



“When You Talk - We Listen!”



MACKENZIE VALLEY REVIEW BOARD

DIABIK DIAMOND MINES INC.

EA1819-01

COMMUNITY AND TECHNICAL HEARING

Mackenzie Valley Review Panel:

|              |                  |
|--------------|------------------|
| Chairperson  | Joanne Deneron   |
| Board Member | David Krutko     |
| Board Member | Kirby Marshall   |
| Board Member | Yvonne Nakimayak |
| Board Member | Bertha Norwegian |
| Board Member | Sunny Munroe     |
| Board Member | Jim Edmonson     |

Yellowknife, NT

September 5th, 2019

|    | APPEARANCES          |                       |
|----|----------------------|-----------------------|
| 1  |                      |                       |
| 2  | Chuck Hubert         | )MVRB Staff           |
| 3  | Mark Cliffe-Phillips | )                     |
| 4  | Catherine Fairbairn  | )                     |
| 5  | Catherine Janz       | )                     |
| 6  | Kate Mansfield       | )                     |
| 7  | Alan Ehrlich         | )                     |
| 8  | Brett Wheler         | )                     |
| 9  | Jeremy Freeman       | )                     |
| 10 | Neil Hutchinson      | )                     |
| 11 | Joe Handley          | )                     |
| 12 | Catherine McManus    | )                     |
| 13 | John Donihee         | )Counsel              |
| 14 | Julia Paille         | )Counsel              |
| 15 |                      |                       |
| 16 | Sean Sinclair        | )Diavik Diamond Mines |
| 17 | Gord Macdonald       | )                     |
| 18 | Kofi Boa-Antwi       | )                     |
| 19 | Dave Patterson       | )                     |
| 20 | Steve Bourn          | )                     |
| 21 | Winter Bailey        | )                     |
| 22 | Myra Berrub          | )                     |
| 23 | Kyle Bennett         | )                     |
| 24 | Mark Nelson          | )                     |
| 25 | Shadi Dayyani        | ) Golder              |

|    |                             |                      |                   |
|----|-----------------------------|----------------------|-------------------|
| 1  |                             | APPEARANCES (Cont'd) |                   |
| 2  | Jerry Vandenberg            | )                    | Golder            |
| 3  | Rainie Sharper              | )                    | Golder            |
| 4  | Erica Bonhomme              | )                    | Stantec           |
| 5  | Colin Buchanan              | )                    | Stantec           |
| 6  |                             |                      |                   |
| 7  | Chief Clifford Daniels (np) | )                    | Tlicho Government |
| 8  | Elder Joseph Judas          | )                    |                   |
| 9  | Elder Louie Zoe             | )                    |                   |
| 10 | Elder Charlie Nitsiza       | )                    |                   |
| 11 | Elder Joe Rabesca           | )                    |                   |
| 12 | Elder Dora Migwi (np)       | )                    |                   |
| 13 | Elder Joseph Moosenose      | )                    |                   |
| 14 | Violet Camsell-Blondin      | )                    |                   |
| 15 | Joline Huskey               | )                    |                   |
| 16 | Ginger Gibson               | )                    |                   |
| 17 |                             |                      |                   |
| 18 | Morgan Moffitt              | )                    | GNWT              |
| 19 | Lorraine Seale              | )                    |                   |
| 20 | Bill Pain                   | )                    |                   |
| 21 | Katie Rozestraten           | )                    |                   |
| 22 | Barry Zajdlik               | )                    |                   |
| 23 |                             |                      |                   |
| 24 | Patrick Simon               | )                    | Deninu K'ue First |
| 25 | Marc d'Entremont            | )                    | Nation            |

1 APPEARANCES (cont'd)

2 Richard Simon )

3

4 Georgina Williston ) ECCC

5 Russell Wykes )

6 Anne Wilson (by phone) )

7

8 Agnes Simonsalvy ) CanNor

9

10 Dinah Elliott ) INAC-AANC

11 Maureen Flagler )

12

13 Daniel Coombs ) DFO-MPO

14 Alexandra Sorckoff )

15

16 Chief Edward Sandgris (np) ) Yellowknives Dene

17 Johanne Black ) First Nation

18 Machel Thomas )

19 Chief Ernest Betsina )

20 Doug Bright (by phone) )

21 Blake Rasmussen )

22 Philip Liske )

23

24 Lauren King ) Lutsel K'e Dene First

25 Doris Enzoe ) Nation

1 APPEARANCES (cont'd)  
2 Robert Paishegwon )  
3 Stephanie Poole )  
4  
5 Charlie Catholique )  
6  
7 Jessica Hurtubise ) North Slave Metis  
8 Andrea Buckman (by phone) ) Alliance  
9 Heather Bears (by phone) )  
10  
11 Shawn McKay ) Fort Resolution Metis  
12 Katy Dimmer ) Council  
13 Arthur Beck )  
14  
15 John McCullum ) EMAB  
16 Janyne Matthiessen )  
17 Friederike Schneider-Vieira )  
18 (by phone)  
19 Bill Slater (by phone) )  
20 Megan Cooley (by phone) )  
21  
22  
23  
24  
25

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| 1  | LIST OF UNDERTAKINGS |  |          |
|----|----------------------|--|----------|
| 2  | NO.                  | DESCRIPTION  | PAGE NO. |
| 3  | 1                    | Follow-up to advantages/<br>disadvantages slide 7 from Dettah<br>hearing. Diavik to provide<br>speaking notes along with slide   | 151      |
| 7  |                      | 7 to the TG.   |          |
| 8  | 2                    | Diavik will respond tomorrow, Sept<br>6 to the following request from<br>FRMC: a) Through an undertaking, Diavik<br>to commit to reviewing a scope of work<br>document produced by FRMC which would<br>provide information on the scope and<br>timing of a Project-specific FRMC<br>Traditional Knowledge and Land Use<br>Occupancy Study. Diavik to provide<br>their response in writing on this<br>document to FRMC prior to the<br>submission of closing arguments. |          |
| 20 |                      | (b) Through an undertaking, Diavik to<br>commit to reviewing a scope of work<br>document produced by FRMC which would<br>provide information on the scope and<br>timing of a Project-specific FRMC<br>Traditional Knowledge Study for  |          |
| 25 |                      |  |          |

1 Caribou.

2

3

LIST OF UNDERTAKINGS (cont'd)

4 NO.

DESCRIPTION

PAGE NO.

5

Diavik to provide their response in writing on this document to FRMC prior to the submission of closing arguments. 254

9 3

In addition to response Undertaking No. 1, at request of Board staff Alan Ehrlich, provide a more expanded and detailed written response on advantages and disadvantages of the no project alternative, and a contract of the pros and cons placing PK in pit vs. PKC.

17 4

Respond to question Board member - David Krutko regarding shortfall in storage capacity in the PKCF in tonnes.

21

22

23

24

25



1

2

3 --- Upon commencing at 9:38 a.m.

4

5 THE CHAIRPERSON: If everyone has  
6 taken their seats, we'd like to begin the day. And we  
7 have some housekeeping items here that a staff member  
8 will just bring to your attention.

9 MS. CATHERINE FAIRBAIRN: Thank you,  
10 Madam -- thank you, Madam Chair. The bathroom --  
11 thank you, Madam Chair. The bathrooms are just out  
12 the hallway. The women's is almost right out those  
13 doors, and then the men's is a little bit further to  
14 the left.

15 There are four (4) fire exits in the  
16 room. You can see the dar -- doors clearly marked,  
17 although I don't recommend trying to make it to this  
18 one, because it's a little bit barricaded. The  
19 fastest way out is through the door that you came in,  
20 go straight outside.

21 Breaks will be called throughout the  
22 day at the Chair's discretion. Snacks and coffee will  
23 be refreshed periodically, and lunch will be provided  
24 from noon to 1:00 p.m. The hearings will end today at  
25 the Chair's discretion, but the goal is to be done at

1 6:00 p.m.

2 If there are media present, please  
3 don't disturb the proceedings, and see the media  
4 release on the website.

5 We do have simultaneous interpretation.  
6 There are different channels for each language.  
7 English is on channel 1.

8 MR. BRETT WHEELER: For now, English is  
9 5. Sorry.

10 MS. CATHERINE FAIRBAIRN: All right,  
11 English is on channel 5. Chipewyan is on channel 2,  
12 Tlicho on channel 3, and Weledeh on channel 4. All  
13 right, that's changed since I wrote things down,  
14 folks. Tlicho is on channel 1. Is -- is Weledeh  
15 still on 4? Nobody knows? Okay. We'll provide an  
16 update there, if -- if needed.

17 So please speak slowly, and always say  
18 your name so that the transcription can keep up with  
19 that and -- and record who's speaking. If you're  
20 presenting, try to also say what slide you're on, so  
21 that anybody on the teleconference can keep up.  
22 Teleconference isn't quite set up yet, but it is  
23 coming, so you're -- anybody who's going to be calling  
24 in will be able to shortly.

25 And just a reminder, the Review Board

1 will be producing an official transcript of the  
2 hearings, and those will be available at the end of  
3 the day or tomorrow morning. The ones from the  
4 community hearings -- the one from Behchoko is already  
5 available, and the one from Dettah should be shortly.

6                   The Review Board staff may be taking  
7 photos throughout the day, so if you have any concerns  
8 and don't want your photo taken, please let one of the  
9 Review Board staff know.

10                   That's it. Thank you.

11                   THE CHAIRPERSON: Okay. Thank you for  
12 those housekeeping items. Good morning, everyone. My  
13 name is Joanne Deneron, and I am Chair of the  
14 Mackenzie Valley Environmental Impact Review Board.

15                   Welcome to the technical hearings for  
16 the environmental assessment of Diavik Diamond Mine's  
17 proposal to put processed kimberlite in the mine pits  
18 and underground.

19                   Before we begin, I would like to  
20 acknowledge that we are holding this hearing in  
21 Yellowknife and Chief Drygeese territory. I would  
22 like to invite our drummers to start, and then the  
23 Elder Philip Liske to give an opening prayer, and  
24 after that, we'll ask Chief Betsina to make some  
25 opening remarks.

1 The drummers?

2

3 (YELLOWKNIVES DENE DRUMMERS)

4

5 THE CHAIRPERSON: Please remain  
6 standing. I would like to ask Elder Philip Liske to  
7 lead us in a word of prayer.

8

9 (OPENING PRAYER)

10

11 THE CHAIRPERSON: Masi. I would now  
12 like to ask Chief Betsina for some opening remarks.

13

14 OPENING COMMENTS BY CHIEF ERNEST BETSINA:

15 CHIEF ERNEST BETSINA: Thank you,  
16 Madam Chair. I want to thank the Yellowknives Dene  
17 Drummers for the opening -- the opening drums prayer.  
18 Masi cho. I want to thank Philip Liske for doing the  
19 opening prayer, and I want to acknowledge all the  
20 Aboriginals -- groups in this room. Welcome to Chief  
21 Drygeese Territory.

22 Good morning, everybody. My name is  
23 Ernest Betsina. I am Chief of N'dilo. A warm welcome  
24 to Chief Drygeese Territory, the home of my people of  
25 the Yellowknives Dene First Nation. We are the

1 original guardians of this land.

2 We thank the Creator for this day and  
3 wish the outcomes for this hearing will result in the  
4 true healing of the land once Diavik ceases operation  
5 of this -- on our land.

6 All voices must be heard and all  
7 precautions must be taken to protect the land, the  
8 wildlife, the fish, and the water, during, at the end  
9 of this mine remediation.

10 We thank the Mackenzie Valley Review  
11 Board and Diavik for this hearing, and we pray that  
12 they listen to the concerns and recommendations from  
13 the public and work together with all peoples of the  
14 YKDFN to successfully mitigate and eliminate all  
15 potential risk on the land and the animals.

16 I understand that the Board was in  
17 Behchoko and in Dettah to hear from the people. I  
18 hope that the Board will keep an open mind and listen  
19 to all recommendations. May the Creator bless you and  
20 bless this process. Masi cho, everybody, and let us  
21 have a good hearing.

22

23 OPENING COMMENTS BY THE CHAIRPERSON:

24 THE CHAIRPERSON: Masi, and thank you  
25 for your opening remarks, Chief.

1                   We are here as a board today to listen  
2 carefully to your views about the potential impacts of  
3 Diavik's proposal to put processed kimberlite into the  
4 mine pits and underground. The Review Board gets its  
5 authority to conduct environmental assessments in the  
6 Mackenzie Valley from the Mackenzie Valley Resource  
7 Management Act.

8                   Board members here are nominated by the  
9 Tlicho, Territorial, Federal Government, and by First  
10 Nations organizations. Our goal here is to make  
11 decisions that will protect the environment and the  
12 social, economic, and cultural well-being of all  
13 residents of the Mackenzie Valley now and for the  
14 future generations to come.

15                   We try to make our decisions by  
16 consensus. We have special regard for the  
17 conservation of the way of life and well-being of  
18 Indigenous peoples.

19                   At this time I would like to introduce  
20 our Board members, as well as our Board staff and  
21 counsel. Board members Bertha Norwegian, David  
22 Krutko, Sunny Munroe, Jim Edmonson, Yvonne Nakimayak,  
23 Kirby Marshall, and myself as Chairperson, Joanne  
24 Deneron.

25                   Joe Handley, whose term as a Board

1 member recently ended, will be acting as a special  
2 advisor to the Board. Mr. Handley Lee has been an  
3 important part of this Environmental Assessment and  
4 the Board would benefit from his presence for the  
5 remainder of the Environmental Assessment.

6                   Mr. Handley will provide advice to the  
7 Board but will not participate in any Board decisions.  
8 During the hearings, he will participate like other  
9 advisors or Board staff by observing and asking  
10 questions of the developer or Interveners.

11                   I would now like to introduce the  
12 Review Board staff: Mark Cliff-Phillips, our  
13 Executive Director; John Donihee, our Legal Counsel;  
14 Julia Paille, Legal Counsel; Kate Mansfield, our  
15 Senior Environmental Assessment Officer and Co-Lead  
16 for this Environmental Assessment; Catherine  
17 Fairbairn, Environmental Assessment Officer and the  
18 other Co-Lead in this Environmental Assessment; Alan  
19 Ehrlich, Manager of Environmental Impact Assessment;  
20 Chuck Hubert, our Senior Environmental Assessment  
21 Officer; Jeremy Freeman, our Environmental Assessment  
22 Officer; Brett Wheler, our Senior Policy Advisor,  
23 who's way at the back; Catherine Janz, our  
24 Administrative Assistant. You have to watch for these  
25 hands. I don't know where they all are, but we do

1 have staff here. And Neil Hutchinson is the principal  
2 scientist with Hutchinson Environmental Science  
3 Limited and Technical Advisor to the Review Board.

4 At this time I would also like to  
5 recognize our interpreters for today's hearing. Our  
6 Weledeh interpreters are Mary Rose Sundberg and Berna  
7 -- Berna Martin. Our Chipewyan interpreters are  
8 Bertha Catholique and Tom Unka. Our Tlicho  
9 interpreters are James Rabesca and Violet Mackenzie.

10 The scope of development for the Review  
11 Board determines that the scope of development for  
12 this Environmental Assessment includes transporting,  
13 depositing, and storing processed kimberlite into pits  
14 and underground mine workings, and closing reclaiming  
15 any mine infrastructure related to the transport,  
16 deposition, and storage of processed kimberlite in  
17 pits and underground mine workings.

18 The scope of development also includes  
19 three (3) pits at the mine and associated underground  
20 mine workings. Removing processed kimberlite from the  
21 existing containment facility is not part of this  
22 assessment, however, the Board is considering the  
23 impacts of adding processed kimberlite from the  
24 containment facility to the pits as part of the  
25 cumulative effects assessment.



1                   The Board decided that the scope of  
2 assessment for the environmental assessment includes  
3 water quality and quantity, cultural use of the area,  
4 fish and fish habitat, and other wildlife,  
5 specifically caribou, birds, and species at risk.

6                   The Review Board is holding this  
7 hearing to hear directly from interveners, the public,  
8 and Diavik about the potential impacts of Diavik's  
9 proposal to put processed kimberlite into the pits and  
10 underground.

11                   We held community hearings in Behchoko  
12 on Tuesday and Dettah yesterday.

13                   Today, Diavik will describe its project  
14 and how it plans to manage the project, including how  
15 it plans to manage any adverse impacts.

16                   All Intervenors will have the  
17 opportunity to ask questions after Diavik's  
18 presentation.

19                   All questions and answers are permitted  
20 at my discretion, and once a line of questioning has  
21 begun, I will allow interveners and Diavik to question  
22 one another directly rather than approving each  
23 question.

24                   Be advised, however, that I will  
25 intervene if it is not clear to me that the question

1 is relevant or appropriate.

2                   For each question period, Interveners  
3 will ask their questions in the same order that they  
4 will be presenting, starting each time with the next  
5 presenter. I will ensure that each group is given  
6 their opportunity to ask questions if they wish.

7                   Once Intervener questions are done,  
8 there may be questions from the Review Board staff,  
9 council, and advisors. And finally, the Review Board  
10 members may ask questions.

11                   After questioning of Diavik is  
12 complete, interveners will present -- will present  
13 their interventions.

14                   Review Board members are already  
15 familiar with these reports, so the presentations  
16 should focus on key points and priorities.

17                   During questioning, Diavik will  
18 question after interveners and before Review Board  
19 staff and council.

20                   I have some comments about today's  
21 hearings that I hope will help everything to go  
22 smooth. We have limited time and the Review Board is  
23 committed to hearing that everyone has an opportunity  
24 to speak and to say what they have on their mind.

25                   Please respect the time requirements of

1 other interveners during presentations and  
2 questioning. Keeping your allotted time is important  
3 to make sure that everyone has a fair chance to be  
4 heard.

5                   Use your time productively.  
6 Presentations will be timed and you will be given a  
7 five-minute warning to keep you on track. When your  
8 time is up, you may be interrupted.

9                   People responding to questions should  
10 be direct and helpful in their answers. If any group  
11 needs more than a few moments to caucus before  
12 responding to a question, I may ask for it to be  
13 answered later in the hearing or in a written form of  
14 undertaking.

15                   Please use the microphone for all  
16 questions and responses so that everyone, including  
17 Sean, our transcriber at the back, can hear you  
18 clearly.

19                   Again, please remember to say your name  
20 before you speak. And I would also ask you to speak  
21 slowly and clearly for our interpreters.

22                   Members of the public are also welcome  
23 to present their views directly to the Review Board.  
24 You are invited to speak at the Review Board from 5 PM  
25 to 6 PM as to the agenda during the public comment

1 period.

2                   If you want to speak, please see the  
3 Board staff at the back table or at the front when you  
4 came in, and you can sign your name to the speakers  
5 list. I will then call the names of the people from  
6 the list during the public comment period.

7                   Members of the public may also submit  
8 comments in writing to the Review Board. The Board  
9 will announce the deadline for written public comments  
10 at a later time.

11                   And agenda for these technical hearings  
12 has been posted to the public registry and there are  
13 hard copies available at the table when you came in  
14 through the front doors.

15                   Please remember that the schedule is  
16 set at my discretion and times may be changed, if  
17 necessary.

18                   In conclusion, we need to hear and  
19 clearly we need to have you share your views on the  
20 potential impacts from the project on the environment,  
21 on your community, and on your ability to practice  
22 your culture.

23                   The Review Board asks that you present  
24 your views an opinions on how important these  
25 potential impacts are to you and what can be done to

1 help minimize these impacts.

2                   After the hearings, the Review Board  
3 will fully consider these views while making decisions  
4 in this environmental assessment.

5                   Once that decision is made, the Review  
6 Board will prepare a report of environmental  
7 assessment. This report will describe the Board's  
8 decisions and the reasons for it.

9                   The Review Board will submit it to the  
10 GNWT Minister of Lands, who is the final decision  
11 maker, along with the other responsible ministers.

12                   To make a good decision, we need to  
13 understand what interveners think. We will listen  
14 carefully to you and we hope to get the right  
15 information that we need to make the best decisions  
16 possible in this environmental assessment.

17                   I will now ask all interveners to  
18 please introduce themselves, and starting with EMAB at  
19 the table here and we'll go around. Thank you. EMAB?

20                   MR. JOHN MCCULLUM: s Thank you, Madam  
21 Chair. I'm John McCullum, I'm the executive director  
22 with EMAB.

23                   MR. CHARLIE CATHOLIQUE: Good morning.  
24 My name is Charlie Catholique, from Lutsel K'e. I'm  
25 on the EMAB. Thank you.

1 MS. JANYNE MATTHIESSEN: Good morning,  
2 my name is Janyne Matthiessen, environmental  
3 specialist with EMAB.

4 MS. LAUREN KING: My name is Lauren  
5 King, for the Lutsel K'e Dene First Nation.

6 MS. DORIS ENZOE: My name is Doris  
7 Enzoe, I'm from Lutsel K'e Dene First Nation, sitting  
8 on the Wildlife Board.

9 MR. MACHEL THOMAS: Machel Thomas,  
10 YKDFN.

11 MR. JASON SNAGGS: Jason Snaggs, CEO,  
12 Yellowknife Dene First Nation.

13 MS. JESSICA HURTUBISE: Jessica  
14 Hurtubise, regulatory analyst with North Slave Metis  
15 Alliance.

16 DR. GINGER GIBSON: Good morning. Dr.  
17 Ginger Gibson, technical advisor to the Tlicho  
18 Government.

19 ELDER JOSEPH JUDAS: My name is Joseph  
20 Judas, I'm working with the Tlicho Government.

21 MS. VIOLET CAMSELL-BLONDIN: Violet  
22 Camsell-Blondin, manager regulatory department, Tlicho  
23 Government.

24 MR. DANIEL COOMBS: Dan Coombs, senior  
25 fisheries biologist with fish and fish habitat

1 protection program with Fisheries and Oceans Canada.

2 MS. ALEXANDRA SORCKOFF: Alexandra  
3 Sorckoff, Fisheries and Oceans Canada.

4 MS. TATIANA LECLERC: Tatiana Leclerc,  
5 Fisheries and Oceans Canada.

6 MS. GEORGINA WILLISTON: Georgina  
7 Williston, head of Environmental Assessment North with  
8 Environment and Climate Change Canada.

9 MR. RUSSELL WYKES: Russell Wykes,  
10 senior environmental assessment coordinator with  
11 Environment and Climate Change Canada.

12 MS. LORRAINE SEALE: Lorraine Seale  
13 with GNWT Department of Lands, and we do have a number  
14 of people here that -- who I will introduce when we do  
15 our intervention this afternoon.

16 DR. BARRY ZAJDLIK: Dr. Barry Zajdlik,  
17 consultant to GNWT.

18 MR. BILL PAIN: Bill Pain, Government  
19 Northwest Territories ENR.

20 MR. ARTHUR BECK: Arthur Beck, Fort  
21 Resolution Metis Council.

22 MR. SHAWN MCKAY: Shawn McKay, Fort  
23 Resolution Metis Council.

24 MS. KATY DEMER: Katy Demer, technical  
25 advisor, Fort Resolution Metis Council.

1 MR. PATRICK SIMON: Good morning.

2 Patrick Simon, Deninu K'ue First Nation.

3 MR. RICHARD SIMON: Good morning.

4 Richard Simon, Deninu K'ue First Nation interim  
5 measures agreement coordinator.

6 DR. MARC d'ENTREMONT: Good morning,  
7 my name is Dr. Marc d'Entremont, technical advisor to  
8 the Deninu K'ue First Nation

9 THE CHAIRPERSON: Okay, thank you very  
10 much for your introductions.

11 I would now like to ask Diavik if they  
12 could start their presentation. Diavik...?

13

14 PRESENTATION BY DIAVIK DIAMOND MINES:

15 MR. GORD MACDONALD: Thank you, Madam  
16 Chair.

17 Madam Chair, Board, Board staff,  
18 interveners, members of the public, thank you for the  
19 opportunity to present a summary of Diavik's proposed  
20 processed kimberlite to mine workings project.

21 My name is Gord MacDonald, and I'm the  
22 closure manager for Diavik.

23 I've been with Diavik for over 20 years  
24 now, starting with the original baseline studies  
25 during advanced exploration and represented Diavik



1 through the original environmental assessment and I  
2 hope to be allowed to continue the closure.

3 I'd like to note that I'm not the only  
4 one here today that has been involved in -- since the  
5 original environmental assessment. It's very  
6 rewarding to see this continued involvement in the  
7 environmental stewardship of Diavik. So thank you to  
8 all.

9 I'd like to introduce the Diavik team  
10 and our expert consultants. On my left is Sean  
11 Sinclair, the environment superintendent. Kofi Boa-  
12 Antwi, regulatory specialist, Louis Beland, legal  
13 counsel. In the back, Mark Nelson, the Diavik  
14 environment advisor.

15 Behind me are some of the key experts  
16 that are advising Diavik on this project. Rainie  
17 Sharpe, from Golder Associates, the fisheries expert.  
18 Shadi Dayyani and Jerry Vandenberg, our water quality  
19 monitoring experts from Golder who conducted the water  
20 quality modelling work for this project. And Erica  
21 Bonhomme and Colin Buchanan are experts in  
22 environmental assessment from Stantecs.

23 Rio Tinto is a multi-national  
24 diversified mining company in Canada. We have a team  
25 of fifteen thousand (15,000) people at thirty-five

1 (35) different sites.

2 Montreal is one (1) of Rio Tinto's  
3 three (3) global hubs. Diavik's Yellowknife office is  
4 shown as number 1 on the map, and the Diavik mine site  
5 is shown as number 2.

6 Rio Tinto is the manager of the Diavik  
7 mine and a 60 percent owner. Dominion Diamond Mines  
8 owns the remaining 40 percent.

9 We have produced over 117,000,000  
10 carats since 2003, but unfortunately we'll be running  
11 out of mine-able ore in 2025, when we'll shift our  
12 efforts to completing the remaining mine reclamation  
13 closure.

14 Our presentation today will have four  
15 parts. The first will be a summary of the purpose of  
16 the project. And then Sean Sinclair will provide an  
17 overview of the project description and a summary of  
18 the results from the environmental assessment.

19 And finally, I'll provide a summary of  
20 commitments made by Diavik in response to intervener  
21 recommendations.

22 We are continuing to refine our plans  
23 for closing Diavik, which is a normal practice for any  
24 large project. We believe storing processed  
25 kimberlite in underground workings is a better option

1 for operations and closure rather than continuing to  
2 increase above-ground storage.

3 Diavik has requested amendment to our  
4 water license to allow processed kimberlite to be  
5 deposited in mine workings.

6 Recent updates to the mine plan for  
7 Diavik mean there are now completed mine workings that  
8 can be used for storing processed kimberlite. This  
9 wasn't an option under the plan that was considered  
10 during the original 1999 environmental assessment.

11 For this reason, the MacKenzie Valley  
12 Environmental Impact Review Board has required an  
13 environmental assessment of this project.

14 Diavik has published a summary impact  
15 statement that contains the findings of our  
16 environmental assessment. The findings, which we'll  
17 cover in more detail during this presentation,  
18 highlight that this project can be done in a safe and  
19 environmentally responsible way.

20 The proposal will reduce the amount of  
21 above -- above-ground storage and meet regulatory  
22 conditions. It will deliver the better environmental  
23 outcome with the lowest impact on Lac de Gras water  
24 quality.

25 Ensuring water quality meets approved

1 environmental standards is a key aspect of our  
2 proposal, and this has been validated by third party  
3 environmental experts, assessing the impacts on Lac de  
4 Gras, the Coppermine River, the Narrows, and  
5 traditional land users, and wildlife in the area.

6                   If the MacKenzie Valley Review Board  
7 were to approve the project, the Wek'eezhii Land and  
8 Water Board would proceed with process -- with the  
9 process to amend Diavik's water license.

10                   Diavik began engagement with  
11 communities and regulators on this project more than a  
12 year and a half ago. We were very interested to hear  
13 if there was any fundamental opposition to the idea of  
14 depositing processed kimberlite in completed mine  
15 workings.

16                   We did not hear any fundamental  
17 opposition. What we heard was general support to put  
18 it back where it came from. However, in all cases,  
19 support was conditional on it being able to  
20 demonstrate that it can be done in an environmentally  
21 safe manner, particularly with regard to Lac de Gras  
22 water quality.

23                   Deposition of processed kimberlite in  
24 mine workings is not a new idea. In fact, Diavik is  
25 the only operating diamond mine in the Northwest

1 Territories that does not have approval to deposit  
2 processed kimberlite in mine workings.

3                   The Ekati Diamond Mine has approval to  
4 deposit processed kimberlite in Beartooth Mine and the  
5 Panda Koala Mines, cover them with fresh water and  
6 connect the pit lakes to the local watersheds.

7                   The Gahcue Kue Mine has approval to  
8 deposit processed kimberlite in the Hearne Pit, cover  
9 that with freshwater and reconnect that pit lake with  
10 Kennedy Lake.

11                   This is the first time Diavik has asked  
12 for approval because this is the first time that the  
13 Diavik mine plan has provided a completed mine  
14 workings, the 8418, that could be used to store  
15 processed kimberlite.

16

17   (BRIEF PAUSE)

18

19                   MR. GORD MACDONALD: I'd now like to  
20 ask Sean Sinclair to provide an overview of the  
21 project -- of the project description and the results  
22 from the summary impact statement.

23

24   (BRIEF PAUSE)

25

1 MR. SEAN SINCLAIR: Thank you. Sean  
2 Sinclair, Diavik. Diavik Diamond Mine is a compact  
3 mine site located on the east island of Lac de Gras.  
4 Lac de Gras is roughly 60 kilometres long with an  
5 average depth of 12 metres and some areas as deep as  
6 40 metres.

7 Lac de Gras is the headwaters of the  
8 Coppermine River system. And water flows in from Lac  
9 du Sauvage to the east, flowing past Diavik and into  
10 the Coppermine River to the west travelling hundreds  
11 of kilometres to the Arctic Ocean at Kugluktuk.

12 At Diavik, we mine four (4) kimberlite  
13 ore bodies, all of which are located under what was  
14 originally a lake. To access the ore, dikes were  
15 constructed out into the lake. And then water was  
16 pumped out to allow open pit and undergri --  
17 underground mining access.

18 Overall, about 1 percent of Lac de Gras  
19 was diked off and drained to access these ore bodies.  
20 Other main facilities at Diavik include the processed  
21 kimberlite containment area, which is where all  
22 processed kimberlite has been stored to date, the  
23 north country rock pile which stores all of the  
24 country from the original A154 and A418 open pits, the  
25 south country rock pile which stores all the rock from

1 the A21 pit from the south, and the north inlet, which  
2 is part of our water management and treatment system.

3 The focus of our discussions today will  
4 primarily revolve around the A418 mine working.

5 Pictured here, you can clearly see the open pit --  
6 the open pits which are benched conical holes mined  
7 using open pit methods.

8 Below these open pits we continued  
9 mining underground. The colourful lines are tunnels  
10 we created in the ground to access the underground  
11 ore.

12 The end result is a large open hole  
13 shaped something like an ice cream cone with an open  
14 bowl on the top half, and then narrow and near  
15 vertical walls in the bottom half.

16 So, today we're going to talk a lot  
17 about processed kimberlite. Kimberlite is an igneous  
18 rock that, in our case, contains diamonds. We remove  
19 kimberlite from the ground. And then we mechanically  
20 separate the diamonds by crushing and washing the  
21 rocks using various screens, shaking tables,  
22 floatation circuits and x-rays.

23 The leftover material, once the  
24 diamonds are removed, is called processed kimberlite,  
25 and we have two (2) main types. The first is called

1 coarse processed kimberlite. It's a granular sand-  
2 like material that's quite dry and can be moved in  
3 trucks.

4                   And the second, which we're going to be  
5 talking most -- mostly about, is fine processed  
6 kimberlite. And this is transported as a slurry mixed  
7 with water. So, that's what I've got in this jar  
8 here.

9                   Over the course of our presentation and  
10 throughout the day I encourage you to keep an eye on  
11 this jar and watch as the kimberlite settle. You'll  
12 notice it will settle into a sediment with water on  
13 top.

14                   In general, there are two (2) main  
15 options for processed kimberlite storage for the  
16 remaining mine life at Diavik. The first pictured on  
17 the left is an -- is an additional upward processed  
18 kimberlite containment facility dam expansion, the  
19 second being permanent disposal in the mine or  
20 effectively putting it back where it came from.

21                   The containment area on the left has  
22 been constructed over the last seventeen (17) years by  
23 completing six (6) dam raises. We are currently  
24 working on the seventh raise this summer.

25                   As you can see, the containment



1 facility is located immediately adjacent to Lac de  
2 Gras on the east and west, so expansions are limited  
3 to going higher rather than wider.

4 To fit the processed kimberlite that we  
5 would produce for the -- from '22 to '25, 2022 to  
6 2025, it would require an additional 4-metre raise  
7 around the full 6-kilometre dam facility.

8 While an additional dam raise has  
9 already been designed and permitted, we are  
10 challenging the status quo and following through with  
11 the recommendations from responsible authorities  
12 during the initial EA in the late '90s to continue in  
13 the pursuit of management options which present a  
14 lower risk and a more permanent disposal solution.

15 So, the PK to mine workings project is  
16 a proposal to deposit PK in the mine or refill the  
17 mine with the material that we removed. Our primary  
18 focus for the project is the A418 mine pictured here,  
19 and that is because it is currently scheduled to be  
20 complete in late 2021.

21 Diavik will continue to mine kimberlite  
22 until 2025, so this location would provide up to four  
23 (4) years of storage. We do still believe it is  
24 important to consider other options, such as the A154  
25 mine, to provide maximum flexibility and avoid

1 additional permitting processes down the road should  
2 the mine plan change again.

3                   So, in the middle of the screen is the  
4 A418 mine showing the predicted surface of processed  
5 kimberlite after four (4) years of deposition. The  
6 Robertson Head Frame, once the tallest structure in  
7 the NWT at 76 metres high, is pictured on the left for  
8 scale.

9                   You could stack eight (8) Robertson  
10 Head Frames on top of each other in the A418 mine,  
11 which will be 630 metres deep when it's complete.

12                   We also predict that the processed  
13 kimberlite surface will be over 150 metres below the  
14 ground surface. As you may recall, the average depth  
15 of Lac de Gras is only 12 metres.

16                   So, essentially, Lac de Gras is as deep  
17 as the orange section of the Robertson Head Frame or  
18 just a tiny sliver of the total mine depth.

19

20   (BRIEF PAUSE)

21

22                   MR. SEAN SINCLAIR: You may recall me  
23 saying that the pits at Diavik were once part of the  
24 lake before we created the dikes and pumped them out.  
25 The currently approved closure plan for Diavik is to

1 refill the mines with water from the lake until it is  
2 equal with Lac de Gras, as depicted on the right.

3                   After the mine is full of water, we  
4 will monitor the water quality in the pit lakes. Once  
5 we've confirmed water quality is acceptable, we will  
6 dig out breaches or gaps in the dikes to allow water  
7 and fish to pass back and forth between the pit lake  
8 and Lac de Gras.

9                   This is the closure plan for Diavik  
10 with or without the deposition of PK in the mine  
11 working. The main reason we plan to reconnect the  
12 pits to -- to the lake is to restore the 1 percent  
13 loss of fish habitat in Lac de Gras. This is required  
14 by current Fisheries authorization.

15                   Overall, this project will not change  
16 the final closure landscape of the pits because the  
17 processed kimberlite will be greater than a hundred  
18 metres below the surface of the water.

19                   The idea for this project was jump  
20 started by the traditional knowledge panel about five  
21 (5) years ago. Elders were up at Diavik considering  
22 closure options for the current containment facility  
23 and the idea for more permanent disposal of extra fine  
24 processed kimberlite in the mine was identified.

25                   When updates to the (AUDIO CUTS OUT)

1 2017 identified the opportunity to use the A418 mine  
2 for this purpose, Diavik decided to host a traditional  
3 knowledge panel with this -- with a focus on this  
4 topic.

5                   What we heard from the panel was  
6 support to put it back where it came from as long as  
7 it could be done in an environmentally safe way. The  
8 TK panel had requested toxicological studies on the  
9 kimberlite, and they were satisfied by the results.

10                   TK holders told us that they know that  
11 fish generally go where there's food and oxygen, so  
12 they were unlikely to go to the deep depth where the  
13 PK would be in the mine.

14                   The TK panel requested to monitor how  
15 water behaves when placed on PK. They had also  
16 requested to see PK in water in the mine as soon as it  
17 was safe to do so, so they could get a good visual of  
18 the material and monitor it at regular intervals  
19 afterward.

20                   The panel concluded that, as long as  
21 there was no contamination or suspension issues, they  
22 generally supported us in continuing to research this  
23 topic.

24                   It's important to note that part of the  
25 rationale for the TK panel guidance on this is that

1 they want the disturbance footprint for Diavik to be  
2 as small as possible. And this project would result  
3 in a smaller on-land containment facility.

4 This project will also open up the  
5 opportunity to investigate the removal of extra fine  
6 processed kimberlite from the containment facility and  
7 place it in the mine, allowing for a more stable  
8 closure surface in the containment facility.

9 The Diavik team is completing ongoing  
10 studies to address design questions about the physical  
11 characteristics of suspension, settling, and  
12 consolidation of processed kimberlite in water.

13 Pictured here are the results of a  
14 twenty-four (24) hour and two (2) month settling test  
15 of processed kimberlite. The column on the left is  
16 essentially the same fine processed kimberlite that we  
17 are proposing to put back in the mine. This is also  
18 the same material sitting in the jar in front of me.

19 When this material leaves the plant  
20 it's transported as a slurry in a pipeline. As you  
21 can see, within twenty-four (24) hours, it has almost  
22 entirely settled out into sediments with clear water  
23 above.

24 The column on the right is extra fine  
25 processed kimberlite. This material takes longer to

1 settle and consolidate. Within twenty-four (24)  
2 hours, there's only a small amount of settling;  
3 however, as you can see, after two (2) months, the  
4 extra fine kimberlite has consolidated significantly  
5 and forms a distinct layer between the sediment and  
6 the clear water above.

7           To give you a better idea of how fast  
8 processed kimberlite settles, here is an actual video  
9 of fine processed kimberli -- kimberlite settling over  
10 exactly twenty-four (24) hours. Do you know where the  
11 computer is?

12           This video is sped up to about one (1)  
13 hour per second. This is the same material that we're  
14 proposing to put back in the mine, and we expect the  
15 rate of settling and consolidation to be very similar  
16 when placed in the mine.

17           As you can see, most of the fine  
18 processed kimberlite settles out of the water com --  
19 column almost immediately. After this, the processed  
20 kimberlite will continue to consolidate over time.

21           One (1) of the most important  
22 components of this project assessment and an area  
23 where we spent a lot of our time was water quality  
24 modelling.

25           Water quality modelling was completed

1 for all three (3) mine workings. We modelled the  
2 various realistic and unrealistic worst-case  
3 scenarios.

4                   These scenarios included the addition  
5 of 5 million cubic metres of fine processed kimberlite  
6 to each mine, the option to add an additional 5  
7 million cubic metres of extra fine processed  
8 kimberlite to each mine.

9                   We even looked at extreme worst cases  
10 where we had more than 20 million cubic metres of  
11 processed kimberlite in the mines. And we also  
12 completed various sensitivity analysis to increase our  
13 confidence in the model assumptions and results.

14                   So, what you can see here are actual  
15 model results for total dissolved solids in the A418  
16 mine over a one hundred (100) year period post-  
17 closure.

18                   Below this page is the consolidated PK  
19 surface that would have filled the mine. Above the  
20 PK, processed kimberlite, sediment surface, higher  
21 concentration and denser pore water squeezes up out of  
22 the processed kimberlite and rests on the bottom of  
23 the pit lake. And that's that thin brown layer you  
24 can see at the bottom.

25                   This higher total dissolved solid water

1 is stable and remains isolated in the bottom of the  
2 pit due to a natural process called meromixis. Based  
3 on the traditional knowledge and scientific evidence  
4 we have collected, we believe most fish will live and  
5 eat in the top 40 metres of the water column, which is  
6 shown there.

7                   Remember that Lac de Gras is, on  
8 average, only 12 metres deep or the thickness of the  
9 orange tip of the headframe. So, this pit lake and  
10 the high total dissolved solid water will be much,  
11 much deeper than any other part of Lac de Gras.

12                   Our target to protect the environment  
13 is for the top 40 metres of the water column to be  
14 below what we call the Aquatic Effects Monitoring  
15 Program benchmarks. These benchmarks describe water  
16 that is safe for aquatic life, wildlife, and people.

17                   All the dark blue areas contain very  
18 clean water and above -- and everything above 40  
19 metres remains below those safe benchmarks.

20                   Shown here are some sample modelling  
21 results for a few important water quality parameters  
22 that we monitor at Diavik. The second column displays  
23 the AEMP benchmark values. Any concentration below  
24 these numbers is considered safe for aquatic life,  
25 wildlife, and people.



1                   The model results are shown in the next  
2 three (3) columns, and they are the maximum  
3 concentration that we found in the top 40 metres of  
4 the water column over a one hundred (100) year  
5 modelling period into the future.

6                   As you can see, the predicted  
7 concentrations are much, much lower than those  
8 benchmark values. In general, the concentrations are  
9 at least ten (10) times lower than the benchmark,  
10 meaning that we're expecting clean and safe water in  
11 the top 40 metres of the water column under all the  
12 scenarios presented.

