

APPENDIX IX-1.6

Re-vegetation at Closure Report

DDMI Traditional Knowledge Panel Session #7

FOCUS ON RE-VEGETATION

Diavik Diamond Mine
August 14-18, 2014



DDMI Traditional Knowledge Panel Report Interim Report

Session #7: *Focus on Re-vegetation*

Diavik Diamond Mine
August 14-18, 2014

Facilitation

Joanne Barnaby, Joanne Barnaby Consulting
Natasha Thorpe, Thorpe Consulting Services (TCS)

Participants

Kitikmeot Inuit Association	Mark Taletok, John Ivarluk, Martha Ivarluk, Mona Tiktalek (interpreter), Henry Ohokannoak (interpreter)
Lutsel K'e Dene First Nation	Celine Marlowe, George Marlowe
North Slave Métis Alliance	Ed Jones, Wayne Langenhan, Joy Dragon
Tłchq Nation	Joe Champlain, Louie Zoe (Gamèti), Peter Huskey (interpreter)
Yellowknives Dene First Nation	Morris Marten, Mike Francis, Mary Rose Sundberg, Berna Martin (interpreter)

Observers/Presenters

Diavik Diamond Mines Inc.	Dianne Dul, Gord Macdonald
C&E Consulting	Colleen English
Thorpe Consulting Services	Janet Murray (transcriber)

Interpreting equipment provided by Pido Productions.

Background

The TK Panel is mandated to assist Diavik Diamond Mines Inc. (Diavik) and work with local communities in facilitating appropriate and meaningful accommodation of Traditional Knowledge (TK). The TK Panel provides guidance in environmental management and monitoring as well as in closure planning at the Diavik Diamond Mine. From 2011 through 2013, TK Panels were assembled by the Environmental Monitoring Advisory Board (EMAB) to

discuss select concerns related to the Diavik Diamond Mine. This session, held at the Diavik mine site from August 14-18, 2014 was the second in a series of TK Panel sessions now administered under Diavik rather than EMAB, but the seventh in the series of TK Panel sessions.

Session Purpose

This seventh session included a discussion of re-vegetation at both a small scale and landscape level for consideration into Diavik closure planning, particularly related to the roads, airstrip, North Country Rock Pile (NCRP), Processed Kimberlite Containment (PKC) area, as well as the regional Lac de Gras area.

The TK Panel drew upon their knowledge, as well as results from a preliminary literature review of documented TK of vegetation relevant to the Lac de Gras area. The TK Panel elaborated further on concepts, values, understandings, and complexities offered in earlier TK Panel sessions. They developed both recommendations and suggestions for future sessions that were presented to Diavik for their review and consideration.

This session included field work opportunities for both men and women to visit areas with natural vegetation, re-vegetation research plots, test rock piles, areas of natural re-vegetation and other structures (e.g. airstrip, roads, rock pile) around the mine site in addition to workshop-like sessions held on-site. The TK Panel has articulated that women traditionally held greater knowledge and experience with plants given their relationship with the land.

A preliminary review of publically available literature related to TK of vegetation was carried out in advance of the session and in response to a request from the TK Panel that previous works be considered. While the session integrated and expanded on high level concepts from this review, it was decided that many of the findings would not be presented as it was felt they would be more accessible by members of the TK Panel in smaller groups or field settings.

Session Goals

The first goal of the session was to provide an opportunity for TK Panel members to discuss re-vegetation options related to closure. The second goal was for the TK Panel to learn more about ongoing re-vegetation research carried out for Diavik by the University of Alberta, and for graduate students to learn from the TK Panel on how to improve their research. The third goal was to respect and build upon work already carried out and to learn more about how recommendations provided to Diavik in the past are being considered presently. The fourth goal was to develop recommendations relating to re-vegetation to provide to Diavik at the end of the session, which allows for TK to be considered in Diavik's closure plans.

Agenda

This four day TK Panel Session was structured into topics, as follows:

1. Identify the format, scheduling and plan related to the current session
2. Closure Plan overview and review recommendations and DDMI responses from Session 6.
3. Visit two re-vegetation test plot area (University of Alberta research), areas of natural vegetation and re-vegetation, test rock piles, etc.
4. Provide recommendations on re-vegetation based on four guiding questions:
 - a. How do we re-vegetate to keep wildlife safe?
 - b. Which habitats or plants create safety for wildlife?
 - c. Where should different types of habitats or plants be placed?
 - d. What should DDMI do with site roads?
5. Evaluate the session

Report Overview

This report first outlines six key themes discussed during the proceedings of the session, presents outcomes from the field work and closes with a recommendations made by the TK Panel.

Appendix A includes photos from the work carried out onsite and in the field. Appendix B includes both the original and actual (i.e., revised) agenda preferred by the TK Panel. Appendix C contains a blank copy of the informed consent form that was signed by participants new to the TK Panel. Session transcripts that were reviewed and corrected by participants are assembled in Appendix D. A list of key points made in bullet form and posted around the room on flipcharts is contained in Appendix E. Maps created during sessions where the men and women broke into two groups to discuss re-vegetation are included in Appendix F.

A high-level review of the TK literature relevant to re-vegetation was presented by TCS (Appendix G). Diavik provided an update of the closure plan as well as a presentation to compare photos of caribou over time and locations of mining operations in the NWT and Nunavut in response to a request by the TK Panel (Appendix H). Recommendations made by the TK Panel during the session are shown in Appendix I.

Evaluation forms for the session were distributed and filled out; however, they were misplaced onsite and never recovered. Therefore, the evaluation results are not presented in this report.

Proceedings: Key Themes

Key themes discussed throughout the session included:

1. Respect nature by recognizing that nature is a powerful force, has the ability to heal, and can be assisted in healing – where appropriate and respectful;
2. Re-vegetation efforts should be guided by TK and results from current research by the University of Alberta. Specific focus should be placed on: areas people don't want wildlife to go; areas people want to encourage re-vegetation or re-growth; and areas to encourage wildlife through landscape modifications;
3. The relationship between vegetation and caribou should be the main driver for re-vegetation plans given the importance of caribou to people and the Arctic environment, their current state of decline, and the shift in their migration routes caused by human disturbances such as mining in the Lac de Gras area;
4. Landscape modifications such as adjustment to slopes, size of boulders, and re-vegetation should be considered together to encourage wildlife to move through a particular area such as the north slope of the rock pile or across the airstrip;
5. Re-vegetation should be considered at a regional and landscape level, and take any possible cumulative effects into account; and,
6. Mining companies in the Lac de Gras area should communicate and work together.

1. Respecting Nature

Much discussion during the first two days of the session focused on the ability of nature to heal itself and that interfering with a natural process can be disrespectful. The TK Panel explored whether re-vegetation efforts were appropriate, necessary or advisable. However, as the session progressed and more of a female perspective was integrated, the limits of this self-healing clear, especially in light of the extensive footprints left by the mining process. Many comments about “nature healing itself” were made by men in the plenary group, however, when the women were working together in a breakout session, a large number of recommendations were made regarding the value of re-vegetation. Specific ideas about where and why certain areas should be re-vegetated were shared. Nature will take its course, but there are ways that people can assist with healing.

People have seen how the environment naturally reclaims itself after fire and human disturbance, but the cumulative effects of each type of disturbance was also recognized. Despite increased fires, environmental change impacts such as longer growing seasons may assist with nature healing itself during the re-vegetation and reclamation.

2. TK and Research to Guide Re-vegetation Efforts

After the TK Panel asserted that the healing forces of nature are powerful and discussed whether re-vegetation efforts were necessary, the discussion moved towards reviewing past re-vegetation efforts and planning for future re-vegetation.

Participants observed the re-vegetation plots in the field, including those started ten years ago plus those currently managed by the University of Alberta. Students provided the TK Panel with a walk-through of the different kinds of substrates, soils, fertilizers, plants, and methods being used. The TK Panel discussed re-vegetation while in the field and when they returned back to the meeting room.

A broader issue as to whether re-vegetation should attract or deter wildlife was not resolved during this session. In areas where people wanted to attract wildlife, caribou were the species of issue and so enhancing growth of lichen and tundra mats were seen to be critical to ensuring forage. In addition, enhancing soils through natural fertilizer were seen as effective ways to re-vegetate. For places where wildlife species were not encouraged to return, no re-vegetation efforts were recommended.

Fecal pellets deposited during large migrations were seen to enhance re-vegetation and identified as a key factor in fertilizing the tundra.

The TK Panel divided by gender into two different rooms to have separate discussions around re-vegetation. Each group was asked to discuss areas as follows:

- areas you don't want wildlife to go
- areas you want to encourage re-vegetation or re-growth
- areas to encourage wildlife through modifications (e.g. landscaping)

The TK Panel produced two maps showing the results of their discussions (Appendix D). Both groups want to see the areas around the PKC, pits, tank farms and waste disposal areas as places where they do not want wildlife to go.

The women's group suggested replanting in areas that do not have toxins, such as along the airstrip and the area where the camp is currently located. In addition, this group suggested modifications such as sloping and minimizing boulders and replanting to encourage wildlife to move through versus linger in an area.

3. Re-vegetation and Caribou

The TK Panel focused on how caribou depend on the tundra for forage and how the caribou must be respected as part of re-vegetation efforts, in part because people depend upon caribou. The TK Panel also emphasized that caribou are very smart. Indeed, planning for re-vegetation is seen as planning for caribou.

Respect for caribou can be demonstrated through planning for and supporting traditional migration routes given that *caribou will find their old migration routes, caribou make their own trails, and the East Island is a main part of the caribou migration route that goes near Misery pit as well*. Lichen is known to be a critical food for caribou and suggestions were made to encourage lichen regrowth, specifically through the transplanting of tundra ‘mats’ abundant with lichen.

Implementing small-scale efforts such as re-vegetation, combined with large scale efforts such as diversion techniques (i.e., flagging, barriers, rocks) are ways to respect caribou. TK Panelists were less interested in providing guidance regarding re-vegetation at a species-level and more keen to share their understanding of complex and interconnected systems such as the vegetation-caribou dynamic. Accordingly, the TK Panel spoke at length of the need for a landscape and regional approach to closure planning requiring the co-operation and collaboration between mining companies operating in the region (e.g., Ekati and Snap Lake).

4. Landscape Modifications (Slope, Rock Piles and Roads)

One aspect of caribou “intelligence” is that they are known to follow a leader. Thus, the TK Panelists explained that if the leader could be diverted north of both the Diavik and Ekati diamond mines, then caribou could go around the mines to avoid potential harm. However, TK Panelists advised that it was impossible to keep caribou and other wildlife away from the reclaimed site altogether, so small-scale accommodations must also be implemented.

Suggestions for landscape modifications to keep caribou safe include:

- removing berms and rounding off the edges of large rock piles and roads
- removing large boulders that may cause caribou to break or injure their legs
- preparing areas of the North Country Rock pile at the north and south-east sides with a slope and surface material similar to that of the current test pile
- not re-vegetating certain areas (e.g. PKC containment, fuel storage area) as outlined in the maps (App D)
- extend slope of roads outward to reduce the angle and allow for easier wildlife access
- the current slope and aggregate material on the side of the airstrip was also said to be good (i.e. acceptable) to encourage caribou movement

Participants explained that seasonality must also be considered when thinking about the slope and composition of the rock pile as snow cover, mud and other environmental features change throughout the year. Through traditional knowledge, people know that caribou seek high points on the landscape regardless of challenging terrain.

5. Regional Perspectives and Cumulative Effects

The TK Panel highlighted that re-vegetation must be considered on several scales ranging from replanting tundra mats to collaborating with neighbouring mining operations to modify the landscape to encourage wildlife movements either towards or away from certain areas.

Participants struggled with discussing re-vegetation on a micro-scale without the necessary consideration of caribou migration in the ‘big picture.’ Understanding caribou migration routes - through TK maps shared in the past through to today - is critical to reclamation planning.

Along with emphasizing the importance of a regional perspective on re-vegetation and caribou migration, the TK Panel expressed concern about multiple mines operating in the Lac de Gras area. For the TK Panel, neighbouring mining companies working together will help everybody better consider cumulative effects in the ‘big picture.’

Once the TK Panel went into the field, they saw evidence of caribou and abundant vegetation even though caribou migration routes have shifted.

6. Mines Should Work Together

In the same way that the TK Panel brings together people from five very different cultural groups, the TK Panel recommended that mining companies of the Lac de Gras region similarly collaborate particularly with respect to caribou. The fact that Dominion Diamond Corporation jointly owns the Diavik Diamond Mine and Ekati was assumed to be a driver in facilitating such co-operation.

Field Work

The agenda for this TK Panel session allowed opportunities for the Panel to spend time in the field to assist in understanding of vegetation and re-vegetation at the mine site. Various areas were discussed while reviewing a site map. The Panelists decided on visiting the following areas:

- Re-vegetation research plots (Phase I – 10 year plots and Phase II – current study)
 - observe and discuss results of the first 10 years of planting
 - learn about the different substrate (soil) types and species
 - discuss current research projects – purpose and methods
- Airstrip and the northwest approach, including shoreline and water vegetation
 - observe historic caribou trails & look for new ones
 - inspect the health of shoreline and water vegetation
 - check for dust on vegetation

- Natural vegetation in the north inlet and on the south side of the island (future A21)
 - check for dust on vegetation
 - examine berry growth and health
 - look for caribou trails or signs of feeding
 - see what types of plants are growing in these areas
- Test piles
 - walk the slope of a ‘finished’ pile
 - examine the capping materials on a flat, smooth surface
 - determine if caribou could safely walk on such a structure
 - see the natural re-vegetation occurring on the pile
- North Country Rock Pile and till pile
 - examine the slope and rocks on the sides and top of pile
 - inspect the edge and top of the pile in relation to caribou access
 - observe the north and southeast sides to identify areas where sloping could be done to assist caribou movement across the pile
 - feel and see the till material
 - observe natural re-vegetation occurring on the till pile
- A154 and A418 dikes and open pits
 - observe the areas inside the dikes for future shoal development to assist in fish spawning/use
 - see how deep and wide the pit areas are

Outcomes: Recommendations

The TK Panel collectively developed the following 22 unanimous recommendations related to re-vegetation at closure. These recommendations flowed from a common vision to have the mine site returned to the most natural state humanly possible. However, the recommendations also reflect a combined central view that nature can heal itself but would benefit from some help, especially since growth in the Arctic is very slow. The recommendations presented to DDMI at the TK Panel session (Appendix B) were assembled quickly and thus needed to be modified slightly for clarity or to avoid repetition. Below are the modified versions.

