a bit lost and

23 started scratching my head.

24   THE CHAIRPERSON: Did you say your

25 name?

1   MR. KIRBY MARSHALL: Well, by this

2 time, everybody knows that I'm Kirby Marshall, with the

3 Review Board. And I don't have to go to the washroom

4 yet, so I'm doing fine, thank you. And I'm not Alex

5 Powers.

6   Can you just help me out a bit here and

7 maybe flesh out that "To the extent practic" -- "To the

8 extent practical" a bit with respect to some examples,

9 samples, what -- what you meant? Thank you.

10

11   (BRIEF PAUSE)

12

13   MR. NATHEN RICHEA: Thank you for the

14 question. It's Nathen Richea, with Environment and

15 Natural Resources.

16   Actually, it's a very good question.

17 The intent of writing the measure in the way that it

18 was written is not to be too prescriptive on what the

19 measure actually is limiting, but also to include best

20 management practices.

21   "To the extent practical" is intended to

22 address sort of best management practices for mixing

23 zones, water quality objectives and standards, impacts

24 to VCs such as, like, water quality, drinking water,

25 fish and fish habitat, so.

1   MR. KIRBY MARSHALL: Kirby Marshall,

2 Review Board.   Thank you very much for that

3 clarification.

4   Your slide 11, and again, just a bit of

5 a clarification.   So, you know, I get that if you have

6 60 metres, sixty-one (61) is better, sixty-five (65) is

7 even better, a little bit better.

8   Does the GNWT have a percentage increase

9 or a number that we can sort of wrap our head around to

10 see what would -- you would be comfortable with?   Thank

11 you.

12

13   (BRIEF PAUSE)

14

15   MR. NATHEN RICHEA: Thank you.   It's

16 Nathen Richea, with ENR.

17   Again, a very good question.   What we

18 intended to address in this measure is the current

19 proposed 60-metre cap would result in a long-term water

20 quality of 748 milligrams per litre TDS in the current

21 proposed case from the DAR.   We are uncomfortable with

22 that number, and we are -- we are not -- we don't think

23 it's going to meet the closure objectives that are

24 currently in place for Misery Pit.

25   So we think that a -- a deeper water qua

1 -- water cover is required, but we haven't specified

2 how much deeper. That's the point of your question.

3 The idea is that we will work through this to achieve

4 the goal of -- of water quality concentration for TDS

5 that's less than and equal to -- to 500 milligrams per

6 litre. And that depth will have to be determined

7 through ongoing monitor -- monitoring, modelling, and

8 discussions in the regulatory phase.

9   MR. KIRBY MARSHALL: Kirby Marshall,

10 Review Board. Thank you for your clarification. I

11 appreciate that, and your presentation. And, Madam

12 Chair, no further questions.

13   THE CHAIRPERSON: Okay. Thank you for

14 your presentation. At this time, we'd like to call a

15 strict, only five (5) minute break while we decide,

16 because we're running so far behind, and we have public

17 comments from 4:30 to 5:30.

18   So it might turn out to be much like

19 yesterday, where there's a break, and we'll do public

20 comments, and then there might be a break for supper

21 and continue on. But I'll let you know right after the

22 five (5) minute break. Thank you.

23

24 --- Upon recessing at 4:38 p.m.

25 --- Upon resuming at 4:49 p.m.

1   THE CHAIRPERSON: We are going to be

2 opening the meeting with the public comment period, so

3 if we could ask the people that are lined up, the first

4 person that's lined up for the public comments, if they

5 could come and sit at the table?

6

7   (BRIEF PAUSE)

8

9 PUBLIC COMMENTARY:

10   THE CHAIRPERSON: We would like to ask

11 our first speaker for the public comments to come up to

12 the table, Noeline Villebrun.

13   For some of the speakers that are come -

14 - are going to be coming up, I would just like to

15 remind them that members of the public are welcome to

16 speak their views directly to the Review Board, but may

17 not ask questions of Dominion or parties.

18   Members of the public may also submit

19 their comments in writing to the Review Board until the

20 public record is closed. And speakers will be limited

21 to ten (10) minutes for their presentation. Thank you.

22 Sorry. Ms. Villebrun...?

23   MS. NOELINE VILLEBRUN: Noeline

24 Villebrun, Tthestonotine Dene. I'm going to say a few

25 words in my language.

1   (INTERPRETED FROM FIRST NATIONS LANGUAGE INTO ENGLISH)

2

3   MS. NOELINE VILLEBRUN: Thank you for

4   sitting there for us. You have a very big job. When

5   you sit there for us, so I'd like to say thank you very

6   much to you.

7   The issue of the water that you're

8   discussing here, we, the people, Dene people, we -- we

9   survive by the water. In the past and now, in the

10 future, we've been -- we were -- we are going to be the

11 ones that will be -- that are going to be living off

12 that water. If it wasn't for water, we wouldn't exist.

13 That, I know it.

14   Everyone that is -- even them, if they

15 don't have water even themselves, they wouldn't

16 survive. We -- we value the water very much. The

17 Great Slave Lake here, my son goes fishing on the lake.

18 If it wasn't for him, I would never have fish. He goes

19 hunting for me, also. That's why I'm glad I have a son

20 for a man. He tries to practice his Dene culture way.

21 That's the way we raised him.

22

23   (INTERPRETATION CONCLUDED)

24

25   MS. NOELINE VILLEBRUN: So I will now

1 switch to English. And what I want to capture is that

2 water is a right of the Dene under our tribal

3 sovereign, that in that sovereignty that we have today,

4 and the English language uses that word 'sovereignty',

5 'tribal', to identify the people of the land, that if

6 you're tribal, you have sovereignty on your land.

7   And I learned as recent as last week

8 from a Dene Elder. She said she has a letter from

9 Queen Victoria who wrote a letter to the Dene people

10 saying that, if the settlers came, that there would be

11 no imposition of laws, that the laws would be there for

12 the settlers, that there would be no imposition of

13 taxes on our people.

14   But I -- what I find and what I've been

15 experiencing myself, and I can only speak from my

16 experience, when you talk about the impacts and how

17 industry and government sit here and talk about laws

18 and rules and legislation, and the one (1) thing that I

19 do understand is that Dene law, how we live, supercedes

20 domestic law. Dene law supercedes international law,

21 because international law is made up of laws from the

22 first seven (7) tribes of the world.

23   And when I was told by advisors that I

24 sought -- whether it's on treaty -- international

25 treaty rights or international law, they said to me,

1 Noeline, the Dene don't know where they fit in the

2 world. We know where they fit in. We know where the

3 Dene fit in the world.

4   But over time, through the assimilation,

5 the colonization of our people into communities off the

6 land for development, this is what we faced for many,

7 many years here in the Northwest Territories, right

8 from 1939, as I mentioned before, the four (4) pieces

9 of legislation.

10   But I do recognize and I do understand,

11 and I do take people's words. When I read and I hear

12 judges say that there is cultural genocide committed in

13 Canada, I believe them. I believe her, because there

14 is cultural genocide committed in the Northwest

15 Territories.

16   We're no different than the southern

17 provinces. The only difference is -- is our population

18 and the -- the mass, the huge territory that we have,

19 and as Dene people we have a responsibility for. And

20 our responsibility is to protect it for the future

21 generations. All waters is included.

22   And I know the Government of the

23 Northwest Territories is making deals with other

24 provinces for our water. They never asked us our

25 permission.

1   So this is the type of concerns and

2 process that needs to be said and reminded because,

3 number 1, the Government of the Northwest Territories

4 does not have any power and authority over our lands,

5 over the people.

6   And the only way that they have attained

7 it was through these modern agreements that cede,

8 surrender all your Aboriginal rights and title, your

9 Treaty rights in writ to the Government of the

10 Northwest Territories, the federal government, and the

11 -- in writ of the Queen.

12   So because of this, the people have been

13 impacted. They have really no voice, because the

14 process only recognizes one (1) signature, and that's

15 the signature of the Chief, for approvals on documents.

16   In the Dene way, no one man has

17 authority on this earth to change, to give away land,

18 water, animals that the Creator gave the people. The

19 Creator gave us our own languages, and that's why I

20 speak T'satsaot'ine. I'm a Copper Dene in the English

21 language, Yellowknives, the true Yellowknives is Hon

22 Note Ena Dene (phonetic).

23   Our lands were taken over by modern

24 agreements, membership, registration. Our babies are

25 registered to the Government of the Northwest

1 Territories and we're treated as civilians. So it

2 doesn't matter what we say, because at the end of the

3 day, it's the votes that count, that take over our land

4 and permit these permits and licensing.

5   I got phone calls from Elders from back

6 home. They said, What are we going to do, because we

7 cannot accept these modern agreements? But I notice

8 here in this booklet, you know, there's -- there's

9 unsettled claims.

10   And I'm in an unsettled claim. I never

11 gave up or ceded or surrendered my children to the

12 government or my future generations to the government.

13 It was done.

14   So my recommendation to the Elders is

15 that we use their own process, meaning that if we don't

16 get satisfaction and they continue to go on with the

17 lies that is being implemented, submitted, then we will

18 have no recourse, and the end result will be for the

19 Dene people to start filing liens against the

20 companies, because I already did.

21   I filed a $63 trillion lien, so I don't

22 know when this Government of the Northwest Territories

23 is going to pay up, because you guys are evicting us

24 from our lands for the development. All your leaders,

25 past leaders -- Rick, you guys are all aware.

 1   So when you talk about the protection of

 2 the social, cultural, and economic well-being of

 3 residents and communities in the Mackenzie Valley, and

 4 the importance of conservation to the well-being and

 5 the way of life, and the -- you use Aboriginal --

 6 that's a -- that's the word here. Aboriginal people.

 7 I'm not an Aboriginal person on my own land. I'm a

 8 Dene tribal woman, okay? Let's get that right now.

 9   So under this, there's cultural genocide

10 that's not being discussed. Cultural genocide also

11 includes the water. It also includes the animals, the

12 land that we have barriers to. How? The Government of

13 the Northwest Territories charges us under the Wildlife

14 Act if we go hunting for caribou. They charge us.

15 They evict us from our homes, because they've got to

16 make way for public interests. And the public

17 interests are the workers that are coming here. So

18 they need to keep that in mind, too, and need to be

19 informed exactly how impacted we are as Dene people and

20 Dene woman and children.

21   So that is my recommendation, that we

22 start filing liens against the government, because I

23 feel that all the contracts that are being divvied out

24 on our behalf has been broken, and our people are

25 impacted severely by the services that these contracts

1 are being divvied out. Yeah. Because it all boils

2 down to the contract, outsourcing of -- of contracts on

3 our behalf. Government, you're doing that.

4   So with that, I will say thank you very

5 much. And I know I'm always the one to come and, you

6 know, be the barrier (sic) of this type of information

7 and -- and -- but it is my truth. And you cannot take

8 it away from me. Nobody in this room can take that

9 away from me. Thank you.

10   THE CHAIRPERSON: Thank you, Noeline.

11 Our next speaker on the public comment docket, I

12 believe it might be Tracy (phonetic), and I'm sorry, I

13 can't read the last name.

14

15   (BRIEF PAUSE)

16

17   THE CHAIRPERSON: Tracy isn't here

18 right now. If we could move on to the next speaker?

19 The next speaker for the public comments is Shin Shiga.

20

21   (BRIEF PAUSE)

22

23   THE CHAIRPERSON: Before you begin,

24 Shin, if I can just ask legal counsel for the

25 explanation as to why you're going to be speaking as

1 the -- on a public comment section.

2   MR. JOHN DONIHEE: Yeah.   Thank you,

3 Madam Chair.   It's John Donihee, Board counsel.

4   NSMA did not have material in their

5 submission that addressed matters that have been the

6 subject of today's session.   And so the Board did allow

7 the Fort Resolution Metis Council to file and -- they -

8 - they were going to be allowed to participate as

9 members of the public, because they didn't file a

10 technical report.   This is an analogous situation.

11   And so when Mr. Shiga asked to register,

12 he's registered essentially on his own behalf.   So I

13 would just say that that's the arrangement that was

14 made, and the Board has granted him the time as a

15 member of the public.

16   MR. SHIN SHIGA: Thank you, Madam Chair

17 and the legal counsel.   My name is Shin Shiga, North

18 Slave Metis Alliance.

19   I am -- I am really embarrassed to be

20 here as a member of the public.   It was my error in

21 judgment that I did not submit my presentation prior.

22 However, during the questioning, it become apparent

23 that I have a comment I simply must make face-to-face.

24   My point is that the area in and around

25 Lac du Sauvage and Lac de Gras is so important that

1 it's -- that it is unforeseeable for North Slave Metis

2 people to consider permanent destruction of fish

3 habitat in the lake not significant.

4   As I said earlier, Metis and Dene people

5 frequent the area, perhaps annually, to set up fish

6 camp in anticipation of the arrival of migrating

7 caribou herd. People gathered there. It was a place

8 in the vast expanse of the barren ground where people

9 of different cultures came together for the -- for the

10 common purpose, to celebrate the abundance of the --

11 abundance and the healing power of the land and water

12 of their traditional territories.

13   After the Jay Project, instead of seeing

14 the trout and whitefish in the shallows of the water,

15 they will be staring into a hole hundreds of metres of

16 -- hundreds of metres deep and 5 kilometres in

17 circumference that is filled with toxic mine

18 wastewater, in perpetuity.

19   We're simply not ready to call it

20 insignificant, that is not a message Metis people are

21 willing to pass on to the next generations. So here is

22 what I'm asking you, Madam Chair and the Board.

23   I ask you that the Board make the

24 determination that the development and the resulting

25 permanent -- permanent destruction of Lac du Sauvage,

1 the fish habitat in Lac du Sauvage and permanent

2 deposition of toxic mine wastewater in Lac du Sauvage

3 will cause significant adversed -- adverse impacts to

4 the Aboriginal people's traditional use of the land.