13                   So looking a little bit at the  
14 assessment of effects to valued components, our  
15 assessment determined that water quality is the  
16 fundamental effects pathway to the other valued  
17 components of fish, wildlife, and cultural use.

18                   Modeling results, both from realistic  
19 and extreme worst-case scenarios, demonstrated that  
20 water quality in the top 40 metres of the pit lakes  
21 and Lac de Gras would remain below AEMP benchmarks.

22                   This means that water quality results  
23 are predicted to be safe for fish and animals, such as  
24 caribou, to drink and will not threaten individual  
25 animals or result in any population level effects in

1 the regional area.

2                   Based on these model results and with  
3 the proposed mitigation measures presented in our  
4 summary impact statement including additional  
5 commitments in response to interventions and  
6 information requests, we have a high degree of  
7 confidence that the project will not result in a  
8 significant adverse effect to any of the valued  
9 components.

10                   Overall, I would like to emphasize that  
11 based on the evidence on the record, our confidence in  
12 these assessment predictions is high. Looking at  
13 water quality, this assessment has demonstrated that  
14 water quality in the top 40 metres of the pit lakes  
15 will remain below those benchmarks.

16                   Even in the unlikely worst-case  
17 scenario where water quality does not match modeling  
18 predictions, we have committed to only breaching the  
19 dykes to reconnect with Lac de Gras once monitoring  
20 results confirm acceptable water quality.

21                   With implementation of the proposed  
22 mitigation measures, the magnitude of adverse impacts  
23 to water quality are predicted to be negligible.

24                   Regarding water quantity, it is very  
25 important to acknowledge that the current closure plan

1 for Diavik already includes flooding of pit lakes with  
2 Lac de Gras before reconnection. By partially filling  
3 the mine with processed kimberlite, less water will be  
4 used from Lac de Gras to refill the mine. Therefore,  
5 this project will decrease any effect on water  
6 quantity in Lac de Gras at closure.

7           To reduce the potential for cumulative  
8 effects, withdrawal rates for the project that are  
9 protective of the aquatic environment and consider  
10 other operations within the Lac de Gras watershed will  
11 be established in discussion with regulators as a part  
12 of ongoing closure planning.

13           Regarding fish and fish habitat, water  
14 quality once again is the fundamental effects pathway  
15 to fish and fish habitat. As you know, modeling of  
16 the various scenarios has predicted that water quality  
17 in the pit lake will be acceptable for fish.

18           The mitigation measure for this  
19 scenario where a pit lake is not acceptable as fish  
20 habitat at closure is additional offsetting elsewhere  
21 in Lac de Gras or the larger region with the approval  
22 of Fisheries and Oceans Canada. This work would be  
23 informed by consultation with potentially impacted  
24 Indigenous groups and communities.

25           Overall, with the implementation of the

1 proposed mitigation measures, the magnitude of adverse  
2 impacts to fish and fish habitat are predicted to be  
3 negligible to low.

4 Water quality in the pits in Lac de  
5 Gras is also the primary effects pathway to wildlife.  
6 The water quality results are predicted to be safe for  
7 wildlife to drink and will not threaten individual  
8 animals, such as caribou including the population  
9 level effects.

10 It is also important to acknowledge  
11 that the project will not result in any additional  
12 loss of wildlife habitat because the project occurs  
13 entirely within the existing mine footprint and, in  
14 fact, will result in a smaller on-land processed  
15 kimberlite containment facility.

16 Overall, with the implementation of  
17 proposed mitigation measures, the magnitude of adverse  
18 impacts to wildlife and wildlife habitat, including  
19 barren-ground caribou, is negligible.

20 Finally looking at cultural use,  
21 negative project impacts to water quality, water  
22 quantity, fish and fish habitat, wildlife and wildlife  
23 habitat are the primary pathways that may impact  
24 cultural use of the area.

25 Based on the assessment completed and

1 the proposed mitigation measures that ensure  
2 negligible impact to all the other valued components,  
3 the magnitude of adverse impacts to cultural use are  
4 predicted to be negligible and reversible.

5           In addition, we have committed to  
6 ongoing engagement with potentially impact Indigenous  
7 groups to inform the project design in the  
8 construction, operation, closure, and post-closure  
9 phases of the project.

10           Two (2) accidents and malfunctions were  
11 assessed -- or the two (2) accidents and malfunctions  
12 that were assessed were a pit wall failure resulting  
13 in mixing of the pit lake and an uncontrolled release  
14 of processed kimberlite from a pipeline.

15           Regarding a pit wall failure, the  
16 addition of processed kimberlite material into the  
17 mine voids and the addition of water above that will  
18 actually improve pit wall stability in the mine  
19 working. The potential for a pit wall collapse with  
20 enough energy to de-stratify the pit lake is predicted  
21 to be rare post-closure.

22           Regarding a pipeline failure, DDMI also  
23 has a robust integrity management program in place on  
24 site that supports the safe operation of many  
25 pipelines, including regular pipeline maintenance and

1 monitoring, inspections, pipeline integrity  
2 management, emergency response planning, and  
3 operational training for employees.

4           On top of that, pipelines are generally  
5 located behind berms within our water management  
6 system to contain any liquids from entering Lac de  
7 Gras. With all this in place, the likelihood of a pit  
8 wall -- or a pipeline failure adversely impacting the  
9 environment is very low.

10           That concludes my summary of the  
11 project effects assessment on valued components.

12           MR. GORD MACDONALD: Finally, I'd like  
13 to -- the last section of our presentation is to  
14 summarize Diavik's commitments in response to the  
15 hundred and sixteen recommendations from eleven (11)  
16 Interveners that we responded to in writing.

17           Diavik also met one on one with  
18 five (5) of the Interveners to discuss and attempt to  
19 address recommendations. The following provide what  
20 we are considered -- what we consider to be the  
21 five (5) key areas of Diavik commitment made in  
22 response to Intervener recommendations.

23           The first is to expand engagement with  
24 non-signatory Indigenous groups. Diavik undertakes  
25 extensive community engagement with signatory

1 Indigenous groups. However, Diavik accepts that more  
2 could be done to engage with the Fort Resolution Metis  
3 Council, the Northwest Territories Metis Nation, and  
4 the Deninu K'ue First Nation.

5           Interveners expressed concerns that go  
6 well beyond the scope of this PK to mine workings  
7 project. But regardless going forward, Diavik commits  
8 to meeting with each group annually to provide updates  
9 on the PK to mine workings project specifically but  
10 also on closure planning generally.

11           We'd review recommendations made by the  
12 traditional knowledge panel and DDMI's responses to  
13 those recommendations, and we consider any  
14 recommendations and provide written responses.

15           Second with regard to reconnection  
16 criteria to define culturally acceptable pit lake  
17 conditions, Diavik recognizes the importance of the  
18 views of Indigenous groups so the decision on whether  
19 to breach the pit lakes and rejoin with Lac de Gras.  
20 This concern has been clearly expressed by Interveners  
21 and is something DDMI would like to address as a  
22 priority.

23           Diavik commits to working toward the  
24 development of acceptable criteria for reconnection  
25 that are traditional knowledge based. Diavik will

1 seek the traditional knowledge panel's permission to  
2 change the scope of the September 12th to 16th  
3 TK panel session to instead focus on developing TK-  
4 based reconnection criteria.

5                   We will ask the Environmental  
6 Monitoring Advisory Board to facilitate the revision  
7 or support of the recommended TK-based criteria with  
8 the five (5) Indigenous parties represented on EMAB.

9                   We think EMAB is the best organization  
10 to work with Diavik to integrate community alignment  
11 on TK-based criteria. We intend to bring this request  
12 to EMAB at the September 10th and 11th meeting next  
13 week.

14                   We provide opportunity for Indigenous  
15 groups that are not represented on EMAB to review and  
16 comment on TK-based criteria. Finally, we submit that  
17 TK-based criteria to the Wek'eezhii Land and Water  
18 Board for public review and approval as a closure  
19 criteria.

20                   Regarding fish habitat and offsetting  
21 plans, with the implementation of the proposed  
22 mitigation measures, residual environmental effects  
23 are not expected to significantly impact Lac de Gras  
24 fish or Lac de Gras fish habitat.

25                   However, Diavik acknowledges that some



1 Indigenous groups have still expressed concern about  
2 reconnecting the pits to Lac de Gras. DDMI  
3 appreciates Fisheries and Oceans Canada's willingness  
4 to work with DDMI to consider alternate fish habitat  
5 offsetting plans should pit lake reconnection no  
6 longer be considered acceptable.

7 Diavik commits to considering  
8 alternative offsetting plans that are reasonable,  
9 practical, and provide fisheries benefits to  
10 Indigenous communities.

11 DDMI will advance alternative  
12 offsetting plans by February 1st of 2020 if there is a  
13 high likelihood that predicted lake water quality  
14 conditions will not meet traditional knowledge based  
15 pit lake criteria for reconnection or if it's  
16 determined that traditional knowledge base acceptance  
17 of pit lake reconnection can only be determined by  
18 visually inspecting the pit lake making it not  
19 possible to confirm acceptable -- acceptability --

20 THE CHAIRPERSON: Excuse me, Diavik,  
21 but there seems to be some technical problems here.  
22 Just one moment, please.

23

24 (BRIEF PAUSE)

25

1 THE CHAIRPERSON: I guess English is  
2 now on channel 1.

3

4 (BRIEF PAUSE)

5

6 THE CHAIRPERSON: Sorry, Gord.  
7 Continue, please.

8 MR. GORD MACDONALD: No problem.  
9 Thank you.

10 And finally, the other -- other outcome  
11 that would require us to advance additional offsetting  
12 would be if the Mackenzie Valley Review Board  
13 determines that Diavik should not breach the dykes and  
14 allow the pit -- and allow access to the pit lakes.

15 Number four (4) is the removal of A21  
16 open pit from the review. Diavik accepts Intervener's  
17 recommendations to remove the A21 open pit from  
18 consideration for processed kimberlite deposition.  
19 DDMI believes it's prudent to continue to consider  
20 A154 to provide the maximum practical flexibility.

21 Finally, conditions to be included in  
22 an amended water licence or as follow-up measures.  
23 It's DDMI's view that most of the measures recommended  
24 by reviewers can be addressed as conditions to be  
25 included in an amended water licence.

1                   These include additional modeling of  
2 the pit water quality. DDMI commits to providing  
3 updated modeling estimates at three (3) milestones:  
4 before any deposition, before flooding the pit, and  
5 before breaching the dykes.

6                   The second is independent review of the  
7 final modeling predictions. DDMI commits as a  
8 condition of an amended water licence to submit a  
9 review prepared by an independent expert. Similar  
10 conditions exist in Diavik's water licence for  
11 independent geotechnical reviews of critical  
12 engineering designs.

13                   The third relates to pit lake  
14 monitoring where DDMI believes that is sufficient  
15 alignment on the general scope of the proposed  
16 monitoring that they could be consolidated into  
17 monitoring conditions for an amended water licence.

18                   On wildlife management, DDMI commits to  
19 revising existing management plans to include wildlife  
20 deterrents during pit filling.

21                   In DDMI's view, the specific terms and  
22 conditions that will define the monitoring plans  
23 related to PK to mine workings should be established  
24 by the Wek'eezhii Land and Water Board through the  
25 water licence amendment process.

1                   The terms and conditions may include  
2 updates to existing environmental management plans and  
3 monitoring plans for the Diavik mine.

4                   Thank you , Madam Chair. That  
5 concludes our presentation.

6                   THE CHAIRPERSON: Thank you, Diavik.  
7 Unfortunately, we are having technical difficulties as  
8 you can hear all the static when Diavik is speaking,  
9 and they have requested that they need to change the  
10 cables. So we would like to take a ten (10) minute  
11 break while they do that.

12                   But before we do that, we now have  
13 video presentation services available and a note to  
14 file describing out the access to service has been  
15 posted to the Public Registry.

16                   As well, the teleconference is now  
17 working. So there is some movement -- positive  
18 movement in the technical end.

19                   So if we could call a break right now  
20 and then start with the questions with the Interveners  
21 with the GNWT up first after the break. Thank you.

22

23 --- Upon recessing at 10:52 a.m.

24 --- Upon resuming at 11:09 a.m.

25

1 THE CHAIRPERSON: We have several  
2 Interveners to go down the list today. So as a  
3 reminder, when you're asking your questions, please  
4 keep your questions to priority questions, and if  
5 there's time later tomorrow, you can ask those  
6 secondary questions. But please keep your questions  
7 to priority, and be direct to the -- to Diavik as --  
8 as possible.

9 Our first line of questions is to the  
10 GNWT. Questions from the GNWT?

11

12 QUESTION PERIOD:

13 MR. BILL PAIN: Thank you, Madam  
14 Chair. Bill Pain, ENR. This is going to relate to  
15 the water quality modelling.

16 Can Diavik or their consultant kind of  
17 give a brief summary of the -- what modelling  
18 parameters or information will be included in the next  
19 iteration of the modelling update? I think you guys  
20 discussed the next modelling be part of the -- let me  
21 see, here -- part of the mine working design report  
22 that will be submitted as part of the regulatory side  
23 of it, and their opinion.

24 Could you just give an update, what  
25 will be included in the updated modelling report and,

1 like, what additional information will be included  
2 that hasn't been included to date? Thank you.

3 THE CHAIRPERSON: Diavik...?

4 MR. GORD MACDONALD: Gord Macdonald,  
5 with Diavik. I'll try and do it briefly.

6 It will be a whole new model, actually,  
7 Bill. It will be -- it will properly consider all the  
8 way from the -- the time we start deposition, you  
9 know, model all that deposition period during  
10 operations, the -- the adding of water, and then into  
11 the post closure, and it'll deal with the proper  
12 consolidations of the PK level actually goes down in  
13 the -- in the modelling, and the -- instead of the  
14 poor water going up, as it does now. So it would be  
15 more realistic.

16 And that'll be in -- incorporated into  
17 the full lake hydrodynamic model. So it'll be a -- a  
18 -- the output from it will be within a hydrodynamic  
19 model of the full lake.

20

21 (BRIEF PAUSE)

22

23 MR. BILL PAIN: Bill Pain. Thank you,  
24 Gord. I'll just pass it over to our consultant, Barry  
25 Zajdlik, to -- he can maybe follow up on that.

1 DR. BARRY ZAJDLIK: Barry Zajdlik on  
2 behalf of GNWT. The modelling that's been done to  
3 date has been admittedly preliminary. There are many  
4 pathways that haven't been included, and one (1) of  
5 those is groundwater flow. Another is processes that  
6 happened in a fractured wall on the pit -- of the pit.  
7 And there are others as well, such as variation in  
8 groundwater TDS concentrations, and even possibly the  
9 composition of the TDS seasonally.

10 Is the updated modelling going to  
11 consider these more subtle processes that can affect  
12 the predictions? And if they are, at what stage in  
13 the -- the processes are those modelling -- that  
14 modelling going to be considered?

15 THE CHAIRPERSON: Diavik...?

16 MR. GORD MACDONALD: Gord Macdonald,  
17 with Diavik. Yes, Barry, on -- on groundwater, yes on  
18 pit wall, pit wall washing, if you will. The --  
19 whatever reaction products would come off of the pit  
20 walls. Yes on surface runoff, the -- local to the pit  
21 areas. And with regard to timing, what I -- what I --  
22 we had committed in our intervention was that it be a  
23 condition of the water license, and that it would be  
24 provided prior to putting any processed kimberlite  
25 into the mine workings.

1 (BRIEF PAUSE)

2

3 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
4 behalf of GNWT. The next set of questions has to do  
5 with providing assurance to all the interested parties  
6 that there's not going to be effects associated with  
7 the deposition of PK into the mine workings. DDMI has  
8 provided an opinion that there won't be adverse  
9 effects, but it is just that; an opinion.

10 The question to DDMI is can DDMI state  
11 for any water quality analyte that has a benchmark,  
12 the probability that the benchmark will not be  
13 exceeded if PK is deposited into a pit lake?

14 THE CHAIRPERSON: Diavik...?

15 MR. GORD MACDONALD: Barry, it -- we  
16 didn't do probabilistic modelling. I don't think we  
17 could -- we could give you a -- if that's what you're  
18 looking for is a probability on any one (1) of those  
19 parameters.

20 DR. BARRY ZAJDLIK: Thank you for that  
21 answer, Gord. So what is the basis for your high  
22 degree of confidence, then, other than best  
23 professional judgment?

24 THE CHAIRPERSON: Diavik...?

25 MR. GORD MACDONALD: Thank you, Madam



1 Chair. Barry, it -- a lot of it revolves around the -  
2 - and I -- I could get -- go there to speak to it if  
3 you'd like, but the sensitivity analysis that was done  
4 where we -- we ran through quite a few -- changed a  
5 number of -- of assumptions in the modelling, or  
6 inputs to the modelling, and the results came out more  
7 or less the same, so it was that it -- it -- the model  
8 wasn't typically sensitive to a lot of those things,  
9 so it -- that give us a high -- a high -- much higher  
10 degree of confidence in the -- in the modelling.

11 Obviously if you'd -- if you -- it was  
12 very sensitive to certain things, it would -- that  
13 would have decreased our -- our confidence in the  
14 model.

15

16 (BRIEF PAUSE)

17

18 DR. BARRY ZAJDLIK: There -- there are  
19 quite a few things we could say about the sensitivity  
20 analyses and the -- the simulations that were  
21 conducted today, but they're all in the public  
22 records, so I'm going to waive those questions for the  
23 time being and maybe come back to that if we have  
24 time.

25 THE CHAIRPERSON: Excuse me, but for

1 the record, they need to record the -- the  
2 transcripts, so if you could please state your name  
3 again every time you speak, for both parties.

4 DR. BARRY ZAJDLIK: Thank you, Madam  
5 Chair. It's Barry Zajdlik, on behalf of GNWT.

6

7 (BRIEF PAUSE)

8

9 DR. BARRY ZAJDLIK: And I will speak  
10 more slowly.

11 The next set of questions refers to --  
12 or pertains to the amount of information we've been  
13 given, and GNWT's interest in getting more information  
14 prior to a decision being made.

15 We are interested in uncertainty and  
16 the probability of an adverse effect, and one (1) way  
17 to -- to come up with a -- a number that's associated  
18 with a probability is to conduct what's called a Monte  
19 Carlo assessment -- or analysis, and Gord just alluded  
20 to that.

21 The question that I have for Diavik is  
22 can Diavik right now provide an order of magnitude  
23 estimate of runtimes for a Monte Carlo analysis that  
24 would include variation in key process inputs such as  
25 model coefficients, geochemical reaction rates, decay

1 rates, and settling rates, variation in groundwater  
2 flow, volumes and temperature, and variation in  
3 groundwater TDS concentrations, and possibly  
4 composition?

5

6 (BRIEF PAUSE)

7

8 THE CHAIRPERSON: Diavik...?

9

10 (BRIEF PAUSE)

11

12 MR. GORD MACDONALD: Madam Chair, I --  
13 I'd prefer to get a Golder expert to answer that  
14 question for him.

15

16 (BRIEF PAUSE)

17

18 MR. JERRY VANDENBERG: Consultant to  
19 Diavik. I can give an order of magnitude estimate.  
20 I've done this once before. There's actually a report  
21 online that -- that documents this.

22 THE CHAIRPERSON: I'm sorry. Again  
23 for the -- you didn't turn your mic on, and our  
24 transcriber back there is standing up, waving his  
25 hand, so you need to say your name again, please.

1 MR. JERRY VANDENBERG: Sure. It's  
2 Jerry Vandenberg, consultant to Diavik.

3 Base -- based on a similar project  
4 where we've done this before, we ran a set of  
5 simulations, about five hundred (500) simulations  
6 looking at various inputs to pit lakes, various  
7 configurations. Because it's a large number of  
8 simulations, running a mechanistic model takes a lot  
9 of time. It took twenty-four (24) computers running  
10 concurrently about three (3) months, so that's sort of  
11 a -- a rough estimate of what it would be here.

12 DR. BARRY ZAJDLIK: A follow-up  
13 question. If --

14 THE CHAIRPERSON: Please state your  
15 name again.

16 DR. BARRY ZAJDLIK: Yes, Barry  
17 Zajdlik, on behalf of the GNWT. If we were to add  
18 refinements, the -- the PK consolidation model to be a  
19 3D, large-strain model, how would that affect your  
20 estimates of the Monte Carlo analysis simulation time?

21 THE CHAIRPERSON: Diavik...?

22 MR. GORD MACDONALD: Gord Macdonald,  
23 with Diavik. They go up significantly, Barry.

24 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
25 behalf of GNWT. Can you provide an order of magnitude

1 estimate?

2

3

(BRIEF PAUSE)

4

5

THE CHAIRPERSON: Diavik...?

6

MR. GORD MACDONALD: Gord Macdonald,  
7 with Diavik. It's getting very difficult, and I mean  
8 many months. We haven't even run the models yet for  
9 the -- that we're talking about, and we don't know  
10 what the specific run times will be for those.

11

DR. BARRY ZAJDLIK: Barry Zajdlik, on  
12 behalf of GNWT. So at the end of the day, if we were  
13 to wait for probabilistic statements about how  
14 significant the effects would be, we could expect to  
15 wait three (3) to six (6) months. Is that correct?

16

THE CHAIRPERSON: Diavik...?

17

18

(BRIEF PAUSE)

19

20

MR. GORD MACDONALD: Gord Macdonald,  
21 with Diavik. To see the -- for -- for -- to have all  
22 of that work done to the -- to the level of being able  
23 to release it, be more like a year, Barry.

24

What we were referring to is  
25 specifically about run time, like modelling run time

1 versus documenting and -- and preparing results.

2

3 (BRIEF PAUSE)

4

5 MR. BILL PAIN: Bill Pain, ENR, for  
6 GNWT. Two (2) quick follow-up questions or kind of  
7 continuation questions.

8 Can Diavik just give us a kind of  
9 estimate or time, how much more time they have putting  
10 PK in the PKC -- PC facility?

11

12 (BRIEF PAUSE)

13

14 MR. BILL PAIN: I apologize. Bill  
15 Pain again. How much more time do you have in the  
16 facility before it is essentially full and can no  
17 longer deposit to that facility?

18 THE CHAIRPERSON: Diavik...?

19

20 (BRIEF PAUSE)

21

22 MR. GORD MACDONALD: Gord Macdonald,  
23 with Diavik. If we don't do the -- the further raise,  
24 and it -- November '20/21.

25

1 (BRIEF PAUSE)

2

3 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
4 behalf of GNWT. With respect to the determination of  
5 significance of the project, Diavik used the 1999 EA  
6 definitions.

7 Although Stantec, their consultant in  
8 this matter, was correct in that the EA paradigm  
9 hasn't changed significantly since the new 2012 CEA  
10 guidance, there are details that have changed, and  
11 some of the details involved a level of change that's  
12 acceptable.

13 The EA conclusions right now are  
14 predicated upon a one (1) kilometre local study area  
15 as opposed to what's more typically accepted as a  
16 mixing zone of a hundred or two hundred (200) metres,  
17 and GE and Meg -- AEMP benchmarks, those are the CCME  
18 water quality protection numbers that are allowed to  
19 be exceeded by 20 percent.

20 GNWT asked Diavik to provide assurance  
21 that if the Environmental Assessment of environmental  
22 significance was conducted using the 2012 document,  
23 that the conclusions would be the same, but we haven't  
24 got an answer.

25 So I'm hoping that DMI can provide some

1 more information on whether they'd be willing to look  
2 at the 2012 document in detail and provide us with a  
3 table of concordance between the 2012 and 1999  
4 procedures, and then verify that their conclusion of  
5 significance remains the same.

6

7 (BRIEF PAUSE)

8

9 THE CHAIRPERSON: Diavik...?

10

11 (BRIEF PAUSE)

12

13 MR. GORD MACDONALD: Gord Macdonald,  
14 with Diavik. Madam Chair, I'd ask Erica to give a  
15 response back on behalf of Stantec, who did the  
16 Environmental Assessment.

17 MS. ERICA BONHOMME: Erica Bonhomme,  
18 Stantec, consultant to Diavik. The -- the methods  
19 used in Environmental Assessment to step through, you  
20 know, how -- what potential effects may happen, what  
21 baseline conditions are, what potential pathways we  
22 may see, how we characterize residual effects, is  
23 really designed to meet what the Board is looking for  
24 in terms of making a determination about significance.  
25 I don't see the relevance of the CEA 2012 in an MVRMA



1 process.

2                   The question was asked to Diavik,  
3 whether those principles and guidance has been  
4 considered.

5                   The response, it remains the same,  
6 which is the -- the methodology that is used in the  
7 summary impact statement is appropriate and relevant  
8 to this process and the -- the use of various study  
9 areas and indicators and significance criteria has  
10 been defended and presented in that SIS, and, you  
11 know, I think is -- is fundamentally -- would meet the  
12 requirements of any process, but in particular the one  
13 that we're looking at right now, which is the one set  
14 up under the MVRMA.

15                   MR. GORD MACDONALD:    Madam Chair, if I  
16 could just add one more piece that might maybe help  
17 answer the question for the GNWT.

18                   THE CHAIRPERSON:    State your name  
19 again, please.

20                   MR. GORD MACDONALD:    Apologies.  Gord  
21 Macdonald, with Diavik.

22                   Your specific examples of the size of  
23 the local study area and the definition of the  
24 magnitude of effect, even if -- even if you change  
25 those -- those -- the -- the size of the local study

1 area or the magnitude and remove that 20 percent over  
2 CCME or AEMP benchmarks, because we're not predicting  
3 exceedances of AEMP benchmarks anywhere. The  
4 definition -- the determination of significance would  
5 not change for -- for that water quality.

6 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
7 behalf of GNWT. Yes, I was aware that that's the  
8 case, but that presumes that the model predictions are  
9 correct.

10 THE CHAIRPERSON: Diavik...?

11 MR. GORD MACDONALD: I think that's a  
12 true statement. Gord Macdonald, Diavik.

13

14 (BRIEF PAUSE)

15

16 MR. BILL PAIN: Bill Pain, ENR, for  
17 GNWT. This will be my last question, at least  
18 regarding modelling, and I think it might be our last  
19 one here.

20 Diavik is committed to having an  
21 independent review, the model predictions moving  
22 forward as their list of commitments.

23 Can Diavik further elaborate how they  
24 see an independent review being conducted? Like, for  
25 example, how will a third party person be selected or

1 approved or will there be a public participation --  
2 sorry, I speak quick here. I will just start again.

3 Diavik is committed to having an  
4 independent review of model predictions. Can Diavik  
5 further elaborate how they see an independent review  
6 being conducted?

7 For example, how will a third party  
8 person or independent group be selected? Will Diavik  
9 ask for approval of their choice? Yeah, thank you.

10 THE CHAIRPERSON: Diavik...?

11 MR. GORD MACDONALD: Gord Macdonald,  
12 with Diavik. Bill, I haven't thought fully through  
13 it, but what we put in our -- in our commitment would  
14 be that we could see it as a condition of the water  
15 licence that any modelling that we provided to the  
16 Wek'eezhii Land and Water Board include an independent  
17 review in the same manner that independent reviews are  
18 included in our water licence for geotechnical reviews  
19 of -- of critical engineering designs.

20 We do have a board that does our  
21 geotechnical review, so we haven't gone through the  
22 process of -- of getting an independent reviewer  
23 approved by the Wek'eezhii Land and Water Board, but  
24 we'd be open to what that -- whatever that process  
25 would be. We certainly want it to be an independent

1 expert that everyone would be comfortable with,  
2 including Diavik, but all the Interveners.

3                   To be clear on the independent expert,  
4 we -- we have no issues with doing independent  
5 reviews. We wouldn't want to go forward with this  
6 project if the modelling results -- if the modelling  
7 was -- was wrong. It's -- it's something that would  
8 be benefi -- beneficial to everyone.

9

10   (BRIEF PAUSE)

11 s

12                   THE CHAIRPERSON:    Questions?  GNWT?

13

14   (BRIEF PAUSE)

15

16                   MR. BILL PAIN:    Bill Pain.  Thank you,  
17 Gord.

18                   Just a follow-up on that.  I just want  
19 to speak to the timing of that process.  As you  
20 mentioned, you just mentioned this, we have until  
21 November 2021.  If this is a -- PKC facility isn't  
22 expanded or this moves forward, we'd like to be part  
23 of that process to alleviate time and make sure we  
24 were all on the same page.

25                   Can you just maybe quickly speak to

1 what kind of time frames you're looking at this?  
2 Because it -- it would take a -- quite a little bit of  
3 time to -- to do an independent review, or even set  
4 this up. Thank you.

5

6 (BRIEF PAUSE)

7

8 MR. GORD MACDONALD: Madam Chair,  
9 we're just -- we're just looking for a schedule that  
10 we'd submitted that include -- that includes how we  
11 saw all these things following out going forward that  
12 we can reference for everyone.

13

14 (BRIEF PAUSE)

15

16 MR. GORD MACDONALD: Maybe, Madam  
17 Chair, in the interests of time, there is a schedule,  
18 Bill, that's -- that's published in the -- in the --  
19 in responses to IRs to try and lay out when all --  
20 when all those -- we anticipate all those activities  
21 being, and the deadline would be, obviously, to have  
22 it all approved, the modelling results and independent  
23 review approved prior to November 2021. So it's the  
24 time line leading up to that that's presented in  
25 there.

1                   It's -- what's the reference?

2

3                   (BRIEF PAUSE)

4

5                   MR. GORD MACDONALD:    Yes, on the  
6 schedule which is in table 6 of the response to the  
7 MacKenzie Valley -- the Review Board IRs, it's table 6  
8 and we say in there to be in the first half of 2021  
9 when the modelling results and all the -- and all the  
10 engineering design reports to support and actually  
11 implement in this project would be submitted for  
12 review.

13                   So I would guess if that was the case  
14 that it would be somewhere leading up to the later  
15 half of 2020 when we'd have to -- we'd do that  
16 selection of an independent reviewer.

17                   DR. BARRY ZAJDLIK:   Barry Zajdlik, on  
18 behalf of GNWT.

19                   This speaks to the process of model  
20 review.  There are many decisions that have to be made  
21 when a model is built and we're concerned about  
22 delaying the process by reviewing a model that has  
23 been built and presented.  So we think that it would  
24 be helpful if interested parties were involved in the  
25 building of the model and consultation and some of the

1 steps that are involved so that there are no  
2 unnecessary process delays.

3 THE CHAIRPERSON: Diavik?

4 MR. GORD MACDONALD: Gord Macdonald,  
5 with Diavik.

6 We'd support that, Barry, I think it  
7 would be very helpful to have everyone and find those  
8 right stage gates for those reviews versus the final  
9 product.

10 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
11 behalf of GNWT.

12 This morning a statement was made that  
13 the deposition of PK to mined pits will deliver a  
14 better environmental outcome than adding it to the PKC  
15 facility.

16 What is the basis for that statement?

17 THE CHAIRPERSON: Diavik...?

18 MR. GORD MACDONALD: Yes, thank you,  
19 Madam Chair.

20 It's a number of things, Barry, that  
21 contributes --

22 THE CHAIRPERSON: State your name  
23 again, please.

24 MR. GORD MACDONALD: Didn't I? Gord  
25 Macdonald, with Diavik.

1                   It's a number of things that would  
2 contribute -- that contribute to that statement and I  
3 can go through them if you like, Madam Chair, but we -  
4 - we did do the last couple of nights advantages,  
5 disadvantages, but the -- you know, the sum of them  
6 are it's a -- putting it in the -- in the mine  
7 workings is a more secure storage location.

8                   And on the -- on the caribou  
9 perspective it would reduce the amount of material  
10 that was available for caribou to have direct contact  
11 because we could start the closure of the PKC facility  
12 earlier.

13                   It would provide more closure options  
14 for the -- for the PKC facility if we had the ability  
15 to put processed kimberlite into the -- the extra-fine  
16 processed kimberlite into mine workings.

17                   On -- we think it would be the lowest -  
18 - the lowest or the better -- the better water quality  
19 to Lac de Gras but the poor water being released from  
20 the bottom below it, the chemocline would be better  
21 than that same poor water being released over time  
22 into a surface facility and -- and contributing to  
23 local run-off that would still go to Lac de Gras.

24                   That in a nutshell, Madam Chair.

25                   DR. BARRY ZAJDLIK:   Barry ZAJDLIK, on



1 behalf of GNWT.

2                   That's -- that's a helpful summary, but  
3 it's maybe a bit difficult for the room to digest,  
4 especially if they're not familiar with all the  
5 details.

6                   Is it possible for Diavik to provide a  
7 written answer to the question and all the supporting  
8 details?

9                   THE CHAIRPERSON:    Diavik...?

10                  MR. GORD MACDONALD:   Gord Macdonald,  
11 with Diavik, I got it right this time.

12                  And -- it -- it is on the record from  
13 the last -- from last night's session at Dettah where  
14 we went through all the -- the advantages and  
15 disadvantages and -- and that transcript I think would  
16 be available today, so I think that could be the  
17 record of that.

18

19                                       (BRIEF PAUSE)

20

21                  DR. BARRY ZAJDLIK:   Barry ZAJDLIK, on  
22 behalf of GNWT.

23                  One (1) of our team was at the session  
24 and said that it would be helpful for us to review it,  
25 what's on the record, and then get back to you on

1 that.

2 So that's what we'll commit to do.

3 THE CHAIRPERSON: Questions from GNWT?

4 MR. BILL PAIN: Bill Pain. Thank you,  
5 Madam Chair, we have no further questions.

6 THE CHAIRPERSON: Thank you.

7 Questions from EMAB?

8 MR. JOHN MCCULLUM: Thank you, Madam  
9 Chair. I'm John McCullum with EMAB.

10 I have online Friederike Schneider-  
11 Vieira as well, our -- our fisheries and aquatics  
12 consultant. And so how would you like me to -- when  
13 she wants to ask a question or -- or follow something  
14 up, how would you like me to approach that before we  
15 get into this?

16 THE CHAIRPERSON: You will just  
17 introduce her and she would say her name and she can  
18 ask the question.

19 MR. JOHN MCCULLUM: Okay. Thank you  
20 very much.

21 So John McCullum with EMAB here, to  
22 start things off, Gord, you had mentioned that for the  
23 next iteration of modelling you will be doing a whole  
24 different model that shows more accurately how things  
25 will -- will work and incorporating it with the whole

1 lake and that kind of thing.

2 Can you explain why you didn't just do  
3 that in the first place?

4 THE CHAIRPERSON: Diavik...?

5 MR. GORD MACDONALD: Gord Macdonald,  
6 with Diavik.

7 It's -- it's not unusual and we did the  
8 same process here to step into the -- to step  
9 gradually into it.

10 The first modelling was done as  
11 preliminary modelling and intended to scope out the  
12 issues and find out whether the -- whether it was a  
13 viable project in itself.

14 To -- to take it to the next level  
15 requires another round of additional information like  
16 the consolidation testing that's being done at the  
17 University of Alberta and we don't think it made sense  
18 to jump straight to the -- the most complicated, most  
19 detailed work until we've got -- until we've  
20 identified what the -- what the critical information  
21 is and how best to proceed with it.

22 MR. JOHN MCCULLUM: Thank you, Gord.  
23 John McCullum, with EMAB again.

24 I -- I guess I appreciate what you're  
25 saying is -- is more convenient from Diavik's

1 perspective. My reading of certainly our concerns and  
2 the concerns of many of the people who have commented  
3 on the proposal is that there's a lot of uncertainty  
4 about the -- the results of the water quality  
5 modelling and that the -- all of the predictions, as -  
6 - as Barry mentioned earlier, all of the predictions  
7 that say that there will not be significant adverse  
8 effects rely, essentially, on those model results.

9                   So how much of those uncertainties do  
10 you think will be reduced by this new version of --  
11 not even a new version. This -- this entirely new  
12 model that -- that you will undertake over the next  
13 period of time?

14                   THE CHAIRPERSON:     Diavik...?

15

16                   (BRIEF PAUSE)

17

18                   MR. GORD MACDONALD:     Gord Macdonald,  
19 with Diavik.

20                   There are a lot of conservative  
21 assumptions and when I say "conservative" it means --  
22 means a worse environmental prediction when I -- when  
23 I use the word conservative that have gone into the  
24 preliminary modelling.

25                   So we -- we tried to -- to stay on the

1 conservative side of those estimates. So when we do  
2 the more detailed modelling it -- it will be less  
3 conservative, so it will take -- it will be more  
4 realistic and you'll probably end up -- we expect to  
5 end up with better water quality predictions.

6 So we think that will help, I would  
7 expect it would help people with the -- with the  
8 uncertainties.

9 MR. JOHN MCCULLUM: Okay, thank you,  
10 Gord.

11 I'll -- I guess I'll leave that line of  
12 questioning for now, unless Friederike, you have any -  
13 - anything you want to add?

14 MS. FRIEDERIKE SCHNEIDER-VIEIRA (by  
15 phone): It's Friederike Schneider-Vieira on behalf  
16 of EMAB here. Yes, Gord, I'll just ask a couple of  
17 questions.

18 THE CHAIRPERSON: If she could speak  
19 up again?

20 MS. FRIEDERIKE SCHNEIDER-VIEIRA (by  
21 phone): Okay. Can you hear me now?

22 THE CHAIRPERSON: Yes.

23 MS. FRIEDERIKE SCHNEIDER-VIEIRA (by  
24 phone): Okay. It's Friederike Schneider-Vieira on  
25 behalf of EMAB and I, during the review process we had

1 asked quite a few questions about effects to the fish  
2 and also monitoring the fish.

3 As was discussed, the impact assessment  
4 was based on water quality modelling, which makes  
5 sense. And then the results of that were taken into  
6 consideration of how that might affect fish.

7 Now, when dealing with uncertainty it  
8 is always good to back up that with actual monitoring  
9 and one of the key assumptions that Diavik has had is  
10 that fish will use the upper 40 metres of the water  
11 column, which may very well be the case.

12 But we were wondering if Diavik could  
13 describe or how far their planning has gone for what  
14 monitoring will actually be done for fish in the pit  
15 lakes.

16 THE CHAIRPERSON: Diavik...?

17 MR. GORD MACDONALD: Madam Chair, it's  
18 Gord Macdonald, with Diavik.

19 We're just looking up the -- that might  
20 be helpful to provide the reference. We did respond  
21 to EMAB's request on -- on fish habitat monitoring,  
22 and we're just trying to look up the reference for it  
23 as part of the response.

24

25 (BRIEF PAUSE)

1

2 MR. SEAN SINCLAIR: Sean Sinclair,  
3 Diavik. So, I believe we -- we responded to this  
4 intervention question number 43 from EMAB. So, we  
5 believe that the specific terms and conditions that  
6 would define these monitoring plans for fish and fish  
7 habitat should be established through the Wek'eezhii  
8 Land & Water Board process, through review of the  
9 process kimberlite to mine workings amendment.

10 And the specific monitoring plans  
11 should be established through updates, reviews, and  
12 approvals to our closure and reclamation plan and our  
13 aquatic effects monitoring design plan.

14 In general, we believe there's  
15 sufficient alignment in the general scope of what EMAB  
16 is proposing and what we envision happening. And, in  
17 general, if monitoring of fish use inside the pits is  
18 determined to be necessary and valuable, we expect  
19 that acoustic monitoring is likely the most effective  
20 method to monitor for fish use.

21 We would like to emphasize that fish  
22 use of the pit lake cannot become a requirement as we  
23 can't guarantee that fish will access the pit lake  
24 regardless of water quality.

25 Thank you, Madam Chair.

1 (BRIEF PAUSE)

2

3 THE CHAIRPERSON: Questions, EMAB?

4 MS. FRIEDERIKE SCHNEIDER-VIEIRA (BY  
5 PHONE): Friederike Schneider-Vieira here, on behalf  
6 of EMAB again. So, I understand the commitment and  
7 that it's very good to hear.

8 Does that mean then that Diavik would  
9 be open to hearing recommendations for what should be  
10 included in the fish monitoring plan? Would that be  
11 helpful to Diavik?

12 THE CHAIRPERSON: Diavik...?

13 MR. SEAN SINCLAIR: Sean Sinclair,  
14 Diavik. Yeah, we're -- we're certainly open to  
15 hearing, you know, recommendations and -- and working  
16 as we update those design plans, so, again, the  
17 closure and the AEMP design through the Wek'eezhii  
18 processes.

19 MS. FRIEDERIKE SCHNEIDER-VIEIRA (BY  
20 PHONE): Friederike Schneider-Vieira here for one (1)  
21 last question.

22 On one (1) of your slides, slide 7, I  
23 believe, in your presentation, to -- to clarify, you  
24 noted that Diavik is the only operating mine that  
25 doesn't have approval to deposit PK -- processed PK in



1 the mine workings.

2 Do the other mines -- I'm aware of the  
3 -- some of the mines are proc -- depositing the PK.  
4 Do any of the other mines include reconnecting them to  
5 surface waters as part of their closure plan?

6 THE CHAIRPERSON: Diavik...?

7 MR. GORD MACDONALD: Gord Macdonald,  
8 with Diavik. Yeah, as we -- as we mentioned in the --  
9 in the presentation, all of the -- all of the mine --  
10 mine -- pit lakes that we mentioned reconnect to  
11 surface -- surface watersheds.