Note that the recommendations are divided by theme (e.g. landscape), numbered to reflect the TK Panel session identification (Session 7 for re-vegetation) and to subsequently identify each specific recommendation (e.g. 7.1).

Landscape and Re-Vegetation

- 7.1 Do not disturb new areas and protect natural vegetation areas that exist on the Island (with the exception of planned development areas for A21, the rock pile for A21 and any future closure work that involves covering natural vegetation in order to flatten slopes for safe wildlife passage).
- 7.2 Study vegetation east and north of the Island to understand good caribou habitat.
- 7.4 Test both natural vegetation and seeded plants (re-vegetation plots) for toxicity.
- 7.6 Use fine crushed rock on passage-ways to protect the feet of the caribou (similar to what is on the sides of the airstrip right now – August 2014).
- 7.9 Create slopes on the sides of roads similar to that on the test pile to support safe travel for animals, and use crushed rock (like at the airstrip) on the surface.
- 7.10 Transplant a variety of natural ‘tundra mats’ and compare them to seeded test plots; this will help natural recovery by maintaining the biodiversity of the area.
- 7.11 Use the natural tundra mat to guide plant selection to ensure natural balance.
- 7.12 When using fertilizers, use natural local fertilizers like droppings from local animals. The question of treated human sewage needs to be revisited.
- 7.15 The re-vegetation maps developed in this session are not yet complete and more time needs to be spent discussing and finalizing these.
- 7.16 The TK Panel would like to use maps that show the TK of traditional caribou migration routes as the basis for evaluating the “big picture” and identifying areas for sloping (modification) on East Island at closure.

Wildlife

- 7.3 Use traditional techniques (e.g. flags, trees) to keep caribou away from areas that are unsafe (both near and far from site).
- 7.5 Create safe passage for caribou over the rock pile and through the site following their old migration routes on the north and south east sides (refer to map developed during session).
- 7.8 Allow more time for the TK Panel to discuss options for keeping animals away from certain areas (e.g., fencing).

Rock Pile

- 7.9 Create slopes on the rock pile similar to that on the test pile to support safe travel for animals.

Process Kimberlite Containment

- 7.7 Create barriers and other means between the rock pile and PKC to discourage animals from going into the PKC area.

North Inlet

- 7.14 Relating to re-vegetation, the North Inlet requires further discussion in terms of it being a no go zone, replanting zone or encouraging zone for wildlife.

General

- 7.13 Complete the TK literature review report so that it can be used as a guide in the vegetation program and closure plan, and be available to communities.
- 7.17 Have a women's only session in the field next summer to address vegetation and other issues of interest to them.
- 7.18 Diavik must meet its commitments to support a minimum of two TK Panel sessions a year.
- 7.19 TK panel members need to verify TK recommendations with elders back home.
- 7.20 Require one male and one female member from each community organization on the TK Panel (or formal alternates); where possible, members must know the LDG area (directed to Aboriginal governments).
- 7.21 Formalize our recommendations to Aboriginal governments to have youth participate.
- 7.22 Celebrate our TK Panel as a model for other mining companies.

Other Considerations

The TK Panel repeated their concern that the waste rock pile (blast rock from the pits) will not be put back into the open pits upon closure. Members of the TK Panel would like to see the rock returned into the pits or, alternatively, at least partially fill the pit with rock. This discussion took place mainly during the Friday session (Appendix D) as the TK Panel met directly with senior Diavik personnel, Gord Macdonald.

The TK Panel understands that DDMI has committed to hosting sessions twice per year (as detailed in the Session #6 report). Panel members reinforced their desire to ensure that this schedule is met. The Panel noted that there are numerous topics to be discussed in relation to closure, so having only one session per year (as in 2014) made it difficult to maintain momentum.

There was limited time to discuss future sessions and so previous session discussions should guide the selection of future session topics.

There were some challenges with headsets during this session. The headsets during Session 6 were said to work much better.

Appendix A

Session Photos



1: Celine Marlowe



2: The TK Panel evaluates slope



3: The TK Panel looks closer at processed kimberlite substrate



4: Celine gets a closer look



5: Heading out into the field



6: The University of Alberta students explain their vegetation research to the TK Panel



7: Wayne Langenhan and Mark Taletok share their observations with Colleen English



8: The TK Panel considers areas for re-vegetation and landscape modifications



9: John Ivarluk



10: Wayne Langenhan and Ed Jones share a joke



11: Mary Rose Sundberg and Dianne Dul evaluate the rock pile

Appendix B

Proposed and Actual Agenda



Agenda (Draft v2)

Diavik Diamond Mines Inc. Traditional Knowledge Panel Session #7: Vegetation August 14-18, 2014

Thursday, August 14

- | | |
|-----------|--|
| 3-4 pm | Arrive at Site, Check-In, Orientation & Training, Snack, Sound Equipment Set-Up |
| 4:30-6 pm | Welcome, Opening Prayer, Round Table Introductions, Review Draft Agenda, Workshop Purpose Overview |
| 6:00 pm | Dinner |

Friday, August 15

- | | |
|----------|---|
| 8:30 am | Recommendations Table Review (DDMI/Colleen)
Results from TK of Vegetation Literature Review (NT)
Group Discussion |
| 10:30 am | Break |
| 10:45 am | Group Discussion |
| 11:30 am | Lunch |
| 12:30 pm | Site Overview Tour with visit to U of A Site (and Presentation) |
| 3:30 pm | Return to Camp and Round Circle (Panel) |
| 4:00 pm | Close |

Evening review of transcripts/notes with interpreters.

Saturday, August 16

- | | |
|----------|---|
| 8:30 am | Group Discussion: How do we re-vegetate to keep wildlife safe?
Break |
| 10:45 am | Group Discussion: Which habitats or plants create safety for wildlife? |
| 11:30 am | Lunch |
| 12:30 pm | Field Work |



3:30 pm Review of Days Key Messages / Recommendations / Notes

4:00 pm Close

Evening review of transcripts/notes with interpreters

Sunday, August 17

8:30 am Group Discussion: Where should habitats or plants be placed?

Break

Group Discussion: What should DDMI do with site roads?

11:30 am Lunch

12:30 pm Field Work

3:30 pm Review of Days Key Messages / Recommendations / Notes

4:00 pm Close

Evening review of transcripts/notes with interpreters

Monday, August 18

8:30 am Review of Workshop Notes, Compile and Review Panel Recommendations for DDMI (NT/JB)

Break

10:30 am Present recommendations to DDMI

11:15 pm DDMI Preliminary Response to Panel Recommendations

12:30 pm Closing Prayer

1:00-3:00 pm Lunch, Complete Evaluation Forms, Review Transcripts

5:00 pm Return flight to Yk

6:00 pm Arrive Yk (G&G Expediting)



Agenda

Diavik Diamond Mines Inc. Traditional Knowledge Panel Session #7: Vegetation August 14-18, 2014

Thursday, August 14

- | | |
|-----------|--|
| 3-4 pm | Arrive at Site, Check-In, Orientation & Training, Snack, Sound Equipment Set-Up |
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| 10:45 am | |
| 11:30 am | Lunch |
| 12:30 pm | Site Overview Tour with visit to U of A Site (and Presentation) |
| 3:30 pm | Return to Camp and Round Circle (Panel) |
| 4:00 pm | Close |

Evening review of transcripts/notes with interpreters.

Saturday, August 16

- | | |
|---------|---|
| 8:30 am | Debrief of Site Overview / "Garden" Tour |
| | DDMI Presentation: Vegetation Monitoring & Re-vegetation Research |
| | Group Discussion: How do we re-vegetate to keep wildlife safe? |
| | Break |



- 10:45 am Group Discussion: Which habitats or plants create safety for wildlife?
- 11:30 am Lunch
- 12:30 pm Field Work
- 3:30 pm Review of Days Key Messages / Recommendations / Notes
- 4:00 pm Close

Evening review of transcripts/notes with interpreters

Sunday, August 17

- 8:30 am Group Discussion: Where should habitats or plants be placed?
- Break
- Group Discussion: What should DDMI do with site roads?
- 11:30 am Lunch
- 12:30 pm Field Work
- 3:30 pm Review of Days Key Messages / Recommendations / Notes
- 4:00 pm Close

Evening review of transcripts/notes with interpreters

Monday, August 18

- 8:30 am Review of Workshop Notes, Compile and Review Panel Recommendations for DDMI (NT/JB)
- Break
- 10:30 am Present recommendations to DDMI
- 11:15 pm DDMI Preliminary Response to Panel Recommendations
- 12:30 pm Closing Prayer
- 1:00-3:00 pm Lunch, Complete Evaluation Forms, Review Transcripts
- 5:00 pm Return flight to Yk
- 6:00 pm Arrive Yk (G&G Expediting)

Appendix C

Informed Consent Form

Diavik Diamond Mines Inc. Traditional Knowledge Panel

Informed Consent Form

I (name) _____ on _____, 2014 give permission for Diavik Diamond Mines Inc. and its contractors to take notes, photographs and / or audio and video recordings related to my participation in meetings, workshops and events related to the Traditional Knowledge Panel established for the Diavik Diamond Mine. I understand that my participation includes meetings and workshops held throughout each year either in communities in the NWT or NU or at the Diavik Diamond Mine.

Through my signature below, I understand that:

1. I consent to have my words, activities and responses regarding and related to my knowledge recorded on maps, in notes and photographs, and using audio- and video-recording equipment (collectively referred to as Traditional Knowledge Data);
2. I am free to choose not to respond to any questions asked or participate in any discussions without prejudice or penalty;
3. I can choose to be anonymous in my participation without penalty;
4. My representative Aboriginal Organization, DDMI and / or its contractors may use the information collected to contribute to operations and closure planning at the Diavik Diamond Mine;
5. DDMI and its contractors may share my information which I have verified and given permission to share in either reports and/or photographs and provide such information to my Aboriginal organization and other regulators;
6. I agree that my contributions may also be used for future educational, cultural, heritage, and environmental purposes that are outside the scope of the TK Panel and that my representative Aboriginal organization, DDMI and/or its contractors will make all reasonable efforts to consult me, or my descendants, before using my information for purposes not indicated above;

7. I will receive financial compensation for my participation in accordance with DDMI policy;
8. I am free to request that any information I share is removed, erased or deleted and that I will have the opportunity to verify draft video-documentaries, reports and maps to make edits before I sign them off and that final copies will be provided to me;
9. I also understand that DDMI cannot ensure the protection of the Traditional Knowledge from public release once the reports are released (e.g., via youtube.com, Facebook, other social media, or Aboriginal group websites);
10. The Traditional Knowledge Data will be summarized and integrated with scientific data into a report, which will be publicly available.

Signed this _____ day of _____ 2014, in _____
Northwest Territories,

Signatures:

Participant

Aboriginal Organization

Diavik Diamond Mines Inc.

DDMI Contractor

Appendix D

Session Notes

Appendix D
Diavik Diamond Mines TK Panel – Vegetation

1 **Day 1: Thursday August 14th, 2014**

2 Start 5:00pm

3 **Joanne Barnaby:** Welcome everyone to the 7th session of the TK panel. As we told you earlier,
4 the Inuit delegation is delayed but we're still hopeful they will make it this
5 evening. However we are not going to start our session as planned until they
6 arrive; we are just going to go over the agenda after we hear some welcoming
7 remarks from Colleen and Gord.

8 **Gord Macdonald:** Hi, I am Gord Macdonald. I think I've met many of you, but not all of you.
9 My title is Principal Advisor of Sustainable Development at Diavik, I have been
10 with Diavik since 1998 so I have been involved in all of the aspects with respect
11 to developing the mine and my responsibility now is actually working on the
12 closure plan, so working on how to close it (the mine). I've been involved with
13 most of the TK Panel sessions so far and the last one we had last year at site with
14 some of you. I am looking forward to spending some time with you this weekend,
15 with a focus on vegetation, certainly not an area of my expertise at all, so I am
16 looking to learn a lot this weekend from you and some of the University Students.
17 Please let us know if you have any questions not only about Diavik but
18 logistically as well.

19 **Colleen English:** Hi, I am Colleen English again I think I have met most of you before as well I
20 think. So I work with Gord and help out with coordinating the TK Panel and I
21 used to work on site for about 10 years doing a mixture of mostly environment
22 work and then some communities work as well. So I've done a lot of work with
23 the University Students that are here at our re-vegetation plots and we're going to
24 have those guys to help you out too; they are going to be our resource people for
25 this session so you are going to meet a couple of the girls from the University of
26 Alberta who are doing a lot of re-vegetation research for us at the mine site. We
27 also have Dianne Dul who is at the back of the room here and she's our onsite
28 environment gal who is here to help us out for the weekend.

29 **Joanne Barnaby:** Walk through the agenda and talk about the purpose. The purpose is to
30 ensure the steps that Diavik takes to plant and to seed new plants is done in a way
31 that makes the most sense to you and so you'll need to think about things like: do
32 you want to attract certain animals to certain areas? If you don't want animals in
33 certain areas, what can be done for that as well?

34 **Natasha Thorpe:** The reason we are having a session on vegetation is because this was one of
35 the recommendations from the session in October (2013) - to have some time to
36 really spend on vegetation for Diavik now that they are doing the closure plan.

Appendix D

Diavik Diamond Mines TK Panel – Vegetation

1 The other thing that really came forward was to make sure there was really strong
2 representation from women, particularly for this session, as many women have a
3 lot of that special expertise or traditional knowledge about various plants and the
4 landscape.