5 I ask the Board to recommend that the

6 permanent destruction of the land require perma --

7 permanent program, and that until such time that the

8 Jay pit is restored to the original habitat quality,

9 the DDEC will remain responsible for the monitoring and

10 management of the area restored under the offset plan.

11 Thank you.

12 THE CHAIRPERSON: Thank you for your

13 presentation.

14 I would like to call up Ron Essery.

15

16 (BRIEF PAUSE)

17

18 THE CHAIRPERSON: Is Tracy here yet?

19

20 (BRIEF PAUSE)

21

22 THE CHAIRPERSON: Okay, we'll just move

23 on to presentations.

24 Could I ask Lutsel K'e Dene First Nation

25 for their presentation, please?

 1   MR. PETER UNGER: Peter Unger, Lutsel

 2   K'e Dene First Nation. Is it all right if I stay here

 3   or should I go up there?

 4   THE CHAIRPERSON: You could stay there

 5   because you're right at the front table there, as well,

 6   so that'll be fine.

 7   MR. PETER UNGER: Thank you.

 8   THE CHAIRPERSON: It's your decision

 9   though. If you feel you need to come, by all means.

10

11   PRESENTATION BY LKDFN:

12   MR. PETER UNGER: Okay, thank you,

13   everyone. My name is Peter Unger, and I'm here on

14   behalf of Lutsel K'e Dene First Nation.

15   And so the first subject I'm going to

16   jump into is -- is meromixis. So basically is the plan

17   -- I don't think my laser pointer reaches that far.

18   Yeah, this is not going to mix with all of this, and

19   this is a huge concern for the community of Lutsel K'e.

20   Yes, the probability is low, we

21   acknowledge that. But the impact is very high were

22   mixing to occur. And if -- they're impacts that can't

23   be undone. And Lutsel K'e Dene First Nation firmly

24   believes that any of these direct impacts would be very

25   significant.

1   Furthermore, indirect impacts would also

2 occur, and we believe that these would also be

3 significant. These would be impacts on traditional

4 livelihoods through loss of fishing opportunities, and

5 impacts on traditional life to wildlife that would be

6 drinking that water, including the caribou, which, as

7 we've gone over in great, great detail yesterday, are

8 very important to the community of Lutsel K'e.

9   LKDFN can't find examples of stratified

10 lakes similar to this. And this morning Dominion has

11 admitted a couple times that this is a unique

12 situation. They have cited some analogous lakes.

13 Here's some of them.

14   This is Gunnar pit. I believe it's in

15 Saskatchewan. This is Faro pit. This is Grum pit.

16 This is Vangoda pit. And then here we have the Jay

17 pit. And to quote Sesame Street, one (1) of these

18 things is not like the other ones.

19   These are all fairly closed off, right.

20 They're not really connected to anything. Whereas this

21 is connected to a fairly large lake that's connected to

22 an even larger lake. And I think it's immediately

23 apparent that that's not -- they're not very good

24 choices as analogous lakes.

25   So like I've said repeatedly, Lutsel K'e

1 Dene First Nation doesn't have plans on going anywhere.

2 We plan on being here in perpetuity and being here

3 forever, whereas the mine won't be. We understand that

4 the probability is low, but as time goes on the

5 probability increases, kind of like, you know, the

6 thousand monkeys with the thousand typewriters

7 eventually writing a masterpiece.

8   So our issue is is that if there's any

9 real probability of mixing, if the probability isn't

10 zero or next to zero, then in our opinion it's not an

11 issue of 'if' but 'when'. So our recommendation, which

12 is really long and I'm not going to read out to you,

13 I've got it on three (3) slides here. I just put it in

14 there so everyone has the full text.

15   But basically we'd like to have an

16 independent panel established. We would like this to

17 be thoroughly analyzed by independent experts to really

18 convince us that -- that this is a viable option, that

19 it won't mix, and -- and it'll be established

20 immediately.

21   So moving on to the waste rock storage

22 area, our other major concern that we brought up, I --

23 I have a bullet in there about the mercury issue.

24 We're not going to talk about that. I think that's

25 been covered fairly -- fairly completely. But again,

1 when I'm talking about the long ris -- term risk of

2 seepage here on my slide, we're not talking about the

3 ten (10) years after the mine's closure, we're talking

4 fifty (50) years, a hundred years, centuries.

5   The effects of climate change here in

6 the Northwest Territories have been well documented. I

7 don't think anyone's disputing that, at least I hope

8 not. There will be temperature changes and there is a

9 risk of physical disturbances in the form of

10 earthquakes or storms. So we're -- we're very

11 concerned that seepage will occur when there's no one

12 around to clean it up.

13   As mentioned in IEMA's response to my

14 quest -- question earlier today, there are some

15 concerns involved in the waste rock piles at Ekati

16 right now. So this is a big worry for us that there's

17 going to be a new waste rock storage area established

18 so close to water bodies, especially a large lake like

19 Lac du Sauvage.

20   So our recommendations here is we'd like

21 a revised waste rock storage area management plan that

22 includes long-term adaptive measures. How is this

23 going to be dealt with in the long, long term, so not

24 just for the ten (10) years after mine closure.

25   And then our second recommendation

1 relates to mercury, which again, I think have been --

2 has been dealt with adequately.

3   I'm just going to see if my committee

4 member, Roger, has any comments to make, but that

5 really does conclude my presentation, and thank you for

6 listening.

7

8   (BRIEF PAUSE)

9

10   MR. PETER UNGER: Thank you. No, that

11 concludes our presentation.

12

13 QUESTION PERIOD:

14   THE CHAIRPERSON: Thank you. Questions

15 from the Monitoring Agency?

16   MR. TIM BYERS: Tim Byers, with the

17 agency. No, Madam Chair, we do not have any questions.

18   THE CHAIRPERSON: Questions from the

19 Government of the Northwest Territories?

20   MR. NATHEN RICHEA: Thank you, Madam

21 Chair. It's Nathen Richea, with ENR. We have no

22 questions.

23   THE CHAIRPERSON: Questions,

24 Yellowknives Dene First Nation?

25   MR. RANDY FREEMAN: Randy Freeman, with

1 Yellowknives Dene. I have no questions.

2   THE CHAIRPERSON: Questions, Tlicho

3 Government?

4   MS. GRACE MACKENZIE: Grace Mackenzie,

5 Tlicho Government. No questions.

6   THE CHAIRPERSON: Questions,

7 Environment Canada?

8   MS. MEAGAN TOBIN: Meagan Tobin, with

9 Environment Canada. We have no questions.

10   THE CHAIRPERSON: Questions, Fisheries

11 and Oceans Canada?

12   MS. JULIE DAHL: Julie Dahl, Fisheries

13 and Oceans. No questions.

14   THE CHAIRPERSON: Questions, North

15 Slave Metis Alliance?

16   MR. SHIN SHIGA: Shin Shiga, North

17 Slave Metis Alliance. We have no questions.

18   THE CHAIRPERSON: Questions, Deninu Kue

19 First Nation?

20   MR. MARC D'ENTREMONT: Marc

21 d'Entremont, for the Deninu Kue First Nation. We have

22 no questions.

23   THE CHAIRPERSON: I believe Diavik has

24 left the building and is on a plane.

25   Questions for Fort Resolution Metis

1 Council?

2

3   (BRIEF PAUSE)

4

5   THE CHAIRPERSON: Questions, Transport

6 Canada?

7   MS. ANITA GUDMUNDSON: Anita

8 Gudmundson, with Transport Canada. No questions, thank

9 you.

10   THE CHAIRPERSON: Questions, Dominion

11 Diamond?

12   MR. RICHARD BARGERY: Richard Bargery,

13 Dominion Diamond. I almost feel like I should ask a

14 question, Peter, but, no, I'm sure the Board staff may

15 have some, so also no questions.

16   THE CHAIRPERSON: Questions, Review

17 Board staff and counsel?

18   MR. ALAN EHRLICH: We have one (1)

19 clarification and one (1) question. The

20 clarification's about something you said at the end.

21 You said -- Alan Ehrlich, for the Review Board.

22   You said mercury has been dealt with

23 adequately. I believe you were saying it has already

24 been raised today so you're not raising the issue. You

25 may have been saying you're fully satisfied with

1 mercury issues.

2   Could you just clarify what your

3 intention was by saying that?

4   MR. PETER UNGER: Peter Unger, Lutsel

5 K'e Dene First Nation. Thank you very much for asking

6 me that clarification. I appreciate it.

7   Yes, in no way did I mean that mercury

8 as a contaminant has been dealt with ade -- adequately.

9 I meant that mercury as a subject of discussion in this

10 hearing, I think we've -- has been dealt with -- with

11 adequately. I'm -- I'm satisfied that there's going to

12 be discussion to make sure that the sediments

13 contaminated with mercury are not going to touch the

14 water in any way.

15   But, no, I'm -- Lutsel K'e Dene First

16 Nation is not yet satisfied with any measures that have

17 been proposed. Thank you.

18   MR. ALAN EHRLICH: Okay. And now the

19 more interesting question, I think. The Board is

20 coming up with significance determinations at the end

21 of this process.

22   As you've heard today, societal values

23 are part of what helps the Board understand what's

24 acceptable and what's not. In past environmental

25 assessment, it has helped the Board to understand what

1 are acceptable levels of change from the perspective of

2 the parties in environmental assessments, including

3 Aboriginal parties.

4   So the question that I ask you, and that

5 I hope to ask other Aboriginal groups, although I

6 cannot ask NSMA but perhaps they would put it in their

7 closing statement, is:

8   What, in your opinion, is an acceptable

9 level of change in Lac du Sauvage? This can be a

10 narrative, sort of qualitative statement. What is it?

11 Is it different for operations and closure, too?

12   MR. PETER UNGER: Thank you. So -- I'm

13 Peter Unger, Lutsel K'e Dene First Nation. So I've --

14 I'm hired by the community and I'm not a community

15 member, so I'm ill-equipped to speak fully for the

16 community. I would love if this question got posed

17 again in Lutsel K'e.

18   However, I have had many concerns raised

19 to me so of course, ideally, absolutely everything

20 would be returned exactly the way it as before, but we

21 recognize that that is not possible.

22   The largest issues raised to me, to echo

23 the NSMA, Lutsel K'e 100 percent also agrees that not

24 all fish habitat is equal, and some of them have much

25 more traditional value than others. So maintenance of

1 fish habitat would be very important. When I have

2 raised it in public meetings, there was a certain

3 amount of shock expressed that the dike would just be

4 left there. That -- that was also an issue that was

5 raised to me in the community.

6   And far and away the issue, I think,

7 that's raised most to me in the community, at least in

8 terms of what we're speaking today, are -- is waste

9 rock storage areas. So I think the community often

10 gets the perception that we're talking about a small

11 pile of rock, but when I show them a photo of what a

12 waste rock storage area actually looks like there are

13 gasps generally.

14   Those are the ones that I think of -- I

15 can think of off hand but, yeah, in terms of Lac du

16 Sauvage I'd have to say, yeah, fish habitat, the dike,

17 and of course water quality. I mean, LKDFN very much

18 values the fact that in most areas of our traditional

19 territory we can just dip our cups right into the lake,

20 and just drink. And -- and that's very, very important

21 to the community.

22   So if we're ever in a situation where we

23 couldn't do that anymore, that would be very

24 significant for the community. Thank you.

25   MR. ALAN EHRLICH: And thank you. Of

1 course, you're able to elaborate your closing argument

2 should you feel the need, but we have no -- we have --

3 we have no further questions from the Review Board

4 staff, Madam Chair.

5   THE CHAIRPERSON: Review Board members?

6

7   (BRIEF PAUSE)

8

9   THE CHAIRPERSON: Okay. Thank you very

10 much for your presentation. We would like the Tlicho

11 Government to present their presentation.

12   MS. GRACE MACKENZIE: This is Grace

13 Mackenzie, Tlicho Government. We don't have a

14 presentation. THE CHAIRPERSON: Okay. Environment

15 Canada, we'd like to invite you to the table for your

16 presentation.

17

18   (BRIEF PAUSE)

19

20 PRESENTATION BY ENVIRONMENT CANADA:

21   MS. SARAH-LACEY MCMILLAN: Sarah-Lacey

22 McMillan, with Environment Canada. In essence of time,

23 we will skip directly to our slides on aquatics. With

24 me is Anne Wilson and Meagan Tobin.

25   MS. MEAGAN TOBIN: All right. Meagan

1 Tobin, with Environment Canada. So in EC's technical

2 report we had identified three (3) issues. Of these,

3 several have been addressed by Dominion in their

4 response to our technical report, as well as in

5 discussions this morning. So for the interest of time,

6 I will only briefly discuss those issues which we

7 considered resolved.

8   The first issue being the phosphorus

9 benchmark concentration. So EC is pleased to say that

10 this issue has been resolved, and Dominion has accepted

11 our recommendations with regards to setting the

12 phosphorus benchmark at 0.01 milligrams per litre. And

13 at maintaining the trophic status of the lake at

14 oligotrophic.

15   Our next issue had to do with the

16 effects study area for the environmental assessment,

17 and the progress that has been made on the Aquatic

18 Effects Monitoring Program.

19   Earlier this morning, Dominion clarified

20 that within the effects study area Lac de Gras and Lac

21 du Sauvage will be evaluated separately. This

22 alleviates Environment Canada's concern with the

23 effects study area boundaries.

24   With regards to the Aquatic Effects

25 Monitoring Program, Environment Canada is still

1 concerned with the lack of detail currently provided in

2 the AEMP as several key components to the study design

3 have not yet been determined. Without a robust AEMP,

4 Environment Canada does not have confidence in the

5 ability to detect effects in the receiving environment.

6 Additionally, since the time frame to

7 collect adequate baseline data is shrinking, it becomes

8 important that these key components are addressed

9 sooner rather than later so that the study design can

10 be implemented, and accurate and sufficient baseline

11 data is collected. This baseline data is crucial to

12 analysis and detection of effects.