12 In the case of the Ekati -- the Ekati  
13 mine pits, they're connected through watersheds, so  
14 smaller rivers or streams. And in the case of the  
15 Gahcho Kue, it's in -- connects with Hearne -- or with  
16 Kennady Lake.

17 MS. FRIEDERIKE SCHNEIDER-VIEIRA (BY  
18 PHONE): Friederike Schneider, representing EMAB  
19 again. Thank you. I'm online. And that part of the  
20 presentation didn't -- it wasn't -- I wasn't connected  
21 at that time, so thank you for that clarification.  
22 That's all the questions I have.

23 THE CHAIRPERSON: Questions, EMAB?

24 MR. JOHN MCCULLUM: Thank you, Madam  
25 Chair. John McCullum, EMAB. I'm going to -- I'm

1 going to start by following up Sean's answer on the  
2 fisheries monitoring.

3                   So, I -- I heard you say that Diavik's  
4 and I'll -- I'll just say EMAB's, views on monitoring  
5 are the same, but -- or sufficiently aligned that they  
6 can be dealt with elsewhere.

7                   To my knowledge, Diavik doesn't propose  
8 any fish monitoring at all. And so, that seems like  
9 our views are not all that aligned with fish  
10 monitoring. Could -- could you clarify, please?

11                   THE CHAIRPERSON: Diavik...?

12                   MR. SEAN SINCLAIR: Sean Sinclair,  
13 Diavik. So, John, the current Aquatic Effects  
14 Monitoring Program, which would be updated again  
15 through the Wek'eezhii process to incorporate this  
16 project, I mean, a very large part of that program and  
17 design is fish monitoring.

18                   So, we -- we certainly monitor fish,  
19 fish health, water quality, impacts to fish.

20

21                   (BRIEF PAUSE)

22

23                   MR. JOHN MCCULLUM: Thank you, Sean.  
24 I think we'll just have to agree to disagree that the  
25 AEMP, as currently designed, would cover the issues

1 related to fish monitoring, particularly inside the  
2 pit lake.

3 THE CHAIRPERSON: State your name  
4 again for the record, please.

5 MR. JOHN MCCULLUM: My apologies,  
6 Madam Chair. John McCullum, with the Environmental  
7 Monitoring Advisory Board. Shall I continue? Okay.

8

9 (BRIEF PAUSE)

10

11 MR. JOHN MCCULLUM: These questions  
12 are just going to -- they're -- they're not all in a  
13 clear order, so I'm just going to murk -- work my way  
14 through them.

15 Can you describe the -- the work Diavik  
16 has done in terms of looking at the -- the pore water  
17 from the PK and its -- its effects on aquatic  
18 organisms, fish, benthics, et cetera, and what the  
19 results of those were?

20 In other words, does the pore water  
21 seem to be toxic to aquatic health?

22 THE CHAIRPERSON: Diavik...?

23 MR. GORD MACDONALD: Gord Macdonald,  
24 with Diavik. We've done quite a bit of -- of  
25 geochemical work on the -- on the pore water that

1 exists inside the PKC facility.

2                   So, Madam Chair, it's actually taking  
3 measurements of the pore water in that facility as a -  
4 - as a possible surrogate for what might happen if you  
5 use that same kind of material and -- and generate  
6 pore water in a deposition mine workings.

7                   And it's -- it's a different process  
8 when it's been deposited on land than when it's been  
9 deposited in the water, so we also underta -- have  
10 undertaken some studies with the University of Alberta  
11 to try and test that in a more specific way to get  
12 that geochemistry.

13                   So, quite a bit on the chemistry, which  
14 is a big part of understanding what the potential  
15 environmental effects of that -- of that material  
16 would be.

17                   The other study that Sean mentioned in  
18 his presentation came as a request of the traditional  
19 knowledge panel was -- was a more -- of a more  
20 conventional toxicological assessment of the -- of the  
21 water and the material itself.

22                   And that was done by the University of  
23 -- of Saskatoon. And -- and they ran typical  
24 toxicological tests on aquatic organisms, so fish and  
25 small benthic invertebrates that live on the -- would

1 live on the bottom of the lake.

2                   They took processed kimberlite out of  
3 our -- out of our facility, or we provided it to them.  
4 And they treated that material in a number of ways.  
5 They, you know, separated the solid from the water and  
6 tested the water, exposed fish to both, that kind of a  
7 thing.

8                   The report is available and it's in the  
9 -- it's -- it's on the record. I'll -- I'll try and  
10 give a very lay summary -- general summary of it.  
11 It's mildly toxic, meaning it -- meaning it had low  
12 level responses to things like chronic effects.

13                   So, my -- a benthic invertebrate, so a  
14 bug that lives -- I'll try and slow down -- on the  
15 bottom of the lake would not do as well. It would not  
16 reproduce as well on processed kimberlite as it would  
17 on the bottom of Lac de Gras, like, not a -- not a  
18 surprising result.

19                   But it wasn't what you would call  
20 toxic, so it would not -- it was not acutely lethal to  
21 any of the organisms that were there. And that --  
22 that was why Sean was saying it generally provided  
23 that satisfaction to the traditional knowledge panel,  
24 that this wasn't -- this wouldn't create a toxic zone  
25 or anything like that.

1                   And this directly on that material,  
2 which is -- now we're thinking about it being a  
3 hundred metres below the lake surface where we don't  
4 expect benthic invertebrates to be living.

5                   I -- I think that's a fair summary, but  
6 I'd encourage you to read the report itself if you've  
7 -- for that information.

8                   MR. JOHN MCCULLUM:    Thank you.   John  
9 McCullum, with EMAB again.

10                  Could you -- could you describe  
11 Diavik's proposed approach to continuing to evaluate  
12 the potential pore water quality and the time line, so  
13 kind of the U of A study and anything that you've got  
14 planned further along from that?

15                  THE CHAIRPERSON:    Diavik...?

16                  MR. GORD MACDONALD:    Gord Macdonald,  
17 with Diavik.   So, the -- the main program right now  
18 has been the work done at the University of Alberta,  
19 as I mentioned.   And those results are now complete.

20                  We've -- we're getting a draft -- we  
21 have a draft report of that -- of that program.   We're  
22 just -- we're just starting to go through it now.   I  
23 expect it'll probably be a few more months before we -  
24 - before it's in a form that we can -- we -- we can  
25 release that information or that we can use that

1 information to -- to update any modelling work that  
2 we're doing.

3                   It's -- it's quite possible that the  
4 outcome of that -- and -- is -- would be that there  
5 are additional tests that we want to run. We haven't  
6 looked at it yet to make sure that it's -- it's  
7 provided the information we were look -- we -- we  
8 need, so it's quite possible that it would advance  
9 beyond that.

10                   We do continue the pore water  
11 monitoring of the process kimberlite containment  
12 facility itself. We did another round of it this  
13 summer, again, to get another -- to get more  
14 information on how it behaves in that environment as a  
15 surrogate for what it might be in the -- if put into  
16 the mine workings.

17

18                   (BRIEF PAUSE)

19

20                   MR. JOHN MCCULLUM:   Okay. Thank you.  
21 Slightly rela -- John McCullum, EMAB. It's my  
22 understanding that, as you're filling the pit with PK,  
23 that you will be decanting some of the water that gets  
24 pushed out from between the pores of the -- you know,  
25 the pore water into the north inlet and, I guess, from

1 there through the water treatment plant to Lac de  
2 Gras.

3                   We've talked about this extra fine  
4 processed kimberlite and how that forms sort of a  
5 fluffy layer on top of the -- the processed  
6 kimberlite.

7                   So, how much of the EFPK will be in the  
8 pore water that you're going to decant to north inlet,  
9 and then eventually to Lac de Gras, and how much of it  
10 do you think will end up in Lac de Gras?

11                   THE CHAIRPERSON:    Diavik...?

12                   MR. GORD MACDONALD:    Gord Macdonald,  
13 with Diavik.  Gen -- generally correct in the -- the  
14 description you gave, the -- the difference being it  
15 would either go to the -- it would go to the north  
16 inlet and to treatment or it would go to the north  
17 inlet for reuse in the -- in the process plant.

18                   And that -- the water that -- the  
19 decant water that we call it in the -- if it's coming  
20 from the mine workings is exactly analogous to the  
21 pond in the PKC, so -- where we do the same thing.

22                   So, we reclaim the water in the pond in  
23 the PKC, send it to the north inlet or to -- or to the  
24 process plant for reuse.  So, it's -- it's exactly the  
25 same process, it's just a different location.



1                   So, if -- if there's -- if there's some  
2 processed kimberlite, if there's some turbidity in the  
3 water, it would be the same as what's happening  
4 currently.

5                   No different in the mine working -- if  
6 it's in the mine workings than if it's in the  
7 processed kimberlite containment. They both go to the  
8 same place, they're just now physically located in two  
9 (2) different places.

10

11   (BRIEF PAUSE)

12

13                   MR. JOHN MCCULLUM:    Thanks, Gord.  
14 John McCullum, with EMAB. I -- I have to think about  
15 that a bit more. I -- I would have thought the  
16 process was a bit different because it's -- it's being  
17 stirred up as you -- it's being continually stirred up  
18 as you're depositing more PK into the -- into the pit,  
19 but I'll -- I'll just leave it at that.

20

21   (BRIEF PAUSE)

22

23                   MR. JOHN MCCULLUM:    Going back to the  
24 -- the water quality monitoring, so Diavik's proposed  
25 that they would -- they would have a water quality

1 station in the middle of the -- the pit, and -- and  
2 you're calling it an SNP station.

3                   Is there a particular reason why that  
4 would be an SNP station as opposed to a special study  
5 or something where it was more specific, like if  
6 there's a specific protocol for doing that kind of  
7 monitoring?

8                   THE CHAIRPERSON:    Diavik...?

9                   MR. SEAN SINCLAIR:    Yes.    Sean  
10 Sinclair, Diavik.  So we've proposed it as an SNP  
11 station because, I mean, we see it as a -- like a  
12 regulatory requirement to monitor -- to continue to  
13 monitor that site.  We don't see it being a one-off  
14 special study sort of as you've suggested.

15                   We would -- and we have the schedule  
16 outlined in some of our earlier responses.  So yeah.  
17 That's why because we would plan to continue to  
18 monitor that for our regulatory requirements.

19                   MR. JOHN MCCULLUM:    Okay.  Thank you.  
20 Yeah.  We'll -- I guess we'll talk more about our  
21 thoughts on monitoring -- sorry; John McCullum,  
22 EMAB -- we'll talk more on our thoughts on monitoring  
23 during our presentation later on.

24                   A couple more questions.  On wildlife  
25 management, there were two (2) different responses

1 about -- or for Diavik commitments to revise, I guess,  
2 the wildlife monitoring program. One was made in  
3 response to a Environment Canada question where DDMI  
4 said that it committed to update the wildlife  
5 monitoring program to include this project, and it  
6 would -- it would support the monitoring to determine  
7 whether migratory birds, including water fowl,  
8 et cetera, would interact with pit mine workings  
9 during the infilling and prior to stabilization of  
10 water quality. So kind of a monitoring aspect.

11                   And then a second one, the commitment  
12 that Diavik made in its responses to the intervention  
13 letter that you went through at the end of your  
14 presentation, Gord, where Diavik said that it would  
15 revise its standard operating procedure to include  
16 wildlife deterrents during the pit filling.

17                   And so the first question is: Is  
18 Diavik committing to both of those? They don't seem  
19 to be the same to me.

20                   THE CHAIRPERSON: Diavik...?

21                   MR. SEAN SINCLAIR: Sean Sinclair,  
22 Diavik. Yes, John. We're committing to updating both  
23 our wildlife monitoring program and our wildlife  
24 deterrents, sort of standard operating procedures, as  
25 required.

1 I mean, I will say that we don't expect  
2 any greater potential for wildlife harm, like  
3 including caribou, during this process if this project  
4 goes forward though.

5 MR. JOHN MCCULLUM: Thank you, Sean.  
6 John McCullum, with EMAB again.

7 The second part of that question is  
8 that in your commitment on updating the standard  
9 operating procedures, you say that you will make these  
10 revisions and then submit them to the Government of  
11 Northwest Territories and EMAB for review and will  
12 address any recommendations that might come from this  
13 review as governed by the Environmental Agreement.

14 So I guess the first question there is:  
15 Why would you not submit them to the other Interveners  
16 or parties or at least affected communities who have  
17 equally, if not greater, concerns about wildlife?

18 THE CHAIRPERSON: Diavik...?

19 MR. GORD MACDONALD: Gord Macdonald,  
20 with Diavik. Yeah. Sorry, John and Interveners. We  
21 weren't trying to exclude anyone from that. We were  
22 just noting that the wildlife -- wildlife management  
23 and wildlife monitoring aren't necessarily addressed  
24 under the Wek'eezhii Land and Water Board.

25 And so the -- the regulatory

1 authorities, if you will, are the -- is through EMAB  
2 and the GNWT, not that the review shouldn't include  
3 other people.

4 MR. JOHN MCCULLUM: Thank you, Gord.  
5 John McCullum, with EMAB again.

6 And the second part of that is that --  
7 and I -- maybe you've answered this already -- but  
8 that you would address any recommendations that might  
9 come from this review as governed by the Environmental  
10 Agreement.

11 Now, the way the Environmental  
12 Agreement is structured is Diavik is not required to  
13 implement any recommendations from EMAB or the GNWT  
14 but simply to consider them and respond.

15 So I think there probably could be a  
16 stronger commitment to responding to those  
17 recommendations.

18 THE CHAIRPERSON: Diavik...?

19 MR. GORD MACDONALD: Gord Macdonald,  
20 with Diavik. No. I think it's exactly what it says  
21 in the agreement that we would commit to responding to  
22 those commit -- to those recommendations and providing  
23 our reasons for not making a change.

24 MR. JOHN MCCULLUM: Okay. Thank you,  
25 Gord. I have a few more questions, Madam Chair. I

1 just want to make sure my -- how am I doing for time  
2 here?

3 THE CHAIRPERSON: Not that well, but  
4 we'll listen to the questions.

5 MR. JOHN MCCULLUM: Okay. I will try  
6 to not talk too fast but get it done quickly.  
7 John McCullum, with EMAB.

8 A number of Diavik's responses state  
9 that DDMI also emphasizes that the development and  
10 maintenance of meromixis -- sorry -- a chemocline is  
11 not required for the protection of aquatic life.  
12 Rather, water quality in the top 40 metres of the  
13 water column should remain below AEMP benchmarks.

14 Is -- I wasn't sure why that was  
15 included there, and I wonder if that has -- if you're  
16 implying there that you're not sure that meromixis  
17 will take place and a chemocline will form.

18 THE CHAIRPERSON: Diavik...?

19 MR. GORD MACDONALD: Gord Macdonald,  
20 with Diavik. No. It's looking at that possibility  
21 that there is very limited pore water being released  
22 out of the -- out of the bottom, and that it's very  
23 clean water throughout the water column.

24 And so if there is no chemocline in  
25 which case there wouldn't need to be one, so a

1 chemocline will develop if there is a different -- a  
2 denser pore water being released, and it won't form if  
3 there isn't one.

4                   And so -- you don't want to make it a  
5 necessity to have a chemocline if there is no  
6 different water quality with depth.

7                   MR. JOHN MCCULLUM:   Okay.  Thank you,  
8 Gord.  So is that a "yes" or a "no"?

9                   THE CHAIRPERSON:   Diavik...?

10                  MR. GORD MACDONALD:   Gord Macdonald,  
11 with Diavik.  Maybe if you could rephrase the question  
12 so that I can answer as a yes or no.

13                  MR. JOHN MCCULLUM:   John McCullum,  
14 with EMAB.  So you've done a lot of water quality  
15 modeling.  You've made a bunch of predictions.  Here  
16 you're kind of saying that it doesn't really matter  
17 whether there's a chemocline or not.

18                  So I'm just asking if the reason you're  
19 say -- I don't know how to rephrase the question.  I  
20 think it basically says what it says.

21                  We don't have to -- we don't have to  
22 beat this one to death.  I just wanted to see if  
23 you -- what you thought about that, and I guess I have  
24 an answer even if it's not entirely clear to me what  
25 it is.

1 THE CHAIRPERSON: Diavik, did you have  
2 another answer, or do we want to go on to the next  
3 question?

4 MR. GORD MACDONALD: Gord Macdonald,  
5 with Diavik. No. Please proceed.

6 MR. JOHN MCCULLUM: Okay. Just  
7 one (1) final question, Madam Chair. John McCullum,  
8 with EMAB. So Diavik will -- if this project is  
9 approved, Diavik will pump the processed kimberlite  
10 slurry from the process plant into the pits.

11 Does that -- does removing that portion  
12 of the flow that now goes into the PKC -- does that  
13 reduce the hazard that's associated with, you know,  
14 like a potential -- I don't know -- an earthquake or  
15 something like that affecting the dam with PKC and  
16 some kind of catastrophic failure into the lake?

17 And if it does, how much would it  
18 reduce it by? Just in order of magnitude.

19 THE CHAIRPERSON: Diavik...?

20 MR. GORD MACDONALD: Gord Macdonald,  
21 with Diavik. To give you a sense, John, I think it'd  
22 be reasonable to say that it's -- it represents -- the  
23 amount that we would not put into the processed  
24 kimberlite containment represents about 5 million  
25 cubic metres of tailings versus the 32 that's there.



1                   So it would reduce that -- that risk or  
2 that consequence by 5 over 32 if you want to take it  
3 simply.

4                   MR. JOHN MCCULLUM:    Okay.  Thank you.  
5 I'm just going to check with my consultant here, but I  
6 think that's all my questions, Madam Chair.

7

8                                   (BRIEF PAUSE)

9

10                   MR. JOHN MCCULLUM:    Maybe I'll just  
11 ask.  Friederike, do you have any followup questions?

12                   MS. FRIEDERIKE SCHNEIDER-VIEIRA

13 (BY PHONE):    I said I didn't have any more, but I  
14 think you're not always hearing me.

15                   MR. JOHN MCCULLUM:    Okay.  Thank you.

16                   MS. FRIEDERIKE SCHNEIDER-VIEIRA

17 (BY PHONE):    You're welcome.

18                   THE CHAIRPERSON:    Okay.  Thank you for  
19 the questions, EMAB.  We're going to break for lunch  
20 for one (1) hour.  We'll come back right at 1:00, and  
21 we'll start with questions from Lutsel K'e First  
22 Nations.  Lunchtime.

23

24 --- Upon recessing at 12:10 p.m.

25 --- Upon resuming at 1:09 p.m.

1 THE CHAIRPERSON: Okay, we'll call the  
2 meeting back in to order, the -- or the hearing back  
3 into order after that great lunch. We hope the  
4 afternoon will be exciting, and not so drowsy, but  
5 we'll make sure that we that we stop for some good  
6 Starbucks coffee and have a nice break, there.

7 We would like to continue on, then,  
8 with the lines of questioning, and I would like to ask  
9 Lutsel K'e Dene First Nation if they have questions.

10 MS. LAUREN KING: Lauren King, for the  
11 Lutsel K'e Dene First Nation.

12 The Lutsel K'e Dene First Nation is  
13 deeply concerned about the consequences of this  
14 proposed project being approved based on a preliminary  
15 water model, and if the results from the new water  
16 quality model shows that the water quality within the  
17 pit lakes does not meet AEMP benchmarks, that the  
18 project will be approved, and the water quality and  
19 other VCs (phonetic) will be compromised.

20 So my question to Diavik is: Will you  
21 commit to not depositing processed kimberlite in pit  
22 lakes if the new water quality model does not support  
23 doing so?

24 THE CHAIRPERSON: Diavik...?

25 MR. GORD MACDONALD: Gord Macdonald,

1 with Diavik. Yeah, we commit to that. I could say  
2 the whole thing. The -- the idea being that we -- we  
3 prop -- we understand it's preliminary modelling. We  
4 know -- we know we need to do more modelling, and  
5 demonstrate that it's going to be there, both to us  
6 and to everybody else, but if the outcome of that  
7 revised modelling shows that we're going to be  
8 exceeding AEMP benchmarks, then that would be an  
9 indication to us to not proceed with the project.

10 MS. LAUREN KING: Okay. Thank you.  
11 Lauren King, LKDFN.

12 So do you -- does Diavik feel that the  
13 Review Board and the Interveners have enough  
14 information based on a preliminary water quality model  
15 to make a sound decision on potential socioecological  
16 impacts?

17 THE CHAIRPERSON: Diavik...?

18 MR. GORD MACDONALD: Gord Macdonald,  
19 with Diavik. Yeah, yeah. I -- we think that the  
20 level of information provided is appropriate for an  
21 environmental assessment, and to make that  
22 determination for an environmental assessment. We --  
23 we'd agree that there needs to be more detail to make  
24 the final -- the final determinations under the  
25 regulatory, but yes, we think there's enough for this

1 level of approval.

2 MS. LAUREN KING: So can you please  
3 clarify -- I think that --

4 THE CHAIRPERSON: State your name  
5 again, please, for --

6 MS. LAUREN KING: Sorry, Lauren King,  
7 LKDFN. To echo EMAB's comments, why was a more  
8 thorough water quality model not undertaken for this  
9 process, and yet you'll undertake it for the -- in the  
10 next phase?

11 MR. GORD MACDONALD: Gord Macdonald,  
12 with Diavik. That's generally how these processes  
13 work. The -- we mor -- we move from the more  
14 conceptual to the more detailed as the -- as the  
15 project advances through -- through permitting and  
16 approval. It -- it wouldn't make a lot of sense to  
17 put a whole lot of time and energy in at the very  
18 beginning if -- if it's not a project that's -- that's  
19 acceptable.

20 It's -- it's also why we started at the  
21 very beginning with engagement with communities to  
22 find out if it was, as I said before, was that -- if  
23 there was any fundamental opposition to it before we'd  
24 done any modelling.

25 MS. LAUREN KING: So that makes it

1 difficult for LKDFN to determine what the impacts will  
2 be --

3 THE CHAIRPERSON: Sorry, state your  
4 name again, always, please.

5 MS. LAUREN KING: Lauren King, LKDFN.  
6 The preliminary results make it difficult for LKDFN to  
7 really determine what the potential impacts will be  
8 without more complete information.

9 My next question is if meromixes is not  
10 established, is there any actions that Diavik can take  
11 to promote the establishment of meromixes, and can you  
12 speak to the likelihood of their effectiveness?

13

14 (BRIEF PAUSE)

15

16 THE CHAIRPERSON: Diavik...?

17 MR. GORD MACDONALD: Yeah, Gord --  
18 excuse me, Gord Macdonald, with Diavik.

19 So it -- it's a bit of a -- a bit of a  
20 conundrum. If meromixes doesn't form, it might mean  
21 that there's -- there's no difference between the  
22 water at the bottom and the top that's -- it could all  
23 be very -- very clean, low -- low dissolved solids  
24 water, in which case there'd be no reason to introduce  
25 meromixes.

1                   And if you wanted to introduce  
2 meromixes, it would -- one (1) option would be to pump  
3 saline water -- more saline water to the bottom to  
4 introduce that gradient. But you -- begs why you  
5 would do that if -- if there wasn't already -- if there  
6 wasn't already -- if it was all clean water, why you  
7 would do that.

8                   It -- it would be a -- that would be  
9 very effective. Other ways might be to -- to monitor  
10 the temperature of the water that you're putting in at  
11 the top to create a thermostratification at the top,  
12 and -- or more sheltering, but that would take a lot  
13 of -- like wind sheltering, but that would take a lot  
14 of -- a lot of mass, obviously, to create that kind of  
15 a wind shelter.

16                   The -- the key thing is why would they  
17 -- why would the meromixes not be there, and the  
18 reason why that meromixes would not be there would be  
19 the key thing.

20

21   (BRIEF PAUSE)

22

23                   MS. LAUREN KING: Okay. I'll have to  
24 think about that response. In the meantime -- Lauren  
25 King, LKDFN.

1                   Can you please clarify why Diavik used  
2 the Canadian water quality guidelines for protection  
3 of aquatic life instead of pre-mine baseline  
4 conditions in Lac de Gras for AEMP benchmarks?

5                   THE CHAIRPERSON:     Diavik...?

6                   MR. GORD MACDONALD:     Gord Macdonald,  
7 Diavik.  So we -- we used the AEMP benchmarks, we --  
8 what we call the AEMP benchmarks, and I don't mean to  
9 be pedantic about it, but it's a collection of water  
10 quality guidelines for the protection of aquatic life.  
11 I think that's what you're meaning by the Canadian  
12 water quality guidelines.

13                   We use that as a -- as sort of an upper  
14 level of an -- of a -- a level at which -- threshold  
15 of an effect level.  It's -- that's what was  
16 determined in -- it was determined for in the Aquatic  
17 Effects Monitoring Program, and we use that as a -- as  
18 a limit in what's called our -- our Trigger Action  
19 Response Plan in our Aquatic Effects Monitoring  
20 Program.

21                   So it sets a -- it sets out a threshold  
22 that as we start to approach it, we need to take -- we  
23 need to take an action.  And it relates to geographic  
24 extent, as well as that -- as well is that magnitude.  
25 So the -- the notion is that there is a nul -- there

1 is a level of change that can occur before it would  
2 have an effect on the environment.

3 And if -- if your alternative was  
4 saying that it's baseline, that it's zero change, then  
5 the mine wouldn't have been able to develop in the  
6 first place without an ability to have a change -- a  
7 level of change of water chemistry in Lac de Gras.

8 MS. LAUREN KING: So if the water  
9 quality in Lac de Gras changes --

10 THE CHAIRPERSON: State your name  
11 again, please.

12 MS. LAUREN KING: -- Lauren King,  
13 LKDFN. If the water quality in Lac de Gras changes,  
14 then that affects cultural uses. And so you're saying  
15 it's inevitable that water quality will change for the  
16 negative, and therefore affecting cultural uses by  
17 LKDFN.

18 I have a question based on slide 30 in  
19 your presentation. Is it correct to say that the TK  
20 and unpaid participants in public meetings in  
21 Indigenous communities will be responsible for  
22 developing the reconnection TK base criteria?

23 MR. GORD MACDONALD: Gord Macdonald,  
24 with Diavik. First, I just want to finish on the  
25 previous point. There are changes in water chemistry



1 in Lac de Gras. I -- I'm not sure what level of  
2 change in water chemistry would create a cultural  
3 effect. If you say it's any change will create a  
4 cultural effect, that -- that's obviously your --  
5 that's your -- valued, your opinion. We -- we did not  
6 understand that any change would -- would result in a  
7 cultural effect.

8                   What we're saying -- what we're saying  
9 here is the process for developing these -- these TK  
10 base criteria would be to start with our traditional  
11 knowledge panel, and we think that's our -- our best  
12 collaborative window into how these -- these criteria  
13 might be developed. And the -- a concern that's been  
14 raised by the -- by the panel and others is that the -  
15 - the panel members don't want to necessarily be  
16 representative of their communities; they're  
17 representative of their knowledge, and they're  
18 participating on that -- on that basis.

19                   So it would then take a level of  
20 verification back with each of the communities  
21 themselves, and we've proposed to use EMAB for that --  
22 as -- as that vehicle, because the five (5) Indigenous  
23 groups all sit on EMAB, and then we think that would  
24 be a very useful forum for getting that -- that level  
25 of alignment.

1                   Then to make sure that we included  
2 Indigenous groups that are not part of EMAB, we then  
3 do that vetting through -- through those separate  
4 communities. But then the final -- the final  
5 approval, if you will, would be through the Wekeezhi  
6 Land and Water Board as a closure criteria. So they  
7 are the -- the Board that reviews our closure plan,  
8 and our closure plan includes criteria, and is  
9 expected to include traditional knowledge base  
10 criteria.

11                   I -- I hope that answers your question.

12                   MS. LAUREN KING:    Lauren King, LKDFN.  
13 It is my understanding that Diavik was responsible for  
14 determining the perceived cultural use impacts on the  
15 Indigenous parties, so I don't see how that was  
16 possible without engaging with Indigenous parties to  
17 determine if a change in water quality in Lac de Gras  
18 would affect cultural use.

19                   As for the TK panel and the five (5)  
20 Indigenous parties represented on the EMAB Board, I  
21 think that the engagement activities differ from  
22 developing plans, our aspects of plans. That's a  
23 consultant's job. So hiring traditional knowledge  
24 experts would be more appropriate.

25

1 (BRIEF PAUSE)

2

3 MS. LAUREN KING: And I would just  
4 like to --

5 THE CHAIRPERSON: Diavik...?

6 MS. LAUREN KING: Sorry.

7 MR. GORD MACDONALD: Gord Macdonald,  
8 with Diavik. Sorry, I -- I didn't -- I didn't mention  
9 that the -- the TK panel is facilitated by, I think  
10 what you are referring to as consultants that are  
11 experts in traditional knowledge, or experts in  
12 facilitating traditional knowledge. So they are the  
13 ones that would be helping with the -- with the  
14 traditional knowledge panel to develop these criteria.

15 MS. LAUREN KING: Thank you. My  
16 recommendation is that they provide advice rather than  
17 be creators --

18 THE CHAIRPERSON: State your name,  
19 please.

20 MS. LAUREN KING: Lauren King, LKDFN.  
21 My next question is regarding slide 31. You state  
22 there is a high likelihood that predicted pit lake  
23 water quality conditions will not meet TK best -- TK  
24 based pit lake criteria for reconnection. Can you  
25 tell me the basis for that comment?

1 MR. GORD MACDONALD: Gord Macdonald,  
2 with Diavik. Sorry, you have to read the end of the  
3 first one; it says if, if there is that.

4 So you asked previously -- you said if  
5 -- if we did additional water -- water quality  
6 modelling, and it determined -- and so that's what --  
7 it's an if. It's not that we expect that to happen.  
8 It's just that if that would happen.

9 MS. LAUREN KING: Thank you. And my -  
10 - Lauren King, LKDFN. My final comment is that LKDFN  
11 supports GNWT/ENR's request for a written statement  
12 regarding the risks of placing PK in a containment  
13 facility versus the pits.

14 THE CHAIRPERSON: Any further  
15 questions from Lutsel K'e Dene First Nation?

16 MS. DORIS ENZOE: Doris Enzoe, Lutsel  
17 K'e Dene First Nation, Wildlife Committee.

18 My questions to Diavik, about a year --  
19 about a year ago, I went to Diavik for traditional  
20 knowledge. I never knew that they were going to take  
21 my traditional knowledge and use the information that  
22 was okay to put that PKC into the tailings pond. And  
23 we're only allowed two (2) people from my community  
24 for making decision for my community when -- when it  
25 should have been consulted with them -- the rest of my

1 -- my people in my community, just not use only two  
2 (2) people. For me, it's not right.

3 I can't make decisions on my own. I  
4 have my leadership. I have a committee. I have my  
5 membership that I have to consult with when I got  
6 home, but today, it seems like when I went over there,  
7 I was -- I said it was okay, but it's not just me.

8 I did go on -- I did go halfway  
9 underground, and there was people that went  
10 underground, said water does leak, and they put it  
11 into the -- into the water where they clean the water  
12 before it goes back into the lake.

13 When I asked a question yesterday to  
14 see if you -- what will happen to the PKC that you put  
15 in there at the bottom, I asked if you can drink the  
16 water, and you said no. So now I'm thinking the water  
17 that's on the bottom of where you're going to put the  
18 PKC, on the bottom of the lake, that's not healthy.  
19 You know, living -- living close to all the mines, we  
20 have current. We have rivers. So it does affect us.  
21 And I also went a year ago to do a fish tasting. And  
22 in there, the fish were not healthy. And there was  
23 worms in the fish, too.

24 When I see things, I do talk about it.  
25 It's not just my say. And the fish are not healthy.

1 Now I ask them, can you send me the -- the results of  
2 how the fish are? Maybe they sent it to Wildlife, I  
3 don't know, because I've been busy.

4                   So if we're going to be doing stuff  
5 like this, putting the tailings pond back in the  
6 water, and when you say that brown stuff is not  
7 healthy, well, the -- the lake is not going to be  
8 healthy. And we all know there's climate change, and  
9 we already see it.

10                   And when you say to me, we're putting  
11 this stuff underground, it's going to be frozen  
12 forever, I don't believe that, because things that you  
13 move around will never go back the same. Never.

14                   I'm sitting here. I'm speaking on  
15 behalf of my community, my family members, my young  
16 generations. I have to speak for them so they can  
17 stay healthy and live a good life. The mine's not  
18 going to be there forever, but you guys are going to  
19 close it down, leave, destroying everything that was  
20 healthy there before. That's not right for me.

21                   I wanted to say something, but it -- I  
22 don't think it's the right way to say it, but if you  
23 come to my community, you only went there once and  
24 consult with us. We live close, and the water flows  
25 right around Copper Mine and everywhere, down to

1 Artillery Lake, into Lockhart River, where Grat --  
2 Lady of the Falls is, into McLeod Bay, into Great  
3 Slave Lake. People from Copper Mine said their fish  
4 are unhealthy already, and they're not sitting in  
5 here, KIA, I wonder why.

6 I travelled to lots of meetings. I  
7 watch people, what they say, and what they talk about.  
8 I write notes down, even the notes that my late mom  
9 used to sit in the meetings, I still keep their papers  
10 because that will help me for the next generation  
11 She's no longer with me but she told me, one day the  
12 mines, whenever they promise you things, thinking that  
13 it's going to go back to the same way, it's not going  
14 to be like that, my girl, and today it is, because we  
15 don't see caribou and maybe destroying our fish, maybe  
16 our fresh water that we live on.

17 In some places you can't just go out  
18 there and drink water. In my community you can, and I  
19 would like to keep that safe, and anywhere I go, the  
20 land is my pillow. I could sleep anywhere but if it's  
21 not healthy I wouldn't go there.

22 Same with Giant Mine that used to be  
23 here, now people can't pick berries, but then I heard  
24 it's not going to be the same as that, Giant Mine.  
25 How can you tell me it's not going to be the same?

1 How do you know it's not going to be the same? It's  
2 all talk.

3 THE CHAIRPERSON: Doris, if I could  
4 interrupt, please. I truly appreciate -- the Board is  
5 truly respectful of your comments that you are making,  
6 but at this technical hearing, we are here to ask  
7 questions and later on you will be able to make public  
8 comments, but if I could just interrupt and if we  
9 could just try to stay to the agenda so that we can  
10 ask questions.

11 MS. DORIS ENZOE: Okay. Then I have  
12 another question. My name is Doris Enzoe.

13 I want to ask a question about the  
14 water, if it's going to be healthy or not for future  
15 generations.

16 THE CHAIRPERSON: Diavik...?

17 MR. GORD MACDONALD: Madam Chair,  
18 Doris, I think the best way I can answer that is that  
19 our definition of healthy is whether it's below or  
20 above that aquatic effects monitoring point benchmark,  
21 and what we're saying is that it would -- it could  
22 exceed that benchmark at the very bottom, a hundred  
23 and fifty (150) metres below the -- below the surface,  
24 but it would not exceed that benchmark in the upper  
25 forty (40) metres.



1                   So with that we'd say that that surface  
2 water which would be used by people, by fish, by  
3 caribou, would be healthy.

4                   THE CHAIRPERSON:   Questions from  
5 Lutsel K'e Dene First Nation?

6                   MS. DORIS ENZOE:   Doris Enzoe again,  
7 and I have another question.  So when the pit is close  
8 (sic) and after you put your PKC in there, after it  
9 settles, you're going to fill up the water and then  
10 open it up to the whole lake, how long will that take  
11 before it gets full?

12                  THE CHAIRPERSON:   Diavik...?

13                  MR. GORD MACDONALD:   Gord Macdonald,  
14 with Diavik.  I think the numbers we're looking at  
15 right now is about three (3) years from the time we  
16 finish -- we finish mining operations in 2025, until  
17 we'd be at the point where we'd all be evaluating,  
18 measuring that water, it's full, and we're deciding  
19 whether to reconnect it or not, so 2028, three (3)  
20 years from the time we end operations till the time  
21 we'd be reconnecting it with Lac de Gras, if the  
22 conditions are all appropriate.

23                  MS. DORIS ENZOE:   Doris Enzoe, Lutsel  
24 K'e Dene First Nation.

25                         So after you fill up your water, you

1 guys are only looking at or monitor that for only  
2 three (3) years, or you're going to monitor it long?

3 THE CHAIRPERSON: Diavik...?

4 MR. GORD MACDONALD: Gord Macdonald,  
5 with Diavik. We -- we -- well, we said we'd monitor  
6 it for two (2) years before we breached it, before we  
7 -- before we cut those openings, so we could make sure  
8 the water was healthy before reconnecting with Lac de  
9 Gras, and then we would continue to monitor it after  
10 that.

11 It'd probably be at least ten (10)  
12 years but it'll depend on the results of that  
13 monitoring and the results of other closure projects,  
14 closure work on the island as to how long that  
15 monitoring would continue.

16 MS. DORIS ENZOE: Doris Enzoe, Lutsel  
17 K'e Dene First Nation. So after closing ten (10)  
18 years, are you going to consult with our First Nations  
19 of what -- how it is, like if it's healthy or not?

20 THE CHAIRPERSON: Diavik...?

21 MR. GORD MACDONALD: Gord Macdonald,  
22 with Diavik. Doris, yes, we will.

23 MS. DORIS ENZOE: Masi cho.

24 THE CHAIRPERSON: Questions to Lutsel  
25 K'e First Nation.

1 MR. ROBERT PAISHEGWON: Robert  
2 Paishegwon, Lutsel K'e First Nation. Thanks, Doris,  
3 for your -- your comments and questions.

4 So -- so as you can see, looks like  
5 your numbers already are being impacted by mine  
6 activities from the Diavik Mine.

7 So how was cultural impact determined  
8 by Diavik? Can you provide some more details on this?

9

10 (BRIEF PAUSE)

11

12 MR. ROBERT PAISHEGWON: Sorry, if I  
13 could add further. And how is it determined to be  
14 insignificant?

15 THE CHAIRPERSON: State your name  
16 again, please.

17 MR. ROBERT PAISHEGWON: Robert  
18 Paishegwon.

19

20 (BRIEF PAUSE)

21

22 THE CHAIRPERSON: Diavik...?

23 MR. GORD MACDONALD: Thanks, Madam  
24 Chair. I'll get a response from -- the air impacts  
25 assessment group that -- that did the work.

1 (BRIEF PAUSE)

2

3 MR. COLIN BUCHANAN: Colin Buchanan,  
4 consultant to Diavik.

5 So in considering effects on cultural  
6 use, we assume that cultural use is important and that  
7 the health and abundance of traditionally harvested  
8 species and the continued availability and access to  
9 traditionally sites and areas were important.

10 So in looking at cultural use we assess  
11 the -- any change to the availability of traditional  
12 use species and access to species or sites or areas  
13 that would be important, recognizing of course that  
14 people may choose not to use an area for all sorts of  
15 spiritual, cultural, or aesthetic reasons.

16 Our conclusions were based on  
17 information that Diavik has collected through  
18 consultation they've been doing for twenty-five (25)  
19 years, through information provided in TK Panel  
20 reports, and to -- and through information that was  
21 collected for the 1999 Comprehensive Study Report, as  
22 well as the results of the biophysical VCs.

23 THE CHAIRPERSON: Diavik...?

24 MR. GORD MACDONALD: Gord Macdonald,  
25 with Diavik. So in summary we -- we can only -- we

1 could only assess if there was a change in use or a  
2 change in availability of resource, and that's how we  
3 determined that it -- that there wasn't a cultural  
4 impact.

5 We -- we couldn't assess whether there  
6 was a perceived or whether would be a change in use.  
7 We expected that would be the information that -- that  
8 you would bring to this -- the Indigenous groups would  
9 bring to this session.

10 MR. ROBERT PAISHEGWON: So that  
11 doesn't answer the question.

12 THE CHAIRPERSON: State your name,  
13 please.

14 MR. ROBERT PAISHEGWON: Sorry, Robert  
15 Paishegwon. So that doesn't answer how it was  
16 determined that the perceived impact is not  
17 insignificant.

18

19 (BRIEF PAUSE)

20

21 THE CHAIRPERSON: Diavik...?

22 MR. GORD MACDONALD: Gord Macdonald.

23 Is there a reference? I'm not sure we've ever said  
24 the perceived impact was insignificant. I think -- I  
25 think what we're saying is that there was -- there was

1 no -- we didn't identify a cultural impact because we  
2 didn't identify a change in availability of wildlife  
3 or of water chemistry or of fish.

4 THE CHAIRPERSON: State your name.

5 MS. LAUREN KING: Lauren King, LKDFN.

6 So in the scoping document it said that Diavik was  
7 responsible for assessing actual and perceived  
8 cultural use impacts. So it's unclear how you  
9 evaluated perceived impacts from the -- from the  
10 Lutsel K'e Dene First Nation without working with us  
11 or hiring us to actually do so.

12

13 (BRIEF PAUSE)

14

15 THE CHAIRPERSON: Diavik...?

16 MR. GORD MACDONALD: Gord Macdonald,  
17 with Diavik. I -- I take your point. I think that's  
18 the purpose of these hearings is to -- is to share  
19 that perceived impact. I take your point.

20 MR. ROBERT PAISHEGWON: Thank you.

21 THE CHAIRPERSON: State your name.

22 MR. ROBERT PAISHEGWON: Robert  
23 Paishegwon, LDKFN (sic). So have any other options  
24 been considered for PK storage? For example, have you  
25 -- or I'm sorry, have -- has Diavik explored covering

1 the PK with an impermeable layer prior to adding water  
2 to the pits to further reduce potential for  
3 contamination?