5 **Ed Jones:** Are all the workshops going to be held in this room?

6 **Joanne Barnaby:** Yes when we are inside we will be in this room. We will actually be
7 spending quite a bit of time outside as well.

8 **Ed Jones:** I was just wondering I think when we start we should focus primarily on
9 vegetation that caribou feed on because the other wildlife can look after
10 themselves.

11 **Joanne Barnaby:** Yes the elders have made it very clear, elders from all over this region, that
12 they are very concerned with the caribou.

13 *Continuation of agenda.*

14 **George Marlowe:** That's good that we are looking at vegetation but we also need to take or
15 collect a little bit of vegetation from the island and also on the mainland too.
16 Maybe we could use a chopper or something to get to the east side or north side
17 on the mainland. But what about the fish: how is the vegetation under the water
18 for the fish? We never mentioned that. I used to come here way in the beginning. I
19 used to fish by the dock here at the time, there was not a pit here. I don't know
20 how many of us were here, good fish, and we would bring it back to the trailer,
21 the kitchen and fry them. But I don't know if I could do it now. So we have to
22 know the vegetation under the water, too, for the fish. Vegetation on the island is
23 different than the mainland. Even one ounce of oil spill or anything that spills on
24 the ground you'll see something grow right there.

25 **Colleen English:** Good questions. We can definitely visit the shorelines if you wanted to go see
26 some of the areas and look at the plants in the water. There are some areas where
27 we can access the shoreline very safely and easily so we could include those in
28 parts of the field visits. We don't have a chopper on site so we are kind of land
29 locked. We are going to be contained to the east island for this session and so we
30 will just do our best to hopefully hit up a couple of different areas on the island
31 that we can reach and have people looked at the native vegetation there. We
32 haven't seen, any that I know of, species be introduced up here. We have had a
33 couple of bugs come up in fruit; so we had a black widow spider arrive here once
34 in the fruit at the kitchen, and we got a big beetle in the truck shop once that came
35 in on a tire. Those are the only two things that I've seen. The other interesting
36 thing, that we'll take you guys around to show you as well, is that there is a lot of

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1 natural re-vegetation happening on its own on the side of the roads, on hill sides,
2 on the side of buildings, as well as other plants and mushrooms underground.

3 **Joanne Barnaby:** Your question on grasses and lichen that caribou eat there was a study that
4 Diavik did with a few elders including Albert Boucher and Joseph Judus. They
5 visited areas that are close to the mine site that have dust from mining and they
6 visited areas further away where there was no dust that they could see on the
7 grasses and on the lichen. That work has been documented and there is a report
8 here that you can take and Colleen will explain more about that project and what
9 they learned and the recommendations that came from that work as well.

10 **Wayne Langenhan:** This is getting a little bit off track but the last time we were here and Gord
11 was up here and we were talking about filling in that pond there (PKC), I never
12 got any feedback as to what was coming off on that deal at all, which way it was
13 going to go.

14 **Joanne Barnaby:** Thank you Wayne that is actually part of what we are going to cover
15 tomorrow when we review the recommendations table and Diavik's responses to
16 our recommendations so you'll hear that response then.

17 **Louie Zoe:** Things can grow and there are things that I don't think will grow.

18 **Joe Champlain:** It's not like before. They drink water from Whati and the forest fire came
19 really close to the community. It wasn't like before.

20 **Joanne Barnaby:** We have had discussions in the past as some panel members felt it was
21 inappropriate to work on Sunday morning so we need to decide that and whether
22 you feel that's a problem and whether you want to make any changes to the
23 schedule for that. Any thoughts on that right now? Are people okay with meeting
24 on Sunday morning?

25 **George Marlowe:** Maybe we could do 10 rosaries prior to starting?

26 **Ed Jones:** I think we could maybe allot a half hour or something like that. We don't want to
27 take up most of the morning. Also another suggestion is I hope we will be able to
28 discuss the mine closure plans. I think it is very important for vegetation.

29 **Joanne Barnaby:** Yes maybe we could ask Gord or Colleen to bring us up to date on closure
30 plans. The other thing we would like to ask you is there any interest in having a
31 woman only session? Yes. If they do have a separate session we would ask that
32 they present back to the whole group.

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1 **George Marlowe:** Wondering about the rock pile, it's still frozen underneath, what is going to
2 happen if it thaws? I would like a presentation from Diavik regarding the rock
3 pile.

4 **Colleen English:** Brenda McDonald from EMAB is planning on coming up on Monday, very
5 interested in coming and hearing where everything is going.

6 **Ed Jones:** I have spoken to quite a few people and they were under the impression that
7 EMAB was disbanded because they didn't seem to be involved for the past couple
8 of years and I was wondering the same thing.

9 **Colleen English:** EMAB does still exist but they had a very big turnover in staff which slowed
10 down their visibility and their involvement with people in the community. So they
11 had a few months there where they were bringing a new person up to speed and
12 getting the Board sorted again so it definitely did slow them down, but they do
13 still exist, and the new Board is meeting over the next couple of days to set their
14 goals as a board. Brenda can also share that with you so if you have questions for
15 Brenda she comes on Monday.

16 **Mary Rose Sundberg:** I haven't been really involved in this kind of meeting but I have
17 been to a lot of sessions where I interpreted so I am kind of aware of the
18 reclamation plan and the vegetation but what I want to know is do you have a
19 summary of the recommendations from the last few years, because I don't know if
20 it is a good idea or not but I know some people do change, who is coming (to
21 these meetings), so it would help if we had a summary of what has happened over
22 the last couple of years.

23 **Colleen English:** Thanks for that, it's a good point. I think one of the positives of this panel is
24 that we have had very consistent membership and it's been great to be able to
25 build the relationship and the trust as well as that continuity of knowledge that
26 people gain from that, but we will have the summary of all of the
27 recommendations available for you tomorrow and specifically we will be walking
28 through the rock pile ones and the PKC because those are the most current ones
29 that haven't yet had a formal discussion and open communication between Diavik
30 and the panel.

31 **Natasha Thorpe:** There is also on the side table here all of the previous reports of the TK Panel.

32 **Celine Marlowe:** What is under all those piles of rocks that I saw when I was coming in from
33 the airport?

34 **Colleen English:** The original ground that was there was an esker and bedrock. That got mined
35 out, to build roads on site so it actually got deeper. It's all rock in there and it's

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1 mostly the rock that has come out of these pits. There is also a landfill that is
2 within this pile as well. So Diavik has an onsite landfill where all of the benign,
3 approved materials that are able to go into a landfill are in that landfill. Any
4 hazardous materials are not put in that landfill, we have a waste transfer area for
5 those. In the landfill you will see things like metal or steel, scrape wires. Wood
6 gets burned.

7 **Joanne Barnaby:** Break until 8:30 tomorrow morning and hope we have our Inuit friends with
8 us.

9 *Close 6:15pm*

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Diavik Diamond Mines TK Panel – Vegetation

1 **Day 2: Friday August 15th, 2014**

2 **Natasha Thorpe:** It feels much better now that we have our Inuit friends with us. Welcome
3 everyone.

4 **Louie Zoe:** Opening prayer.

5 **Natasha Thorpe:** Start with our round table of introductions. Most of us know each other due
6 to this being our 7th TK Panel meeting.

7 Then we will have a presentation from Diavik and we have been tracking all
8 recommendations that you have made in a table and this is the chance for Diavik
9 to more formally respond to all of those.

10 **Round Table:** Mark Taletok, Louie Zoe, Joe Champlain, Celine Marlowe, George Marlowe,
11 John Ivarluk, Martha Ivarluk, Joy Dragon, Ed Jones, Wayne Langenhan, Morris
12 Marten, Joanne Barnaby, Natasha Thorpe, Gord Macdonald, Mary Rose
13 Sundberg, Valerie Miller –University of Alberta Graduate Student, Sarah Ficko-
14 University of Alberta Graduate Student, Martin Robinson- University of Alberta
15 Research Assistant, Dianne Dul, Tiana Shea- Environment, Andrew ***-
16 University of British Columbia, Shaun Sinclair - University of Waterloo, Colleen
17 English, Vanessa White - University of Alberta Research Assistant, Jasmine
18 Lamar- University of Alberta Graduate Student, Ryan Dempster, Mona Tiktalik,
19 Henry Ohokannoak , Berna Martin, Peter Huskey, Janet Murray

20 **Natasha Thorpe:** I wanted to remind people that everything is being recorded so that Janet can
21 make sure she documents your words and stories that you share.

22 **Gord Macdonald:** *Provides overview of the closure plan for the whole site. As we get to the*
23 *rock pile and PKC we will go back and look at the recommendations and go over*
24 *them a bit more. Water Board is the one that has to approve our plans. Plans have*
25 *changed since 1998.*

26 Overview of the island.

27 Pits – Refill with water to the level of the lake, make fish habitat on the outside of
28 the pit which needs to be done first. Fill it up quickly to the lake level and then let
29 it sit there, then test the water and once we all agree that the water is okay we will
30 cut holes in the dyke so that water can move in and out and fish can move in and
31 out.

32 Rock pile – Make sure that it is safe chemically first. When you take the rocks out
33 of the pit they behave differently, so we need to make sure that the water around
34 the pile (e.g. runoff when it rains) is safe. We need to make sure that the rock pile

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1 stays frozen. We asked how you want animals to behave in regards to the pile.
2 We have built some dams around where there will be some seepage.

3 **Colleen English:** Early on in the days of the TK Panel it was decided that everything that you
4 did really needed to be documented and there was a keen interest from all of you
5 to have a response from Diavik to each of those recommendations. So we talked
6 about developing a table that captures each of those recommendations and
7 Diavik's response to those recommendations. Last time in October when we met
8 we had the PKC session, so down here you will see a PKC tab and you click on
9 that and up come all of the recommendations that you guys made, and then over
10 here is the Diavik response which we will talk about, which Wayne was asking
11 about, and then any action items that also need to come out of that for Diavik. So
12 we have these for each of the topics that you have discussed already and probably
13 some of the future ones that are sitting empty at the moment.

14 *DDMI TK Panel Recommendation Tracking – Showing the panel*
15 *recommendations and where Diavik has gone with them.*

16 **Gord Macdonald:** So that is generally what we are trying to do. I mean one of the
17 recommendations was to try and find a long path, a long drainage path, to direct
18 water to. It doesn't really show on here but there is not really a lot of opportunity
19 to find a long drainage path where the rock pile is located, because the lake is
20 right there and then there is the North Inlet, but we do have the ponds on this end
21 (southeast) that we will use, a pond on this end (northwest) that we will use, and
22 the whole North Inlet so a lot of drainage goes to the North Inlet. So we have
23 those ponds to use as Bobby's moat. As Colleen said we are intending on going
24 with a particularly sloped access here (northwest) and an area all the way along
25 here (southeast) that would be a place where caribou could get on and off the pile
26 again. We were going to continue to keep this side (south) steeper because this
27 will be going into the PKC so we wanted to discourage caribou from going down
28 to the PKC and we were going to keep this wall (west) steeper as well. But in
29 terms of the softer material we would like you to look at one of the test piles the
30 students have been working on, it's re-sloped to the way we would see this being
31 and it is a smooth material; it's not soft, I don't know how to interpret "soft
32 material", but to us it looks like it would be safe for caribou to walk on. What we
33 don't want is big loose boulders like you see there right now, but if you look at
34 the pile, this one pile that we will show you, that's what we would see being here,
35 along the crest and at the far end. So it would be good if you could have a look at
36 that and see whether that's what you think would be safe for caribou or not.

37 In theory we could put down coarse PK, like somebody asked about, which is this
38 really black material around the edge of the PKC and its sort of like a coarse sand

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1 - it would always be loose, it wouldn't compact down to something firm. You
2 know we could put some of that on here (rock pile), but we'd have to do a bunch
3 of testing on whether we want to do that or not. So that's one material that could
4 be used; but again I think in one of the recommendations there was also the
5 concern, and it's a real one, of putting a black material on here in terms of
6 temperature. Remember we are trying to keep this thing frozen and the black
7 material would not be helpful for that. And the other material that is an option is
8 till. We are going to be spending a lot of time talking about it this week because, I
9 guess you guys will tell me if I am right or wrong, but I think it's a good material
10 as a substrate for re-vegetation. We don't have a lot of it, so we probably want to
11 use it for that versus for making a caribou route, unless it's necessary, so it would
12 be a good one to look at and think about whether that's the best thing or the worst
13 thing for that.

14 But in concept I think we are all heading down the same path, now we are getting
15 down into the details about it.

16 Questions?

17 **Mark Taletok:** This rock pile, I've been hunting all my life and caribou always climb up to the
18 highest spot when there is no wind and if they go to the higher part they stay there
19 for a long time. I have been hunting all my life. The caribou always stand on the
20 high part; the caribou wants to go on top. I know it's not easy; I've known the
21 caribou go to the high part. While I was growing up I've known that even when a
22 caribou is far when we look by binoculars, the caribou are far but if we start
23 walking to the caribou, we will get there before the caribou move. I don't think
24 there is caribou around and lots of caribou are coming to our town and they never
25 did that before. And our land is really close the place where we used to live I've
26 known I never go there in a long time because I've got no more dog team because
27 I went to Edmonton and I couldn't go home because I've got no more dog team.
28 And there used to be lots of caribou where we used to live and animals are smart
29 and it can't be helped that they want to go to higher ground and towards the
30 evening they always want to start feeding.

31 **Gord Macdonald:** One comment that I forgot to mention - I think it was from EMAB but I am
32 not sure if it was from this panel through EMAB or if it was directly from EMAB
33 - but they wanted us to do a study on the effect of having vegetation on the rock
34 pile and whether that would increase snow and increase the amount of water that
35 would get into the pile and you know you will see in the table when you see it, we
36 are not going to take that one on as a research topic. We know that will happen if
37 we put more vegetation on the pile, we will get more snow and we will get more
38 water going in the pile and that's something we don't want to have. So from a

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1 water point of view, we want this to be as smooth as it can be so that the wind will
2 blow as much of the snow off as it can to try and keep as little snow as we can get
3 from melting on the pile and percolating into the pile. So vegetation would work
4 against us for that.