13 Dominion has continually stated that the

14 details of the Aquatic Effects Monitoring Program will

15 be developed through the regulatory process, and they

16 proposed a workshop to be scheduled at a later date to

17 work through the details.

18 Environment Canada seeks a commitment

19 from Dominion that adequate baseline will be collected

20 prior to any construction activity. EC supports the

21 idea of a collaborative workshop, but suggests that it

22 be held well in advance of construction.

23 Our last concern regards to the post-

24 closure water quality in Misery Pit. According to

25 Dominion's modelling, the post-closure water quality in

1 Misery Pit is expected to exceed several guidelines in

2 perpetuity. This is of concern since upon closure

3 Misery Pit overflow will be discharging to Lac de Gras.

4   Environment Canada had asked Dominion to

5 provide additional contingency options for managing

6 exceedances in Misery Pit at closure and post-closure.

7 The Proponent had indicated that their mitigation

8 strategy is to adjust the thickness of the freshwater

9 cap as necessary to allow for further isolation and

10 dilution of the poor water quality below.

11   EC acknowledges that there is time to

12 solidify the Closure Plan for Misery. This being said,

13 Environment Canada would like to see additional

14 contingency measures and commitments to ensure that

15 upon closure and post-closure water quality of the

16 freshwater cap in the Misery Pit is protective of the

17 aquatic environment.

18   This should include ongoing monitoring,

19 model updates and calibration, adaptive management, and

20 investigation of contingency options as further

21 information on the Misery Pit water is collected.

22   Thank you, Madam Chair. That's all for

23 us.

24

25 QUESTION PERIOD:

 1   THE CHAIRPERSON: Okay. Thank you.

 2 Questions from the Monitoring Agency?

 3   MR. TIM BYERS: Tim Byers, with the

 4 Agency. Thank you, Madam Chair. We have two (2) quick

 5 questions. I don't know if the answers will be quick

 6 but the questions will be. And they both relate to

 7 release of effluent into the mixing zone. Firstly,

 8 acute toxicity under the Fisheries Act.

 9   Does Environment Canada interpret the

10 Fishery -- Fisheries Act as there being no permissible

11 acute toxicity beyond end of pipe? And that's just a

12 simple yes or no, but if you want to elaborate that's

13 fine.

14   MS. MEAGAN TOBIN: Meagan Tobin, with

15 Environment Canada. Yes, that is correct.

16   MR. TIM BYERS: Thank you. Tim Byers,

17 with the Agency. And our last questions is again with

18 release of the affluent into the mixing zone.

19   Under the Migratory Birds Convention

20 Act, there shall be no harm done to migratory species

21 of birds. And the Agency is wondering, Should a

22 migratory species land -- bird land in the mixing zone,

23 and if there is toxicity of the effluent within that

24 mixing zone, is it something that can -- that the

25 Convention Act can address for the Jay -- either the

1 Misery Pit or the Jay -- or sorry, the Jay Pit?

2   Because what we're concerned about is if

3 a bird lands -- a water bird lands in the mixing zone,

4 and it proves to be toxic, that ingestion of that

5 effluent either by direct drinking or preening of

6 feathers may cause certain health effects. And so we

7 are wondering if the Migratory Bird Convention Act is

8 something at play for a mixing zone specifically.

9   MS. ANNE WILSON: Thank you, Madam

10 Chair. It's Anne Wilson, with Environment Canada. And

11 thank you, Tim, for an interesting question.

12   We haven't specifically addressed this

13 one in mining operations. It has come up in connection

14 with oil sands, no surprise there.

15   In this case, I would be very surprised

16 if the water released at acceptable quality from end of

17 pipe would provide any toxicity to wildlife in the

18 mixing zone. That said, we can undertake to confirm

19 this with our wildlife health specialists, and provide

20 confirmation of that answer back as soon as possible.

21

22   (BRIEF PAUSE)

23

24   MR. TIM BYERS: Thank you for that

25 answer. And I follow up -- follow up to that is the

1 same question about the Migratory Bird Convention Act.

2 Does EC -- or Environment Canada see there to be a

3 potential problem for birds landing in the Misery Pit?

4 Sorry, Tim Byers, with the Monitoring Agency.

5   MS. ANNE WILSON: Anne Wilson,

6 Environment Canada. And I would have to give the same

7 answer that, based on what I've seen of the water

8 quality in other similar situations, red flags have not

9 been raised by our wildlife folks in the oil sands

10 files.

11   But again because I don't do wildlife

12 health, I would like to get a confirmation of that, and

13 bring it back. And that should be probably by closing

14 comments, I would hope.

15   THE CHAIRPERSON: Legal counsel...?

16   MR. JOHN DONIHEE: Thank you, Madam

17 Chair. It's John Donihee.

18   I just confirmed that IEMA does want to

19 get that information by way of the undertaking, and if

20 so we'll register it as Undertaking number 15.

21   MR. TIM BYERS: Tim Byers, with the

22 Agency. Yes, that's correct. We would like to get

23 that information. Thank you.

24   MR. MARK CLIFFE-PHILLIPS: Mark Cliffe-

25 Phillips with the Review Board. Just in terms of EC's

1 clarification on what they're undertaking to do, if you

2 could just repeat that for the record, that'd be

3 fantastic.

4   MS. ANNE WILSON: Thank you. Anne

5 Wilson, Environment Canada.

6   What my undertaking is on behalf of EC

7 is to approach our wildlife toxicology expert and ask

8 him, based on the water quality estimates we have for

9 Misery and Jay, whether he anticipated any issues with

10 harm to wildlife because the Migratory Birds Convention

11 Act speaks specifically to harm.

12

13 --- UNDERTAKING NO. 15:   Environment Canada will

14   approach their wildlife

15   toxicology expert and ask

16   him, based on the water

17   quality estimates we have

18   for Misery and Jay, whether

19   he anticipated any issues

20   with harm to wildlife

21   because the Migratory Birds

22   Convention Act speaks

23   specifically to harm

24

25   THE CHAIRPERSON: If -- if it has been

1 taken as an undertaking, there is a deadline, like for

2 -- October 9th I believe is the deadline.

3   MR. TIM BYERS: And this is our last

4 corollary question, if I may. Tim Byers, with the

5 Agency.

6   We are wondering, for the purposes of

7 the Migratory Bird Convention Act, and we don't know

8 the answer to this at all, is there -- like there is

9 for the Fisheries Act, is there an acute toxicity

10 aspect to that Act for migratory birds that can be

11 acted upon?

12   MS. ANNE WILSON: Anne Wilson,

13 Environment Canada. No, we do not have the analogous

14 test like we do with water for rainbow trout and other

15 acute indicators of deleteriousness for the bird test.

16 It tends to more than an inspector will find birds that

17 have been killed, and then launch an investigation from

18 that end.

19   MR. TIM BYERS: Thank you. That

20 concludes our questions.

21   THE CHAIRPERSON: Questions, Government

22 of the Northwest Territories?

23   DR. BARRY ZAJDLIK: Barry Zajdlik, on

24 behalf of the GNWT. I have a question.

25   Has Environment Canada linked the change

1 from ultraoligotrophic to oligotrophic status with

2 concomitant changes in mercury in edible fish tissues?

3   MS. MEAGAN TOBIN: Meagan Tobin, with

4 Environment Canada. No, we have not drawn that link.

5

6   (BRIEF PAUSE)

7

8   DR. BARRY ZAJDLIK: Barry Zajdlik, on

9 behalf of the GNWT. We have no further questions.

10   THE CHAIRPERSON: Questions,

11 Yellowknives Dene Band -- or First Nations, pardon me.

12   MR. RANDY FREEMAN: Randy Freeman, with

13 the Yellowknives Dene. I have no questions.

14   THE CHAIRPERSON: Questions, Lutsel K'e

15 First Nation?

16   MR. PETER UNGER: Peter Unger, Lutsel

17 K'e Dene First Nation. Has Environment Canada --

18 Canada done any analysis on the models for the

19 establishment of meromixis that the Company has

20 developed?

21   MS. MEAGAN TOBIN: Meagan Tobin, with

22 Environment Canada. We currently do not have available

23 modeling expertise to adequately assess these models.

24 So therefore, no, we did not assess the models.

25   MR. PETER UNGER: Peter Unger, Lutsel

1 K'e Dene First Nation. How about the waste rock pile?

2   MS. MEAGAN TOBIN: Meagan Tobin,

3 Environment Canada. We had reviewed the waste rock

4 pile, and had not identified concerns.

5   MR. PETER UNGER: Peter Unger, Lutsel

6 K'e Dene First Nation. No further questions. Thank

7 you.

8   THE CHAIRPERSON: Questions, Tlicho

9 Government?

10   MS. GRACE MACKENZIE: Grace Mackenzie,

11 Tlicho Government. No questions.

12   THE CHAIRPERSON: Questions, Fisheries

13 and Oceans Canada?

14   MS. JULIE DAHL: Julie Dahl, Fisheries

15 and Oceans. No questions.

16   THE CHAIRPERSON: Questions, North

17 Slave Metis Alliance?

18   MR. SHIN SHIGA: Shin Shiga, North

19 Slave Metis Alliance. I just wanted to follow up

20 Peter's question about meromixis.

21   So you said you didn't have enough

22 expertise -- expertise in EC. If it's part of your

23 mandate, wouldn't you -- why wouldn't you hire external

24 expertise? Thank you.

25   MS. ANNE WILSON: Yeah. Anne Wilson,

 1 Environment Canada.

 2   There is reliance on what the Company

 3 presents, and there have been a lot of questions and

 4 IRs going back and forth on that. And that said, we

 5 absolutely will be watching the monitoring results over

 6 time. This is going to be a subject of ongoing water

 7 quality monitoring, hydrology monitoring, pit lake

 8 behaviour.

 9   And typically we would request that the

10 model be recalibrated with real world data over time to

11 ensure that the predictions made are accurate, and

12 adjust them if they are not. And this will help inform

13 the management response of the Company, as well.

14   MR. SHIN SHIGA: Shin Shiga, North

15 Slave Metis Alliance. Thank you. I just want --

16 wanted to clarify that. So you do have enough

17 expertise to do that monitoring?

18   MS. ANNE WILSON: Anne Wilson,

19 Environment Canada.

20   And just to clarify that EC does not do

21 the monitoring, but we do review the results that are

22 provided by the Company under their regulatory annual

23 reports, and any special studies that they do.

24   MR. SHIN SHIGA: Shin Shiga, North

25 Slave Metis Alliance.

 1   So -- so you are not necessarily

 2 confident that the model is -- is reliable? Is that --

 3 is that accurate?

 4   MS. ANNE WILSON: Anne Wilson,

 5 Environment Canada.

 6   I could not say that. The Company has

 7 used credible modellers. They have done a thorough

 8 reexamination in the IR process. So without being a

 9 modeller myself, which I'm far from, I would not be

10 able to stand -- sit here and state that I have no

11 confidence in the model, or that I have full confidence

12 in the model.

13   All I can say is that we appreciate that

14 the Company has done the best job that is possible on

15 this, but we're going to be watching.

16   MR. SHIN SHIGA: Thank you. That's all

17 my questions. Shin Shiga, North Slave Metis Alliance.

18   THE CHAIRPERSON: Thank you. Deninu

19 Kue First Nation...?

20   MR. MARC D'ENTREMONT: Marc

21 d'Entremont, for the DKFN. We have no questions.

22   THE CHAIRPERSON: Fort Resolution Metis

23 Council...?

24

25   (BRIEF PAUSE)

1   THE CHAIRPERSON: Transport Canada...?

2   MS. ANITA GUDMUNDSUN: Anita

3   Gudmundsun, with Transport Canada. We have no

4   questions.

5   THE CHAIRPERSON: Questions, Dominion

6   Diamond?

7   MR. RICHARD BARGERY: Richard Bargery,

8   Dominion Diamond. I'm wondering if -- if I could have

9   that undertaking read back to me again, just so I

10   understand what was taken away by Environment Canada to

11   -- to look at, and -- and the time frames involved?

12

13   (BRIEF PAUSE)

14

15   MR. MARK CLIFFE-PHILLIPS: Mark Cliffe-

16   Phillips, with the Review Board. The undertaking as we

17   have recorded is:

18   "Environment Canada will approach

19   their wildlife tox -- toxicology

20   expert and determine if based on the

21   water quality predictions for Misery

22   Pit and Jay Project mixing zone -- or

23   the mixing zone, they anticipate any

24   harm to migratory birds under the

25   Migratory Bird Convention Act."

1   MR. RICHARD BARGERY: Richard Bargery,

2 Dominion Diamond. Just may -- maybe this isn't a

3 question for Environment Canada, a question for the

4 Board in terms of procedure.

5   I'm not sure -- and -- and I apologize

6 if -- if I'm incorrect in this -- in this instance, but

7 I'm not sure I've heard that before sewn in the

8 technical reports, and I don't think we've been asked

9 that question. And this is going to come at -- I

10 understand, at the end of the undertaking period, this

11 -- this evaluation by Environment Canada.

12   How -- what would the process be for

13 Dominion to provide either a response or understand the

14 information so that we ensure that -- that our views

15 and -- and the work that we've done are -- can help

16 inform the Board on this particular issue? Thank you.

17   MR. JOHN DONIHEE: Thank you. It's

18 John Donihee, Board -- Board counsel.

19   Normally when the undertaking responses

20 come in, they're -- the transcripts will usually be

21 filed before that. They're usually -- so the

22 undertaking responses are usually the last of the

23 evidence that's filed. And subsequent to that, then we

24 have a written argument period.

25   The other Intervenors, of course, will

1 file written argument first, and Dominion then has the

2 opportunity to reply to those arguments and -- and

3 advance its own arguments if -- if it so wishes. That

4 -- that's the process that's in place at the moment.