4 THE CHAIRPERSON: Diavik...?

5 MR. GORD MACDONALD: Gord Macdonald,  
6 with Diavik. We have -- we conceptually have looked  
7 at that. It's -- it's material that level keeps  
8 changing, so it's difficult -- it would be technically  
9 quite difficult to put any kind of a -- a barrier.  
10 The most effective barrier that's there is the  
11 chemocline. That difference in chemic -- in gradient  
12 of density is the most effective barrier between the  
13 water chemistry at the bottom and the water chemistry  
14 at the top.

15 MR. ROBERT PAISHEGWON: So you're  
16 saying that --

17 THE CHAIRPERSON: State your name,  
18 please.

19 MR. ROBERT PAISHEGWON: Robert  
20 Paishegwon, LDKFN (sic). So you're saying that it  
21 would be more -- or it would be better than  
22 impermeable layer over top of the PK, correct?

23 THE CHAIRPERSON: Diavik...?

24 MR. GORD MACDONALD: Gord Macdonald,  
25 with Diavik. No, I don't think I would categorize it

1 quite that way. If you could physically build that,  
2 then clearly that would be a better -- a better  
3 method.

4 MR. ROBERT PAISHEGWON: Robert  
5 Paishegwon. So then you did not consider that -- that  
6 option for this project, correct?

7 MR. GORD MACDONALD: Gord Macdonald,  
8 with Diavik. That's correct.

9

10 (BRIEF PAUSE)

11

12 MS. STEPHANIE POOLE: Thank you.  
13 Stephanie Poole. I have a couple of questions for  
14 Diavik.

15 I have some questions about your model,  
16 thinking about things overnight since the community  
17 hearing yesterday, but this morning I heard that you  
18 haven't actually run your models, and so I'm a little  
19 bit confused. And it sounds like there may or may not  
20 be an opportunity for Akaitcho Dene First Nations to  
21 participate in -- in building that model or  
22 contributing to what kind of models are used and --  
23 and so forth in the future.

24 I wonder will your models include areas  
25 of uncertainty like how are you going to include in



1 your model the constraining of seep and groundwater  
2 volumes and chemistry?

3

4 (BRIEF PAUSE)

5

6 THE CHAIRPERSON: Diavik...?

7 MR. GORD MACDONALD: Gord Macdonald,  
8 with -- with Diavik. Sorry if there is confusion on  
9 whether we have or haven't done any modelling.

10 It's -- it's levels of modelling, so we  
11 have done a first level of modelling but we've  
12 committed to doing three (3) more -- three (3) more  
13 steps in this modelling before we're actually at  
14 closure, and the next one is the one we were  
15 discussing with the GNWT this morning, which would be  
16 done before we were -- before we could be permitted to  
17 put any processed kimberlite into the mine workings.

18 And we do expect that there would be --  
19 could be involvement for anyone who was -- who was  
20 interested, and we would include the seeps that are  
21 currently in the mine workings where groundwater seeps  
22 into the mine workings. Those would be included in  
23 the -- in the next round of modelling. It would be  
24 included based on our -- the monitoring that we've  
25 been doing over the last seventeen (17) years on

1 observation on volumes and locations for where those  
2 seeps come in.

3 MS. STEPHANIE POOLE: Stephanie Poole.

4 Do those -- does that data include -- like, that  
5 historical data, does that include chemistry?

6 THE CHAIRPERSON: Diavik...?

7 MR. GORD MACDONALD: Gord Macdonald,  
8 with Diavik. Yes, we monitor that...we -- we -- we  
9 monitor that -- the chemistry of those seeps on a --  
10 on a two-week basis, and it's -- all of that  
11 information is on the Wek'eezhii Land and Water Board,  
12 but that would form the basis for the inputs to the  
13 model.

14 MS. STEPHANIE POOLE: Stephanie Poole.

15 So you monitor volume and chemistry. And anything  
16 else on a biweekly basis? Do you measure temperature?

17 THE CHAIRPERSON: Diavik...?

18 MR. SEAN SINCLAIR: Sean Sinclair,  
19 Diavik. So just to clarify, so we -- we sample for  
20 chemistry, including temperature, every two (2) weeks,  
21 and we do flow daily, and that's -- that's historical.  
22 We have all that available and it's online.

23 MS. STEPHANIE POOLE: Thank you.

24 Stephanie Poole. Do you do any on-site meteorological  
25 monitoring?

1 MR. SEAN SINCLAIR: Sean Sinclair,  
2 Diavik. Yes, we do, the normal suite of  
3 meteorological parameters.

4 MS. STEPHANIE POOLE: Does that  
5 include the measurement of the light extinction  
6 coefficient?

7

8 (BRIEF PAUSE)

9

10 MR. GORD MACDONALD: Stephanie, I  
11 think -- Gord Macdonald, with Diavik.

12 Stephanie, are you talking about light  
13 extinction into water? Yeah. It's -- I mean, we do -  
14 - we do measure that as part of the AMP. That's  
15 what's called a Secchi depth, so that's the depth,  
16 right, which you can differen -- differentiate between  
17 black and white on a -- on an indicator which you can  
18 correlate to that, but that's not a meteorological  
19 measurement that we apply.

20 MS. STEPHANIE POOLE: So --

21 THE CHAIRPERSON: State your name.

22 MS. STEPHANIE POOLE: Stephanie Poole.

23 So the answer is no, that you're not using  
24 meteorological data to -- to find that, you're using a  
25 different kind -- method to determine that. Is that

1 right?

2 THE CHAIRPERSON: Diavik...?

3 MR. GORD MACDONALD: Gord Macdonald,  
4 for Diavik. Correct, we don't measure it directly.  
5 We'd have to calculate it use other -- using other  
6 methods.

7 MS. STEPHANIE POOLE: Stephanie Poole.  
8 So that might be something you want to consider when  
9 you're developing your next round of models in areas  
10 of -- of uncertainty around all models.

11 My next question is about meromictic  
12 lakes. Meromictic lakes turn eventually. All  
13 meromictic lakes eventually turn. Could take years or  
14 decades or larger amounts of time. Do you agree?

15 MR. GORD MACDONALD: Gord Macdonald,  
16 with Diavik. Stephanie, I think you probably want to  
17 talk with Jerry about this one.

18

19 (BRIEF PAUSE)

20

21 MR. JERRY VANDENBERG: Jerry  
22 Vandenberg, consultant to Diavik. I don't agree with  
23 that statement. There are about three hundred (300)  
24 meromictic lakes naturally worldwide, and I'm not  
25 aware of any evidence that shows they all eventually

1 turn over.

2 MS. STEPHANIE POOLE: Thank you.  
3 Stephanie Poole. I'll endeavour to provide you with  
4 that evidence.

5 The next question. In a meromictic  
6 lake, on the bottom layer, where there's very low  
7 oxygen, it sounds like you were trying to say that  
8 most of the living things inside the water, I'm  
9 paraphrasing, occur in the top part of the Robertson  
10 Head Frame.

11 So, in that bottom later where there is  
12 very low oxygen there is purple sulphur bacteria that  
13 grow on the bottom of meromictic lakes. And when they  
14 do their thing, the result is sulphur. And that  
15 sulphur could be oxidized and turned into sulphuric  
16 acid.

17 Where in your environmental impact  
18 statement is this issue discussed?

19 MR. JERRY VANDENBERG: Jerry  
20 Vandenberg, consultant to Diavik. The conditions  
21 you're describing do exist in some lakes; however,  
22 those are very unique situations that only exist where  
23 the geology has that sort of conditions already.

24 So, in other words, in a -- in a high  
25 sulphur environment, there are bacteria that will

1 cycle the sulphur and change it to hydrogen sulphide  
2 or sulphate depending on the conditions. But that is  
3 not something we would find in a pit lake where the  
4 pit is excavated into bedrock.

5                   And we don't expect to find high  
6 amounts of sulphur the way we would in, for example,  
7 some lake sediments that are thousands and thousands  
8 of year old in a natural meromictic and it's had, you  
9 know, deposition coming into the lake for many lake of  
10 many minerals and it sets up these conditions for  
11 these unique bacteria, but we don't expect to see that  
12 in a pit lake.

13                   MS. STEPHANIE POOLE:     Stephanie Poole.  
14 Is -- is your answer to my question that this issue is  
15 not described anywhere in the environmental impact  
16 statement?

17

18   (BRIEF PAUSE)

19

20                   MR. GORD MACDONALD:     Gord MacDonald,  
21 with Diavik. So, we can maybe allow the con --  
22 conversation to keep going, we'll get you the  
23 reference to where we don't -- where we address those.  
24 I think -- I think we address those questions in one  
25 (1) of the IR response.

1 MS. STEPHANIE POOLE: Stephanie Poole.  
2 You think you do or -- like, where is it? Can you  
3 tell me?

4 MR. GORD MACDONALD: That's what we're  
5 just looking up. Do you want us to take a pau -- Gord  
6 MacDonald, with Diavik. Do you want us to pause while  
7 we look for it, or keep going?

8 THE CHAIRPERSON: Stephanie, if you  
9 have another question while they're looking it up, the  
10 have enough people over there to look it up. And if  
11 you can ask another question.

12 MS. STEPHANIE POOLE: Thank you.  
13 Stephanie Poole. Let's see. Where am I? Just a  
14 couple more.

15 So, it's our experience with lakes that  
16 when you have a shallow lake or a shallow area that  
17 suddenly becomes very deep, that that is usually an  
18 area where strong current occurs.

19 Have you considered the effects or  
20 impacts of creating this deep pit lake in an otherwise  
21 described shallow lake and the current that will be  
22 created there from that?

23 MR. GORD MACDONALD: Gord MacDonald,  
24 from Diavik. This -- if you just -- I think you might  
25 be correct if we just dug a big hole in the middle of

1 the lake with nothing around it, that -- that kind of  
2 a phenomenon may occur.

3 But remember the -- the dike's still  
4 all the way around the pit lake with limited size  
5 breaches, like, limited size cuttings into the -- into  
6 the dike intentionally to try and keep the current in  
7 the -- in the pit lake as calm as we can.

8 That was the whole -- that was the  
9 whole premise behind constructing the fish habitat in  
10 that -- in that sheltered area in there, is to create  
11 a condition in Lac de Gras that's calmer and less  
12 exposed than it was before we built the dikes.

13 Much of Lac de Gras has quite -- is  
14 quite open and exposed to wave action and there aren't  
15 a lot of calm, more productive areas for fish ha -- as  
16 a fish habitat, which is -- which was the be -- the --  
17 the premise behind the construction in the first  
18 place.

19 So, we -- we think that those -- those  
20 currents would be -- would not be significant within  
21 the -- within the pit lakes.

22 MS. STEPHANIE POOLE: Thank you.  
23 Stephanie Poole. Did you say that you have historical  
24 data on how the currents flow in Lac de Gras?

25 MR. GORD MACDONALD: Gord MacDonald,



1 with Diavik. Going back all the way to baseline colle  
2 -- data collection, we do. We have some current  
3 current, as in flow velocity, measurements from back  
4 then.

5                   And then, since then, it's just been  
6 observations from construction activities and -- and  
7 things like that, and mostly integration through --  
8 through mathematical modelling of the -- of the  
9 currents in the lake.

10                   MS. STEPHANIE POOLE: Thank you.  
11 Stephanie Poole. Is that just for in and around your  
12 ex -- exploitation site or the entire Lac de Gras?

13                   MR. GORD MACDONALD: Gord MacDonald,  
14 with Diavik. The -- the data collection I'm referring  
15 to would be just around the -- would have been just  
16 around the east island.

17                   MS. STEPHANIE POOLE: Thank you.  
18 Stephanie Poole. Would you commit to undertaking  
19 those studies and having a full understanding of how  
20 currents work in Lac de Gras?

21                   MR. GORD MACDONALD: Gord MacDonald,  
22 with Diavik. If we thought it was necessary to  
23 understand what's going on in Lac de Gras, we would,  
24 but, again, we've been there for -- we've been there  
25 for a while.

1                   We have monitored how water chemistry  
2 changes within Lac de Gras and how it moves. And the  
3 next work that we'll be doing will be with -- with  
4 modelling to be able to integrate how all of that  
5 works within the lake.

6                   We haven't yet identified a need for  
7 additional monitoring of -- or measurement of -- of  
8 velocities within the lake.

9                   MS. STEPHANIE POOLE: Thank you.  
10 Stephanie Poole. When you visited my community in  
11 April I asked you some questions about your client  
12 change model.

13                   And your response to me that -- was  
14 that your climate change model only includes  
15 temperature and precipitation. Is that still the same  
16 and why is that?

17                   MR. GORD MACDONALD: Gord MacDonald,  
18 with Diavik. Yeah, what I was referring to is the --  
19 the models that we have approved by the Wek'eezhii  
20 Land & Water Board for use in desi -- in closure  
21 design.

22                   And -- and you're correct, it was  
23 temperature and precipitation. Those were the only  
24 two (2) variables for -- for the closure mo -- for the  
25 closure design work that -- that we thought was

1 important.

2                   And for the -- for this -- for this PK  
3 deposition -- PK to mine workings deposition work, the  
4 -- the other condition that we looked at was wind  
5 because we thought that that might be a possible  
6 climate change condition of -- of higher winds and  
7 whether that would influence the breakdown of  
8 meromixis in the lake.

9                   But we don't have a model for that. We  
10 just made assumptions of extreme wind events.

11                   MS. STEPHANIE POOLE: Thank you.  
12 Stephanie Poole. That brings me to my -- my next  
13 question, which is around engagement.

14                   And -- and how -- when you're doing  
15 your engagement activities and community members bring  
16 forward what they believe to be fundamental and  
17 significant concerns, how -- how do you record these  
18 engagement endeavours? How do they inform ada --  
19 adaptation of your environmental impact statement or  
20 your proposal?

21                   Where is the table that shows me your  
22 engagement activities, what you heard from Indigenous  
23 people and how you incorporated that into your plans?

24                   MR. GORD MACDONALD: Gord Macdonald,  
25 with Diavik. It is appended to the original water

1 licence amendment application. And I can -- I'll  
2 confess that it's -- it's a very challenging thing to  
3 do because -- mostly because it's -- it's difficult  
4 for us to try and put in what -- in our recollection  
5 or our meeting notes what someone's stated concern was  
6 or wasn't and whether that's something that should be  
7 reported publically or not.

8                   So, we -- we do it at a pretty high  
9 level, a summary of what was -- of what was described,  
10 but we -- we intentionally try not to be specific for  
11 respect for the people in the -- in the meetings.

12                   And -- and we expect that, if there was  
13 a concern that we haven't addressed or that -- that  
14 matters to -- to the community, that they would bring  
15 those forward on their own in a process such as this.

16                   THE CHAIRPERSON:     Just a reminder to  
17 Lutsel K'e, if we could keep our questions in a timely  
18 fashion. So, we have several developers -- or  
19 Interveners here yet that would still like to ask  
20 questions to the developer, so if we could move on  
21 shortly, Ste -- Stephanie.

22                   MS. STEPHANIE POOLE:    Thank you.  
23 Stephanie Poole. Yeah, I'm just trying to get all my  
24 questions out there while they're looking for the  
25 answer to the other one (1).

1                   My -- I guess my final question to  
2 Diavik will be, have you received consent from any of  
3 the Akaitcho Dene First Nations for this proposal to  
4 proceed?

5                   MR. GORD MACDONALD:     Gord Macdonald,  
6 with Diavik.  Nothing that I would -- I would classify  
7 as being consent.  I think what -- what we -- what I  
8 expressed in the opening slides was that we -- we  
9 heard general support, but all conditional upon being  
10 able to demonstrate that it was acceptable, it can be  
11 done safely from an environmental perspective.

12                   And I -- I took that to mean that we  
13 haven't done that.  So, I would say that, no, we don't  
14 have consent.

15                   Stephanie, just to answer your other  
16 question, it's -- it's Mackenzie Valley -- it was the  
17 -- its was the Mackenzie Valley IR number 18 is where  
18 you'll see our response about anoxic conditions in the  
19 bottom of -- of a mine working with kimberlite and how  
20 that -- that decline -- that reduction in oxygen could  
21 affect other concentrations.

22                   THE CHAIRPERSON:     Okay.  Final  
23 question for Lutsel K'e Dene First Nation.

24

25   (BRIEF PAUSE)

1 MR. CHARLIE CATHOLIQUE: Thank you,  
2 Mr. (sic) Chair. My name is Charlie Catholique. I'm  
3 from Lutsel K'e. How many minutes do we have?

4 THE CHAIRPERSON: Two and a half (2  
5 1/2)? Wow. I just want to ask a question to Diavik  
6 here. Just before -- did you guys ever did  
7 experimental on fish with -- anywhere around the mind,  
8 whatever, in the dirty water, whatever?

9 MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik. Charlie, I -- I experiment with fish --  
11 I -- I think this might be what you mean. Like, we  
12 did toxicity testing with fish.

13 So, we -- we put fish in with processed  
14 kimberlite water as a part of a toxicity test. I  
15 think that's the only experiment I can think of.

16 MR. CHARLIE CATHOLIQUE: What kind of  
17 fish is that? Charlie.

18 MR. GORD MACDONALD: Gord Macdonald,  
19 with Diavik. I think they were all -- they were the -  
20 - the fish tests in the toxicity work that was done at  
21 the University was -- was with Rainbow trout, which is  
22 a common -- a common test fish species for -- for  
23 laboratory work.

24 MR. CHARLIE CATHOLIQUE: Okay. And  
25 the next question will be because I don't have much

1 time --

2 THE CHAIRPERSON: State your name  
3 again, please.

4 MR. CHARLIE CATHOLIQUE: Charlie.

5 THE CHAIRPERSON: Charlie --

6 MR. CHARLIE CATHOLIQUE: Yeah.

7 THE CHAIRPERSON: -- do you have a  
8 last name?

9 MR. CHARLIE CATHOLIQUE: Catholique.

10 THE CHAIRPERSON: Catholique. Good.  
11 Thank you.

12 MR. CHARLIE CATHOLIQUE: And do you  
13 think before you put anything in the pit, water,  
14 whatever, is the pit free of oil, all that, in the  
15 pit, diesel, whatever, from the equipment?

16

17 (BRIEF PAUSE)

18

19 MR. SEAN SINCLAIR: Sean Sinclair,  
20 Diavik. So, I guess to -- to answer that question,  
21 Charlie, so whenever -- whenever there's a spill onsite  
22 at Diavik, it's reported sort of immediately to the  
23 GNWT. And it's also cleaned up immediately by staff  
24 onsite.

25 So, we have, you know, a series of

1 procedures and we report on all those cleanups. And  
2 there's also follow-up by the inspector on -- on those  
3 cleanups.

4 So, yeah, there -- there will be no  
5 sort of leftover spills when we -- when we fill it up  
6 because we will have already cleaned those up.

7 MR. CHARLIE CATHOLIQUE: Thank you.  
8 Charlie, from -- Catholique, from Lutsel K'e. One (1)  
9 more. What kind of toxic in -- I mean, the -- that  
10 rock, the one that's going to put in the pit or  
11 whatever, is there any toxic, whatever? I mean, is it  
12 dangerous to fish, wildlife, whatever?

13 MR. GORD MACDONALD: Gord MacDonald,  
14 with Diavik. That was the -- I think that was the  
15 basis for why the traditional knowledge panel asked us  
16 to do the toxicity testing in it.

17 And in your -- your sense of toxicity?  
18 No, it's not -- it's not toxic. That doesn't mean it  
19 is as good a material as a natural lake bed sediment  
20 for aquatic health, but it's not -- it's not toxic in  
21 that sense of the word. It wouldn't kill the things  
22 on the bottom of the lake.

23 MR. CHARLIE CATHOLIQUE: Okay. Thank  
24 you very much. Thank you very much. That's it.

25 THE CHAIRPERSON: Okay. Thank you,



1 Lutsel K'e Dene First Nation. I would now ask,  
2 questions from Environmental Climate Change Canada?

3 MS. GEORGINA WILLISTON: Thank you.  
4 Thank you, Madam Chair. It's Georgina Williston, with  
5 Environment and Climate Change Canada. I'll just also  
6 let you know that we have Anne Wilson on the phone.  
7 She's our water quality expert.

8 So, I'll ask the questions. And then,  
9 at the end, I'll give Anne Wilson an opportunity to  
10 see if she has any followup questions.

11 So, our first question is, while the  
12 pit is being filled, there is a fair amount of  
13 groundwater inflow. Once the pit is full, the -- full  
14 of water, there will be pressure from the water in the  
15 pit pushing back on the groundwater coming in, and it  
16 will slow or stop or maybe even reverse and have water  
17 move out.

18 Is this something Diavik has considered  
19 or will be considering in their models?

20 MR. GORD MACDONALD: Gord Macdonald,  
21 with Diavik. I mean, the -- the short answer is, yes,  
22 we've considered it. And we've considered it both  
23 from the -- how we'll try to include it in the -- in  
24 the modelling -- the next round of modelling coming up  
25 and how it would influence that DCAT -- DCAT volumes.

1                   It's also -- understanding that the  
2 groundwater regime in the -- in the 418 put is -- is  
3 of significant importance to us, as well, because we  
4 do have an adjacent operating mine in the 154, which  
5 is through the same conditions.

6                   So, we have to have a very good  
7 understanding of how to keep that area de-watered so  
8 that we can continue to mine next door, as well.

9                   THE CHAIRPERSON:   When speaking into  
10 the mic, could you put the mic closer to you?  It's a  
11 little bit difficult to hear.  Thank you.

12                   MS. GEORGINA WILLISTON:   Thank you,  
13 Madam Chair.  Georgina Williston, with Environment and  
14 Climate Change Canada.

15                   So, our second question is, when, Gord,  
16 you were presenting about the advantages to the in-pit  
17 disposal, you had mentioned that -- something along  
18 the lines that Diavik has concluded that pore water  
19 quality would be better in the pit than on land.

20                   So, we were just kind of wondering what  
21 the basis was for that conclusion.

22                   MR. GORD MACDONALD:   Yeah, Gord  
23 MacDonald, with Diavik.  And I guess the easiest way  
24 to think about is if, for any given volume of -- of  
25 processed kimberlite it's going to release -- it's

1 going to release pore water over time.

2                   That pore water is either going to be  
3 released at the bottom of a -- of the mine workings  
4 and released below a chemocline, so it would very,  
5 very slowly ever get into -- it get into Lac de Gras  
6 versus if that same cubic metre of processed  
7 kimberlite was sitting the processed kimberlite -- on  
8 land processed kimberlite containment facility, and  
9 that pore water then get -- becomes part of runoff  
10 which goes into Lac de Gras, it would get into Lac de  
11 Gras more directly and at a higher concentration than  
12 if it was at the bottom of -- then if it was at the  
13 bottom of a mine workings.

14                   MS. GEORGINA WILLISTON: Thank you,  
15 Madam Chair. Georgina Williston. Those are our two  
16 (2) questions. And maybe now I'll just defer to the  
17 phone to see if Anne Wilson has any -- anything she  
18 would like to follow up with.

19                   MS. ANNE WILSON (BY PHONE): Thank  
20 you. It's Anne Wilson, ECCC. Is the volume okay on  
21 this?

22                   THE CHAIRPERSON: Yes. We can hear  
23 you.

24                   MS. ANNE WILSON (BY PHONE): Thanks  
25 very much. Anne Wilson, ECCC. Just to follow up on

1 our first question, Gord, did -- does Diavik have a  
2 sense of the direction of groundwater flow post  
3 filling up a pit? Will it be recharging to the  
4 groundwater or will that be a discharge zone?

5 MR. GORD MACDONALD: Gord MacDonald,  
6 with Diavik. Anne, at -- at that closure, so at post-  
7 closure, once the pits are full with water, so the  
8 water level's the same within the pit as in the lake,  
9 it's a very neutral groundwater. There's very limited  
10 flow.

11 The -- the topography there and the --  
12 the water table there is very static, and so it's  
13 unlikely to be either a recharge or a deposit -- or a  
14 surcharge area.

15 MS. ANNE WILSON (BY PHONE): Thank  
16 you. Anne Wilson, ECCC. Then my next question is, to  
17 what extent are you expecting any diffusive processes  
18 to alter the meromixis over time?

19 Just looking on slide 18, over the next  
20 hundred years, it looks like it's modelled that there  
21 will be probably through -- diffusion variation in the  
22 level of PDF within the lower larry -- layer of the  
23 lake.

24 And is this a factor in the stability  
25 of meromixis that's going to bring any changes in the

1 far future?

2

3

(BRIEF PAUSE)

4

5 MR. GORD MACDONALD: Gord Macdonald,  
6 with Diavik. And I'm just getting Jerry to answer  
7 this question for you.

8

9 MR. JERRY VANDENBERG: Jerry  
10 Vandenberg, consultant to Diavik. Hi, Anne. It -- it  
11 is possible that there would be upward diffusion. If  
12 -- if there is -- and -- and I just want to clarify.  
13 We're talking about molecular diffusion, which is  
14 different from the type of diffusion that predominates  
15 in a -- in a lake, which is advective dis --  
16 diffusion.

17 So, with molecular diffusion,  
18 essentially what you've got is -- is a layer of more  
19 salty water in an -- in -- in the meromictic lake and  
20 you've got this denser layer of water, and you have  
21 molec -- molecular diffusion diffusing mass upward.

22 And that is possible, that over  
23 probably thousands of years you could have upward  
24 movement of mass. And, eventually, after probably  
25 several thousand years, the -- the lake would have  
such a low mass at the bottom that it would mix.

1                   At that point, there's really no  
2 consequence to the lake water column because, at that  
3 point, there's nothing to mix with. And it's -- it's  
4 very difficult to predict that because it's such a  
5 slow process. And, at that point, you're talking  
6 about very small movements of mass.

7                   So, all we really can say that -- is,  
8 if it does happen, it would turn the lake over at such  
9 a time when there's very little mass, very little  
10 constituents of any kind left at the bottom.

11                   Does that answer your question, Anne?

12                   MS. ANNE WILSON (BY PHONE): Anne  
13 Wilson, ECCC. Yes, it does. Thank you. And that's  
14 all my questions.

15                   THE CHAIRPERSON: Questions,  
16 Environmental Climate Change Canada?

17                   MS. GEORGINA WILLISTON: Thank you,  
18 Madam Chair. It's Georgina Williston, with  
19 Environment and Climate Change Canada. We have no  
20 further questions.

21                   THE CHAIRPERSON: Thank you.  
22 Questions, Department of Fisheries and Oceans?

23                   MR. DANIEL COOMBS: Thank you, Madam  
24 Chair. It's Dan Coombs, with Fisheries and Oceans  
25 Canada. I have one (1) question in regards to slide

1 31.

2

3

(BRIEF PAUSE)

4

5

MR. DANIEL COOMBS: Just the first two

6

(2) sub-points of the fourth point. I'd just like

7

Diavik to clarify whether that is just in regards to

8

if a pit receives PK or -- or not.

9

MR. GORD MACDONALD: Gord MacDonald,

10

with Diavik. It was intended in the context of

11

processed kimberlite, but the same thing would apply

12

if it was not because we'd need your approval first

13

before we can upwater chemistry first. And I presumed

14

you'd be doing the same kind of evaluation.

15

MR. DANIEL COOMBS: Dan Coombs,

16

Fisheries and Oceans Canada. Thank you.

17

18

(BRIEF PAUSE)

19

20

THE CHAIRPERSON: Questions, DFO?

21

MR. DANIEL COOMBS: Dan Coombs, DFO.

22

That's all for me.

23

THE CHAIRPERSON: Thank you.

24

Questions, Tlicho Government?

25

1 (BRIEF PAUSE)

2

3 DR. GINGER GIBSON: Thank you very  
4 much, Madam Chair. Ginger Gibson, Tlicho Government.  
5 We have two (2) questions for you about -- from Tony  
6 Pearse about pore water.

7 So, it's stated that -- in your  
8 documents, it's stated that pore water will form above  
9 the PK solids as they're being deposited in the pits  
10 and that this will be decanted as the pits are filled  
11 with kimberlite.

12 So, two (2) questions. Can Diavik  
13 confirm that this pore water will include the EFPK  
14 slimes portion that does not consolidate?

15 And, furthermore, in your summary  
16 statement you indicate that pore water will be  
17 decanted or pumped out during the fill -- filling  
18 process.

19 Is this still the plan or is this -- is  
20 the plan now to leave this material in place  
21 permanently? Masi.

22 MR. GORD MACDONALD: Gord Macdonald,  
23 from Diavik. And thank you, Ginger, for providing the  
24 comments to the questions in advance so that we could  
25 have an answer ready for you.



1                   Just to be clear, the -- you -- you're  
2 correct about the pore water. But the -- the question  
3 about pore water, whether it's from the extra fine  
4 processed kimberlite or the fine processed kimberlite,  
5 it does need a bit of clarification.

6                   So, all pore water -- or all processed  
7 kimberlite will create a -- will create a pore water.  
8 The -- the material that we intend to deposit  
9 operationally that we're calling fine processed  
10 kimberlite also has extra fine processed kimberlite as  
11 a part of it; it's both.

12                   So, the pore water that's generated  
13 from that would be generated from both of those  
14 fractions. And so, to be -- so, I think the answer's,  
15 yes, it would include that material that would come  
16 from the extra fine processed kimberlite.

17                   But I don't agree with the statement  
18 that it -- that it would not consolidate. Extra fine  
19 processed kimberlite does consolidate, it just  
20 consolidates much more slowly than the -- the fine  
21 processed kimberlite.

22                   You asked about the -- whether the plan  
23 is to decant the water. And I'm sure there's the --  
24 in those -- the videos that we were showing, it's that  
25 -- what we call the decant water is that clear portion

1 that develops on top.

2                   So, that will continually develop  
3 during operations. And that volume of water will be  
4 pumped out from the mine -- from the mine pit as soon  
5 as it gets to a level that we can actually access it.

6                   And that water would -- would go to our  
7 north inlet and be used as either recycled and reused  
8 in the process plant or treated and discharged to Lac  
9 de Gras.

10                   And there -- there was not a plan to  
11 leave it in place. What -- what made them confusing  
12 is, at the -- at the end of operations, it wasn't  
13 clear how much water would be left at the bottom;  
14 obviously, it wouldn't be zero.

15                   And so, we were asked by the Wek'eezhii  
16 Land & Water Board to consider two (2) different  
17 scenarios. One (1) was where there was a 5-metre  
18 level of water at the bottom of the -- at the bottom  
19 of the pit before we started flooding, and the other  
20 would be if there -- if there was 15 metres of water  
21 left at the bottom before we had flooding.

22                   So, those are the -- those are the  
23 differences between some of the scenarios that are in  
24 the summary impact statement. Thank you.

25

1 (BRIEF PAUSE)

2

3 DR. GINGER GIBSON: Masi. Ginger  
4 Gibson, with the Tlicho Government. The -- we've --  
5 you've made a commitment to independent review. And  
6 I'd like to explore that a little bit with you.

7 I'd like you to discuss a little bit of  
8 what you think the -- the different kinds of expertise  
9 that needs to be in place in order to conduct the  
10 modelling that you've identified.

11 And then I'd like you, please, to  
12 comment on your comfort with that independent review  
13 process being something that's conducted and  
14 supervised by the Wek'eezhii Land & Water Board, much  
15 as we've seen in the past.

16 We've seen many independent peer review  
17 panels associated with different technical reviews.  
18 So, Fortune Minerals has two (2) independent review  
19 panels as a condition of the -- as a measure of the  
20 environmental assessment.

21 And I'm sure people are familiar with  
22 the ammonia panels that have been in place for other  
23 processes.

24 So, I'm wondering if you can comment  
25 on, as I said, the expertise that needs to be in place

1 and your comfort with that being something that is  
2 conducted externally and supervised through the  
3 Wek'eezhii Land & Water Board. Masi.

4 MR. GORD MACDONALD: Gord Macdonald,  
5 with Diavik. Again, my expert -- my expectations, and  
6 it's obviously open for -- open for discussion, but my  
7 expectation would be that that independent expert  
8 would -- would be a mod -- a water quality modeller,  
9 someone with expertise in modelling, the derivation of  
10 the modelling, the applications of the modelling, an  
11 ability to sort through to what are the -- what are  
12 the critical drivers of that model and be able to  
13 speak to the confidence in the -- in the model  
14 predictions.

15 With regard to the -- the "supervision"  
16 of the -- or direction of the independent panel, we  
17 have a pa -- we have an independent panel that works -  
18 - that reviews Diavik's program.

19 Sometimes they're externally shared  
20 with regulatory -- like, regulatory bodies, like the  
21 Wek'eezhii Land & Water Board. Sometimes they're just  
22 internal, for our own assurance processes.

23 We're very comfortable working directly  
24 with an independent panel and reporting externally on  
25 its processes. It could also work that it's the

1 Wek'eezhii Land & Water Board that wants to administer  
2 that, but I guess we sort of feel it's our  
3 responsibility. It should be our burden to manage and  
4 finance.

5                   It's -- we don't think belo -- it needs  
6 to Wek'eezhii Land & Water Board's role.

7

8                   (BRIEF PAUSE)

9

10                   DR. GINGER GIBSON: Masi. Ginger  
11 Gibson, with Tlicho Government. I understand that you  
12 made a presentation last night in Dettah and that on  
13 slide 7 there was a list of the up sides and the down  
14 sides of the technology of the approach that you're  
15 suggesting.

16                   And then, furthermore, that there was  
17 some deep conversation and some more elaboration on  
18 those slides by your experts as well as possibly some  
19 discussion.

20                   And I think we're really interested in  
21 that record and we'd like to be able to show that  
22 record to our Elders and -- and verify and generate  
23 new commentary from the Elders that are here with us.

24                   And so, we'd like to ask you to make  
25 that an undertaking so that that's something -- to

1 actually develop that list as a -- as a two (2) pager  
2 or a three (3) pager so that we're able to share that  
3 with the Elders and generate our own understanding of  
4 what Elders' views of those -- of the approach of both  
5 placing the -- the kimberlite in the pits versus  
6 keeping it in the tailings.

7 We'd -- we'd like -- we'd like to know  
8 if you'd be able to do that. Masi.

9 MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik. If it's helpful, we're happy to provide  
11 a copy of the slide. And I'll provide my speaking  
12 notes, which is verbatim what I -- what I said.

13 But I think to -- we -- we certainly --  
14 I don't think we had any expert opinion added to any  
15 of it during the sessions last night, but there is a  
16 full transcript that would be available sometime  
17 today, I believe, that -- that could be forwarded.

18 I'm happy to provide what we have in  
19 writing. And maybe while we're on that, I -- I was  
20 told by someone that, in two (2) places, I said 500  
21 million instead of 5 million in the transcript, so my  
22 speaking notes will be able to correct that, as well.

23

24

(BRIEF PAUSE)

25

1 DR. GINGER GIBSON: So, pardon me,  
2 Madam Chair, can I ask? I -- I'm not clear if whether  
3 my colleague is agreeing to put this together in three  
4 (3) short pages or two (2) short pages tonight so we  
5 can look at this as a submission, not just the slide,  
6 but to give it a little bit more depth.

7 I am asking for an undertaking so that  
8 we can look at this in -- in a detailed way. Masi.  
9 Sorry, Ginger Gibson, Tlicho Government.

10 THE CHAIRPERSON: Legal counsel...?

11 MR. JOHN DONIHEE: Thank you, Madam  
12 Chair. It's John Donihee. Mr. Macdonald, you're --  
13 you've offered to -- already to provide it. I -- I  
14 assume then you're comfortable if we record that as  
15 Undertaking number 1 for the proceeding, that you'll  
16 provide your speaking notes and any materials that  
17 went into your description of that particular slide  
18 number 7 from last night to Tlicho Government?

19 MR. GORD MACDONALD: Gord Macdonald,  
20 with Diavik. There was -- you -- you needed it  
21 tonight, Ginger, was that the...and you'd add that  
22 we'd provide it tonight.

23 THE CHAIRPERSON: Legal counsel...?

24 MR. JOHN DONIHEE: Madam Chair, well,  
25 perhaps just we'll -- we'll record it anyways, Mr.

1 Macdonald. And perhaps TG will be good enough to know  
2 when they have it in hand so that we know that it's  
3 satisfied before the end of the Hearing.

4 DR. GINGER GIBSON: Ginger Gibson,  
5 Tlicho Government. That's -- that's fine with us.  
6 We'll do so. Thank you.

7

8 --- UNDERTAKING NO. 1: Follow-up to advantages/  
9 disadvantages slide 7 from Dettah  
10 hearing. Diavik to provide  
11 speaking notes along with slide 7 to  
12 the TG.

13

14 MS. GINGER GIBSON: Ginger Gibson,  
15 Tlicho Government. This is an -- I guess it's a bit  
16 of an esoteric question, Gord. I'd like to -- you're  
17 in a situation where by 2022 you need to decide to put  
18 the -- the kimberlite into the its or to increase the  
19 size of the -- the tailings facility.

20 Did you also consider no further  
21 mining? Masi.

22 MR. GORD MACDONALD: Gord Macdonald,  
23 with Diavik. No, we didn't consider no further  
24 mining. If -- if we're not able to take advantage of  
25 the -- of putting processed kimberlite into the mine



1 workings, we'd proceed with continuing to put it into  
2 the processed kimberlite containment.

3 Just to clarify, it's -- we -- we can't  
4 wait until 2022 to actually make that decision. We  
5 have to make a decision sometime next year on whether  
6 we're going to continue with dam raises or not.

7 MS. GINGER GIBSON: Masi. Ginger  
8 Gibson, Tlicho Government. Gord, could you please  
9 comment on what -- I mean, I think we've today  
10 discussed how there's a high level of scientific  
11 uncertainty assoli -- associated with the modelling  
12 that's been done.

13 And the GNWT has usefully described to  
14 us some of the missing information. Can you describe  
15 to us what you think could be the outcome, the worst  
16 possible outcome, of independent modelling? Masi.

17

18 (BRIEF PAUSE)

19

20 MR. GORD MACDONALD: Gord Macdonald,  
21 from Diavik. I think I answered this already this  
22 morning. But, personally, I think the worst case  
23 would be an unequivocal result, that it's not clear  
24 whether -- whether the water quality would be  
25 acceptable or unacceptable.

1                   And I -- I think that would be the  
2 worst outcome.

3                   DR. GINGER GIBSON:    Masi.  I'm -- I'm  
4 going to try and frame a question referring to the  
5 Review Board's In -- Information Requests.  So, the  
6 Review Board issued Information Requests during the  
7 public Hearings -- or the earlier phase of this --  
8 this review process.

9                   And they asked us, as the experts, to  
10 discuss the question of cultural use and what is the  
11 meaning of the area and how it might impact on the  
12 Elders and the Elders' use of the area if the  
13 processed kimberlite was placed in the pits.

14                   In our intervention, in our response to  
15 the Review Board's intervention, we indicated that the  
16 Elders pointed out that the plans will change the way  
17 they use and view the area.

18                   One (1) Elder in particular stated  
19 that, if the pits are then -- if the dikes are broken  
20 and the pits is connected after the kimberlite  
21 material is placed in the pit and the area is turned  
22 into fish habitat, it is unlikely that they would use  
23 the area for hunting, fishing, netting or anything  
24 like that.

25                   The Elders tomorrow will speak of their

1 concerns with respect to cultural use of the area.  
2 But I wanted to ask if the -- you if -- I mean,  
3 ultimately the Tlicho are the experts on cultural use,  
4 and we're not asking you to be the experts on how it  
5 will impact their perceptions of risk or their use of  
6 the area.

7                   But your finding that there will be no  
8 impact on cultural use seems to be -- we didn't share  
9 that finding, and I think that's what we said in this  
10 intervention in response to the Review Board.

11                   So I wondered if when you reviewed our  
12 report if you were -- if your team was able to use  
13 that information and how it impacted your -- your  
14 description of -- and the confidence that you hold in  
15 the prediction that there will be no impact on  
16 cultural use. Masi

17                   MR. GORD MACDONALD: Gord Macdonald,  
18 with Diavik. So, Ginger, as you know, those -- those  
19 responses to IRs came in after we had done the  
20 assessment, so we couldn't -- obviously, it couldn't  
21 reflect in it.

22                   Our confidence, as Sean was mentioning,  
23 is in the -- in is in the predictions of conditions  
24 that would occur. I share your view that it's not  
25 our -- it's not our place to say what the -- what the

1 perceived change in use would be as a result of that.

2 Our confidence is in -- is in the  
3 predicted water quality and that it wouldn't lead to a  
4 change in ability to drink the water or ability for  
5 caribou to use it from -- from our knowledge base.

6

7 (BRIEF PAUSE)

8

9 ELDER JOSEPH JUDAS: My name is  
10 Joseph Judas; I'm with Tlichu. And, Chair, I want to  
11 say this in my language. I don't know where all the  
12 people...

13

14 (INTERPRETED FROM INDIGENOUS LANGUAGE INTO ENGLISH)

15

16 ELDER JOSEPH JUDAS: Through the  
17 public sharing that's here, we hear a lot of good  
18 information that -- you know, that it affects us and  
19 including the water.