5 **John Ivarluk:** Earlier you were talking about the open pit and the rock pile so at closing time
6 why don't you put that rock pile - as much as you can - instead of filling it up
7 with water, it's going to fill itself up sooner or later, but if you want to knock that
8 rock pile off, why not fill that open pit with that rock pile?

9 **Gord Macdonald:** That question has gone around for years talking about whether we could do
10 that or not. There are two reasons: one it's really expensive to move it back into
11 there. It would be more money than all of the closure plan for the whole island to
12 move that rock back into here, the other thing is that after the rock has been put
13 out on the land we were talking about the chemistry so we don't want water
14 contacting it and running off. If we put that rock back in here, once the water
15 comes back in we will have the same problem with that water. So right now it is
16 best left where it is. If we had been able to fill these up with rock it would have
17 been something we had to do while mining. So that if you could imagine you
18 mine one pit first and then when you are mining the next pit you move the rock
19 over to the other one. We couldn't do that because we've got underground mining
20 happening in each of these pits at the same time. We couldn't fill them as we
21 went which would be the only economical way to do it.

22 And you asked about if these pits will fill up by themselves anyway; they will, but
23 they will fill with ground water. That is water deep in the earth and the chemistry
24 of that water isn't as good as the chemistry of the lake water. So we do want to fill
25 them (open pits) up with lake water in order to keep the ground water down in the
26 bottom so we have the good water at the top.

27 **George Marlowe:** I don't know if I'm going to make a right decision and since about 16 years
28 now we've been talking about this and still we never got to a right decision yet.
29 But I agree with John. We talked about the reason why with EMAB because
30 where the pit is right now that's where the fish used to be and that's shallow. It's
31 only about 10-20 feet at that time so if we put some rocks back again and then
32 some of the current from the lake (from the bottom of the lake) some of it will
33 cover the rocks now but right now if we put water in it its going to be about 70-80
34 feet maybe more and how about the fish I don't think it's good. We've been
35 talking about that already. And now it seems like Diavik they want to put water in
36 there but us and the Inuit, I support the Inuit because this lake and the river water
37 goes to Coppermine River, right to their home town not us, not Yellowknife, Fort
38 Rae or Lutsel K'e and that's why I support these people all the time. I said that

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1 time about 4 years ago I want to see what kind of vegetation from here to half
2 way to Coppermine some place. What kind of plants are growing in the water
3 now because it's running down. They said they would find it and I never heard
4 nothing yet. So that's something we talked about already. We want to put rocks
5 back in so that it's not going to be that deep. That's something we talked about
6 already. That's why I said 16 years ago we never make the right decision yet. And
7 that big pile there we said we were trying to knock it down but you guys buried a
8 lot of old dirty stuff there. Now it seems like we don't want to touch it now.
9 That's something we talk about too. We said to Diavik no more burying anything
10 again on this island. If you bury anything again in the future we're going to have
11 something in the office in Lutsel K'e. I'm going to have the papers saying there if
12 there's anything wrong with that island there, drainage to the lake or river will
13 pay fine, that paper will stay there, so we got the paper too so that's something we
14 talked about already. So I don't want anything to be buried. Last time maybe four
15 years ago we said all those trailers are going bus it and then bury everything I said
16 no don't do that in the future it's not going to be good because the water that's
17 still going to run out. 50 years maybe the water will run and rust from the metal.
18 So I said no, no more burying anything after that.

19 The rock pile I know the caribou will go on and they said they would smooth it a
20 little bit all the way around with moss on top but if you put it on top it will come
21 down on both sides, so it would be good for caribou. Caribou at this time of year
22 caribou like to stay on higher ground so not much flies.

23 **Ed Jones:** Gord I am wondering if you have checked or studied the work the mining
24 companies have done in Saskatchewan on mined out pits? They refilled these pits
25 with water, lake water and I am wondering if they have had any problems. Have
26 you checked on any of this work they've done?

27 **Gord Macdonald:** Let me just get back to George's comment first. We are going to have to
28 face these things as a group as we move forward on decisions, and we understand
29 that not everybody is going to be in agreement with all of the decisions so on the
30 question of putting rock back into the pit, we have had those discussions and I
31 agree people have said why don't we put it all back in there. We've said we don't
32 want to put it all back in there and the plan has been approved by the Wek'èezhi
33 Land and Water Board. It is the same plan we had from the beginning saying we
34 were going to do it this way and that's the way it's headed. About fish, you are
35 right what we are targeting in this area (shoals inside the dikes) to make it useable
36 for fish, but this area (pits) will be too deep to be really usable by fish. We are
37 not expecting that fish will use water of that depth, they will swim through it but

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1 they won't use it for rearing or anything else; it would not be useful fish habitat
2 where the big pit is.

3 On not land filling that was a good discussion that happened amongst all the
4 communities and we did get very different opinions. The reason I am showing
5 you this slide is that this is the landfill with the material you are talking about -
6 old trailers and steel and things - going in there. I mean the other option is you
7 take it all the way to Yellowknife and you put it in the Yellowknife Landfill and it
8 becomes a problem that they don't have enough capacity for it. So there's a lot of
9 good discussion about it, that it has to go somewhere, where is it going to go and
10 the conclusion was this (the mine site) was the better place to put it. And again,
11 that's the plan that was approved in 2012 by the water board; to put it here, cover
12 it and it will become frozen in place just like the other rock.

13 We have been looking at putting water back into pits, it's a fairly common closure
14 option for most mines or many mines, depending where they are. The challenges
15 are usually about chemistry about the kind of water that is there depending on the
16 ore body, whether it was a gold mine or in Saskatchewan uranium mines, and
17 what materials are left in there and what the ground water is like around there.
18 There aren't that many applications that are exactly like Diavik where we've got a
19 pit with a lot of very good water right beside it so that it can be filled up without
20 impacting on the lake. So if we take water out of the lake to fill the pit, you
21 couldn't even measure the change in the lake level because it's such a big lake.
22 Where other properties have the challenge of where they get the water from and
23 how can they bring it in fast enough so that it's, so you get good water at the top
24 or most of it instead of the ground water.

25 **Wayne Langenhan:** When water seeps in from the groundwater and goes to a certain level and
26 then water you are going to pump water from the lake itself over top of the dyke
27 into the pit, eventually sometime you'd open it up so that it was all part of the lake
28 again but the residue from the blasting is on the walls of the pit so wouldn't that
29 contaminate the rest of the lake if you were to open it up so that it would be all
30 one?

31 **Gord Macdonald:** Yes and so we have done those studies, what we did is take sections of the
32 pit wall and we built a collection tray along the bottom and washed the wall with
33 water and collected the water that came off and measured the chemistry of that
34 water to see how much blasting and other residues from the rock itself that were
35 on the wall would get into the water. So we have a good idea what that would be.
36 When you put that small amount with the huge volume of water that's going in
37 here, there is almost no difference between the water in the pit and the water in
38 the lake; again that's a calculation, it's done based on an experiment, so the real

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1 answer will be when we put all this water in here and we let it sit there and we
2 measure it to demonstrate that it is safe before we connect it to the lake.

3 The North Inlet, as I mentioned before, it used to be an inlet into Lac de Gras and
4 we put a dam at both ends so that we can raise or lower the water level to store
5 water if we need to. So we can always pump the water out of the mine but if
6 something happened - let's say the treatment plant broke down and the water's
7 still coming in - then we can fill this up. We've got about 100 days of storage so
8 we can continue to put water in here until the treatment plant was fixed and it
9 went out. That's why we have this facility here really. You can sort of see it's a
10 little bit dirtier color than the water on the other side, so some of that water that
11 comes out of the mine has dirt in it and it will settle out in the North Inlet ahead of
12 the treatment plant.

13 Water that comes out of the treatment plant has dirt in it so it settles sometimes
14 before it goes to the treatment plant. We don't know if the north inlet will be safe
15 for fish due to the sediments but that's something we can't deal with now because
16 we don't know, in about two years we will be coming back to you to deal with
17 this facility.

18 PKC-The kimberlite without the diamonds comes out of the plant, it comes out as
19 a soft material and this is what we call fines and it's like sand, if you saw it on a
20 beach you'd think it was sand. It comes out and forms a slope and then water
21 drains off into here (PKC pond), so it separates first into the heavier bits and then
22 into water. Then we also have something that's called course kimberlite that
23 comes out in a truck and it's much bigger, doesn't have water with it and we use it
24 within the facility for construction. It was the material that some people were
25 talking about maybe we could build caribou roads with that material. But what
26 we talked about last time was what's underneath the center of the pond - the
27 slimes under the water. You can't stand on it, animals can't walk on it. It may be
28 possible to put a layer of rock on top of it, just to separate it from everything else
29 so it doesn't blow in the wind.

30 **Wayne Langenhan:** When you say that the water could overflow in that pond there and go
31 down through a series of small lakes, I suppose that it is supposed to be a filtering
32 system of some sort so you don't have to put it through a treatment plant. Would
33 that water (after going through those) would that be of sufficient state of water
34 quality to enter into the lake by the time it reaches there?

35 **Gord Macdonald:** Yes that is our current predictions and I expect that will be our closure
36 criteria, that we won't be allowed to do it unless that actually happens. I know

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1 how we are going to test the water (scientifically) so it's safe, but we need to
2 know how to get you comfortable that it is safe.

3 Two of the recommendations were to leave it as a beach; if we did this, I am
4 certain a caribou would get stuck just like a person. So we want to make sure the
5 pond water is deep enough so that the animals/people would swim instead of
6 getting stuck. We are going to get an independent analysis for the material. We
7 are struggling with putting vegetation back into the PKC. I don't feel we want to
8 attract animals to there so I don't feel adding vegetation there is a good idea.

9 **Wayne Langenhan:** Has there been any thought to turning that slime into a solid by adding
10 chemicals or something to it?

11 **Gord Macdonald:** We could add chemicals however the chemicals are not inert (stable) so we
12 don't feel that is safe for the environment. Ekati has tried and it created other
13 problems due to the chemicals.

14 **Louie Zoe:** What we discussed in here, we talked about wildlife and the open pit. I have a
15 concern about no recommendation that's been put forward and what can be put
16 back inside that open pit. In the barren land there's a big snow bank and the
17 animal can fall off and we don't like to see the big rock pile. Maybe some of the
18 rock pile can be put back into the pit and then see what happens, we see what is
19 growing and maybe we can get it to where it can be clear. Once the water goes
20 back in there we know that water is going to be deep. And we'll have to watch
21 for things that live in the water like fish and all the things that being blasted and
22 all the fish plant that is not inside the dyke so that's all the things that we need to
23 think about. So we don't like to see that big rock pile it would be hard for animals
24 and caribou to get on top of those big rock piles that might be dangerous for the
25 caribou.

26 **George Marlowe:** Ever done testing on the north inlet and also the other lake PKC, both did
27 you ever test the bottom separately? I'm talking about the mud. It's got to be
28 different, and also the water too. I did a little bit of study on that water on the
29 natural lake too. I helped out. I was there for a long time. There trapping with a
30 dog team, but it's different then when I was there when I was young. When they
31 raised that water it's different, so this one here is the most important part because
32 it's an island, it's not like on the main land, and we all know that there are
33 millions and millions of fish in there. Diavik is different, the water runs to
34 Kugluktuk maybe 100 years down the road it might make them sick.

35 **Gord Macdonald:** Infrastructure- What do we do with all the buildings and the roads? Our
36 commitment to the Land and Water Board is to remove all of this material, take

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1 whatever is salvageable, sell what we can, trucks, gensets, probably not the steel,
2 buildings would go. So in the end there would be no buildings or anything left
3 that you could see, there would be cement foundations that would get covered
4 with rock. Also the wind towers, what to do with them? Roads- how do we
5 smooth out the sides, or do we smooth out the sides?

6 I think about them all in different areas but we also need to look at the island as a
7 whole.

8 *10:00am 15 minute break*

9 *10:25am*

10 **Natasha Thorpe:** *Why are we here as a panel? (Slide show)* We need to be able to look at the
11 big picture and also the smaller picture. You are able to do that by seeing the
12 small berries or shrubs, but also seeing how they fit in the big picture with all the
13 other plants, berries and animals.

14 **Joe Champlain:** At this meeting everything that has been discussed before I can't read or write
15 English and all these slides, I can't capture any reading. But what we are talking
16 about is the mine, where its situated, and we don't want anything to be
17 contaminated, the water not to be contaminated and also the wildlife. The water
18 flows into the Coppermine River so we have to be in support of the Inuit so we
19 want the water to be maintained and be as pure as possible and there is depletion
20 in water in all areas. It would be good if the water was protected because the
21 water flows into Nunavut and also to the people of Kugluktuk and we have to be
22 in support of them and one another. How can we improve the closure plans so we
23 have to be sensitive about the water? There is a depletion of water in all areas and
24 also using the water in underground mining and also if they are going to fill up the
25 open pit with water. And also the caribou - people live off of the caribou, we
26 don't want to ruin the habitat or the life of the animal, and there is the forest fire
27 and the smoke travelling long distances and maybe it ruins the growth in
28 vegetation and maybe it's not good for the growth of the vegetation and the water.
29 it might be a foreign topic so if we watch about these things and I am thankful
30 that we are having these discussions about these topics. In this tundra and also in
31 the boreal forest there's lots of forest fire, there is re-growth but what happens to
32 the wildlife and their young ones? Thank you very much.