5   MR. RICHARD BARGERY: Just one moment,

6 Madam Chair.

7

8   (BRIEF PAUSE)

9

10   MR. RICHARD BARGERY: Sorry -- Richard

11 Bargery, Dominion Diamond.

12   Sorry, I'm just trying to sort through

13 the process of -- of when evidence and -- and what you

14 can comment, and -- and what period of time. I'm

15 wondering if the easiest way to -- to address this to

16 ensure that -- that we help inform the decision makers

17 on this is that we also provide a response to that

18 undertaking during the undertaking period.

19   As well, is that -- would that be

20 something would help? We want to ensure -- because --

21 because -- forgive me if I'm -- I'm wrong on this.

22 This does seem to be a new issue that -- that wasn't in

23 the -- the technical reports.

24   And -- and so I'm just not quite sure

25 how to -- how to deal with it from -- from a

1 Proponent's perspective. And I just want to -- I want

2 to make sure we do it appro -- an appropriate way and -

3 - and we give the Board the best information that --

4 that we can for them to make their decisions.

5   MR. JOHN DONIHEE: Madam Chair, it's

6 John Donihee, Board counsel. I -- I just -- if I may

7 ask a question?

8   It is a concern from Dominion that the

9 way the -- I described the process, which is what I

10 understand is in place, that you wouldn't have the

11 opportunity to file any evidence. Yeah, okay.

12   In which case, then, Madam Chair, Mr.

13 Cliffe-Phillips has just pointed out the hearing

14 undertakings are due on the 9th of October, and written

15 closing arguments from the parties are not due until

16 the 23rd of October, with the final closing arguments

17 from Dominion on the 30th. So there's room in between

18 the 9th and the 23rd for Dominion to reply.

19   By that, I mean with evidence to

20 anything that comes from the Environment Canada

21 undertaking. So my -- my suggestion, if it will work

22 for Dominion, is that Environment Canada file their

23 undertaking response on the 9th, and that you -- a week

24 later, if you want to file some evidence in reply, you

25 can do so.

1   And then we'll just -- we still have

2 time, then to follow the -- the rest of the argument

3 deadlines out without changing the -- the arrangements.

4 So if -- if that's acceptable, Madam Chair, I suggest

5 that's -- to -- to Dominion, I -- I suggest that we --

6 we proceed that way.

7   MR. RICHARD BARGERY: Richard Bargery,

8 Dominion Diamond. Madam Chair, thank you. I'd like to

9 thank you and your staff.

10   That -- that would be acceptable to us,

11 and it seems like an appropriate -- appropriate way to

12 proceed on this so you have the best -- like I say, you

13 have the best evidence that -- possible to make your

14 decision.

15

16   (BRIEF PAUSE)

17

18   MR. RICHARD BARGERY: No further

19 questions.

20   THE CHAIRPERSON: Questions, Review

21 Board staff and counsel?

22   DR. NEIL HUTCHINSON: Thank you. Neil

23 Hutchinson, for the Board. I'm -- I'm pleased that

24 Environment Canada and -- and Dominion Diamonds have

25 come to agreement on .01 milligrams per litre of

1 phosphorus for your benchmark.

2   Just to assure clarity going into the

3 regulatory phase, I'd just like your opinion on how you

4 would measure that, how you would interpret that. Do

5 you see that as a median value of annual measurements,

6 75th percentile?

7   And secondarily, where would you want

8 that to be measured?

9

10   (BRIEF PAUSE)

11

12   MS. MEAGAN TOBIN: Environment Canada

13 would like to defer that for discussion, they -- as --

14 if and when we proceed to regulatory. Meagan Tobin,

15 with Environment Canada.

16   DR. NEIL HUTCHINSON: Neil Hutchinson,

17 for the Board. I respect that. It's being presented

18 as a benchmark, though, and we just want a little bit

19 of clarity at the EA stage.

20   Is there -- is there any chance we can

21 get that or just an opinion?

22   MS. ANNE WILSON: Anne Wilson,

23 Environment Canada. And, sorry, Neil. You have caught

24 us a little bit unprepared on this question. We have

25 not thought that far ahead as to the monitoring.

1   My expectation would be that there would

2 not be an area of the lake in the immediate receiving

3 environment that consistently exceeds that as probably

4 somewhere between a median and a 75th percentile.

5 We're going to have to look and see, though, where it

6 goes, what the effects of loading might be in the area

7 of the discharge.

8   So I think we have a little further work

9 to do before we can think that one through.

10   DR. NEIL HUTCHINSON: Thank you. No

11 further questions.

12   THE CHAIRPERSON: Questions from Review

13 Board?

14

15   (BRIEF PAUSE)

16

17   THE CHAIRPERSON: Thank you for your

18 presentation. We need to have an emergency two (2)

19 minute break.

20

21 --- Upon recessing at 5:52 p.m.

22 --- Upon resuming at 5:56 p.m.

23

24   THE CHAIRPERSON: Okay. We have a

25 presentation from Fisheries and Oceans Canada. You may

1 begin.

2

3 PRESENTATION BY DEPARTMENT OF FISHERIES AND OCEANS

4 CANADA:

5   MS. JULIE DAHL: Thank you.   Julie Dahl

6 -- oh, sorry. I'll get into my -- okay. Good after --

7 good afternoon, Madam Chair, Board members, and

8 participants to the hearing process. My name is Julie

9 Dahl, and I am the regional manager for regulatory

10 reviews for the Fisheries Protection Program in

11 Department of Fisheries and Oceans. A very long title.

12   I'd also like to introduce Veronique

13 D'Amours-Gauthier, fisheries protection biologist, also

14 with the Department of Fisheries and Oceans, and lead

15 assessor on this project. Our presentation will

16 briefly go over our regulatory mandate, and provide a

17 summary of our technical review comments provided in

18 our report to the Board.

19   So on the -- on behalf of the Government

20 of Canada, the mandate of Fisheries and Oceans Canada

21 Fisheries Protection Program is to maintain the

22 sustainability and ongoing productivity of commercial,

23 recreational, and Aboriginal fisheries. Our role is

24 mainly defined by the Fisheries Act, and some key sess

25 -- sections, mostly notably being Subsection 35(1) that

1 states:

2   "No person shall carry on any work,

3   undertaking or activity that results

4   in serious harm to fish that are part

5   of a commercial, recreational or

6   Aboriginal fishery, or to fish that

7   support such a fishery."

8   So in the -- in the Fisheries Act,

9 serious harm to fish is defined as the death of fish,

10 or any -- any permanent alteration or destruction of

11 fish habitat. The Act also gives definitions of

12 commercial, Aboriginal, and recreational fisheries.

13   Also Section 20 which relates to the

14 provision of sufficient water for fish and the

15 requirement for unimpeded fish passage. And I would

16 also like to mention Section 36 and its regulations,

17 which are administered by and enforced by Environment

18 Canada, that prohibit the deposit of a dilatory

19 substance into waters frequented by fish, unless

20 authorized by regulation.

21   So I'll just go through some of the

22 issues that we had identified and sort of conclude

23 where we are at with them. So with respect to

24 blasting, Dominion Diamond cited DFO's guidelines for

25 the use of explosives in or -- in and -- in or near

1 Canadian fisheries waters when they were setting their

2 blasting threshold of 100 kilopascals.

3   For the purposes of mitigating effects

4 of blasting on fish in Lac -- Lac du Sauvage, the use

5 of these guidelines does not constitute approval under

6 the Fisheries Act. And where review dictates, that

7 blasting -- that -- review of blasting pans -- plans

8 dictate, additional mitigation may be required.

9   As a result of testing and monitoring in

10 the North, a threshold limit of 50 kilopascals for

11 instantaneous pressure change was found to be more

12 appropriate to mitigate the effects of blasting on fish

13 than the 100 kilopascal threshold provided in the

14 guidance document that -- of Fisheries and Oceans.

15   Fisheries and Oceans Canada notes that

16 it is important to establish blasting plans for

17 avoiding and mitigating serious harm to fish at shoal

18 S4, which is identified as being of fair quality for

19 cisco and lake trout, and is the closest shoal to the

20 proposed pit, being located 315 metres northeast of the

21 proposed Jay pipe.

22   Fisheries and Oceans Canada recommended

23 that Dominion Diamond revise their instantaneous

24 pressure threshold of 100 kilopascals to 50 kilopascals

25 and recalculate the appropriate set -- setback

1 distances and also recommended that Dominion Diamond

2 develop an appropriate blast monitoring and mitigation

3 plan to ensure that peak particle velocities do not

4 exceed 13 millimetres per second at shoal S4 during the

5 time of lake trout egg incubation, including procedures

6 to be followed in the event that the blast may exceed

7 this threshold.

8   As we heard in Dominion Diamond's

9 presentation, they have agreed to all of these

10 recommendations. With respect to channel diversions,

11 Fisheries and Oceans Canada noted that other fish

12 species besides grayling and lake trout were present in

13 various streams to be impacted by the project.

14   And, therefore, the diversion must

15 incorporate features that consider the fish passages

16 needs of not only arctic grayling and lake trout, but

17 also burbot and northern pike at all relevant life --

18 life stages at both low and high flows.

19   Additional information will be required

20 from Domi -- from Dominion Diamond regarding their

21 plans for reclamation of streams B0 and AC35 (phonetic)

22 during site closure and reclamation, given that current

23 plans indicate the diversion channel is a temporary

24 channel that will be reclaimed at closure when the dike

25 is breached, allowing the natural channels to be

1 reconnected to Lac du Sauvage.

2   Fisheries and Oceans Canada recommended

3 that Dominion Diamond implement best management

4 practices in the design of their diversion and mitigate

5 serious harm to fish as a result of the diversion,

6 including appropriate design of the stream diversion to

7 facilitate fish passage.

8   Fisheries and Oceans Canada also

9 recommended that a -- an appropriate stream diversion

10 maintenance and monitoring plan be in place to ensure

11 that barriers to fish passage do not form over the life

12 of the diversion channel.

13   Fisheries and Oceans Canada recommended

14 that Dominion Diamond provide Fisheries and Oceans with

15 detailed plans of the diversion for review and

16 determination of serious harm, avoidance, and

17 mitigation, including such things as design, flows,

18 stabilization, consideration of fish passage, erosion,

19 and sediment control. These plans may be provided

20 during the regulatory phase, should the project be

21 approved to proceed.

22   Fisheries and Oceans Canada recommended

23 that the detailed closure and reclamation plans for the

24 diversion, including the reclamation of natural

25 channels and drainages to Lac -- Lac du Sauvage, be

1 provided for review during the regulatory phase, should

2 the project be approved to proceed. Dominion Diamond

3 has agreed to all of these recommendations regarding

4 the stream diversions.

5   With respect to water levels, Fisheries

6 and Oceans Canada understands that Dominion Diamond

7 anticipates impacts to water levels of Lake C1 and

8 associated Stream C1 connecting to Lac du Sauvage to be

9 within the range of natural variability.

10   Fisheries and Oceans Canada concurs with

11 the incorporation of water-level monitoring for Lake C1

12 and Stream C1 in the Aquatic Effects Monitoring Plan to

13 identify necessary measures to avoid and mitigate risk

14 of serious harm to fish in the Sub-ba -- Sub-basin C.

15   We recognize that monitoring of

16 hydrology of Lake C1 and Stream C1 throughout the open

17 water season in the interval of 2016 to 2019 has been

18 presented in the conceptual Aquatic Effects Monitoring

19 Plan.

20   Although the extent to which the narrows

21 is used by fish to migrate between Lac du Sauvage and

22 Lac de Gras has yet to be conclusively determined, as a

23 precautionary approach and based on knowledge -- local

24 knowledge by resource users, this area is considered

25 important for fish and impacts should be minimized or

1 avoided.

2   Fisheries and Oceans Canada recommended

3 that water levels be monitored in C1 and Stream C1 at -

4 - at depth-limiting -- and at depth-limiting locations

5 in the narrows during the open water season,

6 particularly during years of low precipitation,

7 extended drought, or back-flooding at closure of the

8 Jay Pit to ensure that project effects on these water

9 bodies do not negatively impact fish passage or fish

10 habitat. This monitoring should be incorporated into

11 programs such as the Aquatic Effects Monitoring

12 Program.

13   Fisheries and Oceans Canada also

14 recommends that a mitigation response or action plan be

15 developed in consultation with -- with Fisheries and

16 Oceans in the event that significant changes in water

17 levels as a result of the project are likely to occur

18 to mitigate the risk of the formation of barriers to

19 fish passage or serious harm to fish in Lake C1, Stream

20 C1, and in the narrows.

21   With respect to the requirement to

22 remove fish from the diked -- the diked-off areas of

23 Lac du Sauvage prior to dewatering, the Developer's

24 Assessment Report states that some Aboriginal groups

25 are not supportive of the transfer of fish during fish-

1 out because of the mortality rates and injuries to

2 fish.

3   Dominion Diamond has identified that

4 relocation of fish will be considered only for small-

5 bodied fish caught in traps or by electro-fishing.

6 Fisheries and Oceans Canada con -- concurs with

7 Dominion Diamond's stated intention to refine the fish-

8 out plan after further engagement with communities and

9 Fisheries and Oceans Canada.

10   We also note that Dominion Diamond has

11 listed other potential uses for these small-bodied

12 fish, including provision to trappers and dog handlers

13 for bait and food and to make fertilizer for use in

14 commun -- use in community gardens, as well as possible

15 transfer to Lac du Sauvage to provide potential forage

16 for larger fish.

17   Fisheries and Oceans Canada recommends

18 that Dominion Diamond conduct additional consultations

19 with affected communities regarding the handling and

20 fate of fish captured during the fish-out of the diked

21 -- diked area in Lac du Sauvage, either relocation to

22 Lac du Sauvage and/or processing for use by communities

23 and for data collection.

24   The finalization of the fish-out plan

25 may occur during the regulatory phase should the

1 project be approved to proceed.

2   Further to the conceptual offsetting

3 plan, there is a need for suitable avoidance,

4 mitigation, and offsetting measures. Fisheries and

5 Oceans Canada will continue to work with Dominion

6 Diamond on the formulation of suitable avoidance,

7 mitigation, and offsetting plans for the Jay Project to

8 address project impacts to fish and fish habitat.