20 Most of the Aboriginal people, I guess,  
21 relay a message to (INDISCERNIBLE) about how important  
22 the water is. And then the -- since the operations of  
23 the mine is in existence for almost twenty (20) years  
24 now and now that the history told us that it's up to  
25 date and then through our -- the outline, you know

1 exactly what's happened up from a point behind us  
2 started about twenty (20) years ago until to date.

3 Yes. That -- knowing that the -- most  
4 of the people in the community are awaiting the  
5 answers and are probably concerned about the operation  
6 of the mine. And a lot of people in the past that  
7 worked around that area regarding for trapping and out  
8 in the white fox back in the early days and then  
9 the -- when the land was really clear, the land wasn't  
10 touched or disrupted by the mining companies.

11 And to date, I guess, you know, like  
12 according to the processed kimberlite, it has to be,  
13 you know, put back into the mine into the open pit and  
14 then eventually fill up with water.

15 The -- this is the essence and  
16 probably, I guess, when -- and the only thing that we  
17 are concerned about is the -- what might happen down  
18 the road if the -- there was a minor earthquake or  
19 supposing if the dyke itself have a breach or broken  
20 and then the -- and then all that -- the affluents  
21 inside the -- the dyke itself, I guess, will  
22 eventually, you know, reach out into the Lac de Gras.

23 We know that most of you have already  
24 asked you the same question already. And then the one  
25 thing that I'm quite concerned about is the affluents

1 from the water. There must be some kind of a chemical  
2 in there that maybe there are some smell of some sort  
3 that -- you know, that maybe it's not very good for  
4 the -- what's in the water like fish.

5                   The -- now that the way I look at it  
6 and then after saying that, I guess, you know, like do  
7 you there right now, the processed kimberlite is on  
8 the ground. And then if you look at -- in the area  
9 where the containment is -- I guess, you know, you all  
10 could see for yourself what's there and then what --  
11 eventually could always smell the affluents from  
12 the -- while standing in that area on a moist day.

13                   So the smell that might have an impact  
14 on the fish or the wildlife by use is down the road,  
15 and then the -- to me, I feel that maybe we should try  
16 to fill up the dyke in the future, and we should try  
17 to -- don't have to fill right down to that -- down to  
18 the top. We should leave some space there for the --  
19 eventually the dyke and the water and the -- and those  
20 things that could be aired out by solving to the  
21 future.

22                   So these are the things that I am  
23 concerned. And then the -- in order to breach the  
24 dyke into the future, I suggested maybe we should try  
25 to put some boulders around the area where, you know,

1 the dyke is -- if the water happened to be to that --  
2 right to the brim.

3                   So this is my concern, and I probably  
4 might want to ask some more questions probably in  
5 my -- you know, ask some more question probably  
6 tomorrow because the primary comment, I guess, you  
7 know, that, you know, you certainly got our message  
8 about the -- how much of the Aboriginal people love  
9 the land, I guess, you know, especially our ancestors  
10 that usually about -- on the land a long time ago and  
11 on the tundra. Thank you.

12

13                   (INTERPRETATION CONCLUDED)

14

15                   THE CHAIRPERSON: Questions from  
16 Tlicho Government?

17                   DR. GINGER GIBSON: Tlicho government.  
18 I think if Gord could answer Mr. Judas' question that  
19 -- this is Ginger Gibson, Tlicho Government -- could  
20 you please answer the question about the affect of  
21 earthquakes on the movement of material within the  
22 dikes or within the lake and then thereafter if the  
23 dike is breached into Lac de Gras. Masi.

24                   MR. GORD MACDONALD: Gord Macdonald,  
25 with Diavik. One (1) of the reasons we talk about the

1 term that it's a more secure place to store material  
2 in the underground versus on the surface is not that  
3 we're in a high earthquake zone, but it is kind of  
4 what she's asking about.

5                   Honestly, if there is -- if there was a  
6 devastating kind of earthquake on site, the most  
7 exposed would be the processed kimberlite containment  
8 area where it sits on the island well above the lake  
9 level. That's the most likely place where kimberlite  
10 would flow from into the lake.

11                   The safest place in an earthquake would  
12 be at the bottom of those pits because an  
13 earthquake -- in that point, there actually is no --  
14 there's -- the material can't flow into the lake.  
15 It's lower than the lake, and so it would be most  
16 likely to stay where it is.

17                   So for that scenario -- and it's a very  
18 unlikely scenario; I think we all agree with that --  
19 the safest place would be for -- that kimberlite would  
20 be at the bottom of the pit.

21                   The question about if the -- if the  
22 dykes broke or seeped or something post-closure,  
23 post-closure, once we've breached them, they're  
24 actually not doing anything to contain any of the  
25 processed kimberlite. And so they're not engineered



1 structures anymore; they're not doing anything.  
2 They're more like a series of small islands in a -- in  
3 a lake than they are a dyke. So they're not actually  
4 stopping the -- containing any of the material.

5                   What they -- what they do provide is  
6 some shelter, as I explained earlier, from currents  
7 which helps with the fish habitat and helps reduce any  
8 of the potential mixing in the lake. I hope that  
9 answers your question, sir.

10                   MS. VIOLET CAMSELL-BLONDIN: Violet  
11 Camsell-Blondin, from Tlicho Government. About the  
12 second week in this past June and also on another trip  
13 that I went with EMAB -- June the 16 to 17, around  
14 there -- we went to the site, and we look at the  
15 kimberlite area there. That's a huge area taking just  
16 about all of the upper side of the island there.

17                   And I think on two (2) occasion and on  
18 these two (2) different trips, Gordon, I ask -- and I  
19 think about that now because what if there's a  
20 probability that the water modeling is not favourable?  
21 Have you considered other sites on the island that --  
22 I think it was by the north inlet or in that area --  
23 have you considered other sites that Diavik would  
24 consider to deposit the reminding of the kimberlite  
25 for the rest of the mine life?

1                   And I know at one point, you said,  
2 well, we're still doing calculation. So I would like,  
3 at this point, ask that question, and I look forward  
4 to your answer.

5                   MR. GORD MACDONALD: Gord Macdonald,  
6 with Diavik. Violet, thanks for reminding me of that  
7 question you did raise when we were there.

8                   And you -- I think at the time, we were  
9 specifically referring to pond 3, which is -- well,  
10 Sean finds that; I'll look at it.

11                   And we did do our homework on it,  
12 Violet, and it's not big enough. It's only about 20  
13 percent of the volume that we would need to store the  
14 remainder of the -- of mine life. So it's not big  
15 enough to -- it is engineered, and it is a large  
16 collection pond that could take some material.

17                   But right now, it also -- it also works  
18 as an emergency store -- emergency water storage pond  
19 so that if the -- by engineering design, the processed  
20 kimberlite has to have.

21                   If there's a massive rainfall event,  
22 there has to be a spillway and a place where the water  
23 can exit that facility safely, and that is through the  
24 pond 3. And pond 3 is used for storage of that  
25 emergency water.

1                   So it -- so the answer to your question  
2 is no, it's not big enough. And no, it's already  
3 being used. So that was the most logical other place  
4 on the island.

5                   MS. VIOLET CAMSELL-BLONDIN: Violet  
6 Camsell-Blondin, Tlicho Government. But if you look  
7 at that map on the right-hand side without the white  
8 area there, if you see all that brown space on the  
9 left-hand side and above the -- near the north inlet  
10 and by the north inlet there and way on the left-hand  
11 side, it appears to be a lot of space in there. Can  
12 you speak a little bit about that?

13                   MR. GORD MACDONALD: Gord Macdonald,  
14 with Diavik. Where Sean's pointing right now? Is  
15 that where you're referring to? Or outside of that?

16                   MS. VIOLET CAMSELL-BLONDIN: Violet  
17 Camsell-Blondin. Out of those area that has the map,  
18 identify that. Yeah. And all -- all down -- down  
19 there up to 418 I think it is. Yeah.

20                   MR. GORD MACDONALD: And yeah. Gord  
21 Macdonald, with Diavik. No -- yeah. You're talking  
22 about whether we take up additional footprint and  
23 build a completely new -- you're talking about whether  
24 we take out -- like build a completely new structure  
25 on the island. Yeah. No. That -- that wouldn't be

1 feasible to -- I mean, certainly you could do that,  
2 and there is room for that kind of thing.

3 But we would not do that. We'd  
4 continue to raise -- raise the dam versus building a  
5 new one.

6 MS. VIOLET CAMSELL-BLONDIN: Violet  
7 Camsell-Blondin. So basically, it's not favourable  
8 because of economics reason. Is that it?

9 MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik. That and we -- it's not part of our  
11 original project description, so we'd have to go  
12 through all the permitting and approvals for that.

13 We've had quite a bit of comment and  
14 feedback from everyone about keeping the footprint  
15 small, so there would be quite a reluctance to make  
16 that footprint bigger.

17 I still think that on balance, the --  
18 the better approach -- if we weren't allowed to put it  
19 into the mine workings, the better approach would be  
20 to stay within the existing footprint and raise it up.

21 MS. VIOLET CAMSELL-BLONDIN: Okay. My  
22 final questions. Violet Camsell-Blondin, Tlicho  
23 Government.

24 In the event that the various water  
25 modeling is not favourable, like I said, would you go

1 back to raising the PKC dam higher until the mine  
2 life?

3 MR. GORD MACDONALD: Gord Macdonald,  
4 with Diavik. That's correct.

5 MS. VIOLET CAMSELL-BLONDIN: Madam  
6 Chair, Violet Camsell-Blondin, Tlicho Government. We  
7 have another elder that wants to ask a question:  
8 Louie Zoe.

9

10 (INTERPRETED FROM INDIGENOUS LANGUAGE INTO ENGLISH)

11

12 ELDER LOUIE ZOE: An elder from  
13 Gameti. Yes. As I'm not a geologist or anything like  
14 that, but now less -- that I'm concerned as any other  
15 citizen. The -- talking about processed kimberlite, I  
16 guess, you know, why don't you just leave it at the  
17 side without -- instead of putting it inside the pit  
18 and then, you know, put water into the future?

19 Yes. That maybe the -- if the  
20 processed kimberlite is sitting in the containment as  
21 it is, and then maybe it could -- it might dilute  
22 itself and it clean itself out over time.

23 So yes. At the -- once the -- even  
24 itself, I guess, you know, the wall of the -- the pit  
25 itself, I guess, and all that it's -- some chemical

1 might be in there that, you know, I'd be -- even  
2 though it's supposed to give you -- fill up with  
3 natural water, and then the water itself might not be  
4 safe, then for the animals and fish and that.

5                   And then the -- even the -- after  
6 you -- we know that the water itself is a living  
7 thing, and then he said that's a current to make it  
8 alive. And then once that's -- you know, it's too  
9 deep inside a pit, I guess. The water's not moving.  
10 Maybe -- we might find the water is just -- they just  
11 dead.

12                   So this is my concern. And then the --  
13 definitely he says if you see a modern regular lake  
14 outdoor, I guess, you know, at the -- through some  
15 kind of irrigation, I guess, you know, that the water  
16 itself is always moving because of the current, either  
17 that, or the wind makes it, you know, living water,  
18 like I said earlier on.

19                   And so the -- if you have an open pit  
20 and then eventually filled up with the processed  
21 kimberlite and, I guess, you know, that the -- it  
22 might not be safe, you know, for the future animals  
23 and fish that will be living in there. I don't know  
24 how far deep it -- the animal -- the fish could go.

25                   But at the same time, too, the

1 permafrost -- not only permafrost but should a climate  
2 change, yes, we know that the -- there's a lot of  
3 tunnels inside the open -- open pit. And, I guess,  
4 you know, that the amount of water that might take to  
5 pull it up, and this is all my concern.

6                   So this is my -- my comment regarding  
7 the -- what I think about the whole operations of the  
8 mine. Thank you.

9

10                   (INTERPRETATION CONCLUDED)

11

12                   THE CHAIRPERSON: Thank you. Final  
13 questions from the Tlicho Government?

14                   DR. GINGER GIBSON: Masi. Ginger  
15 Gibson, Tlicho Government. No further questions.

16                   Oh, pardon me. That was incorrect.  
17 Joseph Judas, one (1) more question.

18

19                   (INTERPRETED FROM INDIGENOUS LANGUAGE INTO ENGLISH)

20

21                   ELDER JOSEPH JUDAS: My name is Joseph  
22 Judas; I'm from Wekweeti. I'd like to ask Diavik  
23 after closure -- post-closure -- well, how long would  
24 the monitoring continue?

25                   On page 9 -- if you look at page 9,

1 when you are bringing things from underground to the  
2 top keeping it on top, that's what we're talking  
3 about.

4                   You're saying that within twenty-four  
5 (24) hours -- like within that whole area around the  
6 mine, there's always things going on at the mine. But  
7 after closure when there's no one working at the mine  
8 or monitoring that area, I'm sure that -- will change  
9 that landscape, will change -- it'll work on itself.

10                   So after closure, how many years will  
11 they continue to monitor -- who will be involved in  
12 the monitoring program? Maybe they have set up these  
13 monitoring programs, but if you don't work on  
14 something -- if you leave something alone, it just  
15 becomes dead.

16                   And so we want to also try to know  
17 exactly how the water is. Also if there's any changes  
18 happening on that area of that island, this is what we  
19 want to know.

20                   I have been there just recent. I  
21 looked at that mining area. There is places where  
22 there's -- you say that there's not a lot of rock  
23 structure. And sometimes when you look at those big  
24 rocks structures, you wonder how wildlife will even  
25 get past that area, and it's just so amazing to see to



1 what immense work that would take to fix this.

2                   So after closure, how will you continue  
3 to monitor and try to bring it back to its natural  
4 state? If no one monitors that area, how long will  
5 this monitoring after post-closure will continue?

6

7                   (INTERPRETATION CONCLUDED)

8

9                   MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik. Those are very good questions. It's  
11 going to be dependent upon where we're monitoring and  
12 what we're monitoring.

13                   But in simple terms, we'll continue  
14 with the lake monitoring, which we call the AEMP  
15 program, which generally does an assessment of the  
16 health of Lac de Gras and the water chemistry of  
17 Lac de Gras.

18                   And we'll keep doing that -- we're  
19 expecting it's going to start -- it's going to start  
20 changing from operations and actually getting better  
21 from the conditions that they're in today.

22                   Then we'll do more direct monitoring  
23 right on the island of those facilities, like the  
24 north country rock pile that you're referring to and  
25 the pits, in a more direct way to make sure that

1 they're exactly right.

2                   We think it's going to be in the  
3 ten (10) to twenty (20) years of monitoring. That  
4 kind of a time frame. But it will depend upon the  
5 results.

6                   So if we see results that show that the  
7 performance of those areas are working the way we  
8 expected they would and the aquatic effects monitoring  
9 program is showing the health of Lac de Gras is there  
10 and the caribou monitoring is showing -- giving us  
11 information about how the wildlife interacts with  
12 those structures that are still on site, we think we  
13 can start reducing those programs.

14                   If they're not, then we'll have to keep  
15 going with them. I think as we mentioned before, it's  
16 something we'll have to work with you on on how long  
17 we should be monitoring for and whether we're --  
18 whether it's at a point where we can stop.

19                   THE CHAIRPERSON:    Questions, Tlicho  
20 Government?

21

22                   (INTERPRETED FROM INDIGENOUS LANGUAGE INTO ENGLISH)

23

24                   ELDER JOE RABESCA:    Madam Chair, I  
25 will speak in my language. We see that -- I thought

1 everyone knew me. I think everybody knows me. Joe  
2 Rabesca.

3                   When you look at that -- when you look  
4 at that mine site, there is two (2) areas where  
5 there's two (2) pits there. You look at the two (2)  
6 pits, and they're going to put PK in there, and then  
7 fill it in with water.

8                   When we realize that maybe in ten (10)  
9 years they're going to continue to monitor in the  
10 future after post-closure, we talked about this in  
11 Behchoko and Dettah yesterday.

12                   But we still haven't talked about  
13 things in global warming. And over time, we know that  
14 global warming is upon us.

15                   And so when we live in the Northwest  
16 Territories, wherever there's a mine -- we're not  
17 saying no to development. If there is a possibility  
18 that -- and can development will happen, with  
19 development comes employment, and that's how we like  
20 to work. We like to earn and make money and work for  
21 ourself. Everybody feels that way here in this room.  
22 We're not against development.

23                   But at the same time, we need -- we  
24 need to do it our way. We need to do it protecting  
25 the wildlife. We need to protect the waters. We need

1 to take -- protect the air. And everybody wants to  
2 protect those things. We're not against development.  
3 We need to put in some really good plans that protect  
4 everything.

5                   And so after post-closure, they're  
6 talking about continuing monitoring. We know that  
7 there's lots of mines in the Northwest Territories,  
8 and those are all old abandoned mines. And many --  
9 many abandoned mines that left underground holes  
10 existing, and we've seen that in many of our lands.

11                   And one (1) Elder who was -- could see  
12 into the future talked about -- had insight into the  
13 future -- name Alex Arrowmaker -- had talked about  
14 many things in the past. They had said that if you're  
15 going to develop up in any area in the north, the  
16 caribou would avoid that area over time.

17                   And so now we have experienced that  
18 caribou is not going in that area because it was their  
19 main migration areas ever since we were young. We've  
20 lived in Wekweeti. And when caribou come down to --  
21 to our areas, we would see about half a million  
22 caribou coming down from the arctic and -- and going  
23 to Wekweeti. Sometime they would travel through our  
24 area for about -- and that herd would travel through  
25 for about one (1) week.

1                   And today now, the caribou is  
2 continuing to stand up in the arctic up in the barren  
3 land instead of going to the -- down to the treeline.  
4 So the caribou's continuing to stay longer up in the  
5 barren lands.

6                   We're wondering also whenever there's  
7 any kind of catastrophe in the world, like an  
8 earthquake, Madam, we need to kind of look at all  
9 kinds of scenarios that could happen in the world.  
10 And this is the kind of scenarios that we're looking  
11 at.

12                   It's not only this mine but maybe in  
13 future mines that may come up to be developed. We  
14 need to put these kind of ideas in development mind  
15 and their way that they're planning the mines up in  
16 the north. Even though they're predicting that it's  
17 okay, even though they -- they finish post-closure  
18 after monitoring, and something happens, then the PK  
19 will eventually mix with local water.

20                   And so we really have to kind of look  
21 at these kind of situations that could happen. So  
22 over time, maybe if these kind of scenarios happen,  
23 will they come back to the area and clean up the mess?  
24 Will they come back to try to fix something that's  
25 gone wrong?

1                   It's okay that they're monitoring  
2 ten (10) years, twenty (20) years. It's not right.  
3 We need to monitor our lands into the future. Like,  
4 look at our young people in our communities: future  
5 generations, their children. Where that land exist,  
6 they'll still -- that land will still exist when our  
7 future generations come.

8                   And so we want them to use that area  
9 even after we're gone. Whatever land we have, we  
10 would like them to use it. In 1921 when -- in 1921  
11 when government had made treaty with the Dene people,  
12 they had made treaty not thinking what would happen  
13 after these kind of processes happen.

14                   And so today, our knowledge and our way  
15 of life is what we will continue to hold onto. We  
16 have a lot of adverse people in our communities.  
17 We're not concerned about them. We're helping them.  
18 We're helping each other as we live in our  
19 communities.

20                   And so what if in any of your  
21 communities, there's a big disaster and everybody gets  
22 involved in that disaster. We don't want our -- to  
23 face disasters. We don't want to miss something that  
24 will create something bigger for tomorrow.

25                   And so, Madam Chair, I'm getting off

1 topic. But we're talking about land negotiations now.  
2 Our elders used to say: If you miss one rule, if you  
3 miss one step in important process while we have the  
4 time, while we have the attention of a government and  
5 industry people, we need to talk together with them,  
6 make sure that they hear us well so that we avoid  
7 something bigger that may become disastrous to our  
8 people.

9                   And so we need to decide how we're  
10 going to negotiate, how we can agree -- come into  
11 agreement when people are not worried about the  
12 future. We're talking about long time ago. Things  
13 change over time, and so that's why we have to prepare  
14 for the changes that's coming over time.

15                   And so we have to look at those areas  
16 and those thoughts. And Diavik, they have created a  
17 mine on our land. And from the time that they started  
18 till closure, as long as they are following rules, as  
19 long as they're doing it in a sustainable way, we are  
20 working with them also. We're working together.

21                   But if they are going to think that  
22 they're going to develop another mine that is like  
23 this, they may have a difficult time to do that kind  
24 of mining in the future.

25                   We have to make sure we know their

1 plans: What are their thoughts? What are their way  
2 of thinking as they develop mines?

3 But we really need to talk more about  
4 water. There was somebody here that talked about  
5 eventually it reaches a copper mine area -- the Inuit  
6 people -- into the oceans, and it flows out into the  
7 oceans. How do they feel about that kind of water?  
8 Because they, too, use the land and wildlife and  
9 water.

10 And so when we include those kind of  
11 concerns about those people in that -- near the ocean,  
12 we have to think about what are their concerns? And  
13 so anywhere where there's development, we're also  
14 talking about the Mackenzie River, the people that  
15 live along the river systems.

16 So wherever you're developing any mine,  
17 you have to think about all the river connecting  
18 systems that are flowing to the people. You don't  
19 want to create unhealthy environment for the people in  
20 the Northwest Territories. I'm sure you have that in  
21 mind as you work.

22 So because we live close to the waters,  
23 all the communities live so close to the water, and we  
24 depend on our fish and all the other wildlife that  
25 prey on each other, that's how we live and in that



1 whole area.

2                   So when one (1) thing changes, it's  
3 like a domino effects. It affects everything. It's  
4 not only we that live on water. All things exist on  
5 water as well as wildlife.

6                   Madam Chair, that's what I wanted to  
7 bring up. We're -- we would like this kind of  
8 monitoring program to go for as long as we can. Thank  
9 you very much.

10

11                   (INTERPRETATION CONCLUDED)

12

13                   THE CHAIRPERSON: Masi cho for your  
14 comments. Is there a final question from Tlicho  
15 Government? Because we would like to take a break at  
16 this time.

17                   We are very far behind on the agenda  
18 that's ahead of us. It'll probably be another 9:00 at  
19 night meeting here, but we don't want that to happen.  
20 It's tiring for everyone all the way around.

21                   I would like just to remind everyone  
22 that if we could keep it to the questions. And the  
23 comments could be made at the public comment period  
24 that's on the agenda today.

25                   Final question from Tlicho Government?

1 ELDER CHARLIE JIM NITSIZA: Masi,  
2 Madam Chair. My name is Charlie Jim Nitsiza,  
3 Tlicho Government. I have a question for Diavik.

4 I see that the pit is about 640 metres.  
5 I'd like to ask Diavik if they could tell me around  
6 that pit area -- that lake area how deep is it?

7 MR. SEAN SINCLAIR: Sean Sinclair,  
8 Diavik. So the -- Lac de Gras, on average, is  
9 12 metres deep. So quite -- quite shallow.

10 Some areas we found are as deep as  
11 40 metres, but most of it's less than that -- sort of  
12 more in that 10 to 20-metre deep range.

13 ELDER CHARLIE JIM NITSIZA: Thank you.  
14 The reason I ask is because of that other mine called  
15 Snap Lake Mine closing because of a -- the pit is  
16 under water. It's all -- the water coming, so they  
17 have to shut the mine down.

18 Just want to know if Diavik done any  
19 study like that to have where water could come into --  
20 into the pit from the lake. Have they done any study  
21 like that to -- because of 640 metres too deep, and  
22 the lead water's only 40. And may come -- water may  
23 come in from a lake.

24 So the question is: Do they have --  
25 have they done any study on those thing -- the water

1 coming from the lake? Masi.

2 MR. SEAN SINCLAIR: Sean Sinclair,  
3 Diavik. Yeah. So we have done a lot of studies on  
4 how much water enters our pits and how much water we  
5 expect to enter the pits into the future of 2025.

6 Just to give you an idea: So we have a  
7 water treatment plant onsite and a whole water  
8 management system. So we have the capacity to treat  
9 90 million litres of water per day. And currently, on  
10 average, we treat about 45 million litres per day over  
11 a given year.

12 So we're currently not using nearly the  
13 full capacity of our system, and we don't expect to  
14 ever need to use the full system. Yeah. And most of  
15 that volume, probably about eight-five (85),  
16 ninety (90) percent of it is from the water going into  
17 the pits and the underground.

18 ELDER CHARLIE JIM NITSIZA: Thank you.  
19 I have no further question.

20 THE CHAIRPERSON: Thank you. Masi  
21 cho. At this time then, we'd like to call a short  
22 break, and then we'll come right back with the  
23 Yellowknives Dene First Nation.

24 And if we can -- again, just a reminder  
25 to keep it to questions, please. Thank you.

1 --- Upon recessing at 3:07 p.m.

2

3 --- Upon resuming at 3:21 p.m.

4

5 THE CHAIRPERSON: Okay, we are ready  
6 to start. First up is going to be the Yellowknives  
7 Dene First Nation. So questions from Yellowknife Dene  
8 First Nation?

9 MR. MACHEL THOMAS: Machel Thomas,  
10 YKDFN. Question to Diavik. There have been many  
11 questions here from Inter -- other Interveners  
12 relating to groundwater. I just want to firm up  
13 something that was said -- or not said.

14 At what elevation will groundwater  
15 enter the pit?

16 MR. GORD MACDONALD: Gord MacDonald,  
17 with Diavik. Currently, Marcel (sic), the groundwater  
18 enters at almost all levels of the pit except for the  
19 most very shallow, but it's -- so it seeps in through  
20 the walls, and the closer it gets, the amount of flow  
21 gets greater as you go down.

22 And then at the -- at strategic  
23 locations, we actually have drainage galleries where  
24 we've put in pumps and -- and drilled holes back into  
25 the grid -- into the walls to try and collect as much

1 of that groundwater as possible. But so it's multiple  
2 elevations.

3 MR. MACHEL THOMAS: Machel Thomas,  
4 YKDFN. Thank you, Gord. So my follow-up question to  
5 that is if there is water seeping into the pit, and  
6 you are expecting that meromixes would give you some  
7 type of stability, is there any potential for the  
8 groundwater at the lower depths to disrupt this?

9 MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik. So again, the -- the seepage is  
11 occurring now because the pit's dewatered, and so  
12 there is -- there is a -- what's called a driving  
13 head. So the lake is pushing the water down, and the  
14 groundwater into the pit.

15 Once we fill the pit back up, there'll  
16 no longer be that driving force of -- to -- to push  
17 the water into the pit. And -- but if there was -- if  
18 there was groundwater coming into the pit, we think it  
19 will probably help -- it would probably help  
20 meromixes, because it is a more saline water, and the  
21 greater volume will come at the greater depth, so it  
22 would be more on the bottom than on the -- on the top.

23 MR. MACHEL THOMAS: Thank you. Machel  
24 Thomas, YKDFN. I'd like to ask another question in  
25 terms of the TDSs in the poor water.

1                   SI know that the meromixes process  
2 states that the more dense water will stay, but my  
3 question is if this will have -- if there'll upper  
4 diffusion after time. So could you speak to that,  
5 please?

6                   MR. GORD MACDONALD:   Gord Macdonald,  
7 from Diavik. I -- I think that's the response Jerry  
8 gave. Do you want -- did you want it repeated? It  
9 was the response Jerry gave to Environment Canada's  
10 question.

11                  MR. MACHEL THOMAS:   Thank you. Could  
12 it be repeated, please?

13                  MR. JERRY VANDENBERG:   Jerry  
14 Vandenberg, consultant to Diavik. So I'll try and  
15 repeat the whole answer.

16                  There are two (2) types of upward  
17 diffusion that we need to understand. One is the most  
18 dominant type of diffusion, which is advective  
19 diffusion, which is when water moves and TDS moves  
20 with it, and that's by far the dominant type of  
21 diffusion in a surface water system like a lake or a  
22 pit lake.

23                  And that's the type of diffusion that  
24 we've looked at in the modelling. So over time, we do  
25 see a small amount of that diffusion.

1                   Now over many thousands of years, for  
2 example, we might see molecular diffusion, which is  
3 when molecules can diffuse from one area, usually a --  
4 a high concentration to a low concentration without  
5 any movement of water, and that type of diffusion is  
6 difficult, possibly impossible to predict accurately  
7 over -- over that type of timeframe.

8                   And it is possible that that could  
9 occur. If it does, what would happen is you would get  
10 a very, very slow movement of -- of mass from the  
11 lower layer of the lake to the upper layer of the  
12 lake. It would be almost certainly unmeasurable, it  
13 would be so slow, but over perhaps thousands of years,  
14 you might get a movement of all of the mass from the  
15 bottom of the lake to the top of the lake, and then a  
16 turnover.

17                   If that were to occur, there would be  
18 no consequence to the water quality, because there is  
19 no longer any mass at the bottom to be stirred up when  
20 the lake turns over. So it's -- it's possible. To  
21 summarize, it's possible, probably impossible to  
22 predict, but of no environmental consequence if it  
23 does happen many thousands of years in the future.

24                   MR. MACHEL THOMAS: Thank you.

25

1 (BRIEF PAUSE)

2

3 MR. MACHEL THOMAS: I have a question  
4 again to Diavik.

5 Are there any lessons that can be  
6 learned from the existing PK facility in how EPK and  
7 EFPK operate within a contained environment in terms  
8 of putting it -- how -- and how that would relate to  
9 putting it into the pit?

10 MR. GORD MACDONALD: Gord Macdonald,  
11 with Diavik. I -- probably the -- the most relevant  
12 is that difference in consolidation that we'd  
13 identified out of the PKC that would apply to how it  
14 behaves into the -- into the mine pit. I -- I think  
15 that's probably a key one.

16 And the other learning, I guess, we get  
17 is that we -- the -- the decant water, so the -- in  
18 the -- in the PKC itself, that pond water shows those  
19 same behaviours. It clarifies very quickly. I -- I'm  
20 continually amazed at how clear that water stays in  
21 the PKC. So we think that's, again, a helpful sign  
22 and a lesson learned for the ability to decant the --  
23 readily decant the water in the -- in the mine  
24 workings.

25 MR. MACHEL THOMAS: Thank you. Machel



1 Thomas, YKDFN. I'd like to ask another question.

2                   Is it practical to see that if PK was  
3 deposited, it would be safer if a cap similar to what  
4 is proposed -- or normally proposed to have -- to be  
5 put on lake pits at closure be put on the PK in the  
6 pit?

7

8                   (BRIEF PAUSE)

9

10                   MR. GORD MACDONALD: Gord -- Gord  
11 MacDonald, with Diavik. And I think what you're  
12 asking is if we could put a cap like what we're  
13 putting on the PKC, which is just a cover of rock, on  
14 the deposited PK in the pit, would that be a -- a  
15 practical thing.

16                   And if -- if that -- if that's your  
17 question, the answer is it's not. And the reason it's  
18 not practical is it's -- imagine, even once it's fully  
19 consolidated, this material might have the composition  
20 of -- of -- what do they call it, dewatered bannock?

21                   I think the translators were calling it  
22 "overwatered bannock," if that gives you a good  
23 description. I would have called it toothpaste, but  
24 it's -- it's got that kind of a consistency. So if  
25 you put rock on it to build that cover, the rock's

1 just going to sink down in it. It won't make a -- it  
2 won't make a cover. It's not strong enough to hold it  
3 up.

4 MR. MACHEL THOMAS: Thank you. I have  
5 on line 2 on conference our consultant, Doug Bright.  
6 I'd like to go to him to ask if he have -- has any  
7 questions.

8 MR. DOUG BRIGHT (by phone): Thank  
9 you, Machel. Doug Bright, from Hemmera on behalf of  
10 the Yellowknives Dene First Nation.

11 A couple of quick contexts, and I won't  
12 belabor this, Madam Chair, just as a -- as a context  
13 to the question. We, in our review, we were generally  
14 supportive of -- of the interim disposal and concept,  
15 but based on the documentation provided, we, like many  
16 others we've heard today, have concerns that the case  
17 has been -- case has been made about future water  
18 quality in -- in the upper layer when the -- the  
19 flooded pit is connected back with the lake.

20 My first -- my first question is,  
21 there's an unstated assumption, and -- and this is for  
22 Diavik -- that the lakebed productivity and  
23 biodiversity doesn't matter, that -- that if we  
24 isolate the upper system and fish from -- from the  
25 lower lake bed, that productivity that would be lost,

1 and that ability for the breakdown of (INDISCERNIBLE)  
2 organic matter, phosphate recycling, and supporting of  
3 primary productivity is not really relevant. And I --  
4 I wonder if Diavik can comment on that, please.

5 THE CHAIRPERSON: Just a reminder,  
6 please slow down when you're -- you're asking your  
7 questions. We have translation going on as well.

8 MR. DOUG BRIGHT (by phone): Thank  
9 you, Madam Chair. I'll -- I'll do better.

10

11 (BRIEF PAUSE)

12

13 MR. GORD MACDONALD: Gord MacDonald --

14 MR. DOUG BRIGHT (by phone): And I--

15 THE CHAIRPERSON: Diavik...?

16 MR. GORD MACDONALD: Gord Macdonald,  
17 with Diavik. I think that it was -- a bit difficult  
18 to hear the question, but I think you -- you asked  
19 there -- there are other processes that will go on in  
20 a -- that would go on in a very deep hole in the lake,  
21 and that -- that we haven't accounted for in the  
22 modelling, and why we didn't.

23 And -- and presuming that was what your  
24 question is, that all of those processes that you  
25 described about how it would become a, you know, a

1 sink for phosphorus, it could be a sink for other  
2 organic material that would deposit into there.

3 In relation to predicting the -- what  
4 the water chemistry would be on those top 40 metres,  
5 the -- those will be also good examples of where we've  
6 tried to be conservative in the modelling. So if you  
7 -- if you accounted for all of those other things, it  
8 would likely end up making the water chemistry in that  
9 top 40 metres better rather than worse.

10 MR. DOUG BRIGHT (by phone): Thanks.

11 Doug Bright. My question is really about the -- any  
12 productivity that occurs within the lake bed. This is  
13 in the flooded pit after reconnection. Would -- it's  
14 basically discounted as part of the -- the significant  
15 determination.

16 I wonder if you could comment on that?

17 THE CHAIRPERSON: You can't hear?

18 Okay. If you could repeat your question, please? And  
19 if you listen to this headpiece on -- on channel 1,  
20 you would be able to pick it up a little bit louder.  
21 But please repeat your question

22 MR. DOUG BRIGHT (by phone): Yeah,

23 Doug Bright, YKDFN. My question relates to the  
24 productivity in the lakebed. And I've been referring  
25 to the flooded pit after reconnection.

1                   The -- that productivity is assumed to  
2 -- to be negative to (INDISCERNIBLE), and that's not,  
3 as far as I can tell, taken into account in a  
4 determination of significance. Can you comment,  
5 please?

6

7   (BRIEF PAUSE)

8

9                   THE CHAIRPERSON:    Diavik...?

10                   MR. GORD MACDONALD:    Gord Macdonald,  
11 with Diavik. Can you just confirm you're talking  
12 about the -- the fish productivity is your -- is your  
13 conc -- is the question? It's not considered as a  
14 part of the -- the no net loss calculation of fish  
15 productivity?

16                   MR. DOUG BRIGHT (by phone):    Doug  
17 Bright. To clarify, well, it's not -- fish  
18 productivity or habitat and processes that support  
19 fish productivity. So that could be things happening  
20 in the lakebed, including microbial activity, for  
21 example, and breakdown of (INDISCERNIBLE) organic  
22 matter, those kinds of things.

23

24   (BRIEF PAUSE)

25

1 THE CHAIRPERSON: Diavik...?

2 MR. GORD MACDONALD: Gord Macdonald,  
3 with Diavik. Yeah, that -- the no net loss  
4 calculations, in terms of the amount of fish habitat  
5 being created on the inside of -- in those inside  
6 areas, assumes that all of that is -- all of the area  
7 where the -- where the pit is is what we -- what we  
8 refer to as deep -- deep water habitat, and it was  
9 given a -- a, you know, a lower habitat value because  
10 it's of -- of lower use to a fish -- to fish than not.

11 And it's really just saying that it's  
12 only that surface water that would be utilized by  
13 fish, and not the -- not the full depth of the water.  
14 So most of the -- the habitat gains -- the habitat  
15 unique gains that are in those calculations are for  
16 the area between the pit crest and the inside tow of  
17 the dike.

18 MR. DOUG BRIGHT (by phone): Thank  
19 you. Doug Bright, YKDFN. Second question, there was  
20 a comment in one (1) of the written submissions that  
21 lake trout, whitefish, grayling, other valued fish  
22 species are less likely to use the pit lake  
23 environment once reconnected.

24 And the question is, does that -- can  
25 that undermine the value of reconnecting the pit in

1 terms of the overall concept?

2

3 (BRIEF PAUSE)

4

5 MR. GORD MACDONALD: Okay. Were you  
6 able to cite the -- the specific reference?

7 MR. DOUG BRIGHT (by phone): Sorry, I  
8 -- I don't have it on hand, but it's, you know, if  
9 that's not a major part of your submissions, then --  
10 then we can agree to ignore the question and move on.

11

12 (BRIEF PAUSE)

13

14 THE CHAIRPERSON: Diavik, did you have  
15 a response?

16 MR. GORD MACDONALD: I -- I think he  
17 said if it wasn't an important part of our submission,  
18 we could move to the next response -- or the next  
19 question.

20 THE CHAIRPERSON: Okay. All right.  
21 For the person online, was there another question?

22 MR. DOUG BRIGHT (by phone): Yeah. I  
23 have one (1) final question. Doug Bright, YDKFN.

24 My final question relates to meromixes,  
25 and modelling, and -- and the theory about upward flux

1 of things like nitrite, and -- and sulphate, and  
2 molybdenum in the kind of pit post-closure  
3 environment.

4                   And certainly from discussion and --  
5 and Jerry talked earlier about the two (2) different  
6 kinds of (INDISCERNIBLE) that some (INDISCERNIBLE) can  
7 move from the lower water in the pit and from  
8 basically the -- the pit bottom to the upper water  
9 layer, where fish might reside. And he talked about  
10 advective flux, that flux associated with the bulk  
11 movement of water and water currents, and he talked  
12 about diffusive flux.

13                   And the impression I get is diffusive  
14 flux has not been calculated. Diffusive flux is very  
15 easy to calculate based on Fick's law of diffusion,  
16 and there are many geochemists that don't write it off  
17 as -- as being unimportant in terms of the cycling of  
18 many things in -- in small lake and large lake  
19 ecosystems.

20                   The -- one (1) of the things I had a  
21 problem with in my review is -- is that if we actually  
22 assume that the only real transportation mechanism  
23 from lower layers in the flooded pit lake to the upper  
24 layer is diffusion, then there's no reason to believe  
25 that the rates of diffusion from this core water that



1 would (INDISCERNIBLE) layer, that would fit as an  
2 intermediate layer, and directly from the lakebed core  
3 water would be any different per unit time.

4                   So the question is: Has anybody  
5 included in the estimate so far an actual simple  
6 prediction of diffusive flux based on Fick's law, for  
7 example, and why should there be any difference in  
8 upward diffusion of the substances of concern between  
9 the pit lake, from its bottom, and the cold water  
10 layer?

11

12                   (BRIEF PAUSE)

13

14                   THE CHAIRPERSON: Diavik...?

15                   MR. JERRY VANDENBERG: Jerry  
16 Vandenberg, for Diavik. I've got a couple of parts to  
17 the answer to this, I think.

18                   So Fick's law certainly can be used to  
19 calculate a rate of molecular diffusion. However,  
20 it's a purely hypothetical rate without some sort of a  
21 field calibration. There is a coefficient involved in  
22 that calculation, which is a diffusion coefficient,  
23 which can only be calibrated through empirical  
24 measurements.

25                   So I can calculate that number. You

1 can calculate that number. Anybody in this room could  
2 calculate a molecular diffusion rate, but without an  
3 actual measurement, we're all just essentially putting  
4 in some guess number. And that -- that coefficient  
5 can vary by orders of magnitude. So it's -- it's not  
6 something you can get any sort of accuracy around  
7 without -- without empirical evidence.

8                   Now I have done other models where I've  
9 compared a diffusion rate of molecular diffusion with  
10 advective diffusion using -- using empirical values,  
11 and the molecular diffusion has always been orders of  
12 magnitude lower than the advective diffusion. And  
13 that's a common assumption, but it's more than an  
14 assumption. It's an assumption I've verified in other  
15 settings that are similar to this.

16                   So I do believe it's a -- a sound  
17 assumption, which in fifteen (15) years of doing this,  
18 I've never seen that assumption been wrong. So I -- I  
19 do think it's a -- it's a pretty safe assumption that  
20 advective diffusion will be the dominant type of  
21 upward diffusion compared to molecular diffusion, and  
22 that it will be essentially negligible compared to  
23 what we've already predicted.

24                   So, I mean, it is something that can be  
25 calculated. But again, without a true measurement to

1 validate it -- it, I just don't see any value in -- in  
2 doing so. It would be a purely hypothetical number  
3 subject entirely to the assumptions I put into it.

4 MR. DOUG BRIGHT (by phone): One (1)  
5 final --

6 THE CHAIRPERSON: Was that your final  
7 question online?

8 MR. DOUG BRIGHT (by phone): One (1) -  
9 - one (1) final question, and then I'll turn it back  
10 to Machel, if he's got anything. This is Doug Bright,  
11 here, YKDFN.