33 **Natasha Thorpe:** I think what you shared is a very strong understanding of the connection
34 between vegetation and water. I know that sometimes you feel that you are
35 repeating yourselves and when we look back at the literature you know it's been
36 20 years that people have been talking about forest fires. John Akana - who is not

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1 with us anymore - about 15 years ago he said as we see today, the tundra is
2 becoming too dry from the lack of rain and because of that we seem to get more
3 forest fires. In Lutsel K'e 15 years ago they were saying the reason why there is
4 less caribou is because of the forest fires in that area, caribou vegetation is all
5 burned around Nonacho Lake on the north side of McLeod Bay it is also burnt.
6 The south side is not so burned and caribou come to the south side because of
7 that. So it's something for us to think about: that connection between the land,
8 how wet or dry the land is and how it will support vegetation or different plants
9 now and into the future. One of the things you've talked about at every session is
10 climate change and we're planning for closure into the future when climate
11 change will still continue.

12 **Mark Taletok:** I would like to say a few things from our childhood days. From many days ago
13 the vegetation on the land grows very nicely because there was lots of rain. Also
14 as I was growing up I learned to know which plants are good to eat and which
15 would upset your stomach and wild berries are very healthy but I am concerned
16 about the ones growing close to the mine site. Because many years ago anything
17 growing around the tundra and on the land like vegetation was very healthy, but
18 today everything has been affected by development, because it seems like we are
19 giving up our traditional land because it's going to be changing every year to
20 year. It's not always the same year to year how the grass and the vegetation
21 grows, some summers they grow very nice and healthy, some summers they don't
22 grow at all. You know now a days with the climate changing everything is
23 changing even the water habitats in Kugluktuk. It seems like the water is drying
24 up; some of the ponds and lakes are drying up as well. We see it on TV too
25 because there are more storms in the south, and we are hardly getting that up
26 north now. So I guess that's a reality and we have to face that because of climate
27 change because summer to summer is never the same. When vegetation doesn't
28 grow healthy that's why wildlife move looking for better vegetation. Even the
29 water habitats are drying up.

30 **George Marlowe:** Seems I like to hear from the Inuit but I don't understand. This summer, how
31 much rain around the Ekati mine? Around Kugluktuk? Because Lutsel K'e we
32 aren't having lots of rain, very dry. Me and my wife we go out on the land, she
33 knows where there are lots of berries but this summer there wasn't much. It dried
34 up. So it might be happening here too because there is no rain. You've got to
35 have rain to grow so I don't know, this summer we don't have much rain.

36 **Joanne Barnaby:** Perhaps when we hear from the research team they might want to comment
37 on how much rain they've had this summer.

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1 I just wanted to explain that when we use the word literature in this case we are
2 talking about the traditional knowledge that has been shared in the past that has
3 been written down. We learned quite a bit about how individual plants are
4 important to people and animals, and how plants have been used and also what
5 kind of plants and berries grow and work together.

6 **Mary Rose Sundberg:** These issues have been talked about for many years and it's also good
7 to see U of A helping with the project. In order to capture all info we should listen
8 to recording and document info correctly. This should be done. Talking about
9 this traditional knowledge since how many years back that we've been talking
10 about this kind of issues. There is some information here that we can look at.
11 Some of it is good. The university some of the information that they put together
12 and Aboriginal knowledge they collect information on the traditional knowledge
13 some of the books that have been put out, some of the Christian things, some of
14 the information that has been collected it's not all correct, they don't ask the right
15 questions. I just want to say a few things but first of all I just want to comment on
16 the book that Natasha referred to. I understand the author did research on
17 traditional knowledge in Behchokq area and all that information I am sure is
18 pretty accurate info from Tłıchq Elders traditional knowledge but as
19 Yellowknives Dene First Nation we've gone through that book we found
20 approximately 30 items that are not accurate. We were very disappointed with
21 this book because the author did not consult our people to make sure that the
22 information put in there regarding our people, our legends, and our stories were
23 accurate. So they are aware of that, my First Nation does have concerns about the
24 quoting. I know the quote from the elders are correct but sometimes I was told
25 that legends, even legends are different. They are told differently in each region or
26 each community, the way they understand it and the way the oral history was
27 passed down so it will obviously be a little bit different.

28 How long will this mine be in operation? Also will the rock pile get higher or are
29 they going to create another one? Have they done similar research in other
30 regions that are similar to the landscape in this area where maybe they can fill the
31 pit halfway with rocks and then on top with water?

32 **Natasha Thorpe:** I wanted to respond to your first concern about making sure the words are
33 right. From day one it's really, really been a priority to make sure we get the
34 words right. To give you a little history, for the first four sessions every report
35 that was written (on the table over there) we went through every word on the
36 screen to make sure that the words were right and we made lots of changes. I am
37 hoping that the panel remembers some of those days of going through word by
38 word. The other way that we are trying to do things right here today is during the

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1 sessions. We've brought in Janet who has lightening fingers and she is typing out
2 everything that is said. Ryan is making sure everything is recorded and then
3 during the evenings Janet's listens to the recordings, makes sure that all the words
4 are there, and then you have the homework the next day or later that evening to sit
5 down with your interpreters to make sure that our records are right on the paper. I
6 hope you understand that Joanne and I take our jobs very seriously and its more
7 than a job, it's a responsibility from the heart to make sure that we get the words
8 right and that they are your words, we're helping to get them out on paper.

9 The other questions about the life of the mine, Colleen will answer those.

10 **Colleen English:** To answer your question about the mine, it will operate until 2023 with or
11 without A21, so 2023 would be the end of operations when closure would start.
12 Rock pile is at its maximum height for operational needs but there will be some
13 added for the finishing (capping), as in rocks. There is no mine in our exact
14 situation that I know of at this time.

15 **Gord Macdonald:** The only one that I know of is a mine in the eastern United States that put
16 rock in the bottom of the pit, like a very small depth of rock in the bottom of the
17 pit before they flooded it. The reason for it was the rock was really reactive and
18 the best place to put reactive rock - it's only reactive because it's exposed to the
19 air - so a good place to put reactive rock is at the bottom of a water body where it
20 won't get air. So that's what they've done, as their closure plan was to put that
21 material in the best place to get rid of it, which is at the bottom of the pit and they
22 flooded it. At the same time it hasn't been very successful because when they
23 filled it up, they left a ramp down to the bottom, you don't just dump it off the
24 top, they drove it to the bottom and left a ramp and so that ramp has always been
25 exposed. So the water in that pit is nowhere near closable and so they've actually
26 ended up creating a problem that they hadn't expected.

27 **Mary Rose Sundberg:** Where in the United States? Also there was another concern that I heard
28 over the years, if they fill the pit with water from the lake how long will it take to
29 fill and also will the lake level go down?

30 **Gord Macdonald:** We would fill it over a period of months and, in theory, the lake would go
31 down but you couldn't measure the change because it would be so tiny. It was the
32 Ridgeway Mine in South Carolina.

33 **Mary Rose Sundberg:** You can't put the rocks back into the pit because of the chemicals? Is
34 that the reason why you can't put the rocks back into the pit?

35 **Gord Macdonald:** Its one of the reason's, I think it's less the blasting material and it's more the
36 chemicals on the rock from being exposed to the air. The biggest reason is

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1 because of the cost of doing it. It's completely re-mining that pile, drilling and
2 blasting.

3 **Mary Rose Sundberg:** Can you tell us how much because I can tell you that this mine has
4 probably taken billions and billions of dollars so what's the cost that they are
5 afraid of spending because the land that belongs to the people they just get less
6 than pennies in IBA's. The mine has extracted I would say billions of dollars and
7 if you are talking about cost it shouldn't cost too much. I don't think it would be
8 too much to do. It is something I think we should consider because of the
9 concerns that I heard over the years about this. How much would it cost to re-
10 mine the rock to put it back into the pit?

11 **Gord Macdonald:** Sure I can try and come up with some rough costs. The biggest challenge
12 with this one is we had this conversation before we built the mine, and with
13 everyone back in 1998, because if this was a requirement - that we put the rock
14 back in the lake - we would have developed the mine site differently. So it's one
15 of those decisions that were made a long time ago and, whether you agree or
16 disagree, whether we should have done it differently, its really unfair to try to get
17 us to go backwards on that kind of a thing. But I hear where you are coming from
18 and I will try to get you the numbers at least so you get a sense of how much
19 money.

20 **Mary Rose Sundberg:** And also that community where that place in the United States.

21 **Gord Macdonald:** Yes I will.

22 **Joanne Barnaby:** About that rock pile, if that third pit is mined where would that rock go?

23 **Gord Macdonald:** Some of the rock would go to the covering of the North Rock Pile, but what
24 isn't used up there will go down here on something called the South Country
25 Rock Pile.

26 **Joanne Barnaby:** So there would be a new rock pile?

27 **Gord Macdonald:** Correct. And again, all of that was part of the original project approval plan
28 to have a pile down there.

29 **Joanne Barnaby:** Any other questions regarding documenting the past work of the panel, and
30 dealing with the four questions.

31 **Wayne Langenhan:** A big concern for me is what's going to happen to the airstrip? Is that
32 going to be purchased by the territories, feds or torn up?

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- 1 **Gord Macdonald:** It would but torn up and allowed to re-vegetate so it wouldn't be an airstrip
2 anymore unless someone wants to take it on as an airfield. Can't leave it there as a
3 registered airstrip due to liabilities.
- 4 **Ed Jones:** On the airstrip and the roads, you would do more damage to tear it up, why not
5 leave it intact? What's the problem with leaving it intact?
- 6 **Gord Macdonald:** The only problem is it would need maintenance to maintain it as an airstrip.
7 If it is left as a designated landing strip it would have to be maintained and
8 someone would have to take on the liability. If you wanted to leave it for some
9 kind of emergency landing that's also possible but somebody would have to say
10 it's a designated landing strip. We could leave it and let it go to its own devices,
11 that's fine to do, but in terms of somebody taking it on as a registered airstrip that
12 is a challenge.
- 13 **Natasha Thorpe:** It sounds like the government needs to make that decision?
- 14 **Gord Macdonald:** Yes. That is possible, but we are planning for the most work and if that
15 changes that's fine too.
- 16 **Ed Jones:** As you were saying, that's already been settled before the development of the
17 mine so we can't back track now and we have to live with the agreement that we
18 signed.
- 19 **Joanne Barnaby:** Ed are you thinking that you would like to see the landing strip useable as a
20 landing strip in the future or are you just saying that it can be left and vegetation
21 can grow back naturally?
- 22 **Ed Jones:** Well I believe that all the conditions have been agreed upon. We can't back track,
23 we can't change the agreement now. We should have made an agreement or a
24 condition that Diavik would maintain the airstrip and roads after the mine closure
25 but we can't do that now. It's all said and done.
- 26 **Natasha Thorpe:** What we can do now, Ed, is provide guidance on re-vegetating those areas if
27 indeed that's what people want to do. That's a key focus of our session.
- 28 **Wayne Langenhan:** When I was mentioning the airstrip I wasn't talking about maintaining it
29 but it is just a flat place that could be used on emergency landing if need be and I
30 don't see any reason to maintain it. It will stay there for years and years in
31 sufficient condition to handle aircraft even if it's in a winter landing they would
32 be able to find their way to that flat place.
- 33 **Gord Macdonald:** Better than nothing.

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1 **Louie Zoe:** As we are talking about the airport, at the previous meeting we've talked about
2 this that if it's dismantled, because we should leave the airstrip and also the trailer
3 along with the airstrip for emergency landings.

4 **George Marlowe:** Myself when I'm thinking about this island here I remember a little bit about
5 this island. I want to go back to the same place so that means that you have to tear
6 up all that road, flatten the road, flatten the airstrip, torn up and then vegetation
7 put back on it. Same with the rock pile. Somehow smooth it a little bit, put some
8 dirt on it and grow some stuff again on it. If we don't do that, it's not like it used
9 to be before. My grandson wants to buy a plane and I don't want my grandson to
10 land on a landing strip that isn't maintained. So it's better to have nothing, for me
11 it's like that. I want everything torn down that is possible to tear down. I don't
12 want anybody to land on it; it could be an accident, alone here in the far north. It's
13 not going to be like it was before but I want it as close as it can. Sometimes
14 Diavik should take the middle aged people and see what they feel. The buildings,
15 we are old, maybe the middle aged people have something that buildings could be
16 used for.

17 **Natasha Thorpe:** Questions?

18 **Celine Marlowe:** The question I still have is about the rock pile. I remember I was translating
19 for an elder and I remember when Diavik came to the community and that elder
20 asked why the rocks couldn't be put in where it was taken from (back in the pit). I
21 can't remember that person's name, and he said you can't put the rocks back.
22 And my question is still why not? You took it out, why can't you put it back in
23 and my question is still the same thing. I am hearing well it's going to cost too
24 much to put it back, well you took it out so why can't you put it back? You want
25 to get information from all of us here and we're telling you stuff and then it's like
26 'that's not the agreement that we made the first time', well why are we here then
27 if you are not going to take our words for what we are saying? It's not only for me
28 it's for all of us here. We are giving you what we want, what we're saying, you're
29 putting it down and now it looks like well that wasn't the agreement that we had
30 at the beginning. Well why are we here then? So whatever recommendations that
31 these elders are saying and putting it down does that mean that it's nothing. How
32 do you think these elders feel? That's how it sounds to me like for me that's how
33 it sounds exactly. So whatever you take from the ground, put it back to where it
34 was.

35 **Gord Macdonald:** Thank you for phrasing it that way, it is a challenge. What aspects are we
36 able to or willing to change and which ones are we not willing to change. It's
37 good that you are bringing it up and it's good that we are having that discussion.
38 We are trying to ask specifically for input in areas where we do have the ability to

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1 make changes, where we do have options, but there are areas where we don't have
2 that option anymore, or in our view that option doesn't exist anymore, which
3 includes moving that rock back into the pit. I fully understand if you want to
4 disagree with us on that but that is it we are trying to be clear in areas where we
5 do have options and areas where we do not have the options to change. And if we
6 are not clear, please ask us again. Going back to your specific question that
7 somebody said that all of that rock can't go back into the pit, they are right it
8 can't. All of that rock, once it's been blasted it takes up more space than it used
9 to, so it's like a jigsaw puzzle that you pulled all apart but you can't put it all back
10 together and expect it to fit in the same whole; it won't work. Now that doesn't
11 mean you couldn't put part of it back in, so if someone was answering you saying
12 it all couldn't go back in, they are correct; but some of it could go back in, other
13 than it being a very expensive cost.