9   Such plans will incorporate data from

10 additional baseline studies that we understand were

11 being performed by Dominion Diamond on Streams AC35,

12 B0, and B1 from May 18th until September 30th of this

13 year.

14   Additional discussions between Fisheries

15 and Oceans Canada and Dominion Diamond will continue to

16 focus on the quantification of fisheries productivity

17 impact -- impacts as a result of the Jay Project.

18   As recently detailed by Dominion

19 Diamond, approximately 3.6 percent of the total number

20 of fish in Lac du Sauvage will be targeted for removal

21 from the dewatered area, which is expected to result in

22 a minor -- in minor effects to population abundance and

23 distribution for fish.

24   Fisheries and Oceans Canada recommends

25 that Dominion Diamond conduct additional -- sorry,

 1 sorry -- conduct additional consultation with affected

 2 communities, and con -- continue to work with Fisheries

 3 and Oceans Canada regarding the development of

 4 appropriate quantification of fisheries productimity --

 5 productivity impacts in Lac du Sauvage and Streams AC35

 6 and B0, as well as to develop options for offsetting

 7 the impacts of the project on fisheries' productivity

 8 that cannot be avoided or mitigated.

 9   Appropriate offsetting plans will be

10 required to address residual serious harm to fish as

11 part of the Fisheries Act authorization process for the

12 Jay Project, if the project is per -- is approved to

13 proceed.

14   Fisheries and Oceans Canada will

15 continue to engage with Dominion Diamond and

16 stakeholders, including potentially impacted

17 communities, to ensure that interests for the

18 protection of fish and fish habitat are being

19 addressed, and that appropriate mitigation measures,

20 follow-up and monitoring programs are implemented, that

21 an offsetting plan is developed that is adequate and

22 acceptable to Fisheries and Oceans Canada and the

23 affected communities, and all other inconsistencies or

24 inadequacies in information as identified by Fisheries

25 and Oceans Canada are addressed.

1   I would like to note, again, that

2 Dominion Diamond has accepted all of our

3 recommendations. And we are confident that our un --

4 that our outstanding issues related to the assessment

5 and mitigation of potential impacts to fish and their

6 habitats will be resolved during to, or prior to --

7 prior to and during the regulatory phase. Thank you.

8

9 QUESTION PERIOD:

10   THE CHAIRPERSON: Thank you. Questions

11 from the Monitoring Agency?

12   MR. TIM BYERS: Tim Byers, with the

13 agency. Just two (2) questions.

14   On the Fish Offsetting Plan that Julie

15 just mentioned, as the continued viability of healthy

16 populations of valued fish species are especially

17 important to Aboriginal communities, the agency is

18 wondering:

19   Will fisheries and Oceans be seeking

20 like for like species offsetting projects to replace

21 the species production that is estimated to be lost due

22 to Jay?

23   MS. JULIE DAHL: Julie Dahl, Fisheries

24 and Oceans. Our intention is always first and foremost

25 to replace habitats for the fish that are being

1 impacted. So we will certainly be looking at

2 opportunities within Lac du Sauvage to offset the lost

3 imp -- the -- the lost habitat.

4   We recognize that where the Jay pipe is,

5 because there is a kimberlite pipe there, it tends to

6 be quite deep, so it has been identified as -- as an

7 overwintering area. There is also one (1) shoal that

8 has been identified that will be lost due to the dike

9 footprint.

10   And so the target would be to ensure

11 that we would address any -- any limitations therefore

12 in overwintering habitat. And as we heard earlier,

13 there was a question about, Is there adequate spawning

14 habitat within Lac du Sauvage? Well, that can

15 certainly be addressed in a -- in an offsetting plan,

16 whereby the shoals to be -- the shoal to be impacted,

17 the one (1) shoal to be lost has been identified has

18 hav -- being of fair quality.

19   You could always offset a fair quality

20 shoal with an excellent quality shoal.

21   MR. TIM BYERS: And our final question

22 is: Does Fisheries and Oceans feel that Dominion

23 Diamonds's baseline data is now complete enough to be

24 able to adequately identify significant adverse impacts

25 to fish health, should the Jay project proceed?

1   MS. JULIE DAHL: Julie Dahl, Fisheries

2 and Oceans. We're -- we are -- we are aware of

3 numerous studies on fish and fish habitat that have

4 been undertaken in Lac du Sauvage from about '97 to

5 about 2012. So there is a -- a lot of baseline data on

6 the fish, the fish populations, the assemblages, and

7 their habitat use.

8   So, yes, I do believe we have enough

9 baseline data in order to do the -- do our assessment.

10   MR. TIM BYERS: Thank you. No further

11 questions from the agency.

12   THE CHAIRPERSON: Government of the

13 Northwest Territories, questions?

14   MR. NATHEN RICHEA: Thank you, Madam

15 Chair. It's Nathen Richea, with ENR. We have no

16 questions.

17   THE CHAIRPERSON: Questions,

18 Yellowknives Dene First Nation?

19   MR. RANDY FREEMAN: Randy Freeman,

20 Yellowknives Dene. I have no questions.

21   THE CHAIRPERSON: Questions, Lutsel K'e

22 Dene First Nation?

23   MR. PETER UNGER: Peter Unger, Lutsel

24 K'e Dene First Nation. As we've mentioned earlier, not

25 all fish habitat is equal for -- for us in terms of

1 traditional value.

2   Beyond consultation with Aboriginal

3 communities, do you have any mechanism for

4 incorporating traditional values in terms of fish

5 habitat? Thank you.

6   MS. JULIE DAHL: Julie Dahl, Fisheries

7 and Oceans. Certainly, if during the -- the

8 consultation on the authorization approach and the

9 offsetting plan, we would take into account habitat

10 value from a traditional use perspective as well as

11 from a fish perspective, and that could lead into when

12 we assess the habitat loss, it may mean that the

13 particular habitat being impacted is valued higher than

14 it would have been, had it been in another location of

15 the lake.

16   So certainly, we would take that into

17 account.

18   MR. PETER UNGER: Peter Unger, Lutsel

19 K'e Dene First Nation, no further questions. Thank

20 you.

21   THE CHAIRPERSON: Questions, Tlicho

22 Government?

23   MS. GRACE MACKENZIE: Grace Mackenzie,

24 Tlicho Government. I have a couple questions.

25   DFO recommends that the Company meet

1 with communities and DFO on conceptual offsetting

2 plans. I'd like to know: How open is DFO to

3 offsetting plans occurring in the context of the

4 communities rather in the Jay pipe region?

5   MS. JULIE DAHL: Julie Dahl, Fisheries

6 and Oceans.

7   We certainly do take -- take into

8 account ideas that we get from the communities for

9 habitat restoration projects, or habitat enhancement

10 projects. We know that for other projects, for

11 example, the -- the Lynx project that was recently

12 approved, the offsetting is actually being undertaken

13 via a stream restoration project in Lutsel K'e.

14   So we -- we tend to want to look at

15 onsite to see what we can do first and foremost for the

16 fish that are impacted, but if there's anything else

17 that we can do that's a community-based project, we

18 certainly would do that. And we -- we certainly have

19 done that in the past.

20   MS. GRACE MACKENZIE: Thank you for

21 that. Another question is:

22   How can communities bring forward their

23 recommendations for offsetting, and how will DFO make

24 the plans and offsetting options clear and transparent

25 to the communities?

 1   MS. JULIE DAHL: Julie Dahl, Fisheries

 2 and Oceans. We -- we have to keep in mind first of all

 3 that this is the -- this is the Proponent's offsetting

 4 plan. They are responsible for developing this plan,

 5 and they're responsible for making sure that -- that

 6 Aboriginal groups are in support of the plan that they

 7 have.

 8   And when we look at it, we will ask

 9 those questions, and then that may -- means that when

10 we are consulting on -- on our regulatory instruments

11 and the plan, we know that it has garnered some -- some

12 support from the communities.

13   So certainly during those community

14 meetings, the opportunities are there to bring forth

15 the ideas so we can make sure that those are -- are

16 considered.

17   MS. GRACE MACKENZIE: Grace Mackenzie,

18 Tlicho Government. That's all the questions we have.

19   THE CHAIRPERSON: Questions,

20 Environment Canada?

21   MR. BRADLEY SUMMERFIELD: Bradley

22 Summerfield, Environment Canada. No questions.

23   THE CHAIRPERSON: Questions, North

24 Slave Metis Alliance?

25   MR. SHIN SHIGA: Shin Shiga, North

1 Slave Metis Alliance. We have no questions.

2   THE CHAIRPERSON: Questions, Deninu Kue

3 First Nation?

4   MR. MARC D'ENTREMONT: Marc d'Entremont

5 for the DKFN. We do have a couple questions.

6   First, does Fisheries and Oceans Canada

7 consider the use of bottomless culverts for stream

8 crossing construction a best management practice that

9 would avoid serious harm to fish?

10   MS. JULIE DAHL: Julie Dahl, Fisheries

11 and Oceans. We typically don't dictate the

12 construction method. However, we do recognize that a

13 bottomless culvert does preserve stream bottom

14 substrate.

15   So in some cases, it might be a more

16 appropriate approach to take, but there have been other

17 large culverts where you can actually put substrate in

18 the culvert to mimic the -- the stream bottom, and it

19 may end up having the same result as an open bottom

20 culvert.

21   But we wouldn't dictate one over the

22 other. We would have to assess what was put forth, and

23 if the impacts were too great, we would -- we might

24 recommend a -- an approach that had a -- a lower impact

25 on the stream.

1   MR. MARC D'ENTREMONT: Marc

2 d'Entremont, for the DKFN. Thank you for that answer.

3   We also had a -- a similar question to

4 what the Tlicho Government asked in terms of offset

5 options closer to the communities, and we're happy to

6 hear that the -- the answer that DFO provided. So with

7 that, we -- we have no further questions. Thank you.

8   THE CHAIRPERSON: Questions, Fort

9 Resolution Metis Council? Questions, Transport Canada?

10   MS. ANITA GUDMUNDSUN: Anita

11 Gudmundsun, with Transport Canada. We have no

12 questions. Thank you.

13   THE CHAIRPERSON: Questions, Dominion

14 Diamond?

15   MR. RICHARD BARGERY: Richard Bargery,

16 Dominion Diamond. No, I think we agree with all the

17 recommendations with -- from DFO, and particularly the

18 ones on engagement on -- on fish-out and -- and

19 offsetting plans.

20   And -- and I know the questions went to

21 DFO, but we do plan meetings and workshops in each of

22 the communities to talk about those two (2) issues.

23 Not a question; a comment, so hopefully I don't get in

24 too much trouble with the Chair. I have no questions.

25   THE CHAIRPERSON: You're out of line.

 1 Questions or -- or -- questions or comments from Review

 2 Board staff and counsel?

 3   MR. MARK CLIFFE-PHILLIPS: Mark Cliffe-

 4 Phillips, with the Review Board.

 5   We understand that Dominion has accepted

 6 the recommendations of DFO, and we understand that DFO

 7 believes that all these recommendations would limit

 8 impacts on fish and fish habitat if implemented.

 9   But are there any of DFO's

10 recommendations that do not fall under the authority of

11 the Fisheries authorization, the supplemental fish-out

12 plan, and offsetting plan? And, if so, which ones and

13 would they have any likely significant impacts on fish

14 or fish habitat?

15   MS. JULIE DAHL: Julie Dahl, Fisheries

16 and Oceans. I -- I may take a couple of minutes to go

17 through, but I -- I don't believe that any of our

18 recommendations were related to anything that wouldn't

19 be related to our mandate. Because we -- we talked

20 about blasting, which -- which relates to the death of

21 fish. We talked about diversion, which is under

22 Section 20, "Passage of Fish."

23   We talked about water levels, which we

24 want -- we -- from the perspective of avoiding impacts

25 on passage and loss of fish habitat. The conceptual

1 Fish-out Plan certainly is part of it. So, no, I would

2 say that none of them are outside of our mandate.

3   MR. JOHN DONIHEE: It's John Donihee,

4 Board counsel.

5   As I understand the presentation you've

6 given, it's clear that the offset arrangements, what

7 exactly will happen in -- in terms of offsetting either

8 loss of habitat or fish productivity, are -- those --

9 those details are yet to be worked out.

10   And so from the standpoint of the Board

11 in an impact assessment context, I guess I'd simply ask

12 you to confirm that from the standpoint of DFO, that

13 the losses to habitat and productivity are going to be

14 taken care of through the regulatory process that

15 you're responsible for.

16   So that in -- from the Board's

17 standpoint, they can safely conclude that those impacts

18 will be mitigated, even though we don't know exactly

19 what the answer is yet. But that mitigation is

20 required by the regulatory system.

21   MS. JULIE DAHL: Julie Dahl -- excuse

22 me. Julie Dahl, Fisheries and Oceans. Thank you for

23 the -- for the question, John.

24   Yes, certainly, at the project review

25 stage, it's rare that we have all of the details at the

1 EA stage. Those are -- the final detalir -- details

2 are part of the regulatory process. And so at this

3 stage, we have identified the potential for the death

4 of fish. We have identified the loss of overwintering

5 habitat. We have identified the loss of a -- of a fair

6 quality spawning habitat.

7   So from a fish and fish habitat

8 perspective, we have technically identified what --

9 what habitat is likely to be lost. And we know that

10 there are tried and trues -- tried and true measures

11 that you can implement to offset those -- those habitat

12 features in terms of putting them back in.

13   What hasn't been worked out that had --

14 will have to be worked out in the details of the

15 offsetting plan at the regulatory phase is to add that

16 extra cultural significance of those particular areas

17 when you're trying to determine the extent of

18 offsetting that's required.