12 I don't -- I certainly won't argue that  
13 --

14 THE CHAIRPERSON: Excuse me again.  
15 We're having difficulty hearing you. If you are  
16 speaking on a speakerphone, we would ask that you just  
17 pick up the line and use the -- the line instead of on  
18 a speakerphone.

19 MR. DOUG BRIGHT (by phone): My  
20 apologies for that. Is that better?

21 THE CHAIRPERSON: Okay. Continue.

22 MR. DOUG BRIGHT (by phone): Thanks,  
23 Doug Bright, YKDFN. I -- with a follow-up question.  
24 I don't -- and I certainly agree that -- that the --  
25 the advective component will always be far, far

1 greater than the diffusive component. But by  
2 extension, that doesn't mean if you turn off the  
3 advective component, that the diffusive component is  
4 not an important contributor to water quality in the  
5 environment. And so I think it needs to be considered  
6 on its merits. Can you comment on that, please?

7 THE CHAIRPERSON: Questions from  
8 Yellowknives Dene First Nation?

9 MR. BLAKE RASMUSSEN: Blake Rasmussen,  
10 YKDFN. And pardon my ignorance a little bit. I  
11 haven't spent a lot of time on the -- Diavik's site.

12 With your pointer, can you direct me to  
13 the pit in which you wish to fill with PK, or  
14 partially fill? Thank you.

15

16 (BRIEF PAUSE)

17

18 MR. BLAKE RASMUSSEN: Blake Rasmussen,  
19 here. And the pit to the north of that, is that the  
20 one where it's -- been taken out of this proposed  
21 project?

22 MR. GORD MACDONALD: Gord MacDonald,  
23 with Diavik. No, that's the A21, which is down at the  
24 bottom.

25 MR. BLAKE RASMUSSEN: Thank you.

1 Blake Rasmussen, YKDFN. So the more southernly pit,  
2 you're going to put a -- an amount of PK in, and the  
3 one to the north, you will be putting no material in  
4 that pit? Is that correct?

5 MR. GORD MACDONALD: Gord Macdonald,  
6 with Diavik. As the plan currently stands, that's  
7 correct. We would only put it into 418. We've  
8 included it in all of the assessment, and we'd like to  
9 include in the permitting, so that if something  
10 changes in the mine plan, that we'd have the ability  
11 to change to putting the -- the PK material into --  
12 into 154, because it would -- that would be something  
13 we'd have to do on short notice and not have to go  
14 through the -- the whole permitting and evaluation  
15 process again.

16 MR. BLAKE RASMUSSEN: Blake Rasmussen,  
17 YKDFN. So essentially, what we're looking at today is  
18 that you're going to put PK in one pit and not the  
19 other? Is that correct?

20 MR. GORD MACDONALD: Correct. That's  
21 the current plan.

22 MR. BLAKE RASMUSSEN: Blake Rasmussen,  
23 YKDFN. And these two (2) pits are connected through  
24 the underground workings? Is that correct?

25 MR. GORD MACDONALD: Gord Macdonald,

1 with Diavik. Yeah. If you can see the -- the purple  
2 lines on the left, which are the ones around the 418,  
3 and then the -- the lines joining them, particularly  
4 the ones John's pointing at right here. Those are the  
5 underground tunnels that would join 154 on the right-  
6 hand side and 418 on the left-hand side.

7 MR. BLAKE RASMUSSEN: Thank you.

8 Blake Rasmussen, YKDFN.

9 And the elevation for which you are  
10 proposing one (1) pit to be filled with processed  
11 kimberlite would be through the upper levels of your  
12 underground workings. Is that correct?

13 MR. GORD MACDONALD: Yeah. It's about  
14 where Sean's point is -- his pointer right there.  
15 It's Gord MacDonald, with Diavik.

16 MR. BLAKE RASMUSSEN: Thank you.  
17 Blake Rasmussen, YKDFN. So I guess another question I  
18 want to ask, just to clarify all of this, and I'm not  
19 familiar with the geology of -- between those two (2)  
20 pits, but are there any natural faultlines or  
21 geological dikes possibly running through or in  
22 between these two (2) pits?

23 MR. GORD MACDONALD: Gord Macdonald,  
24 with Diavik. Yes, there are some.

25 MR. BLAKE RASMUSSEN: Thank you.

1 Blake Rasmussen. I'll -- I'll take tonight to think  
2 about this a little bit.

3 But I want to move on to the surface,  
4 the breaching of your dikes. And the question I have  
5 to is -- if we could bring up -- if you have exactly  
6 where is that -- that you choose to breach the dikes,  
7 are these engineering -- or designed by engineer and  
8 through hyd -- hydrological studies, and water  
9 currents, and what have you? Thank you.

10 MR. GORD MACDONALD: Gord Macdonald,  
11 with Diavik. And the -- the dimensions of the -- of  
12 the breaches have been selected to be as small as  
13 possible so that we can have as much protection for  
14 that fish habitat inside the dikes. But the minimum  
15 size has been specified by -- actually specified by  
16 Transport Canada, and to ensure that there is an  
17 ability to navigate through the -- through them.

18 So it's -- it's 30 metres of width, and  
19 -- and the -- the depth has to ensure that it goes  
20 below the ice level.

21 MR. BLAKE RASMUSSEN: Thank you.  
22 Blake Rasmussen, YKDFN. Just a quick comment from our  
23 experience with the water currents, with regards to  
24 the water currents.

25 And oftentimes that we find -- and it

1 doesn't matter what size of lake and how much water  
2 flows through it, when you come to a point in the  
3 land, you will have significantly more current in that  
4 area than other areas -- or a peninsula, I should say.

5                   So I'll just -- I'll just leave that  
6 comment alone and go back to your underground just for  
7 half a second. What mechanism will you have in place  
8 to isolate one pit from the other through your  
9 underground workings if you were to fill only one (1)  
10 pit with -- or partially fill one (1) pit with  
11 processed kimberlite, and the other not, because it  
12 will be filled with water, then. Is that correct?

13                   MR. GORD MACDONALD: Gord Macdonald,  
14 with Diavik. And we have described in the -- in the  
15 application that something called bulkheads will need  
16 to be constructed, and we've done the initial  
17 prefeasibility assessment on what those bulkheads  
18 would look like, and those will still need to go to  
19 final design before we proceed.

20                   And those are one (1) of the  
21 submissions we'd intend to make to the Wekeezhi Land  
22 and Water Board would be the design and locate --  
23 specific locations of those bulkheads.

24                   MR. BLAKE RASMUSSEN: Blake Rasmussen.  
25 No further questions for today.



1 THE CHAIRPERSON: Questions, the  
2 Yellowknives Dene First Nation?

3

4 (BRIEF PAUSE)

5

6 MR. PHILIP LISKE: My name's Phil --  
7 Philip Liske. I'm Weledeh Dene First Nation.

8 The kimberlite you're -- that you're  
9 going to put into the pit like you said -- but before  
10 I speak on that, Snap Lake, had a -- the underground -  
11 - kimberlite underneath the water, the lake there, and  
12 the last time I went to the -- to Snap Lake there, or  
13 -- yeah, the last time -- they -- I noticed that when  
14 we were boiling the water, making tea, around the top  
15 was just -- just brown reddish colour. I'm sure this  
16 is from kimberlite and don't --

17 And I ask the question about, that why  
18 this happening, why that caused that, and they were  
19 giving all kinds of different story, you know, and I  
20 didn't buy that.

21 So -- so if you decide to put this  
22 kimberlite in the water -- I mean into that pit, like,  
23 run it, it's going to leak. Like, you got tunnels  
24 around the -- the cone. You get a tunnel because you  
25 blast it. You get tunnel -- you know, you blast it

1 and you blast it, blast it, and it cracks all the  
2 rocks, and it's going to mix -- it's going to mix with  
3 kimberlite and -- and the water is going to -- spoil  
4 the water.

5 And so that my question, this is, did  
6 you guys ever experience that, you know, with water  
7 changing colours and that?

8 MR. GORD MACDONALD: Gord Macdonald,  
9 with Diavik. I'll let Sean or Mark comment on that.  
10 They live at site, they drink, so they drink the water  
11 all the time. I don't think it's ever been  
12 discoloured water.

13 MR. SEAN SINCLAIR: Yeah. Sean  
14 Sinclair, Diavik. So, I mean, as Gord said, I -- I  
15 sort of live at site.

16 Anyhow, we -- the whole mine site is --  
17 all the water we drink is straight from Lac de Gras,  
18 just right off the island, and, yeah, we've never  
19 experienced any discolouration issues.

20 MR. PHILIP LISKE: Because at Snap  
21 Lake they don't because they have -- they ship the  
22 water in from --

23 THE CHAIRPERSON: Please state your  
24 name again for the record.

25 MR. PHILIP LISKE: Oh, sorry. My

1 name is Phil Liske. At Snap Lake they -- they ship  
2 the water to the -- to a (INDISCERNIBLE) drinking  
3 water there now. I'm sure that Diavik is going to do  
4 that pretty soon.

5 And, you know, the water -- like, the  
6 kimberlite, that you say you're going to put into the  
7 pit, it's going to, you know -- it's going to damage  
8 and it's going to damage the -- the fish.

9 I wonder if you guys have any changes  
10 in the fish -- like, you know, some people are saying  
11 that, you know, they could notice the change and --  
12 when had that fish tasting in that area. So did you  
13 notice that?

14 MR. GORD MACDONALD: Gord Macdonald,  
15 with Diavik. One of the -- probably the most  
16 significant change that's -- that's been occurring in  
17 Lac de Gras as a result of -- of the Diavik -- of  
18 Diavik's operation is an increase in nitrogen and  
19 phosphorus that has -- it increases the primary  
20 productivity so the -- the growth of -- of -- of  
21 primary producers, which is the base of the food  
22 chain.

23 So it -- we haven't measured it, but if  
24 there was a change, it would be -- in fish, it would  
25 likely be into -- to enhancement to fish versus

1   detraction to fish.

2                   I know from the parasites that are a  
3   common aspect of fish in Lac de Gras, have been  
4   always, they continue to be, and I think one of the  
5   Elders on the TK Panel mentioned that in -- in  
6   Behchoko, and that's on the first day when -- that was  
7   one (1) of the things that she observed. She didn't  
8   observe that it had changed, that it -- that it was a  
9   continuing condition, but I'd invite any of the other  
10  Elders who might be here from TK Panel to comment on  
11  that.

12                   MR. PHILIP LISKE:   My name is Phil  
13  Liske again. Now that a change going to occur, the  
14  fish will be deformed eventually like it did here in  
15  Giant Mine at the bay. The people are fishing said  
16  the fish are deformed. If that occur, what are you  
17  going to do about it?

18                   MR. GORD MACDONALD:   Gord Macdonald,  
19  with Diavik. So we have quite an intense monitoring  
20  program called the Aquatic Effects Monitoring Program  
21  that we do under -- as part of a regulation under our  
22  water licence. It's a -- it's an annual monitoring  
23  plan, and it evaluates a number of components of the  
24  aquatic ecosystem.

25                   And what we've developed and had

1 approved is an action response plan based on nine (9)  
2 levels where -- where nine (9) would be somewhere near  
3 your -- your point of -- of a level that would cause  
4 deformation and -- or some kind of a change in the --  
5 a significant change like that in fish, and our action  
6 levels require an escalating level of response as we  
7 get closer and closer to a level nine (9).

8 Right now on -- the highest level I  
9 think we're at is a three (3) or a two (2) on -- on  
10 those action level responses. Sorry, two (2). And we  
11 don't anticipate that it's going to exceed beyond  
12 that, so we're -- we're -- the -- the measures that  
13 would have to be taken would be well in advance of  
14 anything that would cause fish to be deformed.

15 THE CHAIRPERSON: In light of time,  
16 we'd like to ask if you can just wrap up with a final  
17 question, please.

18 MR. PHILIP LISKE: Yes, okay. My name  
19 is Phil Liske again. Not just the fish that's going  
20 to be deformed but how about the other animals like,  
21 you know, the small game, the big game, in that area,  
22 and eating berries or grass and that and they get sick  
23 and, you know, or they start changing their habits and  
24 that. What are you going to do about it?

25 MR. SEAN SINCLAIR: Sean Sinclair,

1 Diavik. So we have other programs to monitor, like  
2 terrestrial animals, like caribou, wildlife. So we  
3 have a lichen and vegetation study where we go out on  
4 the land nearby and far away from the mine site and we  
5 -- we sample the lichen and vegetation and we look at  
6 what kind of chemicals are in it, if it's changing  
7 over time. And that -- so it's a similar sort of  
8 program, but for the land, inclu -- yeah, that -- and  
9 that includes dust deposition as well, any impacts  
10 from dust deposition.

11 THE CHAIRPERSON: One (1) final  
12 question from Yellowknives Dene First Nation.

13 MR. PHILIP LISKE: My name is Phil  
14 Liske again. This kimberlite that you're going to  
15 dump into the -- into the pit, you got your expertise  
16 like you said, did they recommend that to you or you  
17 got -- how many options did they provide before you --  
18 you settled for this one here?

19 MR. GORD MACDONALD: Gord Macdonald,  
20 from Diavik. As we had mentioned originally, the --  
21 the idea of finding an alternate place for processed  
22 kimberlite came up originally from the TK -- from the  
23 Traditional Knowledge Panel.

24 Once -- once we identified that the  
25 four one eight was a -- was going to be available as

1 an alternative, that's when we started approaching  
2 different experts to evaluate the -- well, the  
3 technical feasibility of doing that, and that included  
4 all of the modelling and everything.

5                   So it was -- it was our ask of them to  
6 say is this -- is this technically feasible, does this  
7 make sense, would the water chemistry -- would the  
8 water chemistry be -- be safe. Those were their  
9 instructions, was to evaluate those options for us.

10                   MR. PHILIP LISKE: The last question -  
11 - my name is Phil Liske again. Okay. It was  
12 mentioned that we recommend that you -- that -- that  
13 you transport kimberlite to another place to -- to the  
14 mainland, to other pits, like to -- to Ekati Mine.  
15 Yeah, they got open pit there.

16                   So can you transport that into that  
17 area or suggest that -- will you do that?

18                   MR. GORD MACDONALD: Gord Macdonald,  
19 with Diavik. We haven't looked at it in detail. The  
20 concept of moving -- of piping tailings or processed  
21 kimberlite off the island onto the mainland was looked  
22 at originally in the Environmental Assessment, citing  
23 all of the -- the storage facilities off of the  
24 island, and it -- without -- without actually building  
25 a causeway, like a -- a full land road off of the

1 island, you -- you wouldn't be able to put a floating  
2 pipeline across Lac de Gras, given ice conditions and  
3 all that occurs there, to safely dispose of materials  
4 off the island.

5                   So, no, it would not be feasible or  
6 practical to pipe tailings off of the island and store  
7 them in Misery or one (1) of the Ekati Mine workings.

8                   THE CHAIRPERSON: Thank you,  
9 Yellowknives Dene First Nation for your questions.

10                   In fairness to the other groups, we  
11 would like to move on now so that they would have an  
12 opportunity to ask questions.

13                   The next people that are on the list is  
14 the North Slave Metis Association.

15                   MS. JESSICA HURTUBISE: Hello. This  
16 is Jessica Hurtubise from the North Slave Metis  
17 Alliance. I'm the Regulatory Analyst at NSMA. I have  
18 two (2) questions for Diavik and then I will pass the  
19 microphone to one of our technical experts, Andrea,  
20 who is on the line.

21                   So my first question is in regards to  
22 Slide 25 of the presentation this morning. One (1) of  
23 the points says that proposed mitigation and  
24 monitoring would include wildlife deterrence to limit  
25 wildlife protection interactions.



1 I just want clarification. Is that  
2 proposed from Interveners or is that an actual  
3 accepted and planned process for closure?

4

5 (BRIEF PAUSE)

6

7 MR. SEAN SINCLAIR: Sean Sinclair,  
8 Diavik. So -- so we do currently employ, like, a  
9 variety of wildlife deterrent actions on site, sort as  
10 needed, and this commitment is really a commitment to  
11 update those to address this, you know, specifically  
12 the PK to mine workings component, but yeah, it's  
13 operational.

14 So I think the concerns, a lot of the  
15 concerns we heard were while it's being filled, not --  
16 not post closure when it's a lake. It's more keeping  
17 them out during the process of filling, so between  
18 2022 and 2025.

19 MS. JESSICA HURTUBISE: Jessica  
20 Hurtubise, with North Slave Metis Alliance. Okay.  
21 Thank you for the clarification.

22 One (1) of the main reasons I bring it  
23 up is, although we've heard a lot of information about  
24 the water quality be -- had a state that wouldn't  
25 impact any wildlife if they're in the area, we'd still

1 be concerned, or members are still concerned about any  
2 caribou in the area or perhaps even waterfowl  
3 migrating into the area and landing or falling into  
4 the pits, so it would be of interest to potentially  
5 look at longer-term wildlife deterrence.

6 I can pass on to my next question,  
7 unless you wanted to add something. Okay.

8 My second question is in regards to  
9 further community participation. So we have -- our  
10 members have been very happy to participate through  
11 the TK Panel. We've gotten a lot of interest in  
12 passing information, and that collaboration has always  
13 been very valued.

14 However, we're -- we have heard from  
15 members that there'd be interest in a broader pathway  
16 for input, for example, perhaps community-based  
17 monitoring during the closure process.

18 And one (1) of the reasons I bring this  
19 is up is although the TK Panel has been a very  
20 important method of discussion between members as well  
21 as Diavik, we have seen that the middle generation  
22 would like to be better represented because the TK  
23 Panel, thankfully this year we were happy to see, has  
24 been brought in to, not just others but to youth, but  
25 there's a lot of members in the middle generation that

1 do not get represented through these pathways, and a  
2 lot of them have a lot of valued experience in  
3 environmental monitoring and they would be very  
4 interested in working on site through the closure and  
5 working with you either directly or input those  
6 monitoring plans.

7                   So my question is: Is there any  
8 consideration for membership participation, different  
9 from just a TK Panel?

10

11                                   (BRIEF PAUSE)

12

13                   MR. GORD MACDONALD: Gord Macdonald,  
14 with -- with Diavik. It's certainly something we've  
15 been discussing -- we've been discussing with the TK  
16 Panel but just the concept of -- and other Indigenous  
17 communities said the same thing, that the -- their  
18 desire particularly at closure to be able to come to  
19 site and see for themselves how that's going.

20                   So we haven't -- we haven't figured out  
21 exactly what that's going to look like, but that's  
22 definitely something we're expecting to -- to be able  
23 to do. It's something that we hope people will be  
24 able to participate in.

25                   The one (1) other avenue that you

1 should be aware that some groups are not, is -- is  
2 EMAB, so NSMA does have a -- a Board representative on  
3 EMAB and it's also a very good forum for engagement  
4 back and forth with -- with the community and into the  
5 -- into the project as well.

6 MS. JESSICA HURTUBISE: Jessica  
7 Hurtubise, with North Slave Metis Alliance. Thanks,  
8 Gord. I appreciate the clarification through EMAB and  
9 happy to hear that there's being consideration for  
10 other input than the TK Panel. We appreciate the work  
11 that's been gone into -- or put into the TK Panel so  
12 far.

13 Those are all of my question. Madam  
14 Chair, I'd like to pass the microphone to our  
15 consultant, Andrea Buckman, who's on the line right  
16 now.

17 MS. ANDREA BUCKMAN (BY PHONE): Hello.  
18 Andrea Buckman here, from (INDISCERNIBLE) Consulting,  
19 on behalf of North Slave Metis Alliance.

20 We have a few questions. Thanks again  
21 for your very thoughtful responses on our technical  
22 questions earlier.

23 I'd like to start first by talking  
24 about some of our concerns with how the magnitude  
25 ratings were defined in the EA. The -- significance

1 in the EA was defined by a high magnitude rating, and  
2 it was clarified that a higher magnitude rating is  
3 based on 20 percent above the AEMP benchmarks, which  
4 are derived from various water quality guidelines.

5 THE CHAIRPERSON: Excuse me, could you  
6 slow down for the interpreters, please?

7 MS. ANDREA BUCKMAN (BY PHONE): Sure,  
8 no problem, sorry.

9 We wanted to just point out that the  
10 AEMP benchmarks are derived from water quality  
11 guidelines. These various water quality guidelines  
12 are -- they're designed to be protective of aquatic  
13 life. So they do have a 10 percent protection measure  
14 in them, but that measure is there for protection of  
15 aquatic life.

16 And so our question is, what is the  
17 scientific basis for defining the significance rating  
18 based on a 20 percent above that -- that guideline  
19 value?

20 MR. GORD MACDONALD: Gord Macdonald,  
21 from Diavik. I wouldn't say it was a scientific  
22 basis. It goes back to the original Environmental  
23 Assessment in 1990 -- 1999, and I think if you look  
24 into the language there, that -- that addition on top  
25 of it was just to avoid the situation where you've got

1 a marginal -- something that's marginally above a  
2 threshold. That's the only language I'm able to find  
3 in there to -- to describe why that 20 percent is  
4 there.

5                   As we answered this morning -- sorry, I  
6 can't remember who it was to, even if you removed that  
7 -- that 20 percent, that magnitude, we stay below that  
8 AEMP threshold in all of the assessments. So even if  
9 you would change that magnitude to being a -- a  
10 definition of -- was the AEMP benchmark versus the  
11 AEMP plus 20 percent, it would not change the  
12 conclusions.

13

14                   (BRIEF PAUSE)

15

16                   THE CHAIRPERSON: Questions, North  
17 Slave Metis Alliance?

18                   MS. ANDREA BUCKMAN (BY PHONE): Andrea  
19 Buckman, on behalf of the North Slave Metis Alliance.  
20 Yeah. I -- I can see your point with that. I do  
21 agree that it won't change your conclusion, however,  
22 our concern is that if significance is only defined by  
23 using that 20 percent above the guidelines, then when  
24 you're looking at your effects and monitoring for your  
25 effects, how will you be able to determine and -- and

1 implement mitigation measures, an adapted mitigation  
2 to protect aquatic life, wildlife, seabirds and  
3 (INDISCERNIBLE) birds from anything that would become  
4 greater than -- than the guideline, should that  
5 happen?

6

7 (BRIEF PAUSE)

8

9 MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik. Yeah, back to the -- the Trigger  
11 Response Plan that Diavik has as part of its Aquatic  
12 Effects Monitoring Program, where I mentioned before  
13 it was this -- this Level 1 to Level 9, and Level 9 is  
14 in fact that 20 percent greater than -- greater than  
15 benchmark in -- measured in the far field of Lac de  
16 Gras.

17 But below that, where we actually take  
18 action, and we mention we're only down at Level 2,  
19 there are actions that are taken well in advance of  
20 that where we're only at a -- even -- where we're only  
21 at a fraction of those AEMP benchmarks, and only very  
22 close to the island.

23 So just because that's what the 1999  
24 definition of significance was, doesn't mean that  
25 that's the action level at which point Diavik would in

1 fact, the Wek'eezhii Land and Water Board would  
2 require that action be taken.

3

4 (BRIEF PAUSE)

5

6 MS. ANDREA BUCKMAN (BY PHONE): Andrea  
7 Buckman, on behalf of North Slave Metis Alliance. How  
8 do those action levels compare to the baseline  
9 conditions that are currently in Lac de Gras?

10 I know that most of the compounds that  
11 you -- the predictions that you mention in your water  
12 quality model are well below the AEMP benchmark. So  
13 we're just concerned that there's -- there's quite --  
14 various degree of area or room for elevation of those  
15 COPCs.

16 So do have an idea of how that might  
17 compare to current levels when an action level would  
18 be triggered?

19 MR. GORD MACDONALD: Gord Macdonald,  
20 from Diavik. I'm sure we don't want to dwell on this  
21 too far, but, for example -- for example, the  
22 definition of a magnitude of Level 2 affects when we  
23 would -- when we would take action at Level 2, is when  
24 the fifth percentile of the near field value, so the -  
25 - those are -- the near field are very close to --



1 very close to the East Island, are greater than two  
2 (2) times the median of the reference dataset, so  
3 that'd be -- that'd be baseline, there'd be pre-  
4 development, if you will, and the normal range.

5                   So we do take action related to a -- a  
6 much smaller increase in water chemistry relative to  
7 background well before it got to -- it would get you  
8 any kind of an AEMP benchmark in the monitoring of --  
9 of Lac de Gras.

10

11                   (BRIEF PAUSE)

12

13                   MS. ANDREA BUCKMAN (BY PHONE):    Andrea  
14 Buckman, on behalf of North Slave Metis Alliance. We  
15 feel that for monitoring of water quality, it'll be  
16 quite important, so monitoring often can be used to  
17 trigger adaptive management processes and also to  
18 check for your predictions for correctness.

19                   Is there no ability to update the  
20 definitions based on newer science, or are we stuck  
21 with -- are we stuck looking at the definition from  
22 1999?

23

24                   (BRIEF PAUSE)

25

1 MR. GORD MACDONALD: Gord Macdonald,  
2 with Diavik. The definitions you're referring to are,  
3 if you will, live and constantly under review.  
4 They're under review every three (3) years, and those  
5 are the definitions that we -- we work to.

6 I think it's kind of a moot point what  
7 -- what Level 9 is when we're only operating down at  
8 Level 2. So I think those are the definitions that --  
9 that we have worked with everybody with, to come up  
10 with so that we understand why those levels fit.

11

12 (BRIEF PAUSE)

13

14 MS. ANDREA BUCKMAN (BY PHONE): Okay.  
15 I guess we'll agree to disagree on this one for now.

16 Andrea Buckman, for -- on behalf of the  
17 North Slave Metis Alliance. We'll move on to my next  
18 question.

19 In terms of your modelling and the  
20 meromictic conditions within the pit lake after --  
21 after breaching the ground, in the modelling itself  
22 you mentioned the climate -- the climate factor that  
23 you considered for temperature and I believe -- what  
24 was the other one again?

25

1 (BRIEF PAUSE)

2

3 MS. ANDREA BUCKMAN (BY PHONE): Sorry.

4 I'm just trying to find it. Oh, sorry, and

5 precipitation. One (1) consideration that we have is

6 that there is some evidence with climate change that

7 there will be an increase in upwelling of

8 (INDISCERNIBLE) from underground, and we wonder if

9 there's any potential for upwelling to occur within

10 the pit itself, and having an effect on upwelling with

11 the PK that is settled at the bottom of the pit

12 whereby mixing into the waters above that -- that

13 chemocline level, and then being able to accessible

14 (INDISCERNIBLE) organisms that are then in the area.

15 Do you have any comments on that and --

16 and whether that can be included in the next set of

17 (INDISCERNIBLE)?

18 MR. GORD MACDONALD: Gord Macdonald,

19 with Diavik. I don't want to take up the time to look

20 up a response but I think we -- I think that was a

21 question from the NSMA that -- that came in through

22 one of their Information Requests that we did respond

23 to already.

24

25 (BRIEF PAUSE)

1 MR. GORD MACDONALD: Sean is much  
2 quicker. It's NSMA-4, and so there's a written  
3 response there, Madam Chair.

4 THE CHAIRPERSON: Final questions from  
5 North Slave Metis Alliance?

6

7 (BRIEF PAUSE)

8

9 THE CHAIRPERSON: Okay, thank you.  
10 Moving on, DKFN, questions?

11 MR. PATRICK SIMON: Patrick Simon,  
12 Deninu K'ue First Nation. Thank you, Madam Chair, for  
13 the opportunity.

14 I'd just like to ask Diavik -- I think  
15 on your Slide 7, there was engagement in other  
16 operations. You mentioned that -- that you didn't  
17 receive very much opposition and that the -- and  
18 currently what you heard was put it back where it came  
19 from.

20 And I'm just wondering to what degree  
21 or what level that -- that was amongst the  
22 communities. Was it, like, 10 percent, 50 percent, a  
23 hundred percent? And if possible, do you have records  
24 of who and -- and why?

25 MR. GORD MACDONALD: Gord Macdonald,

1 from Diavik. I'm not exactly sure who first coined  
2 that. I think it might have been the NSMA that first  
3 coined that, put it back where it came from -- from --  
4 from the engagement we have.

5 I definitely wouldn't say a hundred  
6 percent of the -- of the groups that we spoke with  
7 said that kind of a phrase of put it back where it  
8 came from. But we -- the other statement, which I  
9 guess is not on there, is that we didn't receive any  
10 fundamental objection to putting it there at that  
11 time.

12 We received, I think unanimously across  
13 everyone, that it depended upon whether it could be  
14 done environmentally safely or not. But there was no  
15 -- there was no fundamental objection to doing it as  
16 long as it could be done environmentally safely.

17 That would be my characterization of --  
18 of those -- those engagements. They're all appended  
19 to the -- this was part of the original water license  
20 amendment engagements, so it was prior to our water  
21 license engagements, so like a year and a half ago,  
22 and that's all -- those meetings and who we met with  
23 and when are appended to that application.

24 MR. PATRICK SIMON: Thank you.

25 Patrick Simon, Deninu K'ue First Nation.

1                   With these engagements, was it your  
2 community visit engagement with all the people in the  
3 community or was it any other lesser form of  
4 engagements that these words are -- these impressions  
5 were given to you?

6                   MR. GORD MACDONALD:     Gord Macdonald,  
7 from Diavik.

8                   It depended on the community, Patrick,  
9 different groups have different ways that they like to  
10 engage with us. Sometimes it's a meeting with chief  
11 and council, sometimes it's meeting with a working  
12 group, sometimes Lutsel K'e usually wants to have a  
13 full -- full community meeting where they invite  
14 people in the evening. It depends on the community.

15                  MR. PATRICK SIMON:     Thank you.  
16 Patrick Simon, Deninu K'ue First Nation.

17                  I know that in -- and I'm having  
18 trouble here, I'm a little tired, it's been a long day  
19 and we've had some bad news from our community and now  
20 they're passed this morning. So -- so I'm trying to -  
21 - to do this like originally how I would have it  
22 planned yesterday. So please be patient.

23                  But I notice that you -- you alluded to  
24 or you mentioned that this -- this kimberlite that you  
25 are putting into the pits were -- were -- is that

1 clean or not clean and -- because as I mentioned, our  
2 world view of words such as that and your world view  
3 of words such as that I think we -- we differ.

4                   So given that knowledge that you have,  
5 this is your world view -- view of this PK being  
6 cleaned. Is there any kind of my world view, opinion,  
7 within that statement?

8                   MR. GORD MACDONALD: Gord Macdonald,  
9 with Diavik.

10                   Patrick, I -- I'd rather not use the  
11 definition of "clean". We've described the chemistry  
12 of the material, we've described if we put it in Lac  
13 de Gras what we think the water quality will be in all  
14 of those -- all of the terms we use of all of the  
15 chemistries we use and we believe that it's safe on  
16 the surface in those top 40 metres for fish, for  
17 aquatic life, for human consumption, for wildlife.

18                   I'm not sure how else to answer what  
19 "clean" actually means.

20                   MR. PATRICK SIMON: Thank you.  
21 Patrick Simon, Deninu K'ue First Nation.

22                   I heard that you say it is safe on top  
23 and it's safe if you put it in. Am I correct in -- in  
24 hearing that?

25                   MR. GORD MACDONALD: Gord Macdonald,

1 with Diavik.

2 Yes, what our conclusion is if we put  
3 it into the mine workings and that closure when we  
4 flooded it, that that top 40 metres would all be below  
5 aquatic effects monitoring benchmarks, which we're  
6 saying it would mean that it's protective of aquatic  
7 life, including fish, wildlife, and drinking water.

8 So, yes, it would be safe.

9 MR. PATRICK SIMON: Thank you.

10 Patrick Simon, Deninu K'ue First Nation.

11 I think that on -- I'm not quite sure  
12 what slide, but it's on page 16 at the bottom. You  
13 meant -- it's marked on the EFPK section that your  
14 water is very clear, decant water.

15 And on page 9 at the very bottom on  
16 slide 18, I believe, you mentioned what I imagine to  
17 be the same water would be dark, blue, and is very  
18 clean water.

19 And I'm unclear in -- in what you mean  
20 by "clear" and "clean" in relationship to being  
21 healthy and able for us to -- to drink.

22 Could you clarify that for me, please?

23 MR. GORD MACDONALD: Gord Macdonald,  
24 with Diavik.

25 Thank -- that's, Patrick, that's a very



1 helpful distinction. So if you go back to the  
2 previous slide, so what we're trying to show here was  
3 "clear" meaning that the particulate material, the  
4 processed kimberlite had settled out of the water  
5 column and made a distinct separation between water  
6 and sediment.

7                   And -- but just -- to point out, just  
8 because it's clear doesn't mean it's clean. So  
9 "clear" just means that there's no particulate matter  
10 in there, that doesn't mean there aren't total  
11 dissolved solids, for example, that there aren't other  
12 dissolved elements in that water that might make it  
13 unsafe to drink.

14                   So if you go -- now if you go to the  
15 other slide, and I think this was where Sean was  
16 trying to get at last night, is at the very bottom  
17 which we've -- we've coloured in a darker colour, that  
18 would be water that still had total dissolved solids  
19 in it, for example.

20                   The pour water has been released there.  
21 It might still be very clear, but it would have  
22 dissolved elements in it. And it wouldn't necessarily  
23 meet that same criteria of needing the aquatic effects  
24 monitoring benchmarks.

25                   So it might not be drinkable down at

1 the very bottom, 150 metres below the surface. But it  
2 would be, up at the top, in the -- in those surface 40  
3 metres.

4 MR. PATRICK SIMON: Thank you.  
5 Patrick Simon, Deninu K'ue First Nation.

6 I realize the clearness and cleanness  
7 aspect of it, but I just want to get a sense of -- of  
8 the top surface water in relation to -- to health and  
9 for consumption.

10 Would you be able to -- because it --  
11 it doesn't tell me that, so is there -- would you be  
12 able to clarify that?

13 My world view does not use clean water  
14 as a -- as a mechanism to be healthy. And I'm trying  
15 to get a sense of your world view in that -- in that  
16 relationship.

17 MR. GORD MACDONALD: Maybe we can try  
18 with numbers, Patrick. This -- this -- sorry, Gord  
19 Macdonald, with Diavik.

20 This table is showing that the  
21 predicted concentrations of a number of parameters or  
22 a number of elements that would be in the water were  
23 those A and B benchmarks are the -- the level at which  
24 -- as long as you're below that the expectation is  
25 that aquatic life, people, wildlife, would be able to

1 consume that water, so it would be safe.

2                   The -- the three (3) columns to the  
3 right are showing the different predictions under a  
4 couple of different deposition scenarios. But they're  
5 all well below that threshold level.

6                   That's what -- those are the maximum  
7 concentrations over 100 years of modelling in that top  
8 surface layer that would -- where you would be able to  
9 get water from for drinking or where caribou would get  
10 it from or where the fish would live.

11                   MR. PATRICK SIMON: Thank you.

12 Patrick Simon, Deninu K'ue First Nation.

13                   I'll have to think on that because it -  
14 - I'll think more on that, but I also wanted to ask I  
15 guess a final question, given that all these good  
16 people asked all the good questions and I'm stuck with  
17 some crumbs.

18                   But -- but after that my consultant,  
19 Marc will -- has a couple of questions, but I'll try  
20 to make it as clear as I can.

21                   I was here at the beginning, 20 years  
22 ago, when I was younger and I could have stayed all  
23 night. I can't now, but -- but I will. And I wasn't  
24 as learned as really quick learning curve, but it --  
25 but it was okay.

1                   And you spent a lot of effort, a lot of  
2 time and a lot of money convincing the Board that the  
3 old method was the best method to go.

4                   Given that you just told me that it's -  
5 - the top and inside, that it's okay that rock piling  
6 is okay, it's not -- it's not -- I'm not sure how to -  
7 - to phrase that, but I think you know what I mean.

8                   And that now, because of opportunity,  
9 because you didn't realize that you'd finished this  
10 pit back then that -- and it just came up that it  
11 might be the best way to -- to deal with this matter  
12 and so your -- you're seeking to take advantage in  
13 that in your -- you're saying that it's -- it's now  
14 the best method and -- and I'm wondering of the two  
15 methods the savings that you have if you left it and  
16 the savings in terms of money that you have when you  
17 put it in the ground, and -- and the time line, in our  
18 world view you're responsible from the birth -- from  
19 the birth, from the cradle to the grave.

20                   It's all done, your liability is all  
21 done and you get to go and nobody in this room can  
22 bother you ever again. My world view, that's the  
23 grey.

24                   When you left it on top, the grave  
25 aspect of what I stated and if you put it in the

1 bottom, the grave aspect that I -- that my world view  
2 sees is -- is that longer or shorter up here, versus  
3 longer or shorter down here, does it cost less or more  
4 up here as opposed as it costs less or more up there.

5                   And is there a -- a greater liability  
6 or a less liability. You know what I mean, in a --  
7 so, I'd just like to -- to get that clarified, because  
8 I believe that -- that you -- you had that ability 20  
9 years ago to -- to do this because you could have  
10 planned the extractions of it in a manner that -- that  
11 made you back 20 years ago, had that ability to have  
12 this particular plan.

13                   And -- and I wonder about that because  
14 I -- I don't know if you -- you could have done it  
15 back then and people would have agreed. But right now  
16 we're kind of in a position where, you know, we -- you  
17 have more ability to gain approval and agreement  
18 because understandings have changed, things have  
19 changed and you -- we're sort of forced between a rock  
20 and a hard place or a -- or a good thing and a -- or a  
21 bad thing and a not so bad thing.

22                   THE CHAIRPERSON: Thank you, Patrick.  
23 Would you be so kind, though, to just ask the  
24 questions? Thank you.

25                   MR. GORD MACDONALD: Gord Macdonald,

1 from Diavik.

2 To try and be brief, Patrick, we think  
3 the longest -- the long-term securest, best place to  
4 put that material is in the mine pits.

5 So if you wanted to talk about that  
6 long-term ownership of the land, which we share with  
7 you, we -- we think the best place to put that  
8 kimberlite, putting all in, is in the -- is in the  
9 mine workings.

10 It is more expensive to raise those  
11 dams, we're not trying to deny that, building those  
12 dams are expensive. So the most expensive option is  
13 to put it on the surface. But the safest option is to  
14 put it in the -- is to put it into the mine workings.

15 That's our view, that's the view of all  
16 of our engineering and -- and consulting views and  
17 we're hoping that the Board agrees and we're hoping  
18 that you all agree as well.

19 It -- it genuinely is our belief and  
20 back to your question about -- about why wasn't it  
21 done originally. It was discussed a lot in 1999 and  
22 there was not a mine plan that was economic for the --  
23 for the project that involves sequentially mining  
24 versus concurrently mining.

25 So there was never -- there wasn't an

1 opportunity to utilize any one of the worked out pits  
2 for disposal. And that was -- again, that was why the  
3 recommendation out of the responsible authorities at  
4 the time was that they recognized that that wasn't  
5 available then, but they wanted us to keep looking for  
6 that opportunity to -- to take advantage of a -- of a  
7 mine working if it became available, which is what  
8 we're doing now.

9                   The change came, mine plans change,  
10 that's -- that's what happened was we were able to  
11 mine faster in -- in 418 than we ever originally  
12 expected we could. And -- and so we mined it out  
13 sooner so it can be used. Thank you.

14                   THE CHAIRPERSON:   DKFN questions?

15                   MR. MARC D'ENTREMONT:   Thank you,  
16 Madam Chair. My name is Marc D'Entremont with the  
17 DKFN.

18                   So I just have a -- a couple questions  
19 about the fine processed kimberlite and extra-fine  
20 processed kimberlite.

21                   So I think if I understood what you're  
22 saying today, you'll be depositing the fine processed  
23 kimberlite into the pit, but that will also contain  
24 extra-fine processed kimberlite.

25                   And you've used, I think it was the

1 value of 5 million cubic metres in the pit.

2                   So, of that mixture then, what  
3 proportion is fine and what proportion is extra-fine?

4                   MR. GORD MACDONALD:   That's a pretty  
5 hard number. Sean is saying one-sixth, it might be  
6 EFPK of the FPK might be EFPK.

7                   Sorry, of the fine processed kimberlite  
8 might be extra-fine processed kimberlite. The -- the  
9 other thing, just to make sure we're clear on --  
10 there's two -- there are two options being considered.

11                   One is directly taking processed  
12 kimberlite and depositing it in the mine workings,  
13 that's what it would be, fine processed kimberlite.

14                   There is also the -- the option that  
15 we're looking at of dredging material out of the  
16 processed kimberlite containment area and putting it  
17 in the mine workings.

18                   The material that we'd be dredging out  
19 of the processed kimberlite containment area would  
20 only be extra-fine processed kimberlite.

21                   So those are what's in -- if you look  
22 at the modelling results, those are what are included  
23 in scenarios 3(a) and 4(a) are ones that include an  
24 additional 5 million cubic metres of fine processed  
25 kimberlite.



1                   Sorry, that's just 3(a).

2                   DR. MARC D'ENTREMONT:   Thank you.

3   Marc D'Entremont, for DKFN.   That was helpful.   So my  
4   other question may or may not make sense then.

5                   So if you're putting in the fine  
6   processed kimberlite that has extra-fine with it, I  
7   would deduce that the fine would settle and the extra-  
8   fine sits on top.