14 **George Marlowe:** After 2023 the pit, the three pits will be there and are going to fill up with
15 water without putting the rocks back in. You should look at Misery Lake; after the
16 narrows there are two places, very shallow, it's not like as deep as around here,
17 and if you want to put this water here in the three pits, you're going to lower that
18 lake over there, probably lower the water over there I'm pretty sure, because it's
19 shallow right now. You will probably see some dead fish floating around because
20 it's too shallow. And the other mines are going to put water back in those pits as
21 well and that will make the lake go down, maybe not right away, but in 10 years it
22 will when 5 pits have to be filled. If we put some of the boulders in, not all the
23 way but some of the boulders back in, that's what we were saying before.

24 **Natasha Thorpe:** What Colleen and Gord presented back to you this morning is from quite a
25 massive list of recommendations that we passed along to Diavik and they have a
26 responsibility to respond to. For example, there were 19 recommendations that
27 came out of our last session. My guess is there will be at least that many that we
28 pull together as a group and present to them on Monday. So if anybody is
29 interested, we have all of the recommendations and the responses from Diavik in
30 a table. I just said to Colleen that it would be interesting to count up how many
31 recommendations the TK Panel has put forward to date through 6 sessions and
32 how many of those Diavik has been able to accommodate or has said yes or no.
33 My hope is that these numbers might give you a greater level of comfort in
34 moving forward. To echo what Gord has said, there are some things that can be
35 accommodated and some things that can't. And my understanding - correct me if I
36 am wrong here - is certainly this vegetation piece is somewhere that I think the
37 TK Panel can really make a difference. It's something that we've seen Diavik be
38 very support of. For example, I know in 2013 there was quite a large lichen study

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1 that they supported that the Tłı̄ch̄o carried out, and that's in our review of all the
2 documents we looked at.

3 I'm impressed to see these university students as well as this larger circle of elders
4 try to move forward and make a difference, to put together some strong
5 recommendations and to be involved from the very start in what things are going
6 to look like in 2023 and beyond.

7 *Lunch 11:30*

8 *Afternoon 12:30 – 3:30 Field work*

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1 **Day 3: Saturday August 16th, 2014**

2 **Natasha Thorpe:** Welcome back to our second day of our 7th session. We thought we would
3 start out with a debrief of the tour yesterday.

4 **Mark Taletok:** Good morning to you all. I was thinking of the rock pile, if they have a
5 roadway for the animals because the animals were using a trail even if it's only
6 one part on the south side. Even if they made a lower part for the caribou, it will
7 be good for them. It's too bulky and too sloped.

8 **Joanne Barnaby:** So we just wanted to check and see if you had any thoughts about our time
9 outside yesterday. Any ideas or questions you might have regarding the
10 vegetation plots that we saw?

11 **Mike Francis:** The tour of the site was okay.

12 **Louie Zoe:** The visit that we took to the rock pile is a good slope for the caribou to be
13 climbing up and climbing down. It would be good to get rid of the big bulky
14 boulders; if there are big boulders the caribou might break their legs or ankle or
15 damage their hooves. Also at the re-vegetation sites it would be good to identify
16 which plants grow, and those areas seem to be looking good.

17 **Joe Champlain:** At the site seeing yesterday it seems to be good, rock pile the boulders within
18 the rock pile and if we see these areas it's good to see these things and talk about
19 them. At the rock piles that they created there might be fox dens in that area, so
20 are they keeping an eye on fox dens within the island?

21 **Celine Marlowe:** About the vegetation, it seems like they are growing. Maybe just put more of
22 it on the side. I think that area on the smooth side looks better than the rough
23 side. The rock pile I don't know if everybody will agree but for me it's like
24 nobody's going to be going out here after the mines close, so what if you just
25 cover it all with rock in a slope like so that, you know, it's smoother and easier for
26 the caribou to pass by if this is just an island. I have not been all around here yet
27 so I am not familiar with this place around here but it is only for the caribou and
28 wildlife around here. Because nobody is going to be around here after it's closed.
29 I don't know but I was just thinking it's just an idea, put a slope so it would be
30 smoother.

31 **George Marlowe:** For me it's a little bit different. When I look at the plan to replant for the
32 wildlife it's different for me from the new one (re-vegetation plots) this summer
33 and the one from 10 years ago. I have seen that some things are growing on the
34 summer one but for the 10 years area- that's a long time - but there is still not
35 much growing for the caribou and the people. When you want to re-plant for the

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1 wildlife on the island which what I think I see is the one outside I don't want no
2 gravel on and you can see that's there from a long time. That one there you
3 should just keep it the way it is right now don't put more gravel anywhere.
4 Because when I look at it, there are bearberries, crowberries, blueberries I took
5 some and ate some, so if I get sick you will know it! I'm not sick yet anyway. I
6 don't think any more problems; it's a problem alright but the way it is right now
7 we have to keep it that way but the elders are saying to put a road for caribou over
8 the stock pile from the north end to the east. Where we looked at it, at the east
9 end, and we should go look at the north end as well, maybe make a valley for the
10 caribou to walk or to climb up but we don't want any more rough boulders there.
11 Up there yesterday there was good wind, no flies see that's what the caribou like
12 too. Let's keep it that way and just put a slope down and put some more for
13 vegetation. I see that stuff they put 10 years ago, it didn't grow good, I don't see
14 nothing. So that means that new one, I don't know if it is going to grow but
15 anyway just try it as long as you get that lichen growing that is the main thing. I
16 see geese there and I think the geese eat that and I see that ground squirrel there
17 and I think he eats that too, the berries.

18 **John Ivarluk:** That rock pile, the way I see yesterday and the big rocks under it there and I don't
19 think the caribou are going to go up that hill; there are too big rocks on the side of
20 it. They would be going around that rock pile instead of going up. Unless they
21 make a pretty good slope on it like the one at the last one (test pile) we have seen,
22 that's a good decline there. And the vegetation and stuff just keep it the way it is.
23 It will grow in the future about another 10 years or so, it takes a long time for the
24 land to heal itself and re-grow. I've been going to Lupin for a long time to look at
25 the tailings pond. It takes years and years to re-grow and it's finally starting to
26 look back to the way it was.

27 **Martha Ivarluk:** The way they want to do the valley, its okay, the plants will grow in the
28 future.

29 **Ed Jones:** I don't think that we should bother with re-vegetation. John just said that nature
30 will heal itself and I believe in going along with that. As for the rock pile, I
31 haven't given it much thought.

32 **Wayne Langenhan:** On that trip there yesterday to the plots I mentioned to Peter Huskey, I
33 pointed out to him that there was already vegetation coming out of the side of the
34 those big rock piles, the fireweed was growing so the re-vegetation has already
35 started. The big rocks - as Ed mentioned before - I think the big rocks need to be
36 moved. Also I had time to do a little bit of talking with our Inuit interpreter,
37 Henry, and we spoke about re-vegetation. If you wouldn't mind I would like

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1 Henry to be able to speak a little bit about the re-vegetation that he has seen in the
2 north in the DEW lines and stuff.

3 **Joanne Barnaby:** I was going to invite the interpreters once we finished the circle.

4 **Morris Marten:** That slope we are talking about, the big boulders on the side, they should be
5 pushed away or buried. We talked about the slope, it should go into a small lake
6 then they could have the muskeg around it and that should help.

7 **Mary Rose Sundberg:** Good morning. Some of my observations was I think whatever the
8 university students are doing and they are doing a good job and I think it's a good
9 experience for them as well to hear what the elders have to say, combining the
10 traditional knowledge and the scientific knowledge together it makes a difference
11 in how you look at things and you have a deeper understanding of our way of life
12 so I am glad you guys are doing that part. The slope that we looked at, I think it
13 might work for the caribou from what I am hearing, if this is what we are going to
14 do for the slope and for the caribou to come down on one end I don't know. I like
15 what I see but it's going to take a long time. At what point are they going to stop
16 testing and say it's okay and when are they going to re-plant? Are they going to
17 use a certain way of re-plants, and when things start growing, whether its moss or
18 lichen or grass or even flowers, are they going to test those plants to see if they
19 have any chemicals in them? That's the plan, right? So I would like to know
20 when they might start testing the plants to see if they have any chemicals in it.
21 And I was kind of amazed to see some growth in the kimberlite plot. That is
22 crazy. I don't know how that's happening but I think the vegetation in the tundra
23 is very powerful, it can even go through rocks as you guys know. I think there
24 must be something underneath it that is making it grow.

25 The slope that we looked at, I think it might work for the caribou from what I am
26 hearing. If this is what we are going to do for the caribou to go up and come
27 down, I worry from what I hear. How caribou travel on the land all over the place
28 and I am afraid they might start traveling up all over. Trying to make a path for
29 the caribou on the slopes but we are almost like trying to predict how they are
30 going to travel. I would like to see the traditional knowledge from before the mine
31 to see where the migration path was. Myself, I have never hunted in this area at
32 all. I heard only stories, but I did work on the barren land before but never knew
33 the information. I think is important because the caribou will go back to their
34 same migration route usually they do so once this mine is not here; they are going
35 to start on their own trail again but it would be nice to know where that route was
36 so the slope can be developed on their trail.

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1 **Mona Tiktalik:** For those the landscape in years to come the grass grow again the vegetation
2 will grow again even in our communities the grass still grows because we are not
3 too concerned about it right now. The willows are getting longer and longer each
4 year and the nature will look after itself. The only concern I really have is the
5 water flowing down to Kugluktuk.

6 **Henry Ohokannoak:** When I was talking to Wayne yesterday, I started growing up in the DEW
7 lines back when the DEW lines first started in the 1950's when construction was
8 going on there and all those DEW lines, they closed. They didn't do any
9 reclamation in those sites so they just left the airstrips and the roads as they were
10 and after so many years I still go back to the one DEW line where I grew up. The
11 runway there the grass is all grown again, it's even more beautiful, prettier than
12 the natural landscape. You know the weather is not as hot as down south but any
13 kind of vegetation grows on the airstrip and roads. I won't be too concerned
14 about removing the airstrip. Maybe some parts could be taken down, but the
15 runway I wouldn't be too concerned about it.

16 **Peter Huskey:** The visit, the site-seeing we visited yesterday the re-vegetation I think it's a
17 starting point, there's a little bit of growth and the rock (test) pile I think it's a
18 good slope and I think it will be good and I think also the university students are
19 doing a good job and maybe they could make themselves available to speak one-
20 on-one.

21 **Berna Martin:** If it comes to the mining I am kind of afraid because of the example of Giant
22 Mine. It looks kind of scary for me but that's how I feel but I know that
23 everything will grow back naturally, but someday there will be berries. Can we
24 pick the berries and eat berries again? I don't think I can ever go down to Giant
25 Mine and that used to be a good place for berry picking. And the slope looks
26 pretty dangerous for me, for the animals to go up. Even the caribou maybe can
27 fall and break their legs but otherwise I am sure it will grow back way in the
28 future. I think the university students are here to learn as much as possible and
29 they should go one-on-one with the elders like Peter said and get to know each
30 other and spend some time with elders and they could learn our traditional
31 knowledge and we could learn from them.

32 **Ed Jones:** I just want to add something: it may surprise you to know that one of the main
33 caribou migration route passes over the Misery Pit right now [at EKATI]. I think
34 once it is mined out it should be backfilled with what was in it. And I think that is
35 very important to note that.

36 **Joanne Barnaby:** We would like to focus on what to do to make it safe for animals, in
37 particular for caribou. There was some discussion about whether the slope we saw

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1 yesterday was good and so we thought it might be a good idea to start addressing
2 that issue and where to put those slopes, where traditional migration routes are on
3 this island and see if we can identify a path for Diavik. We thought if we
4 addressed that early in the day then we could move on to other issues for other
5 animals. And look at the vegetation needs as well as questions of slopes.

6 **George Marlowe:** I would like to put something on -3 things maybe, - people talk about slope
7 it's okay to walk on it in the summer time but it's different in the winter because
8 every year I go to the barren land I used to go with dog team when I was young,
9 now I go with skidoo. A slope like that and people know even though the slope is
10 good it depends on if there is a north wind or a different wind as it creates a drop
11 off on the side and caribou could fall off the edge because you can't see.

12 The vegetation growing I saw fireweed growing on the side of the rock pile. That
13 means there is moisture under there and we need to talk about moisture. And
14 when they plant lichen on the new one and on the old one I don't see any moisture
15 and so it don't grow so we need to talk about the moisture. And caribou come
16 from the north and they are supposed to be here already and they aren't so there is
17 some reason why they are not here so there is something wrong.

18 **Joanne Barnaby:** Any other comments regarding the idea of trying to support the rebuilding of
19 caribou trails?

20 **Ed Jones:** I forgot to mention that the Misery Pit is located on the EKATI site but perhaps
21 we could remind EKATI to backfill that pit with material that came out and we
22 support such a project and I think it's very important that you consider this.

23 **Wayne Langenhan:** If the migration does come back this way, I don't see much point in
24 making trails because caribou will make their own trails so I don't think that's
25 really necessary.

26 **Joanne Barnaby:** So you are not concerned about the big boulders being in their way?

27 **Wayne Langenhan:** I still think that some of those boulders should be covered over or if they
28 have a crushing plant here, why don't they put them through the crushing plant
29 and make them smaller and then put them back on?

30 **Joanne Barnaby:** I think we are talking about the same thing. We are not talking about trying
31 to make a natural caribou trail, we are trying to figure out how we can follow
32 fairly closely where they would go traditionally, normally before the mine came
33 along, and just make it fairly safe to travel through using things like crushed
34 rock. Any other comments? We've heard that caribou come in from the north, we

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1 should talk about where they would leave, which direction they would be going
2 in?