19   What the best approach -- like, where

20 should you be putting the offsetting? Looking at the

21 extent in -- in Lac du Sauvage, does it make sense to

22 put it all back into Lac du Sauvage to benefit the

23 fish? It might. There might be a good argument to

24 say, No, we only need part of it, and you need to

25 address something elsewhere. So that -- the -- the

 1 cultural aspect will have to come at the -- at the

 2 detailed offsetting plan stage.

 3   MR. JOHN DONIHEE: This is John Donihee

 4 again. Thank -- thank you for that answer.

 5   I guess I would just want to summarize,

 6 and you can disagree if I have put words in your mouth.

 7 But -- but essentially, what you're saying is that what

 8 is lost will -- will be mitigated, will be replaced,

 9 one (1) -- one (1) way or the other in one (1) place or

10 another through the regulatory process to the

11 satisfaction of -- of DFO.

12   MS. JULIE DAHL: Julie Dahl, Fisheries

13 -- Fisheries and Oceans. That is correct.

14   MR. MARK CLIFFE-PHILLIPS: Madam Chair,

15 Mark Cliffe-Phillips, with the Review Board. No

16 further questions from staff or counsel.

17   THE CHAIRPERSON: Questions, Review

18 Board members? Yvonne...?

19   MS. YVONNE DOOLITTLE: Yvonne

20 Doolittle, Review Board. Thank you for your

21 presentation.

22   The only question I had was I didn't see

23 anything previously today or a discussion about winter

24 habitat of fish. So in Lac du Sauvage, you said that

25 it was in the Jay area where the winter area for the

1 fish were. How deep is that -- is that area need to be

2 for a winter habitat?

3   I can -- I can understand you that might

4 be able to replace a shoal or rebuild something along a

5 shoreline close by for -- for their eggs and deal with

6 dust fall issues and that. However, what about winter

7 habitat? Is there another -- is there other spots in

8 the lake there that are of equal use and desire for

9 these fish? Because I would assume that like other

10 deep lakes where we have amazing fish in the North,

11 those areas are vital to their longevity. Thank you.

12   MS. JULIE DAHL: Julie Dahl, Fisheries

13 and Oceans. The -- there isn't a specific depth that

14 you would say, It is good for overwintering. We know

15 that where there is -- where there are kimberlite

16 pipes, it tends to be really deep areas of the lake by

17 -- you tend to find them as these really deep areas.

18   So because it is deep, it is -- it's

19 expected that it's -- you know, it's below the ice

20 level, and it could be 8 to 10 metres. I'm not sure of

21 the exact -- I'm not sure of the exact -- up to 24

22 metres there. So if it's up to 24 metres in that area.

23 But any area that -- that is deeper than -- than

24 probably 8 to 10 metres would be suitable for fish for

25 overwintering. I don't have all the details of where

1 all the deep holes in the lake are. I do have a

2 bathymetry map. I'm not sure whether Dominion Diamond

3 could respond and -- and let you know how many deep

4 holes there are in the -- in the area for

5 overwintering.

6   MS. YVONNE DOOLITTLE: I was just to --

7 to -- I -- I guess, knowing how many lakes, but I was

8 just thinking about preferences for where there -- are

9 there other areas where there's known preferences for

10 fish to have winter habitat?

11   Do you -- are you guys aware of that?

12   MS. JULIE DAHL: Julie Dahl, Fisheries

13 and Oceans. I -- I'm not aware of winter studies of

14 where the fish are. But looking at the bathymetry map,

15 there are several areas that are 12 metres or deeper,

16 and the -- the fish would preferentially seek out those

17 deep areas.

18   So it certainly wouldn't be limiting in

19 -- in the lake.

20

21   (BRIEF PAUSE)

22

23   THE CHAIRPERSON: Bertha...?

24   MS. BERTHA NORWEGIAN: Thank you, Madam

25 Chair. Bertha Norwegian.

 1   I just had a -- a question with respect

 2 to the documents that we have from your office. It

 3 indicates that there's going to be nine (9) water

 4 crossings on seven (7) streams.

 5   And I'm just wondering, if they're going

 6 to be building little bridges across these streams, how

 7 -- how large are the streams? If there's going to be

 8 any building or whatever, is it going to occur during

 9 the winter season?

10   MS. JULIE DAHL: Julie Dahl, Fisheries

11 and Oceans. So far, Dominion Diamond had identified

12 that they will require crossings on water courses for

13 their road, however, the details about the exact method

14 of the crossing has not been finalized.

15   MS. BERTHA NORWEGIAN: Just another

16 question. Bertha Norwegian.

17   Do you have any idea at all about the

18 strength of these streams, the depth, the width?

19   MS. JULIE DAHL: Julie Dahl, Fisheries

20 and Oceans. I believe we do have the data on the

21 streams, I just don't have it handy right now, but we

22 do have the data. And all of that data, the -- the

23 Company has -- has agreed to providing all the details

24 -- des -- detailed design based on flow and -- and

25 requirements for stability and the proper design. So

1 they have committed to providing all of that

2 information.

3   MS. BERTHA NORWEGIAN: Bertha

4 Norwegian, from the Board. It's -- in the reading that

5 I've done, it seems to suggest that some of these

6 streams, while they may be not very deep, they do have

7 fish that are low to the -- to the bottom, shall we

8 say.

9   And I wondered whether or not there were

10 going to be any fish-out activities or anything like

11 that on -- out at the streams as opposed to the lakes?

12   MS. JULIE DAHL: Fisheries and Oceans,

13 Julie Dahl. There would be no intention to remove fish

14 from the streams for crossings.

15   Best management practices would be

16 required to make sure that there was no impact to the

17 fish, such as maintaining flow around the -- around

18 while the crossing is being built, controlling the

19 release of sediment, all those sorts of things to make

20 sure that the fish were not impacted and that when the

21 project was finished there was free passage of fish

22 afterwards and that the crossing is stable.

23   MS. BERTHA NORWEGIAN: Thank you very

24 much. Bertha Norwegian. I just have one (1) more

25 question.

 1   Do you have any idea about what kind of

 2 materials they will be using to build these crossings?

 3   MS. JULIE DAHL: Julie Dahl, Fisheries

 4 and Oceans. By 'materials', do you mean the -- the

 5 materials to stabilize the crossing or what --

 6   MS. BERTHA NORWEGIAN: Yes.

 7   MS. JULIE DAHL: Typically, if -- if

 8 they do use culverts, typically rock is used at the

 9 inlet and the outlet of the culverts to avoid erosion

10 from the -- from the water. So typically some rock

11 will be -- will be placed along the in-stream and the

12 inlet and outlet of the -- of the culvert to avoid

13 erosion. Other than that, there shouldn't be any other

14 materials placed in the stream.

15   MS. BERTHA NORWEGIAN: What about on

16 top of the culvert?

17   MS. JULIE DAHL: I'd expect that the

18 road would -- would be -- would be constructed overtop

19 of the culvert.

20   MS. BERTHA NORWEGIAN: Okay.

21

22   (BRIEF PAUSE)

23

24   THE CHAIRPERSON: Thank you for your

25 presentation. We would like to now call Yellowknives

1 Dene First Nation. You can either do it at the table

2 if you're at the front. If you need to use the --

3

4   (BRIEF PAUSE)

5

6 PRESENTATION BY YELLOWKNIVES DENE FIRST NATION:

7   MR. ALEX POWER: Alex Power,

8 Yellowknives Dene First Nation. First I'd like to

9 thank the Board and the -- the Chair for their

10 accommodation, it's greatly appreciated. So I'm just

11 going to jump ahead to this slide because it's the only

12 one I like. And I'm -- I'm not a fan of slides or

13 PowerPoint.

14   So the first thing I want to address is

15 -- is the modelling. And, you know, the -- a lot -- a

16 lot of what's gone on today, and -- and yesterday even,

17 it's been -- been about modelling. And so I had this

18 quote which I've always liked.

19   With four (4) parameters I can fit an

20 elephant, and with five (5) I can make him wiggle his

21 trunk. And so this is John Von Neumann, who's probably

22 one (1) of the most important mathematicians of the

23 20th Century and worked on -- actually, he was one (1)

24 of the first people -- maybe the first person to use

25 the Monte Carlo model with a computer.

1   Interestingly, he also worked on the

2 development of the nuclear bomb with uranium that came

3 from Port Radium, so it's a small world. And if -- if

4 you can take anything from this other than just my

5 trying to sow the seed of doubt in the, I guess,

6 predictive -- predictive -- predict -- I don't know,

7 this is cutting out?

8

9   (BRIEF PAUSE)

10

11   MR. ALEX POWER: So if I can do

12 anything beyond just sort of putting a bit of doubt in

13 -- in modelling as -- as sort of the final word, it

14 would be to highlight sort of the connectivity between

15 things in time and space. So -- and -- and the reason

16 I want to do that is because it's really hard to

17 predict the future, right? And it's hard to know what

18 factors are going to come from where, and how they're

19 going to affect what it is you're doing.

20   And so in the case of trying to

21 establish, you know, a meromixis and -- and have this

22 be stable long-term, a number of people have covered

23 things such as the freeze up, and -- and the freshet,

24 so the -- the water melt in the spring as being factors

25 that can destabilize meromixis, or mixes. I don't -- I

1 don't know the grammar around plural on meromixis.

2   Other -- other things that were brought

3 up were the stability of permafrost, and how this can

4 affect water moving in and out of the meromictic lake,

5 or in the case of the Jay Pit, just the pit within the

6 lake, and how this has the potential to destabilize.

7   And now, the Proponent has gone to great

8 lengths to -- to really try to model these things and

9 take account for -- for it. And -- and, you know, I --

10 I commend that. It's not an easy task. But the fact

11 remains that you know -- you often don't know why

12 you're going to be wrong. And -- and it's hard to

13 know, if this were to fail, how -- how that would come

14 about. And, you know, it's because of this that

15 Yellowknives Dene really wants to reit -- reiterate

16 that the need for a contingency plan, a robust

17 contingency plan, is -- is really something that we're

18 looking for.

19   I -- I understand that, you know, the

20 model says it's very unlikely to fail. However, you

21 know, lakes like this have failed. You know, meromixes

22 do fail, and we -- we've seen examples of that. And

23 now, of course, the Proponent -- the Proponent has

24 tried to reassure us on -- on this, too, saying, Well,

25 you know, that this lake's different from those. And

1 this -- this -- these meromixes are -- are different

2 from those.

3   But they're also trying to reassure us

4 by saying, Well, this meromixis is -- is similar to

5 others. And -- and that's why it's going to be stable.

6 This isn't -- this isn't new, you know. We -- we've

7 seen this before. And I guess my response that is,

8 again, you can't have it both ways. It's either --

9 it's either different, so we don't know, or it's the

10 same. But you -- but you can't have both.

11   And so I know that -- a common refrain -

12 - refrain is that, you know, these -- this process is

13 too onerous and all these -- these conditions are too

14 onerous, and it -- and it discourages development of --

15 of projects like Jay.

16   And I think, again, YKDFN's response to

17 that would be, you know, it's -- it's very easy to --

18 to break things, but it's really hard to build them.

19 And that -- that goes for physical structures. It goes

20 for, you know, meromictic states, and it -- and it goes

21 for goodwill or good faith.

22   And I feel like -- or YKDFN feels that,

23 you know, Dominion has always been quite forthcoming.

24 And they've -- they've really -- they've really done a

25 good job engaging. And -- and that -- again, for that,

1 you know, I -- I commend their efforts. But the -- the

2 history of -- of mining and resource extraction in the

3 North isn't, you know, hasn't always been awesome. And

4 I think we can all -- we can all think of examples.

5   And, you know, the Yellowknives Dene

6 have really suffered extensively at -- at the hands of

7 that. And to go back to our friend, you know, John Von

8 Neumann, I think there's a lot of people who aren't --

9 aren't especially happy with the -- the legacy at Port

10 Radium. And then so we approach it from that position,

11 or from that angle, where we're, like, Okay, we

12 understand that it is very unlikely to fail. And the

13 Proponent has repeatedly said that a freshwater cap is

14 -- is the best solution.

15   But that -- that's why it's called a

16 Plan B. So Plan A, we know what you're Plan A is.

17 What -- what's Plan B when this -- you know, if this

18 were to fail? And, you know, no one -- no one goes in

19 planning for it to fail, but if in the event that it

20 does, we -- we want to see that fleshed out more.

21   And that's really what -- what -- that's

22 -- that's sort of our position on that. Because --

23 because we haven't seen that. And I -- I think that's

24 been expressed by -- by a number of people or a number

25 of parties that that needs to be fleshed out more.

1 What -- what's the contingency? What's the Plan B?

2 Because we'd all like if this worked, but if it

3 doesn't, then what?

4   So I'm just going to finish now on a

5 final note, which I'm -- I'm sort of pulling in from --

6 laterally. And -- and it's a -- a slight departure

7 from this. And it -- it -- it's sort of a follow-up to

8 a -- a question from Shin Shiga, with NSMA earlier,

9 asking about the -- the quality of the habitat in --

10 before and after the Jay pit at that site, so comparing

11 the -- the current habitat with what -- what would be

12 left afterwards.

13   And I'd like to take a stab at sort of

14 how I would answer that and I would say that it's

15 objectively worse after the fact. And -- and the

16 proponent stated that the -- the habitat would be

17 different and -- and that's -- that's for sure, it

18 would different, but there -- there's nothing like a

19 salt-filled trench in this habitat right now, it's a --

20 a shallow lake.

21   So it's -- saying that it's different is

22 a little bit like building a sandpit in the jungle and

23 saying, Well, you know, it's -- it's a good habitat for

24 camels. It's just not -- it just doesn't fit, for me

25 anyways. So that's sort of the -- the last I have to

1 say about that.

2   So yeah, that's -- that's where I'd like

3 to finish off, just saying that -- surprise, the light.

4 You know, we understand that the Proponent has gone --

5 gone to great lengths with their -- with their

6 modelling and -- and it's -- you know, they know their

7 modelling. They -- they -- you know, Golder has

8 modelling chops, it's why they get these contracts.