9                   Okay, you're shaking your head, so  
10   that's good.

11                  MR. GORD MACDONALD:   Gord Macdonald,  
12   with Diavik.

13                  I don't know that it necessarily  
14   separates out that way.   Those -- the columns that you  
15   saw there, I mean, that is settling of those -- both  
16   of those materials.   So that has both fine -- extra-  
17   fine and fine in it.

18                  How long it takes in consolidation over  
19   time, I'm not sure that it separates as -- as you  
20   suggested.   We see it separate in the processed  
21   kimberlite containment facility, but that's because we  
22   deposit at the -- at the perimeter and it segregates  
23   as it runs -- as it runs down the beaches with the  
24   coarser material settling out first and the fine  
25   settling -- going to the very end.

1 Gravimetrically, I'm not sure that that  
2 happens.

3 DR. MARC D'ENTREMONT: Thank you.  
4 Marc D'Entremont, for DKFN. Great, that was very  
5 helpful.

6 So, just one more question, which is  
7 not related to the processed kimberlite.

8 In your commitments that you've  
9 mentioned in your presentation, you committed to  
10 better engagement with the DKFN, so does this include  
11 development of a engagement plan in collaboration with  
12 the DKFN?

13 MR. GORD MACDONALD: Gord Macdonald,  
14 with Diavik.

15 I -- I think that would be a helpful  
16 thing. We sort of put out the framework of what we  
17 would intend to do. We haven't discussed it further  
18 with DKFN, but I -- yes, I think something along those  
19 lines of what those expectations are would be helpful.

20 DR. MARC D'ENTREMONT: Marc  
21 D'Entremont, for DKFN.

22 Thanks, Gord. I guess DKFN would be  
23 interested in moving that along this -- as soon as  
24 possible, I believe there is a -- as you mentioned  
25 previously, an annual meeting, but if that were to

1 happen then or sooner, I think we'd be open for --  
2 open to that conversation.

3 THE CHAIRPERSON: Final questions for  
4 DKFN?

5

6 (BRIEF PAUSE)

7

8 DR. MARC D'ENTREMONT: Marc  
9 D'Entremont, for DKFN. We have no more questions.  
10 Thank you.

11 THE CHAIRPERSON: Thank you, DKFN.  
12 And our condolences to your community.

13 I would now ask for questions from Fort  
14 Resolution Metis Council.

15 MS. KATY DIMMER: Thank you, Madam  
16 Chair. Katy Dimmer, Fort Resolution Metis Council.  
17 We'd also like to extend our condolences to DKFN at  
18 this time.

19 For my first question, I'd like to turn  
20 to slide 26 of Diavik's presentation. You proposed  
21 that mitigations proposed for water quality, wildlife,  
22 and wildlife habitat, fish and fish habitat will also  
23 help mitigate effects to availability of traditional  
24 resources and resulting effects to cultural use.

25 How will these mitigations address

1 impacts to cultural land users and cultural use  
2 related to perceptions of contamination, perceptions  
3 of risk, such as those expressed by Fort Resolution  
4 Metis Council members and our filings, as well as from  
5 other Interveners here today?

6 MR. GORD MACDONALD: Gord Macdonald,  
7 with -- as -- as we mentioned earlier, our -- our  
8 assessment of -- of cultural impact was based on  
9 whether -- whether the predicted water chemistry or  
10 wildlife use of the area would change as a result of  
11 the processed kimberlite deposition in the mine  
12 workings, and whether that would change the  
13 availability of any of those resources for future use.

14 And in that regard, that's why the  
15 mitigation of any one of those measures would also be  
16 mitigations to cultural use.

17 As we discussed before, the perceived  
18 is not something that we could do. The perceived is  
19 something that would need to come from the community.

20 THE CHAIRPERSON: Just a reminder to  
21 slow down when you're asking your questions for the  
22 interpreters. Thank you.

23 MS. KATY DIMMER: Thank you, Madam  
24 Chair. Katy Dimmer, Fort Resolution Metis Council.

25 Related to this, Fort Resolution Metis

1 Council proposed a recommendation 12 for a follow-up  
2 program for measuring or assessing impacts and the  
3 prediction confidence for impacts to cultural use in  
4 Diavik's response, in their intervention response they  
5 indicated that they would be supportive of developing  
6 and implementing such a follow-up program.

7                   Could we or could you provide a strong  
8 commitment to such a follow-up program here today?

9                   MR. GORD MACDONALD: Gord Macdonald,  
10 with Diavik.

11                   I -- I think the best commitment or a  
12 clear commitment is the development of these -- of  
13 these measurement criteria, ways that we would  
14 evaluate the -- the quality of the pit lakes for  
15 cultural -- for impacts on -- on cultural useage.

16                   I think it's very -- I think that's a  
17 very helpful starting place to doing that. How we  
18 would implement those in the future, whether it's  
19 through the traditional knowledge panel or through  
20 communities as we've discussed earlier.

21                   It's clearly still to be discussed.

22                   MS. KATY DIMMER: Thank you. Katy  
23 Dimmer, Fort Resolution Metis Council.

24                   In relation to this, you also noted in  
25 your response that you were hopeful that such

1 reconnection criteria as well as other TK based  
2 programs and other programs such as caribou monitoring  
3 and mitigation will be developed with the TK panel.

4           You appear to put a lot of reliance on  
5 the TK panel for the development of these programs,  
6 and also a great hope that they will be relevant for  
7 all Indigenous communities.

8           My question then is: If Fort Resolution  
9 Metis Council knowledge holders are not directly  
10 involved in developing reconnection criteria, or these  
11 other TK based programs, how can Diavik ensure that  
12 these criteria will address impacts specific to Fort  
13 Resolution Metis Council members and be relevant to  
14 Fort Resolution Metis Council member concerns?

15           MR. GORD MACDONALD: Gord Macdonald,  
16 with Diavik.

17           I -- we tried to address that and I --  
18 I think it's point 3 in the bottom, were any of these  
19 criteria that are developed by the TK panel that, you  
20 know, as -- as Doris mentioned, clearly that's an  
21 individual making a -- a TK recommendation. We still  
22 need to -- to verify that or get input from -- from  
23 the Indigenous groups and we -- we put that first  
24 would be through EMAB and the five signatory agreement  
25 on Indigenous groups.

1                   And then we'd take those -- the outcome  
2 from that to the -- to Fort Resolution Metis Council  
3 and try -- and get their input on a review of those  
4 criteria at that point.

5                   So that's how we saw it -- that's our  
6 proposal and how we saw it coming forward. Obviously  
7 we're open to -- it's a tough thing trying to do these  
8 things and we are hopeful on -- that the TK panel and  
9 all the parties if we put our -- our heads together  
10 can -- can come up with something here.

11                   Yes, we are putting a lot of reliance  
12 on this. We really don't have a plan B yet.

13                   MS. KATY DIMMER: Thank you. We'll  
14 consider this further and address that point in our  
15 presentation tomorrow. Just in -- Katy Dimmer, Fort  
16 Resolution Metis Council.

17                   Just returning to perceptions of this  
18 and impact characterization and significance  
19 characterization, you've acknowledged today in your  
20 response to LKDFN and Tlicho Government that you did  
21 not assess perception of risk as an impact pathway and  
22 you've also responded to Tlicho Government that you  
23 have not revisited your assessment of culture  
24 following the files of Intervener filings.

25                   Given your commitment to reconnection

1 criteria, or assuming that you follow up with a  
2 recommendation for a follow-up program how will you  
3 address your acknowledged gaps in the perception of  
4 risk impact pathways in any reconnection criteria or  
5 follow-up program initiatives for changes to cultural  
6 use?

7 MR. GORD MACDONALD: Gord Macdonald,  
8 with Diavik.

9 I expect implementation of those -- of  
10 those -- those metrics and those programs to evaluate  
11 cultural and cultural impacts as a result of the -- of  
12 the project.

13 We'll come through in the monitoring  
14 and then we'll come through in the mitigations as we  
15 implement them.

16 MS. KATY DIMMER: Thank you for your  
17 response.

18 I'd also like to just follow up on a  
19 response to a question by NSMA. We -- regarding  
20 monitoring.

21 We understand that you do not have that  
22 program or idea in place, but we would just like  
23 clarification and a commitment that any opportunities  
24 for visual monitoring and boots on the ground  
25 opportunities will be open to all Indigenous groups.



1 MR. GORD MACDONALD: Gord Macdonald,  
2 with Diavik.

3 I -- I can't make that blanket  
4 commitment. Sometimes these programs are recommended  
5 by individual groups and -- and sometimes they might  
6 be closed to that group.

7 So no, I don't think I can make that  
8 commitment.

9 MS. KATY DIMMER: That is unfortunate,  
10 because that is a concern.

11 THE CHAIRPERSON: Please state your  
12 name.

13 MS. KATY DIMMER: Apologies, Madam  
14 Chair. Katy Dimmer, Fort Resolution Metis Council.

15 That is unfortunate, as it is a concern  
16 of Fort Resolution Metis Council that we be involved -  
17 - they be involved in all programs.

18 Just moving on, just in thinking of  
19 time, I have two more questions.

20 Diavik noted in their response to Fort  
21 Resolution Metis Council recommendation 10, that they  
22 would be interested in understanding more about the  
23 proposed timing and scope of any Fort Resolution Metis  
24 Council traditional knowledge land and use occupancy  
25 study.

1                   If FRMC is able to provide DDMI with  
2 further information in the form of a scope of work,  
3 which would include detailed timelines and relevancy,  
4 could they commit through an undertaking to review  
5 that document and provide a resp -- written response  
6 to FRMC before written arguments?

7                   MR. GORD MACDONALD:    Madam Chair, can  
8 we take that one as an undertaking, that's a bit of a  
9 loaded question that we'd like to consider and -- and  
10 get back to.

11                  THE CHAIRPERSON:    Legal counsel?

12                  MR. JOHN DONIHEE:    John Donihee, Board  
13 counsel.  Thank you, Madam Chair.

14                  Mr. Macdonald, I'm not sure what you're  
15 offering by way of the undertaking.  Is it just to  
16 think about it?

17                  MR. GORD MACDONALD:    Correct.

18                  MR. JOHN DONIHEE:    Ordinarily --

19                  THE CHAIRPERSON:    Legal counsel?

20                  MR. JOHN DONIHEE:    -- we'd expect you  
21 to actually -- it's not -- it's not a very usual form  
22 of an undertaking, I just put it that way.

23                  I mean, why don't -- can I suggest  
24 simply that you give some thought to it with your team  
25 and come back to us in the morning, if that's good

1 enough, and tell us on the record what your answer is?

2 MR. GORD MACDONALD: Absolutely,  
3 that's -- that's perfectly fine.

4 MR. JOHN DONIHEE: Thank you.

5 THE CHAIRPERSON: Questions, Fort  
6 Resolution Metis Council?

7 MS. KATY DIMMER: Thank you, Madam  
8 Chair. Katy Dimmer, Fort Resolution Metis Council.

9 In relation to the previous request, we  
10 would also request that Diavik, through an  
11 undertaking, commit to reviewing a similar scope of  
12 work document provided by Fort Resolution Metis  
13 Council concerning a caribou indigenous knowledge  
14 study and provide a written response before written  
15 argument.

16 MR. GORD MACDONALD: Gord Macdonald,  
17 with Diavik.

18 We'll -- we'll include that in the  
19 response we give you tomorrow morning.

20 MR. ARTHUR BECK: Arthur Beck, Fort  
21 Resolution Metis Council.

22 I realize everybody is getting tired,  
23 so am I. We're the last ones, North Straight Metis  
24 Alliance isn't here.

25 Tomorrow I'm going to speak about the

1 plants and animals, about the birds and the trees and  
2 what I've seen, what I've learned over 20 years.

3 I spent 30 years on Great Slave Lake  
4 Advisory Committee, so I have a lot of experience with  
5 fish and water and the flow.

6 Also, I sit on the contaminants board  
7 in the Northwest Territories for quite a few years. I  
8 don't know how many contaminant sites are there in the  
9 Northwest Territories, there's lots. Only working on  
10 ninety-three (93).

11 I have lots to say, but we'll wait  
12 until tomorrow, let you think about it tonight. Thank  
13 you.

14 THE CHAIRPERSON: Final question from  
15 Fort Resolution Metis Council.

16 MS. KATY DIMMER: Katy Dimmer, Fort  
17 Resolution Metis Council.

18 Just to build off of DKFN's question  
19 concerning development of engagement plans with non-  
20 participant signatory Indigenous groups, can you give  
21 an idea of estimated timelines for working with us and  
22 other groups on these engagement plans?

23 MR. GORD MACDONALD: Gord Macdonald,  
24 with Diavik.

25 We've -- we've proposed our -- our

1 framework for it, we're happy to meet with you  
2 whenever you're available to discuss it further.

3 I don't have a specific timeline, we'll  
4 have to come up with those together.

5 MS. KATY DIMMER: Katy Dimmer, Fort  
6 Resolution Metis Council.

7 Thank you, Madam Chair. No further  
8 questions at this time.

9 THE CHAIRPERSON: Thank you.

10 Moving on to NWT Metis Nation.

11 Questions?

12 MR. ARTHUR BECK: Yes, Arthur Beck,  
13 Fort Resolution Metis.

14 I'll have to answer for them, I'm part  
15 of the Nation. I am a Board member. However, they'll  
16 be in tomorrow. Ron will be here tomorrow with some  
17 questions, and so will we. I mean, there's lots.  
18 Everybody is tired, so I think it's time to go home.

19 Thank you very much.

20 THE CHAIRPERSON: Okay, we'll wait for  
21 tomorrow for their presentations then.

22 Questions from Board staff and counsel?

23 MR. MARK CLIFF-PHILLIPS: We're just  
24 moving some staff, but we do have some questions.

25 MS. CATHERINE FAIRBAIRN: Thank you,

1 Madam Chair. This is Catherine Fairbairn, Review  
2 Board staff.

3 Diavik, you've described how you'll  
4 mitigate adverse impacts to fish if water quality in  
5 the pit lakes is much worse than expected for some  
6 reason.

7 You mentioned that if the dikes were  
8 already breached you could potentially fill them back  
9 in, or that if the dikes aren't breached yet,  
10 potentially you -- you could look at options like  
11 fracturing the wall inside the dike to allow water to  
12 pass through without allowing fish to pass through.

13 Could you please describe the  
14 engineering and financial feasibility of these two  
15 options or other options that you're considering?

16 MR. GORD MACDONALD: Gord Macdonald,  
17 with Diavik.

18 The -- the financial and technical  
19 feasibility of filling the -- filling the breaches  
20 back in and/or fracturing the dikes, is that correct?

21 MS. CATHERINE FAIRBAIRN: Yes. Just  
22 to discuss how far you've progressed with looking into  
23 those two options.

24 MR. GORD MACDONALD: On the -- on the  
25 back filling we have looked at that, we've looked at

1 that from -- it's a similar program to what we're  
2 looking at for the -- for the north inlet dike.

3 So we've looked into that. It's pretty  
4 straight-forward earth moving. And we haven't looked  
5 into the economic feasibility of -- of fracturing the  
6 dike.

7 We've talked about it descriptively and  
8 it doesn't seem to be a -- there be an impediment to  
9 it, but we haven't -- we haven't actually costed it.

10 MS. CATHERINE FAIRBAIRN: Catherine  
11 Fairbairn, Review Board staff.

12 Have you discussed it with -- from a  
13 technical perspective, the feasibility of it?

14 MR. GORD MACDONALD: Gord Macdonald,  
15 with Diavik. Yes, the recommendation came from the  
16 engineer of -- the dike engineer.

17 MS. CATHERINE FAIRBAIRN: Thank you.  
18 Catherine Fairbairn, Review Board staff.

19 So will that -- those two (2) potential  
20 mitigations could protect fish from water quality in  
21 the pits that is worse than expected.

22 It wouldn't necessarily protect Lac de  
23 Gras from that water. Is there -- if the water  
24 quality in the pits does get much worse than expected  
25 for some reason, what can you do to prevent adverse

1 impacts to the water quality in Lac de Gras from water  
2 coming out of the pits?

3 MR. GORD MACDONALD: Gord Macdonald,  
4 with Diavik.

5 Those are -- those are addressed in our  
6 -- in our closure plan, there's contingencies for if  
7 water chemistry is worse than predicted.

8 So it's not -- it's not unique to  
9 processed kimberlite, it could be for other reasons.

10 But the key mitigations in there are  
11 methods of treatment, either treatment in place and  
12 something -- as in -- as in depositing from a boat or  
13 something, elements like lime that could help settle  
14 any of the materials out or treat the water in -- in  
15 situ.

16 To treating the water to pumping from  
17 the pits through a treatment plant, discharging into  
18 the lake, replenishing what we've pumped out with --  
19 with more lake water. Clearly not something we would  
20 want to do, but that -- in -- if there was an extreme  
21 situation like that, I think that's -- those are both  
22 technically viable options.

23 MS. CATHERINE FAIRBAIRN: Thank you.  
24 Catherine Fairbairn, Review Board staff.

25 Could you comment on why you believe



1 that complete isolation of the pits from both fish and  
2 water isn't possible? Just provide a bit more detail.

3 MR. GORD MACDONALD: Sure. Gord  
4 Macdonald, with Diavik.

5 And if we left the -- if we left the  
6 dikes fully intact, so still as engineered structures,  
7 and didn't cut any bridges in them or didn't fracture  
8 it, also it still works as a water retaining element,  
9 the water levels will continue to go up in the -- in  
10 those pit lakes until a point that they reach the top  
11 of the water retaining element within the -- within  
12 the dike, and it would then contro -- discharge a  
13 release uncontrolled to -- to Lac de Gras.

14 It would -- it would leave the dikes  
15 with a perched water table above the -- above Lac de  
16 Gras and leave those dikes as a water retaining  
17 element in perpetuity.

18

19 (BRIEF PAUSE)

20

21 MS. CATHERINE FAIRBAIRN: Thank you.  
22 Catherine Fairbairn, Review Board staff.

23 What is the driver of that increase in  
24 water in the pits? Is it primarily groundwater or  
25 surface water flow?

1 MR. GORD MACDONALD: Gord MacDonald,  
2 with Diavik. No, it -- it would be surface water  
3 flow. So, the groundwater flow would be negligible  
4 once the pits are filled back in, so it's just local  
5 runoff to -- to that area.

6 MS. CATHERINE FAIRBAIRN: Thank you.  
7 Catherine Fairbairn.

8 Have you -- has Diavik explored other  
9 potential mitigations to keep water levels in the pit  
10 lakes down, things like diversion trenches on the  
11 island or something that would divert water away from  
12 the pit lakes?

13 MR. GORD MACDONALD: Gord Macdonald,  
14 with Diavik. So, I should have said runoff as well as  
15 direct precipitation on the -- it's a very -- quite a  
16 small catchment.

17 No, we haven't -- we haven't looked at  
18 that.

19 MS. CATHERINE FAIRBAIRN: Thank you.  
20 I will pass it off to other staff.

21 THE CHAIRPERSON: Okay. Questions  
22 from legal counsel?

23 MR. JOHN DONIHEE: John Donihee, Board  
24 counsel. I -- I don't have any questions myself,  
25 Madam Chair, but my colleagues have a few more.

1 THE CHAIRPERSON: Okay.

2 MR. JOHN DONIHEE: Staff still have  
3 some questions.

4 THE CHAIRPERSON: Questions from  
5 staff?

6

7 (BRIEF PAUSE)

8

9 MR. ALAN EHRLICH: Thank you, Madam  
10 Chair. It's Alan Ehrlich, with the Review Board.

11 In addition to considered alternatives  
12 within your proposed project, the Board will also  
13 consider the no project alternative, which is, of  
14 course, what you already have permission to do,  
15 specifically raising the dam around the processed  
16 kimberlite containment facility and storing processed  
17 kimberlite in there.

18 Yesterday in Dettah you presented a  
19 helpful slide describing the environmental pros and  
20 cons of putting processed kimberlite into the pits.  
21 Could you please describe the environmental pros and  
22 cons of the no project alternative, in other words,  
23 without the currently proposed project, if you were  
24 not to put proposed kimberlite into the pits?

25 MR. GORD MACDONALD: Gord Macdonald,

1 with Diavik. As I understand it, as sort of the  
2 inverse of what presented last night, and -- and so I  
3 have written down some -- some points here.

4                   So, this would be -- if you think about  
5 it the other way around, this would be the advantages  
6 of not -- these advantages and disadvantages of not  
7 putting processed kimberlite in the mine workings.

8                   So, the -- from our perspective, the --  
9 the three (3) advantages of not putting the processed  
10 kimberlite back into the mine workings would be that  
11 we would not require construction of a pipeline, that  
12 we have seventeen (17) years of experience with  
13 depositing PK on -- in a surface facility.

14                   So, that's clearly an advantage. We  
15 have more experience with that method of deposition.  
16 The other advantage is that we not require an  
17 environmental assessment or a water licence to do it.  
18 It's already permitted, it's -- the -- and it's  
19 already engineered.

20                   The disadvantages to -- to not doing  
21 the project, we would have -- the disadvantages, we  
22 would have to construct an additional 4-metre high dam  
23 over 6 kilometres around the perimeter of the  
24 processed kimberlite facility.

25                   It would increase the size of the PKC

1 facility by 4 metres in height, containing an  
2 additional 5 million cubic metres of processed  
3 kimberlite.

4                   It would increase the amount of PK  
5 that's stored in a -- in a less secure site, in a less  
6 secure location. And the long-term pore water release  
7 from the additional on-land storage would add to the -  
8 - to the surface runoff that's entered in -- that  
9 would enter Lac de Gras in the future anyway.

10                   And there would be greater potential  
11 for direct contact of caribou with processed  
12 kimberlite because the on-land facility -- closure of  
13 the on-land facility of placing that cover would be  
14 delayed by three (3) years.

15                   Another disadvantage would be that the  
16 options available for closure of the -- the on-land  
17 facility would be reduced because there -- there would  
18 no longer be an option to dredge the extra fine  
19 processed kimberlite from that facility and put it  
20 into the mine workings.

21                   And finally, we'd -- we'd need to use  
22 more of Lac de Gras water. About 5 million cubic  
23 metres more would be required to fill the A418 pit at  
24 closure. Those are what we see the advantages and  
25 disadvantages of not doing the project.

1 MR. ALAN EHRLICH: Alan Ehrlich, for  
2 the Review Board. Thank you for that response.

3 It would be helpful to the Board if you  
4 could submit that in writing as perhaps part of  
5 Undertaking number 1, which you've already committed  
6 to producing the pros and cons of putting the  
7 kimberlite in the pits, and perhaps contrasting the  
8 pros and cons of what you've just describes were the  
9 pros and cons that you put into your presentation.

10 Are you -- are you open to doing that  
11 as part of Undertaking number 1?

12 MR. GORD MACDONALD: Gord Macdonald,  
13 with Diavik. We had Undertaking number 1 already  
14 complete to give you. And I know there was a time  
15 line on that.

16

17 (BRIEF PAUSE)

18

19 MR. GORD MACDONALD: Okay. Go ahead.

20 THE CHAIRPERSON: Legal counsel...?

21 MR. JOHN DONIHEE: Thank you, Madam  
22 Chair. It's John Donihee. Given that number 1 is  
23 already done, perhaps you'd agree to do that extra  
24 little bit of work as Undertaking number 2, Mr.  
25 MacDonald?

1 MR. GORD MACDONALD: We'd be happy to  
2 do that. Thank you.

3

4 --- UNDERTAKING NO. 2: Diavik will respond  
5 tomorrow, Sept 6 to the following  
6 request from FRMC: a) Through an  
7 undertaking, Diavik to commit to  
8 reviewing a scope of work document  
9 produced by FRMC which would  
10 provide information on the scope and  
11 timing of a Project-specific FRMC  
12 Traditional Knowledge and Land Use  
13 Occupancy Study. Diavik to provide  
14 their response in writing on this  
15 document to FRMC prior to the  
16 submission of closing arguments.  
17 (b) Through an undertaking, Diavik to  
18 commit to reviewing a scope of work  
19 document produced by FRMC which would  
20 provide information on the scope and  
21 timing of a Project-specific FRMC  
22 Traditional Knowledge Study for  
23 Caribou.  
24 Diavik to provide their response in  
25 writing on this document to FRMC prior

1 to the submission of closing  
2 arguments.

3

4 MR. ALAN EHRLICH: Thank you for that.

5 On a slightly related note, can you please describe  
6 what you see as worst-case type scenarios for your  
7 proposed project over the very long-term besides  
8 earthquakes, which we've already discussed a bit, for  
9 both your proposed project and your no project  
10 alternative?

11 So, I'm looking for low probability,  
12 high consequence stuff, the kinds of things that used  
13 to be called worst-case type scenarios.

14 MR. GORD MACDONALD: Gord Macdonald,  
15 with Diavik. The one (1) for the project is, I think,  
16 the one that we have assessed, which is a significant  
17 pit wall failure underwater that had enough energy to  
18 -- to stir up the processed kimberlite and bring it up  
19 to the surface.

20 I think that's the -- that's that very  
21 rare event, but it's not impossible over the long-term  
22 for the project. And I -- I think the one (1) for --  
23 for the alternative, of storing processed kimberlite  
24 on the -- on the surface, would be some kind of a dam  
25 failure. It has to be some kind of a dam failure with



1 a large release of processed kimberlite and -- and  
2 water to Lac de Gras.

3 MR. ALAN EHRLICH: Thank you for that.  
4 It's Alan Ehrlich, with the Review Board again.

5 Now, I've got a separate line of  
6 questions that have to do with reconciling the large  
7 volume of storage space that you've asked for  
8 permission to use compared to the relatively smaller  
9 volume of processed kimberlite that you said you want  
10 to store.

11 So, first off, it -- it doesn't help  
12 the Board to understand what other activities may be  
13 occurring at the same time as your proposed project.  
14 Could you please tell the Board if you think there's  
15 any potential for finding ore bodies in the area that  
16 might extend your mine life?

17 MR. GORD MACDONALD: Gord Macdonald,  
18 with Diavik. We're always very hopeful that we'll  
19 find more ore bodies that would extend our mine life.  
20 We're not optimistic that we will.

21 We're doing our very last ticks and  
22 balances on -- on ore bodies that we know of, but  
23 we're still very much forecasting a 2025 closure, so a  
24 very low probability of anything that would be able to  
25 change the mine life of Diavik.

1 MR. ALAN EHRLICH: Thank you. It's  
2 Alan Ehrlich, for the Review Board. So, you already  
3 have an existing process plant and, of course,  
4 existing mine infrastructure.

5 In the future, if ample extra storage  
6 space was already available, is it fair to say that  
7 this could increase the economic feasibility of mining  
8 any future pipes you find?

9

10 (BRIEF PAUSE)

11

12 MR. GORD MACDONALD: It sounds very  
13 hypothetical and I'm not sure how to -- how to answer  
14 that. Can you maybe just repeat it again? Where is  
15 this extra storage space coming from?

16 MR. ALAN EHRLICH: Thanks. It's Alan  
17 Ehrlich, for the Board. So, you've asked for  
18 permission to store kimberlite in the pits. The pits  
19 have a considerably greater volume than the amount of  
20 kimberlite you've said you need to store, meaning, if  
21 you get that permission, you should have ample extra  
22 storage space for something else.

23 But we've seen no indication of the  
24 something. We know you're not proposing a something  
25 else. We know that good cumulative effects

1 assessments keeps an eye to the potential for induced  
2 development and looks to the horizon for what might be  
3 reasonably foreseeable, what might not be.

4                   So, the Board is interested in what  
5 possibilities arise from you having the authorization  
6 to use more space for spor -- storing processed  
7 kimberlite than you have processed kimberlite to  
8 store. Thank you.

9

10   (BRIEF PAUSE)

11

12                   MR. GORD MACDONALD: Gord Macdonald,  
13 with Diavik. That's -- to us, that's purely  
14 speculative. That's not our intent for what we're  
15 asking for. I mean, we've been specific about what  
16 we're looking for, so it's not our intent to be  
17 creating some kind of a new value to Diavik by having  
18 additional storage space.

19                   If -- if we had more ore bodies out  
20 there, we'd be bringing those forward as being the --  
21 the purpose. Our water licence is very specific to  
22 the ore bodies that we currently have in the mine  
23 plant.

24                   Even if we find a new one, it's a whole  
25 new environmental assessment to bring those into the

1 mine plant.

2 MR. ALAN EHRLICH: Okay. And then my  
3 last question -- it's Alan Ehrlich, with the Review  
4 Board -- is just a slightly less hypothetical version  
5 of that. It's still having to do with the future  
6 because all the impacts we're talking about don't  
7 exist on the ground yet.

8 If you did have this ample extra  
9 storage space, under what circumstances might you  
10 consider putting waste from Ekati into it?

11

12 (BRIEF PAUSE)

13

14 MR. GORD MACDONALD: Gord Macdonald,  
15 with Diavik. Is -- is that rel -- a relevant question  
16 to this?

17 THE CHAIRPERSON: Legal counsel...?

18

19 (BRIEF PAUSE)

20

21 MR. JOHN DONIHEE: It's John Donihee.  
22 Madam Chair, we'll -- we'll pass on that question.  
23 Thank you.

24 MR. ALAN EHRLICH: Okay. That's --  
25 Alan Ehrlich. I don't have other questions on this,

1 but Executive Director Mark Cliff-Phillips does.

2 MR. MARK CLIFF-PHILLIPS: Thank you.

3 Mark Cliff-Phillips, with the Review Board.

4 Thank you for your answer earlier with  
5 regards to what potential mitigations you may have for  
6 if water quality is exceeded from the predictions and  
7 -- and you need to -- to look at different options for  
8 how to deal with the water quality.

9 We also ask questions around the  
10 feasibility of maintaining the dike, so no  
11 reconnection either hydrologically or in terms of fish  
12 passage.

13 Is Diavik -- you -- you said that you  
14 haven't considered any options for diversions or other  
15 ways of dealing with that. But if there was a no-  
16 connection scenario because of the -- the water  
17 quality or the modelling once you've already started  
18 to deposit PK into the pits, would Diavik have an  
19 option of maintaining a full enclosure of the pits  
20 both hydrologically and for fish passage?

21 MR. GORD MACDONALD: Gord Macdonald,  
22 with Diavik. We could, but that would -- it would  
23 sort of get around our closure plan, which would --  
24 because it would require a presence onsite in  
25 perpetuity to manage that water level. So, it's, yes,

1 technically possible, but certainly not where we would  
2 want to go.

3                   If we thought that was a high  
4 likelihood, we wouldn't be -- we wouldn't be doing  
5 what we're plan -- asking to do.

6                   MR. MARK CLIFF-PHILLIPS: I think that  
7 -- thank you. Mark Cliff-Phillips, with the Review  
8 Board. I think that answered my question of would you  
9 do that if there was a scenario where you would have  
10 to undertake that.

11                   MR. ALAN EHRLICH: Madam Chair, it's  
12 Alan Ehrlich. The remaining questions from staff and  
13 advisors actually come from Neil Hutchinson, who's the  
14 expert advisor to the Board on water quality.

15                   DR. NEIL HUTCHINSON: Here we go. Hi.  
16 A question to Diavik. Neil Hutchinson, for the Board.

17                   You've shown us videos and photos of  
18 the settling process of the fine PK in a lab setting.  
19 And then you've spoken in response to DKFN about the  
20 possibility that the extra fine and the fine might not  
21 even segregate as shown in -- in those graduated  
22 cylinders.

23                   I'd just like you to comment. Like,  
24 what's the difference between the actual environment  
25 where the -- where the PK will be deposited and what

1 you're seeing in the lab and using to populate your  
2 model?

3                   Is -- is the extra turbulence likely to  
4 change things?

5                   MR. GORD MACDONALD:   Gord Macdonald,  
6 with Diavik. My -- my comment to the -- I'll let you  
7 get settled, Neil.

8

9   (BRIEF PAUSE)

10

11                   MR. GORD MACDONALD:   My comment on  
12 that -- on the -- wouldn't necessarily segregate  
13 between the extra fine processed kimberlite and the  
14 fine processed kimberlite was in the solids fraction,  
15 not in the separation between water and solids.

16                   I -- I think -- I mean, a lab setting  
17 is always a lab setting relative to -- to a field  
18 environment. But really, if you think about something  
19 that's going to go on 150 metres below the water  
20 surface, it's probably not very different than a  
21 graduated cylinder. It would probably be very calm  
22 conditions down at the bottom, and that long-term  
23 consolidation would be quite similar.

24                   What would not be similar would be that  
25 initial -- that initial settling because it -- it

1 wouldn't be quiet like that during operations. We'd  
2 have -- we'd have constant deposition going on at the  
3 same time as that initial clarification and settling.

4                   So, during that period of active  
5 deposition it would be very different than a lab  
6 setting. But once you've -- once you've stopped that,  
7 it would become very similar to a lab setting.

8                   DR. NEIL HUTCHINSON: Neil Hutchinson,  
9 for the Board. Thank you.

10                   So, is that possible then that some of  
11 the extra fine PK that people are worried about might,  
12 in fact, be buried in the fine PK during this  
13 turbulent period and the only settling would occur at  
14 the very end when you turned the pipeline off?

15                   MR. GORD MACDONALD: Yeah, I think  
16 that's -- that's a fair characterization. It's going  
17 to happen at the same time, but most of it's going to  
18 get entrained over time.

19

20                   (BRIEF PAUSE)

21

22                   DR. NEIL HUTCHINSON: Thank you. Neil  
23 Hutchinson, for the Board. You've talked about one  
24 (1) of your -- your proposed advantages is that there  
25 will still be surface runoff for the existing PKC for



1 some period after the mine is closed.

2                   How long is that period where you'd  
3 still get the runoff and -- and the pore water coming  
4 out of the existing PKC?

5                   MR. GORD MACDONALD:   Gord Ma -- Gord  
6 MacDonald, with Diavik. The current closure plan, it  
7 would -- it would go forever. I mean, whatever plans  
8 on the processed kimberlite containment facility will  
9 go by a designed overflow, follow an inland stream  
10 down and into Lac de Gras.

11                   The composition of that -- of that  
12 water chemistry will change over time, but it'll be  
13 over long periods of time. That water will still be  
14 exposed to processed kimberlite. It will still pick  
15 up materials that are in that -- in the processed  
16 kimberlite and will influence that water chemistry.

17                   So, at no time do we see that the  
18 runoff would ever stop from that -- from that  
19 facility.

20                   DR. NEIL HUTCHINSON:   Neil Hutchinson,  
21 for the Board. Thank you. So, that -- that thinking  
22 is behind your conclusion that it is probably better  
23 environmentally to store the PK in the pit?

24                   MR. GORD MACDONALD:   That's one (1) of  
25 the aspects, definitely, yes.

1 DR. NEIL HUTCHINSON: Thanks. Neil  
2 Hutchinson, for the Board. Let's -- let's imagine  
3 twenty (20), thirty (30) years from now when the Jay  
4 project is built and -- and closed and Ekati is built  
5 and closed and Diavik is built and closed and there  
6 are no more effluent streams coming into Lac de Gras.

7 Would there be a noticeable difference  
8 in the water quality from any -- any total dissolved  
9 solids that would be moving into Lac de Gras from your  
10 pit?

11 MR. GORD MACDONALD: Gord Macdonald,  
12 with Diavik. This is -- you said this is after all of  
13 the operations -- all of the money operations in the  
14 area have gone and, basically, there's been time for  
15 anything that's there to move out of the Lac de Gras  
16 system?

17 DR. NEIL HUTCHINSON: Yes. Sorry,  
18 Neil Hutchinson, from the Board. Yes. We've returned  
19 to baseline, all -- all the effluent streams are  
20 turned off and -- and the lake is -- is back to where  
21 it was.

22 Would there be a noticeable effect from  
23 anything coming out of your -- your in-lake -- your  
24 in-pit storage?

25

1 (BRIEF PAUSE)

2

3 MR. GORD MACDONALD: Sorry, talked to  
4 in one (1) ear and listening in another. Gord  
5 MacDonald, with Diavik. And the question's just  
6 whether the change -- any influence from total  
7 dissolved solids from the pit lake itself versus the  
8 runoff from the island?

9 DR. NEIL HUTCHINSON: Neil Hutchinson,  
10 for the Board. Yes. I'd like to know what the  
11 influence of the pit lake is on the water quality in  
12 the long-term.

13

14 (BRIEF PAUSE)

15

16 MR. GORD MACDONALD: Neil, I'm going  
17 to give it you as a load because it's -- I -- so I --  
18 you asked is it going to make a change in the water of  
19 chemistry. I'll give to you for a load, and maybe you  
20 can help with whether that would be a change or not.

21 But the -- our expectation is that, on  
22 average, the load from the surface runoff from the  
23 island would be about 1,800 kilograms per year of --  
24 of TD -- of total dissolved solids -- sorry, 1.9  
25 million kilograms.

1 Right, 1.9 kilograms per year from  
2 runoff versus the load from the -- from the 418  
3 scenario, 2A, would be about 1 percent of that, so  
4 1,800 kilograms per year.

5 This information's in response to -- to  
6 EMAB 17 on the Information Response. So, I -- I think  
7 there would still be a measurable difference from the  
8 pit, but most of any difference in Lac de Gras would  
9 be -- would be from local runoff.

10 DR. NEIL HUTCHINSON: Thank you. Neil  
11 Hutchinson, for the Board. What I'm trying to get at  
12 here is -- is concerns from some of the -- the other  
13 parties about return to baseline conditions and what  
14 the likelihood of that is.

15 Is this a scenario that you might be  
16 able to model in the upcoming modelling that you've  
17 said you're going to be undertaking?

18

19 (BRIEF PAUSE)

20

21 MR. GORD MACDONALD: Gord Macdonald,  
22 with Di -- definitely, it will be, Neil. And it's  
23 also part of what we're doing with our updated closure  
24 plan that'll be done at the end of this year.

25 DR. NEIL HUTCHINSON: Neil Hutchinson,

1 for the Board. Thank you. In your summary impact  
2 statement, you spoke to potential to modify the size  
3 and the spacing of the breaches in the dikes to  
4 optimize water exchange.

5 In your response to the supplemental  
6 IRs from the Board you -- you state that:

7 "Diavik would expect that the water  
8 quality conditions to be largely the  
9 same regardless of whether the  
10 hydrologic connection is to  
11 fractures or it is excavated."

12 So, in one (1) point you're saying that  
13 -- that you'd like to excavate the breaches to improve  
14 your water movement, and in the other case you're  
15 saying it wouldn't make much difference.

16 How important is water movement through  
17 the pits at closure to maintaining your expected water  
18 quality?

19 MR. GORD MACDONALD: Gord MacDonald,  
20 with Diavik. Water movement back and forth is -- is  
21 very important to the -- to maintaining that water  
22 quality over the long-term.

23 Where I think the comment came from was  
24 we did originally look at the options of making those  
25 breaches bigger or smaller. And when we -- when we

1 modelled bigger -- bigger breaches -- bigger breaches  
2 -- bigger excavations, it didn't materially change the  
3 -- it didn't materially change -- improve the water  
4 chemistry.

5                   What we didn't look at is making them  
6 smaller and find out how much of impact there would  
7 be. On the -- on the fracturing the dikes, we've  
8 assumed that there would be -- the same level of  
9 exchange would occur in -- in a fractured dike as  
10 there would be within an excavated, that we would  
11 excavate it to at least that level.

12                   So, we didn't -- we didn't find that  
13 increasing the size of the breaches made any -- made  
14 any appreciable additions to the predictions.

15                   DR. NEIL HUTCHINSON: Neil Hutchinson,  
16 for the Board. Thank you. So, you're saying, if you  
17 were to fracture the dike instead of breaching it, you  
18 would engineer it to make sure there is the same  
19 amount of exchange as if you'd actually cut holes in  
20 the -- in the dike itself?

21                   MR. GORD MACDONALD: Yeah, more or  
22 less. It has to -- it has to be able to fluctuate and  
23 level more -- very quickly with Lac de Gras.

24                   DR. NEIL HUTCHINSON: Thank you. Neil  
25 Hutchinson, for the Board. I'd like to -- to get an

1 idea of what you've asked the University of Alberta to  
2 -- to undertake. What questions have you asked the  
3 University of Alberta in -- in these studies that are  
4 going to inform your next round of modelling?

5                   Is it focussed on extra fine PK and its  
6 characteristics or is it just focussed on your general  
7 PK stream in general?

8                   MR. GORD MACDONALD: Gord Macdonald,  
9 with Diavik. Those slides are actually -- the  
10 pictures of the graduated cylinder are actually from  
11 the University of Alberta study.

12                   So, they have -- we gave them two (2)  
13 samples to work with, one (1) is the -- is the fine  
14 processed kimberlite that we expect in the period of  
15 2022 to 2025, which is a 50/50 blend of ore from 821  
16 and 50 percent from the 154 north pipe.

17                   And each of the kimberlites at Diavik,  
18 the same as at Ekati, the same as, I'm sure, Gahcho  
19 Kue, each of them have unique physical properties, so  
20 they're -- they're made up of slightly different --  
21 different kimberlites.

22                   So, it's important that we get a  
23 representative mix. And -- and so, that's what one  
24 (1) of the -- one (1) of the text materials is.

25                   The other is extra fine processed

1 kimberlite which we've collected from off the  
2 reclaimed barge sitting in the processed kimberlite  
3 containment area, in the middle, which is  
4 predominantly extra fine PK. And that's the material  
5 that we -- we'd like to consider dredging as a closure  
6 option.