3 **John Ivarluk:** I saw ground squirrels out in the field. Have you seen rabid foxes around here? If
4 so, they eat those squirrels and the ground squirrels go all around and eat what is
5 not good. That's how the foxes get rabies - from the ground squirrels.

6 **Colleen English:** We had a rabies outbreak around here 5 or 6 years ago. And there was, in the
7 end, there was 4 foxes that were identified with rabies. And then previous to that,
8 back in 2003 or 2004, we had 1 rabid fox. 2009 was probably the last rabies
9 outbreak.

10 **Joanne Barnaby:** Is there anyone that would like to try and point out on the map where the
11 caribou migration routes were before the mine was built here? We all have those
12 little maps in our papers we could mark them, we could use them to mark where
13 you believe the traditional caribou migration trails were, or if somebody wants to
14 use this big map and get up and show us where those trails were.

15 **George Marlowe:** *Marking on the map*

16 **Joanne Barnaby:** Anyone else want to share their knowledge and experience with the
17 traditional trails, caribou trails?

18 **Joe Champlain:** I'm a hunter myself. When we talk about caribou we talk about their migration
19 routes and also the Inuit, they hunt the caribou so they know the migration routes.
20 The caribou has its own routes where its migrating; it has its own route, it creates
21 its own trail but also it sees the hills and the valleys. Where the trail goes I think
22 about it the north country rock pile it probably goes through the lower areas so
23 they are not on the big rock pile. With the boulders along the side it can be really
24 sloppy but less slope, a gradual slope, would be better because the caribou makes
25 its own trail and once its moving the momentum of the caribou follows the leader.
26 I like to see the open pit myself. To see how we can improve it, what would be
27 the chemical difference if we were to put the rock back in the lake? And what
28 kind of chemistry difference will it create. I am not saying it should be done my
29 way, just to talk about it...

30 **Joanne Barnaby:** Rain information from Diavik

31 2013 2014

32 April 14.9 4.42

33 May 16.0 37.2

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1	June	50.6	12.0
2	July	55.6	33.8
3	Total	137.1	87.42mm
4	5.4”	3.4”	

5 **George Marlowe:** (Looking at the map talking about Ekati). Diavik could be blamed for
6 something that Ekati did, due to the fish being able to travel far. Why do we have
7 separate meetings here and separate meetings there when we are on the same
8 lake? Tagged nine 7 or 8 pound trout in ?? Bay and 9 days later it was caught in
9 Łutsel K’e. So we should all be working together on this.

10 **Natasha Thorpe:** I want to ask a question to clarify: are you saying with trying to direct caribou
11 migration that there needs to be landmarks farther away instead of right here?

12 **Joanne Barnaby:** I know the Tłı̄ch̄q elders have talked about building what they called caribou
13 flutters or flags. Traditionally they would cut strips of hide and put them on poles
14 as a way to direct the way they want the caribou to go. Around Colville Lake they
15 use what they call caribou fences to channel the caribou so they could either spear
16 them or snare them back in the old days. So those are old technologies that could
17 be considered now and maybe we substitute the old caribou strips for Christmas
18 trees from Wal-Mart. What is coming through here is the recognition that when
19 we talk about meeting the needs of caribou, we’ve got to look at a bigger area
20 than just the mine site. We need to also work in cooperation with other mines that
21 are in the region and probably with the territorial government too and their
22 caribou biologists and other people with responsibility for caribou to really feel
23 confident that we can find the best way to support caribou returning to the area
24 after the mines are closed. So we can talk about things that can be done here on
25 the island but I think people are also saying that you can only do so much here;
26 you also have to participate in a bigger discussion.

27 **George Marlowe:** If we put land marks for the caribou, artificial Christmas trees. That’s what I
28 told them (Ekati), too - same thing. They all laugh but if it’s going to work, I am
29 pretty sure it’s going to work, because me I got those ideas from my elders.

30 **Natasha Thorpe:** Behind the scenes there is a lot of discussion and research in looking at what
31 is going on at Ekati. For example, yesterday I talked about how we looked at all
32 those reports; many of those were from Ekati so that we could learn what the
33 elders had already said about caribou, what they have already said about
34 vegetation and tried to put that together and to prepare for the discussion later this
35 morning about caribou and about other animals such as grizzly or fox. We looked

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1 at some of those reports to learn from the traditional knowledge about what has
2 already been said.

3 **Wayne Langenhan:** This has been brought up before but I am going to bring it up again. At
4 Lac de Gras is a very big migration, and they are being interrupted by mines.
5 There are three operating mines and there is soon to be a fourth on Kennedy Lake.
6 What was brought up before is that there is too many mines in a small area and
7 what was said is that one should go down before another goes up. And this will
8 probably save a lot of problems with trying to re-route the caribou migration. I
9 think what is happening with the government letting this many mines go ahead is
10 just causing more problems than its doing well. There are plenty of jobs here with
11 the mines that we have and there are enough training jobs we don't have to open
12 up anymore mines at the present. So one has to go down and be reclaimed before
13 another can open up. I think if everyone in this whole panel, I think, leans in that
14 direction it will probably help us, the land and probably the caribou out
15 considerably. I think that there have been too many exploration camps and mines;
16 there are too many around, it's getting so the caribou don't want to move there.
17 They want to go south where the mines aren't, they see more caribou in
18 Saskatchewan than they ever have before. They are trying to shy away from the
19 mines and picking different migration routes and I think this could be solved, a
20 great part of it could be solved, with the closure of one mine before the opening of
21 a new one.

22 **Colleen English:** *Fox dens and where they are on the map.*

23 When do you stop testing? The research plots are run for 4 years, so we hope that
24 we will have enough answers for that at the end. We are also going back to the 10
25 year plots to have another look at the growth and see if we have enough answers
26 to complete that work. Plants grow slow in the north, so we may not have all the
27 answers before we have to start doing the work If A21 goes through we will be
28 using the till from there so we will be starting (reclamation) sooner than mine
29 closure. We are also going to be testing the PK in 2015 from a toxicological
30 perspective to see what chemicals are in that PK that may get into the plants, or if
31 you think about if wildlife ingested any of it as a soil itself.

32 **Joanne Barnaby:** Should we move on to other issues around vegetation and whether there is
33 anything that you are clear about in terms of where to put certain plants or
34 whether there are other animal needs that we should look at and what direction
35 should be given to meet those needs? I know there was talk about meeting the
36 needs of foxes, bears and whether we should be encouraging the growth of plants
37 and whether we should be using plants to help heal the water.

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1 **John Ivarluk:** When we were out there yesterday I was telling you migration routes are never
2 the same year to year, they change. The caribou know where to go so there is
3 more grass. Just about the same thing with the animals, you could see the caribou
4 trails over the years. It is not the only trail that caribou are going to take, its going
5 to be different from year to year.

6 **Joanne Barnaby:** It has been said many times that if caribou see a big hill like that they will go
7 on the rock pile because it's high and they would go there to get rid of the bugs so
8 that's one of the reasons we were concentrating on the rock pile and what should
9 be done to make it safe for caribou to go up there if they choose. We don't have to
10 think in terms of that's the only place they are going to go, but they may go up
11 there some years but not other years and that's fine.

12 *Break 9:55-10:25*

13 **Natasha Thorpe:** Starting at least 20 years ago the elders started marking on maps and shown
14 the traditional caribou migration routes. While we don't have all that put together
15 in a nice parcel for you today, we could try to pull that together for you so that we
16 could present your information back to you in terms of where the traditional
17 routes used to be. That might be helpful in terms of understanding how to keep
18 caribou safe. Our challenge is that we have this session to really focus on
19 vegetation and we can zoom in to an area as small as the plots that U of A are
20 working on or we can zoom back out and look at the landscape as more of a quilt,
21 more of a really varied landscape that has different pockets, different types of
22 vegetation, lakes, rivers, streams and all the different types of plants that like to
23 live in those areas, and all the different kinds of wildlife that prefer some of those
24 plants and those areas.

25 We have a large group of students here with us this morning, and yesterday there
26 were some very specific recommendations from you that might be helpful to them
27 in terms of trying to integrate traditional knowledge into their otherwise scientific
28 testing. For example, at that second stop George took me off the test plot to where
29 there was undisturbed tundra - what the scientists would call the heath tundra so a
30 mix of the crowberries and the blueberries and the cranberries and the moss and
31 the lichen. Please correct me if I am wrong here but I understood him to say that
32 to encourage lichen to grow - which is so important for caribou - what we need to
33 do is take a square or a piece of mat from the tundra and put that in those test
34 plots and see how the lichen grows using that natural environment. So as a panel
35 of experts that's something that you need to let me know if I got it right. That's an
36 example of a recommendation that could be made to replant or to re-vegetate this
37 area.

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1 **Ed Jones:** Natasha, you talk about encouraging lichen to grow, but you don't have to
2 encourage it, it will grow, let nature take its course. Why spend all this money
3 and time on re-vegetation? I think that is a waste of time.

4 **Natasha Thorpe:** You beat me to the punch, I am always 5 steps behind you. I was going to
5 say that we have this rainbow of ideas: we have one end of the rainbow where
6 someone has 700 different plots to monitor (that's a lot of sites!). So there is that
7 extreme. There's using traditional knowledge to try to mix with the scientific
8 knowledge and find good ways of replanting. Then the whole other end of the
9 rainbow - the Ed Jones side - and perhaps what we have heard from the DEW line
10 experience that our Inuit experts have shared - let nature run it's course. So this is
11 your time to explore all of the colours of the rainbow. Everybody's ideas are
12 equally important and if we have - as a group - some very clear ideas that we want
13 to share with Diavik or with U of A as well each other, this is the time.

14 **George Marlowe:** Ed was mentioning and I want to add a little bit to it that caribou, wherever
15 they travel on the land, anywhere sometimes 10,000 or 15,000 caribou they travel.
16 You've got to think about fertilizer, nobody mentioned about a fertilizer, caribou
17 poop used to be all over the land and it fertilized the land so if the caribou don't
18 come here maybe it won't grow. Maybe that is something the University students
19 could look into that too.

20 **Natasha Thorpe:** Do you want that as a recommendation?

21 **Mark Taletok:** I just want to make a few comments because my hunting grounds were not too
22 far from here. We are talking about the vegetation, we don't have plants like
23 white people do. Even our archaeological sites and camping areas and all kinds of
24 plants grow. Even today I still see the same, even though I don't go there
25 anymore. My old tenting areas and also where we tied up our dogs and their
26 droppings, the vegetation grows different there. We usually moved from camp to
27 camp following the caribou herds because they don't always use the same
28 migration routes. In the middle of August the caribou usually start migrating
29 there, for it is really nice for clothing. When the herds migrates, it starts like a big
30 herd and goes for days but it's not always the same year after year so we have to
31 move from camp to camp trying to follow the caribou herds. We either go by
32 boat and we look for the crossing areas in the lakes as well and we make *inuksuit*
33 to remind the next time where they are going to be crossing in the lakes. We don't
34 use the modern boats, we use kayaks and in the crossing areas we use harpoons to
35 harvest caribou. Back in the days it was easier we didn't have anything to worry
36 about; right now in the communities it's getting very hard when you don't have
37 any means of going out on the land. You want to go out to your traditional

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1 camping areas, but we don't have any means, we don't have a dog team anymore
2 and we don't have a machine.

3 The dump- like our garbage dump - was a bit too close to town but they moved it;
4 it was an eye sore but its better now. My grandmother used to tell me (even
5 though she is gone now) that there would be different kinds of species coming up
6 to our area in the future and last spring I saw a different kind of bird; it was a
7 yellow bird that I never saw before. As soon as I saw that bird it reminded me
8 what my grandmother used to tell me about different species coming up in the
9 future, up to our area and I truly believe what she would tell me growing up. I am
10 not really concerned about the grass and growing as Mother Nature will take care
11 of itself. Mother Nature is very powerful and grass will re-grow. I remember way
12 back when there was no caribou migration. Our way, we lived off of ground
13 squirrels even though we went to different lakes for fishing. We didn't see any
14 caribou. So later on in the fall time when the lakes start freezing and the caribou
15 start coming up, that's when we finally started getting caribou. The only thing
16 that we lacked was trying to get nice clothing, winter clothing, because that
17 summer there was no caribou herd that came our way.

18 **Mike Francis:** About caribou, old-timers used to say don't hit a caribou with a stick: if you hit
19 it with a stick it would never be back again for 4 years. Same for the rabbit; if
20 you hit it with a stick, it wouldn't be around for 4 years.

21 The caribou we live off so we have to respect and we have to care for it in a
22 respectful way. When we harvest the caribou, when we skin the caribou, we don't
23 just throw it; we lay it down gently. That's how our ancestors used to pass on
24 tradition.

25 **Natasha Thorpe:** Thank you for sharing those old time stories.

26 **Joanne Barnaby:** We are hearing a lot from everyone that it's a waste of time to re-vegetate so
27 I would like to hear from the women before we make that decision. Women do
28 most of the berry picking, women pick most of the medicine and women have a
29 lot more to do with the plants directly then men and so we could do a little break
30 off session to hear from women and then get back together and present that. If we
31 do that the men could stay together and talk about whatever you want to talk
32 about. You could talk about caribou trails or you could talk about vegetation or
33 you could talk about what to do with those areas for helping to clean the run off.
34 The water and using plants to help that along. But I guess I am not comfortable in
35 moving into the discussion much further about what to do with re-vegetation
36 without hearing from women. Is everybody okay with that?

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1 **Natasha Thorpe:** The other thing we could talk about is whether or not it really makes sense to
2 go out this afternoon to do some field work. Both groups can talk about this and
3 where we should go. In the agenda we have time this afternoon to do field work
4 and time tomorrow afternoon to do field work. However, one thing that I have
5 learned from you over the years is that we need to be prepared and that we need to
6 be ready before we go out so I want to encourage you to discuss whether or not
7 you're ready to go out and where to go and what items you want to talk about.
8 Because we could very easily prepare ourselves today, spend a little bit more time
9 in break out groups and then be very specific about where we go tomorrow.