9   You know, if they -- kudos, it's -- it's

10 great work, but there's things we don't know and it's

11 hard to predict them and what's Plan B? Thank you.

12

13 QUESTION PERIOD:

14   THE CHAIRPERSON: Thank you.

15 Questions, Monitoring Agency?

16   MR. TIM BYERS: Tim Byers, Monitoring

17 Agenc -- Monitoring Agency. We have no questions.

18   THE CHAIRPERSON: Questions, Government

19 of the Northwest Territories?

20   MR. NATHEN RICHEA: Thank you, Madam

21 Chair. It's Nathen Richea, with ENR. I'd like to

22 thank YKDFN for their presentation and we have no

23 questions.

24   THE CHAIRPERSON: Questions, Lutsel K'e

25 Dene First Nation?

 1   MR. PETER UNGER: Peter Unger, LKDFN.

 2 We'd like to thank YKDFN for their presentation. We

 3 have no questions. Thank you.

 4   THE CHAIRPERSON: Questions, Tlicho

 5 Government?

 6   MS. MARJORIE MATHESON-MAUND: Tlicho

 7 Government, Marjorie Matheson-Maund, no questions.

 8 Thanks for your presentation.

 9   THE CHAIRPERSON: Questions,

10 Environment Canada?

11   MS. MEAGAN TOBIN: Meagan Tobin,

12 Environment Canada. We have no questions.

13   THE CHAIRPERSON: Questions, Fisheries

14 and Oceans?

15   MS. VERONIQUE D'AMOURS GAUTHIER:

16 Veronique D'Amours Gauthier, we have no questions.

17 Fisheries and Oceans Canada, sorry.

18   THE CHAIRPERSON: Questions, North

19 Slave Metis Alliance?

20   MR. SHIN SHIGA: Shin Shiga, North

21 Slave Metis Alliance. We have no questions.

22   THE CHAIRPERSON: Deninu Kue First

23 Nation, questions?

24   MR. MARC D'ENTREMONT: Marc

25 d'Entremont, for the DKFN. We have no questions.

 1   THE CHAIRPERSON: Questions, Fort

 2 Resolution Metis Council?

 3

 4   (BRIEF PAUSE)

 5

 6   THE CHAIRPERSON: Questions, Transport

 7 Canada?

 8   MS. ANITA GUDMUNDSON: Anita

 9 Gudmundson, of Transport Canada. We have no questions.

10   THE CHAIRPERSON: Questions, Dominion

11 Diamond?

12   MR. RICHARD BARGERY: Richard Bargery,

13 Dominion Diamond. Thank you, Alex, for the

14 presentation. No questions.

15   THE CHAIRPERSON: Questions, Review

16 Board staff and counsel?

17   MR. MARK CLIFFE-PHILLIPS: Mark Cliffe-

18 Phillips, Review Board. No questions from staff or

19 legal counsel.

20   THE CHAIRPERSON: Questions, Review

21 Board members? Thank you for your presentation.

22   MR. ALEX POWER: Thank you.

23   THE CHAIRPERSON: If I could ask Deninu

24 Kue First Nations to the table please, for their

25 presentation.

1 PRESENTATION BY DKFN:

2   MR. MARC D'ENTREMONT: Thank you, Madam

3 Chair. My name is Marc d'Entremont, for the DKFN.

4 Patrick Simon is also here, but I -- I think he just --

5 I don't know where he went at the moment, so...

6   And I also want to remind folks that we

7 still have Dr. Elmar Platt on the line and he's the one

8 (1) that prepared this presentation, but I will be

9 presenting it. Although, at the end I will ask him to

10 pipe up with any comments.

11   What we're going to present is

12 information that, for the most part, has already been

13 raised today through the other presentations and

14 discussions. We just want to highlight DKFN's concerns

15 and agreement with some of the recommendations from

16 some of the other parties plus a few other pieces of

17 information.

18   So first of all, about the -- kind of in

19 response to my -- my question to DFO about the whole

20 bottomless culvert thing. This first slide provides

21 that recommendation sort of formally about

22 consideration of -- of the use of bottomless culverts,

23 and it shows a couple photographs.

24   The first one is the conventional closed

25 culvert. You can see there's a trickle of water here.

1 Not much substrate involved there, probably pretty poor

2 conditions for fish. The bottom one is the open bottom

3 culvert, less disturbance on the streambed. Nat --

4 more natural conditions, just to give you that sense of

5 kind of what we've been talking about.

6   Also in regard to kind of preserving and

7 maintaining as much fish habitat as possible when it

8 comes to the construct of the diversion, we would

9 recommend that there's an inclusion of sort of large

10 boulders placed within that diversion channel to also

11 kind of maintain some level of ecological function and

12 not just have a sterile channel that -- that is kind of

13 less attractive for fish, so something that will sort

14 of maintain a bit more natural conditions.

15   And also -- and, like, we -- we're in

16 support of DFO's request, too, about having the ability

17 to review the design plans for the channel as well as

18 all the other fish habitat offset measures, as well,

19 so. And I believe Dominion Diamond's just committed to

20 that.

21   So again, this one's in regards to the

22 water level -- potential water level changes with the

23 narrows that's been raised again. And we'd just like

24 to reiterate to the Board that there would be

25 consideration of a direct measure that addresses that -

1 - that particular issue.

2   When it comes to the fish-out, we would

3 recommend that all fish that are kind of captured,

4 whether it's -- whether they're salvaged, moved, or --

5 or succumb to mortality in the event of the fish-out,

6 that they're -- they're enumerated, they're all

7 counted, and that this information be shared with all

8 parties with the intent that having a good number -- a

9 good count of the number of fish that are affected will

10 then influence what goes into the off-set plan.

11   Our next measure is -- recommended

12 measure is with regards to the resuspension of fines

13 within the silt curtain area. So when -- during -- af

14 -- I guess, after construction, assuming that there's

15 some silt curtains up around -- I guess on the outside

16 of where the dike is constructed to -- to -- as a

17 protection measure so that silt doesn't get into the

18 Lac du Sauvage, we anticipate that there will be a

19 certain layer of silt in-between the dike and the silt

20 curtain.

21   So before these silt curtains are

22 actually removed, that there's some -- there is some

23 sort of quantification of the accumulation of fines

24 that have been deposited between the dike and the silt

25 curtain and that this amount of silt is actually

1 monitored and managed prior to or during removal of the

2 silt curtain so that that sediment then doesn't

3 actually get released into the lake.

4   And then on to the meromictic

5 conditions. So we've heard several times throughout

6 the day about the concerns regarding whether the meromi

7 -- meromictic conditions will be realized. We've heard

8 about the modelling. We've heard about, like I say,

9 the concerns. We again just want to reiterate. We

10 have concerns about those conditions forming and

11 maintaining pri -- primarily during closure and at the

12 closure stage.

13   We're in support of Lutsel K'e's

14 recommendation that an -- an independent panel or body

15 or experts kind of look at this whole situation, and

16 that the Review Board undertake that prior to making

17 your decision.

18   And the -- a couple of points there. So

19 as you said, duration -- enclosure or the stability of

20 the meromictic conditions in -- in Jay and Misery pits.

21 And the fact that some monitoring needs to be happen to

22 ascertain whether the -- that -- that there's no mixing

23 actually happening between the -- the chemocline.

24   However, we want to point out that there

25 -- there are sort of factors in play that -- that do

1 influence the exchange of water through the chemocline.

2 And this slide just shows some of those examples in

3 terms of, you know, disposal of waste diffusion, local

4 turbulent mixing, resuspension, and ebullition or

5 bubbling. So there are some processes that'll occur in

6 the pits. And when it's, you know, getting into the

7 meromictic condition that will facilitate, I guess,

8 like, the -- the movement and exchange of water between

9 the -- the different layers.

10   And on this slide we just, again, want

11 to re -- re-emphasize that there are other examples of

12 -- of pit lakes where meromictic conditions have been

13 predicted. But during the observations some of those

14 conditions haven't been realized. And -- and I'd just

15 refer back to Lutsel K'e Dene First Nation's

16 presentation, you know, showed some aerial photographs

17 of what some -- some of these pits look like for

18 reference. And you can see on here that some of them

19 have achieved meromictic states. Some are still

20 uncertain, and others are not.

21   For this measure, we -- we just want to

22 support IEMA's recommendation that there's non-lethal

23 large fish tissue sampling con -- being completed as --

24 as part of the toxicity testing for metals and -- and

25 such. And then finally, we'd like to recommend that

1 the measure be included that in addition to acute

2 toxicity testing that there is also chronic toxit --

3 toxicity testing implemented, just to test the mine

4 effluent, just as an additional measure for, kind of,

5 fish protection. So that -- that's our final slide. I

6 will kind of open up to Elmar to see if he has a bit

7 more information to share.

8   DR. ELMAR PLATE (BY PHONE):   First of

9 all, can you hear me? This is Elmar Plate, Deninu

10 K'ue.

11   THE CHAIRPERSON: Yes, we can.

12   DR. ELMAR PLATE (BY PHONE):   Thank you.

13 First of all, thank you, Marc. That was a very --

14 almost exactly what I would have said. I just wanted

15 to add a few questions -- a few comments, I mean.

16 There was earlier a comment by Envi -- or a question to

17 Environment Canada how much tissue is needed in large

18 fish for to test for more than mercury.

19   And if you want to test for a whole slew

20 of metals, including aluminum, cadmium, callium,

21 copper, lead, magnesium, nick -- nickel, and zinc you

22 need about 1 gram of fish tissue, based on my

23 experience. So that should be doable when testing

24 larger fish.

25   So that's one (1) comment I wanted to

1 make. And then earlier there was a question posed to

2 other repre -- representatives or presenters for First

3 Nations. What we would like to see as an outcome or

4 something that would be of significance at the end.

5 And I'm glad for the agreement that the phosphorous

6 level in the water that's overlaying the very high

7 salinity water will be tried to be capped or the -- the

8 -- by -- at about 0.01 milligrams per litre, which will

9 leave the lake at a oligotrophic state. That's

10 definitely one (1) big concern. And that could change

11 the whole nature of this lake.

12   Another one (1) is I am agreeing with

13 many of the other speakers before. Water treatment

14 should be considered as a contingency if the meromictic

15 condition doesn't happen quite as stable, or is not

16 quite as stable as hoped.

17   And the third is that meaningful

18 offsetting for the losses of habitat and fish. It's

19 definitely one of the main concern that I would see

20 from my point of view. Thank you.

21   MR. MARC D'ENTREMONT: Thanks, Elmer,

22 for those comments. So that con -- concludes our

23 presentation of our recommended measures, and Patrick

24 just wants to close out with a couple more words.

25 Thank you.

1   MR. PATRICK SIMON: Thank you, Madam

2 Chairperson. Patrick Simon, Deninu Kue First Nation.

3 I'm a counsellor. I'm also a deputy mayor, so I

4 consider myself a small leader of my people. And I --

5 and I just wanted to reflect a couple of sentiments.

6   One is that the -- the mindset of our

7 people is that the water and the fish there before the

8 mines should be returned back to the state -- the same

9 state after the mines leave.

10   We also feel very privileged and

11 fortunate to -- to be here to -- to give you our issues

12 and our concerns. And we hope that we have been

13 dignified, honest, and clear, and respectful, and that

14 we recognized everybody in this room.

15   So, Madam Chair, I thank you. I thank

16 your Board. I thank the Board staff, and the Company

17 for helping us as much as you could. I also thank all

18 the members that presented, or asked questions, or to

19 be honest, taught me a lot. And every time I come here

20 I get a little bit smarter, and one day maybe I'll be

21 able to do this myself. But I -- I just wanted to say

22 these things because that's the Dene way.

23   We have to say thank you, and we have to

24 be respectful. We have to be recognizable. We have to

25 recognize people. And we have to end in a good, good

1 way. So thank you very much. I feel very good. My

2 body is tired but the mind and heart is good. And I

3 thank you all for that. Masi cho.

4

5 QUESTION PERIOD:

6   THE CHAIRPERSON: Thank you. Masi cho.

7 Questions from the Monitoring Agency?

8   MR. TIM BYERS: Tim Byers, Monitoring

9 Agency. Thank you for your presentation. We have no

10 questions.

11   THE CHAIRPERSON: Questions, Government

12 of the Northwest Territories?

13   MR. NATHEN RICHEA: Thank you, Madam

14 Chair. It's Nathen Richea, with ENR. Thank you for

15 the presentation. We have no questions.

16   THE CHAIRPERSON: Questions,

17 Yellowknives Dene First Nation?

18   MR. RANDY FREEMAN: Randy Freeman,

19 Yellowknives Dene. I have no questions.

20   THE CHAIRPERSON: Questions, Lutsel K'e

21 Dene First Nation?

22   MR. PETER UNGER: Peter Unger, Lutsel

23 K'e Dene First Nation. I'd like to thank Deninu Kue

24 for their presentation, but I have no questions. Thank

25 you.

 1   THE CHAIRPERSON: Questions, Tlicho

 2 Government?

 3   MS. MARJORIE MATHESON-MAUND: Tlicho

 4 Government, Marjorie Matheson-Maund. No questions and

 5 thank you for your presentation.

 6   THE CHAIRPERSON: Questions,

 7 Environment Canada?

 8   MS. MEAGAN TOBIN: Meagan Tobin,

 9 Environment Canada. No questions.

10   THE CHAIRPERSON: Questions, Fisheries

11 and Oceans Canada?

12   MS. JULIE DAHL: Julie Dahl, Fisheries

13 and Oceans Canada. I don't have a question but I do --

14 I was wondering if I could just make a comment in

15 response to one of the recommendations in the

16 presentation? It was with regards to the

17 recommendation that all fish be enumerated from the

18 fishout.

19   The -- we have -- DFO has developed a

20 fishout protocol, and that protocol dictates that all

21 fish need to be counted, measured, identified that come

22 out of the fishout. The fishout also defines a

23 systematic approach to collecting the fish such that we

24 can compare the fishout -- the numbers of fish caught

25 during the fishout to the estimates of fish populations

1 that were in the area. And it also helps to determine

2 when the fishout is deemed complete.