7                   So, we asked them to -- to evaluate  
8 both of those materials. We asked them to look at it.  
9 We sort of talked about initial settling and some  
10 initial consolidation.

11                   There's a range of geotechnical  
12 measures they take on those -- on those samples so  
13 that they can forecast -- they can populate a consolid  
14 -- a long-term consolidation model to find out how  
15 that material will consolidate over long periods of  
16 time and what ultimate densities it will get to.

17                   That was -- that was one (1) focus.  
18 And then the other focus is -- was water chemistry, so  
19 what's the -- as that pore water is -- is released in  
20 that -- in those -- in those columns, they're sampling  
21 over time the -- the chemistry of the supernatant, or  
22 that decant water, to see how that chemistry changed  
23 over time, again, and -- and how different it was  
24 between extra fine processed kimberlite and fine  
25 processed kimberlite.



1 DR. NEIL HUTCHINSON: Neil Hutchinson,  
2 for the Board. Thank you very much. Just one (1)  
3 more question, Madam Chair.

4 We've heard some Interveners are -- are  
5 concerned about a layer of extra fine PK being  
6 disturbed and floating up into the water column or  
7 being moved up into the water column and bringing  
8 turbidity into the extra waters.

9 Given the segregation that you're  
10 showing on the slide and the fact that there'll be a  
11 layer of dense pore water overtop of extra fine PK,  
12 would that tend to inhibit any potential for this  
13 fluffy extra fine PK to move up into the water column?

14 MR. GORD MACDONALD: Gord Macdonald,  
15 with Diavik. Yeah, I'm not sure where this notion of  
16 fluffy extra fine PK comes from, but I -- I think  
17 we'll -- maybe we'll get to that.

18 But I'd ask -- I'll ask Jerry, from  
19 Golder, to talk to this. It was -- it was a question  
20 that was raised earlier, about the potential for  
21 raised suspension. And I think he'd be able to answer  
22 that question better than I would.

23

24

(BRIEF PAUSE)

25

1 MR. JERRY VANDENBERG: Jerry  
2 Vandenberg, consultant to Diavik. Yes, it -- it  
3 definitely would limit the resuspension having a layer  
4 of denser water overlaying the sediment. It would  
5 essentially restrict the amount of turbulence of water  
6 movement that interact with that sediment water  
7 interface.

8 DR. NEIL HUTCHINSON: Neil Hutchinson,  
9 for the Board. That's all my questions. Thank you.

10 THE CHAIRPERSON: Board, questions?

11 BOARD MEMBER KRUTKO: David Krutko,  
12 Review Board. Could you clarify the numbers in  
13 regards to the existing containment pond that's used  
14 for PK now? My understanding is, to date, there's 32  
15 million cubic metres of fill.

16 With the extension on your licences,  
17 you've got room up to -- is it -- I think it was 8  
18 metres, and then an additional 4. Can you clarify  
19 that?

20 MR. SEAN SINCLAIR: So, yeah, the  
21 current PKC is built up to --

22 THE CHAIRPERSON: State your name,  
23 please.

24 MR. SEAN SINCLAIR: Oh, Sean Sinclair,  
25 Diavik. So, currently the processed kimberlite

1 containment facility is -- the liner is at a maximum  
2 height of 465 metres above sea level. It's just a  
3 reference. The lakes at about 416.

4 We're currently constructing the phase  
5 7 -- we call it phase 7A dam raise, so it's a 4-metre  
6 dam raise. So, we -- we started that last summer,  
7 this summer, and we'll be continuing that next summer.  
8 So, that's 4 metres. That's already happening.

9 And then what we call dam raise 7B  
10 which is already designed and approved would happen  
11 then. That would be the subsequent one (1), the next  
12 4 metres. And that's the one (1) that we're talking  
13 about avoiding if we get approval.

14 BOARD MEMBER KRUTKO: David Krutko,  
15 Review Board. And with the number, I believe, five  
16 (5) more years you have left with mine life for  
17 production, you're looking at an additional 5 million  
18 cubic metres of space.

19 So, how much space are you short if you  
20 fill the existing pond that you have now with an  
21 additional add-on?

22

23 (BRIEF PAUSE)

24

25 MR. GORD MACDONALD: Gord Macdonald.

1 Why we're -- why we're struggling with it, it's  
2 because it actually gets stored as -- as tonnes  
3 because it's how it deposits, and we reclaim the  
4 water, so it's -- it's difficult to mo -- move into --  
5 into units.

6 But I think your asking is how many --  
7 how much volume short are we if we don't build that  
8 raise. And -- and can we get -- we want to make sure  
9 we got this number right for, so we -- can we get you  
10 that number back?

11

12 (BRIEF PAUSE)

13

14 MR. GORD MACDONALD: Yeah, would you  
15 mind if we get back to you on that?

16

17 (BRIEF PAUSE)

18

19 BOARD MEMBER KRUTKO: Yes. On the  
20 site tour that we're at, we've -- we went on top of  
21 the rock pile and we looked down over, basically, at  
22 the PK pond. And I noticed it's quite a distance  
23 between the rock pile and the -- the pond. There's  
24 room in-between that.

25 I'm wondering why couldn't you go up

1 against the rock pile in regards to expansion of the  
2 existing PK pond?

3

4

(BRIEF PAUSE)

5

6 MR. GORD MACDONALD: Gord Macdonald,  
7 with Diavik. You're thinking along the exact same  
8 lines as -- as our -- as our engineers. The -- the  
9 challenge with it is the deposition -- when you just -  
10 - when you deposit from a higher elevation, you know,  
11 you -- you form those beaches. And that -- that helps  
12 with a deposition of that -- of the solid material.

13 The challenge comes in the -- the water  
14 level within the -- within it rises, as well. And  
15 it's that water level that actually sets the mi -- the  
16 minimum elevation.

17 So, we have to stay below the spillway  
18 elevation, which is basically at the 465, everywhere  
19 even though -- even if you can deposit some of the  
20 material up onto a slope.

21 So, it would help with storage, but it  
22 wouldn't -- it wouldn't alleviate it.

23 BOARD MEMBER KRUTKO: Thank you, Madam  
24 Chair. I believe I asked a similar question in  
25 Behchoko. And I believe you said you -- your licence

1 was up to 472, there was a difference between the 465  
2 and the 472.

3 So, there -- is that in the licence?  
4 How -- what's the maximum height you can go in your  
5 licence?

6 MR. SEAN SINCLAIR: Sean Sinclair,  
7 Diavik. So, we currently have approval of a design  
8 going up to 473 metres above sea level, and we're  
9 currently at 465, so another 8 metres.

10

11 (BRIEF PAUSE)

12

13 BOARD MEMBER KRUTKO: Yes, since chart  
14 15's on the board, I'm just -- my glasses might be  
15 dirty, but I noticed that after two (2) months there's  
16 a little sludge slurry or slime on top the tube. Is  
17 that the cork or is that something that is an unknown?

18 MR. GORD MACDONALD: Gord Macdonald,  
19 with Diavik. Are you referring to this -- this  
20 material here?

21 MR. DAVID KRUTKO: (NO AUDIBLE  
22 RESPONSE).

23 MR. GORD MACDONALD: Yeah, I think  
24 it's just a shadow in the -- it's a shadow in the  
25 picture or a residual of the chlorite but it's not --

1 it could even be material from the -- from the  
2 processed kimberlite that was stuck up there.

3 I -- I -- again, this is -- these are  
4 fresh from (INDISCERNIBLE).

5 THE CHAIRPERSON: Questions from Board  
6 members?

7

8 (BRIEF PAUSE)

9

10 THE CHAIRPERSON: Okay. Thank you.  
11 Moving on. We're going to do one (1) presentation  
12 before we end the day. And EMAB is ready to their  
13 presentation. EMAB...?

14

15 (BRIEF PAUSE)

16

17 PRESENTATION BY EMAB:

18 MR. JOHN MCCULLUM: Thank you, Madam  
19 Chair. I'm John McCullum. Just before we proceed, I  
20 have, I hope, a couple of consultants online, and I  
21 just want to make sure they're there. They won't be  
22 part of the presentation, but they may answer some of  
23 the questions that come afterwards.

24 So, Bill and Friederike and Meagan, are  
25 you online?

1

2

(BRIEF PAUSE)

3

4

MS. FRIEDERIKE SCHNEIDER-VIEIRA (BY

5

PHONE): And Meagan here, as well.

6

MR. BILL SLATER (BY PHONE): Okay, I'm

7

online.

8

THE CHAIRPERSON: We have two (2)

9

people online so far. And if you're online, please do

10

not go on speaker phone if you can help it because it

11

creates that static.

12

MR. BILL SLATER (BY PHONE): Bill

13

Slater. Can you hear me?

14

MR. JOHN MCCULLUM: You're very fuzzy,

15

Bill.

16

MR. BILL SLATER (BY PHONE): Is it

17

better now?

18

MR. JOHN MCCULLUM: Gord, can you

19

understand what he's saying?

20

MR. BILL SLATER (BY PHONE): All

21

right, let me -- it's -- yeah, it's Bill Slater. I'll

22

-- I'll try and dial in with a different method, and

23

hopefully that'll work. Thanks.

24

MR. JOHN MCCULLUM: Thanks, Bill. And

25

just to confirm, Meagan, you're online, as well.



1 MEAGAN COOLEY (BY PHONE): Yeah, Meagan  
2 here. Can you hear me?

3 MR. JOHN MCCULLUM: Yes, I can hear  
4 you. And Friederike...?

5 MS. FRIEDERIKE SCHNEIDER-VIEIRA (BY  
6 PHONE): Yeah, it's Friederike here. And can you hear  
7 me?

8 MR. JOHN MCCULLUM: Yes, perfect.  
9 Thank you. Okay, I'm going to start.

10

11 (BRIEF PAUSE)

12

13 MR. JOHN MCCULLUM: All right. So, we  
14 have a lot of material here, and so I'm probably going  
15 to start talking fast, so just tell me to slow down if  
16 I do that. And we can -- there's a few things in here  
17 that we can skip over if necessary. You have our  
18 intervention.

19 So, basically, we're going to summarize  
20 the key points of EMAB's intervention here. We're  
21 also going to speak very briefly to Diavik's responses  
22 to the MVEIRB supplementary IRs.

23 And we're also going to speak very  
24 briefly to the commitments that Diavik made in its  
25 letter of response to all the interventions in as much

1 as they would affect or could -- could affect EMAB's  
2 recommendations. I think that's good for now.

3                   So, let's -- okay, what am I doing  
4 here? So, to start with, a quick comment on the  
5 review process. We certainly found the -- the ma --  
6 the ma -- the whole process difficult to follow. And  
7 I'm not talking about -- I'm not just talking about  
8 the MVEIRB process, but going back to the very  
9 beginning when this was simply a water licence  
10 amendment application.

11                   The -- the original application was  
12 about a hundred pages long. Of that, about half a  
13 page or less was the actual description of the  
14 potentially significant environmental impacts, so  
15 essentially nothing.

16                   And almost all of the project  
17 description after that has come through Information  
18 Requests, responses, responses to those Information  
19 Requests back and forth. And you've noticed a couple  
20 of times today that, you know, Diavik would refer back  
21 to some IR way long ago.

22                   So the short message there is that it  
23 was difficult for EMAB to follow. We don't have a lot  
24 of resources, but we have a lot more resources than  
25 some of the other Interveners here.

1                   And I think it would be worthwhile for  
2 the Board to ask itself -- I shouldn't say "I" -- EMAB  
3 thinks it would be worthwhile for the Board to ask  
4 itself whether the information provided was sufficient  
5 and understandable for them to fully participate.

6                   And the other recommendation here was  
7 that the Board look into whether or not there are  
8 lessons for future information management and  
9 processes in terms of making them accessible for  
10 people without water resources.

11                   The other thing I'll just say very  
12 quickly: We were really pleased about the participant  
13 funding being made available. EMAB's been advocating  
14 for this for a long time. And we would like to  
15 recommend that the Board consider recommending  
16 participant funding be established on an ongoing  
17 basis, both for things like environmental assessments  
18 but also for the regulatory end of things: water  
19 licence proceedings, et cetera.

20                   I'm going to try and go through a  
21 summary of all of the main topics that we raised in  
22 our intervention. I might just suddenly jump over one  
23 if I start realizing I'm running out of time, and it's  
24 certainly appreciated if people could let me know when  
25 we're about halfway through time so I can figure out

1 what to skip.

2                   The only other thing I would say is  
3 we -- EMAB did make recommendations about A21. We've  
4 removed them from our presentation because Diavik has  
5 made its commitment to remove A21 from the project  
6 proposal.

7                   So the first area we want to talk about  
8 is the definition of significance. This has already  
9 come up a couple of times, but I'm just -- so I'll  
10 just make the points quickly.

11                   The CSR definitions which Diavik is  
12 proposing for this environmental assessment date back  
13 to 1999. So we feel they should be reconsidered in  
14 terms of their relevance for this project and  
15 particularly how well they address the values of the  
16 affected communities.

17                   We also have a concern that the  
18 definitions may be misused, and I'm going to use the  
19 map on the right-hand side of the slide here just to  
20 demonstrate this.

21                   Diavik is proposing in this  
22 environmental assessment that the geographic scope of  
23 significance would be anything -- anything that's a  
24 regional -- of regional significance rather than local  
25 significance.

1                   And the line between the two (2) is a  
2 one (1) kilometre zone all around the east island. So  
3 that works out to about twenty-five (25) square  
4 kilometres of water. It's a big swimming pool.

5                   And they are also recommending that  
6 guidelines and standards would have to be exceeded by  
7 twenty (20) percent. So that would be twenty (20)  
8 percent above AEMP benchmarks.

9                   Am I going too fast? Am I okay? All  
10 right.

11                   So in terms of the environmental  
12 assessment, that's one aspect. But what we have seen  
13 is that in Diavik's interim closure and reclamation  
14 plan, they used the -- these definitions of  
15 significance to propose that that entire area around  
16 the east island -- that twenty-five (25) square  
17 kilometre area -- would be considered a mixing zone  
18 and that Diavik would be required to meet water  
19 quality standards at twenty (20) percent above AEMP  
20 benchmarks only at that one (1) kilometre line -- all  
21 the water inside that.

22                   So we're concerned about that. And so  
23 in our recommendations, not only are we -- are we  
24 suggesting that Diavik should update its definitions  
25 and thresholds of significance to reflect current

1 conditions but that MVEIRB also look at that since  
2 you're the guys who ultimately agree or disagree with  
3 whether or not they reflect current conditions and  
4 that the Board also clarify its views on the  
5 implications of the significance definitions during  
6 this regulatory phase.

7                   So the concern is that essentially --  
8 in my previous example, Diavik said anything inside  
9 that one (1) kilometre zone is an insignificant  
10 impact, and so we don't -- it doesn't need to be  
11 considered.

12                   Okay. Second thing that we're looking  
13 at is the reliability of predictions. We've had quite  
14 a bit of discussion about that today.

15                   All of the assessment of significance  
16 are based on these model predictions. There are many  
17 uncertainties about the model accuracy. We've just  
18 listed a few of them here. I won't go into them.

19                   And in addition, the sensitivity  
20 analyses that Diavik is relying on are also limited in  
21 that they looked at the effect of changes in one  
22 aspect at the time, not if there were changes in the  
23 range of inputs and how that would affect the model  
24 outputs.

25                   So summary of recommendations:

1 MVEIRB should require confirmation of  
2 those predictions;

3 MVEIRB should engage an independent  
4 expert to review Diavik's modeling;

5 The refined modeling should be reviewed  
6 prior to any final approvals of the project; and

7 That if predictions change, Diavik  
8 should reassess potential for significant adverse  
9 effects.

10 And here we wanted to speak a little  
11 bit to the responses to the interventions that Diavik  
12 made. EMAB's view basically is that uncertainty  
13 regarding predictions should be minimized before  
14 allowing the project to proceed.

15 We think that any MVEIRB approval  
16 should be conditional on an independent expert  
17 agreeing that the modeling has been done to the  
18 standard of best practice.

19 And it's our view that the expert  
20 should be truly independent of Diavik -- so not  
21 involved with Diavik as a consultant ever -- and that  
22 the review be managed by an external party, not  
23 necessarily paid for by an external party, but managed  
24 by an external party and that there be no  
25 communication between Diavik and the expert without a

1 project manager's approval. So in short, Diavik's  
2 response does not change EMAB's recommendations on  
3 this topic.

4 I think I'm just going to skip this  
5 one.

6 Benchmarks were unanticipated mixing  
7 scenarios -- I'll go quickly through this. The point  
8 here is that again going back to the significance  
9 definitions, Diavik is proposing ecological thresholds  
10 twenty (20) percent higher than AEMP benchmarks.

11 We know that exposure to water above --  
12 like AEMP benchmarks are what are protected --  
13 protective. So anything above that, it's  
14 potentially -- could cause an adverse effect.

15 So EMAB's view is that the ecological  
16 thresholds for water quality should be protective of  
17 aquatic life. And the twenty (20) percent brings that  
18 into question.

19 The decision to reconnect to Lac de  
20 Gras: Diavik proposes the water quality will be the  
21 determining factor when connecting the pit lake to  
22 Lac de Gras.

23 We would like to see sediment quality  
24 also looked at, the stability of the pit walls in the  
25 case of this rare scenario of the possibly of a pit



1 wall failure, and, of course, traditional knowledge,  
2 which has also come up today.

3 So in summary, our recommendations are:

4 That they should monitor water and  
5 sediment quality comprehensively and ensure that the  
6 conditions are protective of aquatic life;

7 That MVEIRB should require sediment  
8 quality and pit wall stability to be also considered;  
9 and

10 That MVEIRB require there be TK  
11 criteria.

12 And we were -- so we're supportive of  
13 Diavik's commitment to develop TK acceptance criteria.  
14 As far as the recommendation or suggestion that EMAB  
15 should take on that review for the effected  
16 communities or for the Aboriginal parties to the  
17 Environmental Agreement, this was news to us when we  
18 read it.

19 I want to be really clear that EMAB  
20 does not speak for the Aboriginal parties to the EA.  
21 We do not represent them. EMAB Board members are  
22 independent.

23 It's our view that Diavik is  
24 responsible to work with the communities on TK  
25 criteria, so I would question whether that's -- if

1 that's mandated or not. And Diavik has the resources  
2 and the expertise and the experience to do that,  
3 including having managed the TK panel for years now.

4                   Effects on fish and fish habitat: So  
5 the critical assumption or one of the main critical  
6 assumptions here is that fish will not go below  
7 40 metres. That's just something to keep in mind, I  
8 guess.

9                   The dissolved oxygen predictions which  
10 are critical for aquatic health have only been made  
11 for A418 pit. Diavik has noted that slimy scope in  
12 those little fish that live on the bottom in a very  
13 small area will not be able to move away from  
14 contaminants if they're exposed to them.

15                   We're concerned that fish and habitat  
16 monitoring post-breach is not described at all.  
17 Diavik has indicated that if it's considered  
18 necessary -- if it's considered necessary, they would  
19 recommend using acoustic monitoring. But essentially,  
20 it's not part of the monitoring program as currently  
21 described.

22                   And finally, fish tissue monitoring for  
23 metals is not described. And we feel that users --  
24 users should feel assured that the fish are safe to  
25 eat and that that's a part of potential cultural

1 impact, I guess.

2 So the summary of recommendations:

3 Confirm the fish are only using the  
4 upper 40 metres of the pit lake;

5 Confirm the depth of the contaminated  
6 water in the chemocline before any breaching;

7 Monitor the fish use of the enhanced  
8 habitats, both A154 and A418 have these quite shallow  
9 areas that are -- have been designed, I guess, to be  
10 enhanced fish habitat;

11 Make sure to run the dissolved oxygen  
12 model for A154;

13 Do dissolved oxygen surveys throughout  
14 the pit lake;

15 Do fish tissue metal surveys on large  
16 bodies fish, such as trout; and

17 Should any aquatic life get into the  
18 pit lake before breaching, such as through filling or  
19 something like that, that that be sampled and see what  
20 its aquatic health is.

21 Looking at the responses to the  
22 interventions again, Diavik continues to not propose  
23 any monitoring of fish use at the pit lake below  
24 40 metres or of aquatic health. Our view that this is  
25 a deficiency in the scope of the proposed monitoring

1 that needs to be addressed. And again, it does not  
2 change EMAB recommendations.

3                   Effects to wildlife: The main concern  
4 we have is that the open water in the pits could  
5 attract wildlife. Particularly in the spring, it's  
6 likely that the pit lake will be open, at least while  
7 being filled before the rest of the lake is open. And  
8 so that would be an attractant to water fowl that were  
9 flying over if they could see open water.

10                   Diavik didn't assess the potential  
11 effects on wildlife during operations, so any  
12 post-operations. And we note that Diavik committed to  
13 update monitoring and management plans.

14                   So in summary, our recommendations are  
15 that:

16                   MVEIRB should acknowledge the potential  
17 for the project to interact with wildlife during  
18 operations; and

19                   MVEIRB should require the management  
20 plans to include specific requirements on wildlife and  
21 water fowl use of pit lakes during the operations.

22                   And again, we acknowledge that Diavik  
23 spoke to this in their response to the interventions,  
24 but their response does not change either of those  
25 recommendations.

1                   The next topic is monitoring, and this  
2 is both before the dykes are breached and after. In  
3 general, we feel that the current water quality  
4 monitoring plan is not adequate.

5                   There's basically one (1) sample  
6 location in the middle of the pit lake that would be  
7 monitored over time at four (4) depths in the lake,  
8 and they are only proposing one (1) transect or line  
9 of sample areas before breaching the pits. And then  
10 they're proposing to reduce monitoring in the pits to  
11 twice a year after breaching.

12                   I should say that the monitoring is  
13 probably the main area where EMAB made  
14 recommendations. We made nineteen (19)  
15 recommendations on this because we think it's really  
16 critical.

17                   But in summary, there needs to be a  
18 comprehensive monitoring program, both to confirm the  
19 model predictions and to look at the water quality  
20 throughout the pit lake in all seasons and to look at  
21 the sediment quality monitoring. We do believe that  
22 there's potential for sediment to be present, and at  
23 the least, Diavik should look for it and sample it if  
24 it's there.

25                   Before reconnecting, we feel Diavik

1 should sample for at least two (2) years throughout  
2 the pit lake, not just in one (1) area, and do that in  
3 all seasons. And we've defined seasons in our  
4 intervention.

5           After breaching, again at least two (2)  
6 years of sampling in the pit lake, particularly  
7 confirm that the chemocline is stable and as well as  
8 throughout Lac de Gras to determine the water exchange  
9 with Lac de Gras and the extent of effect.

10           Again, we acknowledge that Diavik did  
11 speak to this in its responses to the interventions,  
12 and again in EMAB's views, those proposals were  
13 inadequate in terms of duration, in terms of spacial  
14 extent and in terms of scope of the monitoring.

15           So again, MVEIRB should address  
16 monitoring in the followup measures to the level of  
17 detail that ensures that adequate data will be  
18 collected and analyzed, and that's in terms of scope,  
19 duration, and spacial extent. So this response also  
20 does not change EMAB's recommendations.

21           I'm going to skip the descriptions or  
22 contingency plans. I'm going to skip the revised  
23 closure objectives.

24           Cumulative effects on water quality:  
25 Short and sweet, we don't believe that Diavik provided

1 enough information on its methods in terms of  
2 predicting cumulative effects to water quality, and we  
3 think that MVEIRB should ask for more information  
4 there.

5                   And the final item is the PK slimes.  
6 So one of the reasons that EMAB was initially -- one  
7 of the main reasons that EMAB was initially in favour  
8 of the proposal to move -- to put processed kimberlite  
9 in these pits was the possibility of moving the PK  
10 slimes out of the PKC and into the pits. I know  
11 that's beyond the scope of the review.

12                   But in terms of the long-term closure  
13 success for Diavik, our feeling is that getting those  
14 slimes out of the pits is probably one of the most  
15 critical things that they can do. And the pits do  
16 provide a permanent and physically stable location for  
17 storing the slimes, as Diavik has said. We want to  
18 note that Diavik had proposed a feasibility study on  
19 this but that they've actually pushed it back a year  
20 as of the most recent schedule that we've seen.

21                   So one short recommendation which is  
22 that Diavik should be required to evaluate the  
23 feasibility of moving the slimes from the PKC to the  
24 pits as soon as possible and that to be a condition of  
25 any approval.

1                   And finally, just a couple of  
2 questions, I guess, on Diavik's responses to the  
3 MVEIRB supplementary information request.

4                   We've been told that the pits will fill  
5 with water over time and eventually over top unless  
6 the -- unless there's some kind of a connection  
7 between the pit and Lac de Gras, and we'd just like to  
8 see the actual evidence that Diavik is -- has used to  
9 make that conclusion.

10                  We're not sure how water movement can  
11 be the same between Lac de Gras and the pit lake. If  
12 there are breaches or if there are no breaches but  
13 just some kind of thing that's sufficiently able to  
14 keep fish out -- if it's able to keep fish out, the  
15 holes are going to be pretty small, and it's hard to  
16 imagine how that would work. So I just -- we would  
17 just like to see how that was arrived at.

18                  And similarly, the support for the  
19 predicted extent of effects on Lac de Gras, which was  
20 that it would affect Lac de Gras for ten (10) metres  
21 if the pit lake is isolated and fifty (50) metres if  
22 the dyke is breached at the breaches.

23                  And finally just a note, EMAB has not  
24 reviewed the responses to interventions as a Board.  
25 We've addressed the specifics under the individual



1 topics. Where that's been done -- so the Board has  
2 reviewed this presentation, but they have not formally  
3 approved it. And so the -- our responses to the -- to  
4 what effect these would have on our recommendations  
5 essentially are -- come from the already approved  
6 intervention.

7                   And in general, EMAB would prefer the  
8 conditions be addressed by the Board as followup  
9 measures, and then if there's any additional work that  
10 needs to be done later that that be done through the  
11 water licence proceeding. But at this point, measures  
12 are reflective views of MVEIRB.

13                   And that's what I have. So thank you.

14                   THE CHAIRPERSON: Okay. Thank you for  
15 your presentation.

16

17 QUESTION PERIOD:

18                   THE CHAIRPERSON: We have come to the  
19 part where there's questions for EMAB's presentation.  
20 Lutsel K'e Dene First Nation questions?

21                   MS. LAUREN KING: We have no  
22 questions. Lauren King, LKDFN.

23                   THE CHAIRPERSON: Questions,  
24 Environment and Climate Change Canada?

25                   MS. GEORGINA WILLISTON:

1 Georgina Williston, with Environment and Climate  
2 Change Canada. We have no questions. Thank you.

3 THE CHAIRPERSON: Questions for DFO?

4 MR. DANIEL COOMBS: Dan Coombs, DFO.  
5 We have no questions.

6 THE CHAIRPERSON: Questions from  
7 Tlicho Government?

8 DR. GINGER GIBSON: Ginger Gibson,  
9 Tlicho Government. No questions.

10 THE CHAIRPERSON: Questions, YKDFN?

11 MR. MACHEL THOMAS: Machel Thomas,  
12 YKDFN. No questions.

13 THE CHAIRPERSON: Questions, NSMA?

14 MS. JESSICA HURTUBISE: Jessica  
15 Hurtubise, North Slave Metis Alliance. I do not have  
16 any questions. I'll just verify if Andrea on the line  
17 has any questions?

18 MS. ANDREA BECKMAN (BY PHONE):  
19 Andrea, from Redicom on behalf of NSMA. No questions.

20 THE CHAIRPERSON: Questions, DKFN?

21 MR. MARC D'ENTREMONT: Marc  
22 D'Entremont, for the DKFN. I would like to thank EMAB  
23 for their presentation, and we have no questions.

24 THE CHAIRPERSON: Questions, FRMC?

25 MS. KATY DIMMER: Katy Dimmer,

1 Fort Resolution Metis Council. No questions at this  
2 time. Thank you, Madam Chair.

3 THE CHAIRPERSON: Questions, NWT Metis  
4 Nation? Questions, GNWT?

5 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
6 behalf of GNWT. Thank you for your presentation.  
7 Could you flip to slide 9, please?

8 MR. JOHN MCCULLUM: What question are  
9 you on? Number?

10 DR. BARRY ZAJDLIK: It's reliability  
11 of predictions, point 2. It's the one that has a  
12 green tab on the left. That one right there.

13 Bullet number 1, you say that there  
14 should be confirmation of predictions. Does EMAB have  
15 any recommendations as to what comprises adequate  
16 confirmation of predictions?

17 MR. JOHN MCCULLUM: John McCullum,  
18 EMAB. So in the -- essentially, what we're  
19 recommending here is that an independent expert  
20 confirm that the modeling has been done to the  
21 standard of best practice, and I think that that's the  
22 main recommendation that we're putting forward there.

23 I could check with our consultants if  
24 there's anything further that they want to elaborate  
25 on that, but that was the recommendation we made.

1 Bill or North South, anything to add to that?

2 MS. FRIEDERIKE SCHNEIDER-VIEIRA

3 (BY PHONE): It's Friederike Schneider, with North  
4 South. No, we don't have anything more to add.

5 MR. BILL SLATER (BY PHONE): All  
6 right. It's Bill Slater. You probably still can't  
7 hear me well. I'm still on that (INDISCERNIBLE) work,  
8 but I'll maybe try again. I don't have anything to  
9 add.

10 DR. BARRY ZAJDLIK: Okay.  
11 Barry Zajdlik. So what I heard is the net  
12 corroboration is really the testimony from an expert  
13 that reviews the modeling results independently of  
14 Diavik. Is that correct?

15 MR. JOHN MCCULLUM: John McCullum,  
16 EMAB. Yes.

17 DR. BARRY ZAJDLIK: Thank you, John.  
18 Barry Zajdlik, on behalf of the GNWT. A second and  
19 final question: There has been concern regarding the  
20 definitions of use from the 1999 CEA document. Does  
21 EMAB have a recommendation regarding how the 1999  
22 definition of a local study area should be changed?

23 MR. JOHN MCCULLUM: John McCullum,  
24 EMAB. You're referring to the local study area for  
25 water quality. No. I think our main concern there is

1 the potential for that being misused in the -- down  
2 the road, and that's one of the main reasons that we  
3 raised this.

4 We've seen what we feel is a misuse in  
5 relation to the ICRP, and so we feel it would be  
6 helpful to have clarity on how that works.

7 DR. BARRY ZAJDLIK: John, correct me  
8 if I'm wrong, but I think that your concern was  
9 predicated on the size of the local study area which  
10 is one (1) kilometre from the east island, right? So  
11 if you had an opportunity to change that number, would  
12 you have a recommendation?

13 THE CHAIRPERSON: State your name,  
14 please.

15 DR. BARRY ZAJDLIK: I am sorry.  
16 Barry Zajdlik, on behalf of GNWT.

17 MR. JOHN MCCULLUM: John McCullum,  
18 EMAB. The WLWB has issued guidelines for mixing  
19 zones. I think that would be probably the most  
20 appropriate thing.

21 EMAB did not discuss this as a Board,  
22 so I can't really go beyond that. But that might be a  
23 possibility.

24 DR. BARRY ZAJDLIK: Barry Zajdlik, on  
25 behalf of GNWT. Thank you. We have no further

1 questions.

2 THE CHAIRPERSON: Questions from  
3 Diavik?

4 MR. GORD MACDONALD: Gord Macdonald,  
5 with Diavik. We have no questions. Thank you.

6 THE CHAIRPERSON: Questions from Board  
7 staff?

8 DR. NEIL HUTCHINSON: Thank you.  
9 Neil Hutchinson, for the Board. John, you've  
10 recommended that the refined modeling should be  
11 reviewed prior to -- what you say are final approvals  
12 and that Diavik may have to reassess the potential for  
13 significant and adverse effects as a result.

14 I'm just curious what you mean by final  
15 approvals? Are you talking about approval by MVEIRB  
16 or by some subject and approval by the Land and Water  
17 Board?

18 MR. JOHN MCCULLUM: John McCullum,  
19 EMAB. That's a very good question, Neil. I'm not  
20 sure we've discussed that at the level of saying which  
21 organization we're talking about.

22 But the concern that came up was that  
23 basically that the project would be allowed to proceed  
24 and have all its approvals before they'd actually  
25 shown to the satisfaction of EMAB anyway, that the

1 modeling results were, in fact, true, and that the --  
2 that there would not be a significant adverse impact  
3 on the lake.

4                   We -- EMAB has said in our intervention  
5 based on the information that we've received from  
6 Diavik so far, we don't think there will be  
7 significant adverse effects, but it's all based on the  
8 modeling.

9                   DR. NEIL HUTCHINSON: Thank you.  
10 Neil Hutchinson, for the Board. Diavik, I believe,  
11 have committed to not depositing any PK into the pit  
12 until all the approvals are in place. So presumably,  
13 would that address your concern?

14                   MR. JOHN MCCULLUM: John McCullum,  
15 EMAB. I'm in a difficult position here because I  
16 can't really speak on behalf of the Board on something  
17 the Board hasn't actually made a decision on.

18                   So my understanding from the  
19 discussions we had were that the project should not be  
20 allowed to proceed until people are satisfied and that  
21 putting those terms in as water licence conditions  
22 after the project was approved would not be  
23 satisfactory.

24                   But again, I hesitate to put words in  
25 EMAB's Board's mouth.

1 DR. NEIL HUTCHINSON: Neil Hutchinson.  
2 Thank you -- for the Board -- thank you. So do your  
3 concerns with the modeling relate to the validity of  
4 the conclusions, or are you more concerned with  
5 fine tuning the water quality modeling? Do you have a  
6 fundamental disagreement with the conclusions that  
7 Diavik have made or the output from their models?

8 MR. JOHN MCCULLUM: John McCullum,  
9 EMAB. I'm going to invite my consultants to jump in  
10 on this.

11 But I'm just going to say that, you  
12 know, the modeling outputs that we've seen, if they're  
13 accurate, seem to indicate no significant adverse  
14 effects. But -- so we're -- but we're -- that's what  
15 we're entirely relying on to make that, I guess,  
16 conclusion.

17 So yeah. I think that that's it for  
18 me. I don't know if Bill or North South, do you have  
19 anything to add to that?

20 MS. FRIEDERIKE SCHNEIDER-VIEIRA  
21 (BY PHONE): It's Friederike Schneider here, with  
22 North South. Yeah. Just to reiterate John's point  
23 that the models are developed using fairly limited --  
24 poor water quality data.

25 And if Diavik put out -- I mean, are



1 actively getting more information -- and they  
2 indicated earlier today that the University of Alberta  
3 study was just completed, and they also described how  
4 they're going to develop a more sophisticated model  
5 to, I guess, better understand the water quality  
6 results.

7                   So certainly, the current water quality  
8 modeling results look good, and it looks like there  
9 would not be any issues. But you'd want to see what  
10 the results are when you have more information on poor  
11 water quality as well as the other refinements, which  
12 were discussed earlier today.

13                   DR. NEIL HUTCHINSON: Neil Hutchinson,  
14 for the Board. Thank you. That was very helpful.

15                   Your slide 11 provides your definition  
16 of a negligible change as being a non-detectible  
17 change from the pre-development baseline. I note that  
18 Lac de Gras has already changed from baseline  
19 conditions and that that was part of th original  
20 approval.

21                   If it's not possible to return it to a  
22 negligible change from baseline conditions, what would  
23 EMAB propose as something that was as a suitable  
24 target if it's not possible to bring it back to a  
25 negligible change from baseline conditions?

1                   Diavik had proposed a threshold of  
2 water quality objectives for protection of aquatic  
3 life and wildlife. Do you have a comment on that?

4                   MR. JOHN MCCULLUM:     John McCullum,  
5 from EMAB. So the basis for this comment was the  
6 suggestion that it would -- that it'd be changes from  
7 baseline or AEMP benchmarks as I recall.

8                   And so the concern was -- I mean, in  
9 some cases, the AEMP benchmarks are way above  
10 baseline. In some cases, they're not. So AEMP  
11 benchmarks did not seem like a reasonable indicator of  
12 whether the change was of negligible magnitude. We  
13 didn't make any proposals beyond that.

14                   Again, any -- if Bill or North South  
15 want to jump in here, please feel free.

16                   MR. BILL SLATER (BY PHONE):     Hi. It's  
17 Bill Slater. And hopefully, you can make out the poor  
18 sound. I think, John, you've covered the point well.

19                   The important distinction is that the  
20 comment was about the definition of what's the  
21 negligible change and not about the definition of  
22 water with significant effect. And those are quite  
23 different concepts within the environmental  
24 assessment.

25                   And so sediment for -- for water

1 quality but (INDISCERNIBLE) a definition of negligible  
2 change as the AEMP benchmarks I find that kind of a  
3 used protection approach to water quality and sediment  
4 water quality as a valued component on its own  
5 appeared to refine a valued water quality.

6                   So from the perspective of the  
7 unnegligible change, that would make -- aquatic AEMP  
8 benchmarks would make sense if you were talking about  
9 an aquatic ecosystem. But it doesn't make so much  
10 sense when you're talking about water quality as a  
11 value on its own.

12                   DR. NEIL HUTCHINSON: Neil Hutchinson,  
13 for the Board. Thank you very much, and that's all of  
14 my questions, Madam Chair.

15                   Neil Hutchinson, for the Board. Staff  
16 don't have any more questions.

17                   THE CHAIRPERSON: Questions, counsel?

18                   MR. JOHN DONIHEE: Thank you,  
19 Madam Chair. It's John Donihee. I think I just have  
20 one (1) question for our friends from EMAB.

21                   You've made much of your concerns about  
22 the definitions of significance that Diavik complied  
23 to the evidence that they supplied to the Board. And  
24 as I'm sure you know, as of the advent of the  
25 Mackenzie Valley Resource Management Act, the Canadian

1 Environmental Assessment Act doesn't apply in the  
2 Mackenzie Valley anymore.

3                   So, you know, any definitions from the  
4 CSR that was done before the MBR and make them into  
5 force don't really have any bearing necessarily,  
6 unless the Board choose to adopt them. They have no  
7 bearing on the matter that's in front of the Board  
8 right now.

9                   And as an administrative tribunal, the  
10 Board's not even bound by its own previous decisions.  
11 If it makes more sense to reshape the definition of  
12 significance in light of the evidence that's in front  
13 of it right now, the Board has the power to do that.

14                   So I guess I'd like just to ask you:  
15 In light of the concerns that EMAB has raised, you  
16 know, whether you have any suggestions --  
17 Dr. Hutchinson addressed it a little bit or actually  
18 Dr. Zajdlik, I think it was, about the local study  
19 area -- but whether EMAB has any suggestions about,  
20 you know, what criteria the Board should be looking  
21 at -- from EMAB's perspective anyways, what criteria  
22 should the Board be looking at in order to make its  
23 determinations of significance with relation to  
24 particularly water quality and cultural matters?

25                   MR. JOHN MCCULLUM:     John McCullum,

1 EMAB. Thank you. That's a great question. And I'm  
2 just going to have to say it's not something we really  
3 considered at the time. We looked at the proposal and  
4 were concerned about it.

5                   And so I'm kind of embarrassed to say  
6 that we didn't come up with any constructive  
7 suggestions on that, other than that the -- what we  
8 were seeing already had caused us problems in the past  
9 and that we hoped that doesn't happen again.

10                   So sorry, nothing to add. It is a  
11 great question.

12                   MR. JOHN DONIHEE: Thank you.  
13 John Donihee. Thank you, Madam Chair. One (1)  
14 followup, I guess. It's great to ask great questions,  
15 but I'm looking for answers that are going to help the  
16 Board, too.

17                   And so I'd simply like to suggest to  
18 you, Mr. McCullum, if EMAB could help the Board by --  
19 the evidence that's in the front of the Board is in  
20 the front of the Board. But there still will be a  
21 separate phase in this process where the final  
22 arguments are presented, and I'd like to encourage you  
23 to give that matter some thought and perhaps offer the  
24 Board your suggestions in argument.

25                   MR. JOHN MCCULLUM: Thank you.

1 Great idea beyond question.

2 THE CHAIRPERSON: Questions from Board  
3 staff or no more questions? Questions from Board  
4 members?

5 Thank you, EMAB, for your presentation.  
6 At this time, we'd like to go into public comments.

7 As you know, the Board had -- for the  
8 past two (2) days, we've had community hearings in  
9 Behchoko and in Dettah. So at this time, we would  
10 like to give this opportunity to people that have not  
11 spoke for public comments.

12 Public comments? Last call for public  
13 comments? I know it's been a long day for everyone  
14 here, and tomorrow is another day where there's an  
15 opportunity for public comments. But one last call  
16 for public comments? Everyone wants to go home, I  
17 believe.

18 So at this time then, we would like to  
19 thank everyone; thank Diavik for their presentation;  
20 thank EMAB for your presentation as well.

21 As you can tell on the agenda, we are  
22 behind. So tomorrow, there'll be several  
23 presentations that -- and we start at 9:00 in the  
24 morning. So it'll be half an hour earlier. And we'll  
25 try to stick to the agenda because we only have --

1 tomorrow is the final day.

2                   So with that, I'd like to adjourn the  
3 meeting until tomorrow morning at 9:00, and we'll  
4 start right with the presentations. Thank you.

5

6 --- Upon adjourning at 6:22 p.m.

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9 Certified Correct,

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13 Sean Coleman, Mr.

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