3   So there is a formal protocol that will

4 be applied, and -- and certainly all the data on the

5 fish is collected and that does inform the offsetting

6 plan.

7   THE CHAIRPERSON: Questions, North

8 Slave Metis Alliance?

9   MR. SHIN SHIGA: Shin Shiga, North

10 Slave Metis Alliance. Thank you for your presentation.

11 We have no questions.

12   THE CHAIRPERSON: Questions, Fort

13 Resolution Metis Council? Questions, Transport Canada?

14   MS. ANITA GUDMUNDSON: Anita

15 Gudmundson, with Transport Canada. We have no

16 questions. Thank you.

17   THE CHAIRPERSON: Questions, Dominion

18 Diamond?

19   MR. RICHARD BARGERY: Richard Bargery,

20 Dominion Diamond. I'd like to thank Patrick and Marc.

21 I -- I do -- actually do have a question.

22   We -- we hadn't planned on commenting on

23 this, and this is an issue raised by Lutsel K'e Dene

24 First Nation too in terms of the independent review

25 panels that review the meromictic conditions. And I

1 noticed you also have or, alternatively, the hiring of

2 an independent expert, Marc, in your presentation.

3   When we looked at this, it seemed pretty

4 clear to us that this issue fell within the -- the

5 mandate of the Wek'eezhii Land and Water Board, and

6 that was the proper independent board to -- to review

7 this, you know, in a -- in a very public way.

8   I'm just wondering, isn't one (1) of the

9 options -- wouldn't one (1) of the options to satisfy

10 your -- your issue here be for the -- that Board, that

11 independent, regulatory board to review this? And if

12 they required an independent expert to provide advice,

13 they could certainly -- they certainly have the ability

14 to go out and get independent advice, similar to the

15 Review Board.

16   Wouldn't that be an option that would

17 sort of help deal with the concern here?

18   MR. MARC D'ENTREMONT: Marc

19 d'Entremont, for the DKFN. So the way I'd answer that,

20 Richard, I think if -- if we in ourselves wanted to get

21 an expert advice on it, we would have gone out and --

22 and gotten it and provided that to everybody here.

23   We kind of raise it in this form

24 because, like I said, there's been lots of issues and

25 concerns raised about this topic. And the Review Board

1 needs to make a -- a decision it, and so that was our

2 recommendation that if -- if the Review Board feels the

3 need, that -- well, there's two (2) things.

4   They either feel they have -- they have

5 enough information to make a decision on it or they

6 don't. And if they don't, then one (1) option is to --

7 to get an expert, independent expert advice on it.

8   MR. PETER UNGER: Peter Unger, Lutsel

9 K'e Dene First Nation. May I add to that, please?

10   THE CHAIRPERSON: No, I'm sorry, you

11 can't.

12   MR. RICHARD BARGERY: Richard Bargery,

13 Dominion Diamond. I expect we'll have a chance to

14 discuss this in -- in -- on Saturday, Peter. But I

15 have -- I have no other -- no further questions. Thank

16 you.

17   THE CHAIRPERSON: Questions, Review

18 Board staff and counsel?

19   MR. MARK CLIFFE-PHILLIPS: Mark Cliffe-

20 Phillips, Review Board. No questions from the staff or

21 counsel.

22   THE CHAIRPERSON: Thank you.

23 Questions, Board members? Thank you very much for your

24 presentation.

25   Our next presentation is Transport

1 Canada. Before we -- but while Transport Canada is

2 coming up, I would like to mention that the translators

3 -- I don't think we have anyone here that needs

4 translation, so they would like to go home. It's been

5 a long day for them, and we truly appreciate your

6 translation and the work that you have done for us for

7 the past three (3) days. Thank you.

8

9   (BRIEF PAUSE)

10

11 PRESENTATION BY TRANSPORT CANADA:

12   MS. ANITA GUDMUNDSON: Thank you, Madam

13 Chair. My name is Anita Gudmundson, and I'm the

14 regional manager with Transport Canada's environmental

15 services in our prairie and northern region.

16   With me today is Chris Aguire, and Chris

17 is an environmental officer with Transport Canada, also

18 in our prairie and northern region.

19   I would first like to thank the Board

20 for providing Transport Canada with the opportunity to

21 speak at the proceedings today. Today, our

22 presentation will be a very brief summary of Transport

23 Canada's technical report filed with the Board in July.

24   Transport Canada administers a variety

25 of acts and regulations, and may issue approvals for

1 works that may affect transportation. Key legislation

2 related to the Jay Project includes the Navigation

3 Protection Act, the Aeronautics Act, and Transportation

4 of Dangerous Goods Act.

5   In consideration of the information

6 provided by Dominion Diamond throughout the review

7 process, components of interest to Transport Canada

8 include dikes, water intakes, and outfalls, temporary

9 in waterworks, dewatering of Lac du Sauvage,

10 transportation of dangerous goods, and aerodrome

11 certification.

12   The following slides will briefly speak

13 to our recommendations provided in our technical

14 report. During the Information Request stage,

15 Transport Canada recommended that Dominion Diamond

16 provide addition information to Transport Canada to

17 assist us in determining the applicability of the

18 Navigation Protection Act to the project.

19   During the Information Request stage,

20 Dominion Diamond did identified that addi -- additional

21 information will be provided during the permitting

22 phase of the project. The information provided will be

23 used by Transport Canada -- Canada to complete a

24 navigation assessment and to further support our

25 determination in the applicability of the Navigation

1 Protection Act.

2   Transport Canada has no concerns with

3 specific project activities related to our roles and

4 responsibilities under the Transportation of Dangerous

5 Goods Act. Transport Canada recommends Dominion

6 Diamond consult the Transportation of Dangerous Goods

7 Act and regulations and comply with all requirements.

8   Dominion Diamond may contact Transport

9 Canada Transportation of Dangerous Goods regional

10 office for a clarification or guidance.

11   Transport Canada has no concerns with

12 specific project activities related to our roles and

13 responsibilities related to aviation safety regulation.

14 Transport Canada recommends that if Dominion Diamond

15 plans to certify their aerodrome as an airport, that it

16 meets the requirements of CARs 302 and its associated

17 standards, including wildlife planning and management

18 and emergency response planning.

19   In conclusion, Dominion Diamond has been

20 responsive to Transport Canada's recommendations raised

21 through the review process. Transport Canada looks

22 forward to continued dialogue and cooperation with the

23 Board, other federal and territory government agencies,

24 stakeholders, and the Proponent. Thank you.

25

1 QUESTION PERIOD:

2   THE CHAIRPERSON: Thank you. Questions

3 from the Monitoring Agency?

4   MR. TIM BYERS: Tim Byers, with the

5 Monitoring Agency. Just one (1) quick question.

6   The Navigation Protection Act, is that a

7 new Act that replaces the Navigable Waters Act, or is

8 that strictly regarding aviation?

9   MS. ANITA GUDMUNDSON: So the Navigable

10 Waters Protection Act was revised. And it --

11   THE CHAIRPERSON: Just state your name

12 again, please.

13   MS. ANITA GUDMUNDSON: Oh, I'm sorry.

14 Anita Gudmundson, with Transport Canada.

15   So in 2014, the Navigable Water

16 Protection Act was revised. The revisions included a

17 change to the name of the Act. So it is now called the

18 Navigation Protection Act, so it is the same Act with

19 changes.

20   One (1) of the changes specific to the

21 Act that is important in this project is that the Act

22 now lists -- includes a list of navigable waters where

23 any proposed work that could interfere with navigation

24 must receive approval -- approval and comply with the

25 Act.

 1   MR. TIM BYERS: Thank you.   There will

 2 be no -- Tim Byers, with the agency. There'll be no

 3 more questions. However, we would like to thank very

 4 much the Board for your patience with our presentation

 5 and our questions.

 6   And we would just like to let folks know

 7 that the community -- community hearings, the agency

 8 will provide a director at each of those, not to

 9 present, but to act more like a resource for the local

10 people. Thank you.

11   THE CHAIRPERSON: Questions from the

12 Government of the Northwest Territories?

13   MR. NATHEN RICHEA: Thank you, Madam

14 Chair. It's Nathen Richea, with ENR. We have no

15 questions.

16   THE CHAIRPERSON: Questions,

17 Yellowknives Dene First Nation?

18   MR. RANDY FREEMAN: Randy Freeman,

19 Yellowknives Dene. I have no questions.

20   THE CHAIRPERSON: Questions, Lutsel K'e

21 Dene First Nation?

22   MR. PETER UNGER: Peter Unger, Lutsel

23 K'e Dene First Nation. Thank you for the presentation.

24 No questions.

25   THE CHAIRPERSON: Questions, Tlicho

1 Government?

2   MS. MARJORIE MATHESON-MAUND: Marjorie

3 Matheson-Maund, Tlicho Government. No questions.

4   THE CHAIRPERSON: Questions,

5 Environment Canada?

6   MR. BRADLEY SUMMERFIELD: Bradley

7 Summerfield, Environment Canada. No questions.

8   THE CHAIRPERSON: Questions, Fisheries

9 and Oceans Canada?

10   MS. JULIE DAHL: Julie Dahl, Fisheries

11 and Oceans Canada. No questions.

12   THE CHAIRPERSON: Questions, North

13 Slave Metis Alliance?

14   MR. SHIN SHIGA: Shin Shiga, North

15 Slave Metis Alliance. We have no questions.

16   THE CHAIRPERSON: Questions, Deninu Kue

17 First Nation?

18   MR. MARC D'ENTREMONT: Marc

19 d'Entremont, for the DKFN. We have no questions.

20   THE CHAIRPERSON: Questions, Fort

21 Resolution Metis Council? Questions, Transport Canada?

22 It's a long day, sorry. Dominion -- questions,

23 Dominion Diamond?

24   MR. RICHARD BARGERY: Richard Bargery,

25 Dominion Diamond. No questions.

1   THE CHAIRPERSON: Questions, Review

2 Board staff and members -- or counsel?

3   MR. JOHN DONIHEE: It's John Donihee,

4 Board counsel. I -- I have one (1) question, and that

5 is: Does the Navigation Protection Act apply to Lac du

6 Sauvage?

7   MS. ANITA GUDMUNDSON: Thank you for

8 your question. Anita Gudmundson, with Transport

9 Canada.

10   At this time Transport Canada has not

11 been able to make a determination as to whether the

12 Navigation Protection Act applies to Lac du Sauvage and

13 the project. Once we receive the additional

14 information from the Proponent we will be able to make

15 an assessment as to navigability of the -- of Lac du

16 Sauvage. And then we will be able to make a

17 determination if the Act applies.

18   MR. JOHN DONIHEE: John Donihee. Thank

19 you, Madam Chair. That's my only question.

20   THE CHAIRPERSON: Questions, Review

21 Board members?

22

23   (BRIEF PAUSE)

24

25   THE CHAIRPERSON: I'm not sure if Kirby

1 was going to throw the book, or -- or what. Thank you

2 for your presentation. They are happy you're the last

3 one (1).

4

5   (BRIEF PAUSE)

6

7   THE CHAIRPERSON: I don't think -- I

8 don't think I've missed out any presentations, right?

9 Going once, twice, done. I'll just have some closing

10 remarks. We have arrived at the end of the formal

11 hearings for the Jay Project. And before the closing

12 hearings I will clarify the final process and steps for

13 parties and Dominion Diamond.

14   At the caribou hearing, Dominion

15 proposed a workshop to explore compensary (sic)

16 offsetting options that could further reduce potential

17 impacts from the Jay Project to caribou. The timing of

18 this offsetting workshop is early October. The Review

19 Board supports this initiative by Dominion, because it

20 seeks to resolve the outstanding issues.

21   During the next two (2) weeks Dominion

22 Diamond and the parties will submit post-hearing

23 filings that we have discussed and recorded, prior to

24 the closure of the public record. Post-hearing file --

25 filing material includes official hearing transcripts,

1 commitments, undertakings, and final statements from

2 parties and Dominion Diamond.

3   Post-hearing filing dates are as

4 follows: October 9th, undertakings from Dominion;

5 October 23rd, closing argument from parties; October

6 30th, closing argument from Dominion; October 30th,

7 closure of public record. In January 2016, the Review

8 Board submit -- submits reports of environmental

9 assessment to the GNWT Minister of Lands.

10   The Review Board will fully consider the

11 views of all parties and individuals who spoke at the

12 Review Board over the course of these hearings. Your

13 views and opinions will be considered in the Board's

14 deliberations and in its preparation of the report of

15 EA. In addition, the Review Board will consider all

16 material on the public record.

17   The Review Board will complete the

18 report of EA for the Jay Project in January of 2016.

19 The report will then be submitted to the GNWT Minister

20 of Lands for his or her consideration. The Board's

21 recommendation to the GNWT Minister of Lands will be

22 based on the evidence on the public record. This

23 includes written material submitted over the course of

24 this environmental assessment, as well as transcripts

25 from people who spoke during this community and public

1 hearings.

2   I would like to thank the following

3 individuals who helped to make this hearing successful.

4 Our caterers and -- and -- caterers who brought all the

5 beverages and snacks and food for us to keep us going.

6 Our interpreters who already deserted us and are home

7 putting their feet up, PIDO for the sound. We

8 appreciate all the good work that you've done, and

9 making our voices -- make sure that we're -- we have

10 been heard loud and clear.

11   And also to the Board members for your

12 diligence to sit here. And definitely for the staff

13 who have been helping us. To the girls at the front

14 there. Our staff who's been so gracious and bought us

15 cushions. Like we are being spoiled, so we appreciate

16 it.

17   So with that statement right now, I

18 would like to say that the formal hearings for the Jay

19 Project is officially closed. Thank you. Masi.

20

21 --- Upon adjourning at 7:16 p.m.

22

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1   Certified correct,

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5   _____

6   Robert Keeleghan, Mr.

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