10 **SMALL GROUP WORK**

11 **MEN'S GROUP**

12 **Natasha Thorpe:** Boulders→warmth→ground squirrel tunnels→shade for caribous

13 Shade for grizzlies→river valleys

14 Eskers→escape from insect's→dens for fox, bears, wolves→easy walking for
15 caribou

16 **Wayne Langenhan:** Were there any pictures of this island taken prior to the mine of the
17 vegetation?

18 **Natasha Thorpe:** Yes there are and we can show these. There is also a report from 1995-1996
19 by Page Burt and it's all about the plants and talks about the tundra being a quilt
20 of different vegetation types and environments. There are some photos in here as
21 well. This report was the "before picture" from the scientific point of view.

22 **John Ivarluk:** Are there pictures of caribou from then to now? Do you see a difference in their
23 fur coat from then to now?

24 **Natasha Thorpe:** I am not the right person to ask because I haven't seen the pictures myself
25 and compared them but Dianne - she is the onsite wildlife person - she might be
26 able to answer that question. What I do know is that there has been many caribou
27 monitoring programs both here and at Ekati and there's been a lot of research
28 done to monitor the health of the caribou.

29 **John Ivarluk:** A long time ago, before, when we traveled by dog team before the skidoos before
30 the miners got on the land, we used to go fur trading with caribou hide. That were
31 really nice and beautiful and the meat was really nice and healthy looking and we
32 got good prices. Now if we get a caribou from today, some of it is not even edible
33 today from the mining companies, the materials that they left but promised to take
34 out - they just leave it there and took off. The barrels, they rot and get in the

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1 water; I saw some fish floating in the lake in places from those barrels that
2 contaminated the water. Today when I get a caribou, when I skin it, I could see
3 some yellow spots on their joints, legs and elbows. It's inedible, might be good
4 for dog food I don't know. There is very few caribou surviving these days. I
5 really don't know if my great-great grandchildren will ever see any caribou.

6 **Natasha Thorpe:** I wonder whether there was something about the vegetation 20-30 years ago
7 or what caribou ate that made them different then they are today. Does anybody
8 remember the vegetation being different then than it is today?

9 **George Marlowe:** I go to the barren land- Artillery Lake - where I come from every summer
10 with the family and we go on the land and I look at it every time I go with my
11 grandkids and we sit down on the rocks or we look at the land and we see lichens
12 what the caribou eat. I don't see anything change, nothing, I never see anything
13 change yet. Where I come from, east side, all that area burned before and then
14 this summer where we go for our spiritual gathering that one burned right to the
15 lake. So I don't know what's left there, I haven't been there yet. I am going to go
16 there and see if there's lots of lichens there. It's good land and I am going to look
17 at it, what's left there, and if caribou comes back next year I don't know what
18 they are going to eat but that's what we are thinking already. People say that
19 lichen takes a long time to grow so maybe that's the reason why we don't get
20 caribou too much in Łutsel K'e now. Since that area burned, since about 8-10
21 years now, we don't have caribou like before the fire in Łutsel K'e. That bay
22 there, just full of caribou. Nobody cares to shoot them, that's too much,
23 everybody's got meat. But now, we don't have anything like that now, nothing
24 since that fire. You know those animals, those caribou, they are very smart.

25 They are not human, but they are smart. They know that in the bush there
26 on the east side of Łutsel K'e, it's all burned. They know they got nothing to eat
27 there so they know not to go there now. Since about 6-7 years now mostly caribou
28 on the barren land now all winter now once they get there they are there until
29 March, now all the boys have to go to the barren land to get caribou meet not only
30 from Łutsel K'e but from Yellowknife too. Never used to be like that before
31 when I was young. Now nothing so that means there is no vegetation for caribou.
32 Maybe people say they grow slow; so we are going to find out anyway. When I
33 get back we are going to go to Fort Reliance and see all that burned, I want to see
34 what is left there.

35 Not too long ago, 3 weeks ago, I went with my friend to Nonacho Lake lodge and
36 me and Celine we stayed there, he's got a plane so we fly half way to Stoney
37 Rapids on the tree line. We stopped there. All burned and I look at it when we

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1 stopped, I look at the ground, there I walk up a ways. Nothing left, I don't even
2 see one little piece of lichen there. Nothing.

3 We're talking about this island. I don't know why we are talking about the
4 vegetation on this island; there is lots of vegetation on the other side, north side,
5 east side, south side we've got lots all the way to Artillery Lake on the barren
6 land. No fire, there's lots of stuff to eat there for the caribou. The way it looks
7 after 2024, 2025 probably anybody comes back again. You probably see lots of
8 grass grow, I think so, after everybody leaves you'll see some maybe different
9 grass, but I don't know about that lichen; they say it grows slow. The bears and
10 foxes they will be there all the time because they live there all year. If you go
11 white fox trapping in the barren land, if you find a white fox den, boy you're
12 lucky! You know that you are going to make money right there. It's true, that's
13 how it goes so keep that den there, don't bother it, and it will grow again. I think
14 the way I see fireweed there, on the boulders, on the side, something is going to
15 grow after closure. That rock pile, somehow, just smooth it a bit for them
16 whatever they want just to make a little trail.

17 **Morris Marten:** When I worked at MacKay Lake and I guided there for 14 seasons, the caribou
18 usually come from the east side. And we used to have a pool to see what day the
19 caribou come. It was usually 3rd week of July and our boss said to shoot 1 or 2.
20 By the time we shoot them, there was no fat in them there because they were
21 migrating and there was lots of hair on the lake and shore. They go to the south
22 side of MacKay Lake to get their winter coat out and then they go back north and
23 they come around this area. In the fall in mid-August, I noticed their fat was
24 about 2 or 2 ½ inches thick. When I was out there I noticed, the kids want to
25 shoot the bull and I said no you can't, but they said its limping maybe it is already
26 shot. I said give me you spidy scope (binoculars) and his leg had swollen up. So
27 I let them shoot it but I told them they had to tag it. I had no choice; I shot it and I
28 cut the leg off and I shipped it back to the game warden for testing and the rest
29 should be okay, nobody got sick yet.

30 **Natasha Thorpe:** I am wondering how people feel about the efforts to re-vegetate. Maybe we
31 should talk about that a little bit, I hear some people saying that we shouldn't
32 worry about it, that mother nature will look after itself, but others say that there
33 are certain plants like lichen that caribou really prefer. Maybe we should be
34 encouraging lichen. But if you were to give some recommendations to Diavik,
35 what would you say about re-vegetating as they plan for closure? Would it be
36 okay if we did a circle to answer that question?

37 **Louie Zoe:** Yes in a while we can give recommendations to Diavik. I would like to touch on
38 the forest fire. There's an area near Whati, Gameti, there was a forest fire this

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1 summer and back in the 1970s there was a forest fire near our community. As we
2 live on an island in Gameti the caribou used to migrate near our community.
3 Since there was the forest fire they stopped coming. So as for lichen and the
4 caribou food, it is very scarce; the caribou, the lichen it's all been burned. And
5 with the burn there was lots of wildlife that burned. Also the woodland caribou,
6 moose, the population increase with the wildlife and the food burned, while nature
7 re-vegetates the food source I am worried about all the burn from the forest fire,
8 the food for the animals was all burned and while it will re-grow, I don't think it
9 will re-grow fast.

10 Diavik on this east island when the caribou migrates on to the island, this is their
11 main passing point but since the mine situation is there, at the time where the
12 caribou migrates across the way to BHP site at the Misery[Pit] when the caribou
13 migrate into this area, and also within the same property, also near the Misery
14 [Pit] the eskers exist and we visited that site and on that esker the caribou migrate
15 so if they have an open pit mine and build a dyke and we've been to that meeting
16 before I would just like to share that much with you for now.

17 So they are doing research on vegetation and all the North Country rock pile it
18 would be good to see the open pit and also the water plant to see how it takes
19 place.

20 **Wayne Langenhan:** I don't think from what I've heard from people I talked to here that
21 vegetation is a real big concern. I think more of a concern are the hazards that
22 might kill or maim a caribou, instead - the slopes, or some of the holes on the side
23 of the big rock pile. That might be worth spending more time on I think.
24 Vegetation, I myself believe - as well as others - that the vegetation will come
25 back in with the birds, the animals, move it around. Eventually it will come back
26 even if it takes 30-40 years, so maybe concentrate on the hazards to caribou
27 instead.

28 **Natasha Thorpe:** I think one of the questions that the vegetation crew and Diavik is interested
29 in is whether vegetation can be used to keep caribou safe. Can we plant certain
30 things in certain places to direct the caribou away from an area or to attract them
31 towards an area? Is that worthwhile?

32 **Wayne Langenhan:** What we are talking about here is actually a small island out in the barren
33 land. There are hundreds of them, thousands of them, and I am pretty sure that
34 eventually everything will fill in and take care of itself without too much
35 vegetation being put in and the caribou won't come around where they don't like,
36 and if there is no food around they will probably change their migration pattern by
37 maybe a mile or two. It depends on what vegetation that they are following,

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1 which migration route and that when there is enough vegetation for them to get
2 back to that migration route, they will again follow it if there is enough food for
3 them. So I don't think it's that big of a deal. I don't see why we have to plant
4 willows and such. It is a small island and thousands and thousands of square
5 miles and eventually it will return to better than anything [people] can make.

6 **George Marlowe:** We are talking about vegetation and the caribou too. If they don't have any
7 vegetation, they won't come around. They are really smart. We will see this year
8 because every fall Bathurst herds they cross by Fort Reliance they cross from
9 McLeod Bay towards the east and later we've got a bunch coming from Artillery
10 Lake and then they all go to the same place, they move in together. And most of
11 them they hang around Fort Reliance because it's about 30-50 miles square that's
12 not burned. Now that area is all burned this summer from McLeod Bay to all the
13 green we had it's all burned so we will see what happens this year. No fire from
14 the tree line up so the caribou will probably stay there now. We are going to have
15 ideas where they are. But I said again people say lichen burned it don't grow
16 back again I will find out, there is a big trail people go on, if that area is burned
17 and that lichen is burned that means there will be no caribou. We might see
18 tracks but I don't think they will stay there.

19 It's a working area here, things don't grow in working areas. Maybe it's not
20 going to grow. It seems like it's not changed but maybe no rain, it's really dry.
21 It's pretty hard but we have to put something together.

22 **Wayne Langenhan:** You know we've discussed this a number of times the re-vegetation of this
23 island and I mean we can kick this ball around any number of times but
24 eventually we need to make a decision. I think this is why everybody should look
25 into themselves.

26 **Natasha Thorpe:** We have the suggestion here to essentially take a vote on whether there should
27 be active planting of the site in closure. Before we take that vote, there are two
28 things I want to point out. One, there are some opportunities for community
29 members to have seed development programs. For example, in Inuvik some of
30 the aboriginal communities have a business where they're collecting native seed
31 for grass and they are selling it back to Diavik and other companies. That's where
32 the grass seed came from that you saw out there. Diavik very much wants to
33 support aboriginal business development. This is an area where I think they were
34 hoping there might be some interest. However if what we are hearing is that it
35 doesn't make sense to plant anything that's one issue. But does it make sense to
36 help Mother Nature along?

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1 **Ed Jones:** I think it would be better spent on what Wayne suggested: the sharp angular
2 boulders. This is not about supporting a business selling seeds, this is about
3 letting nature do what it needs to do.

4 **Natasha Thorpe:** I hear you loudly and you don't want to kick the ball around and I want to be
5 respectful of your time, but I also want to be respectful to all. Do you want to
6 take a vote?

7 **George Marlowe:** I like let Mother Nature heal itself. It don't matter who wants to put some
8 seeds in it, it will not grow the same as Mother Nature does so for me healing
9 itself is good.

10 **Natasha Thorpe:** One thing that can be done is to make the land rough instead of perfectly
11 smooth and when I was looking through all of these traditional knowledge reports
12 there was several times where elders said if there is a little pocket in the ground,
13 that's where a little seed will start. So can we help Mother Nature make rough
14 land, can we build areas so that there's more moisture like you were saying
15 watching fireweed grow. Is that where we should be focusing our
16 recommendations to Diavik?

17 **George Marlowe:** We could help the students to do those things. Rough land? Smooth land?
18 We cannot tell you right now, we want to wait and see what the studies say as
19 well.

20 **Natasha Thorpe:** Question "Should we tell Diavik not to plant lichen, grass, shrubs?" Yes for
21 everyone? [Nods]

22 **John Ivarluk:** There's no way we could help Mother Nature because I have seen it down at the
23 ocean, the caribou don't know if it's safe when the ice is freezing. Caribou go
24 over that's how the caribou get stuck on the ice. They don't know the ice is very
25 dangerous to cross over and you see lots of dead caribou on the ocean. So what
26 can we do with nature? We can't help nature.

27 **Mark Taletok:** In some summers, the grass grows, the vegetation grow, and some places there
28 are plenty of blueberries, cloudberry, crowberries. Every summer is not the
29 same. Some summers are really good. Where I used to do my hunting, one
30 summer nothing grow but it is healthy so in one summer when there was lots of
31 forest fire and not much mosquitoes so it was so hot one summer there was hardly
32 any mosquitoes but it was not very healthy for the caribou, and we could hardly
33 see because the smoke was so thick that one summer we could hardly see. I hate
34 to see the animals suffering from that; I watched a caribou one summer fall over
35 and die it was so hot because I have seen that happen once. I thought it was going
36 to happen again but right now it is okay because of the rain so I think we should

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1 let Mother Nature take care of itself. Same for the foxes; some winters there are
2 lots some there are not. My uncle was telling me that if there are too many
3 lemmings they become rabid. If they want to come our way they come our way,
4 we can't stop that.

5 **Natasha Thorpe:** I want to remind you that in past sessions you have recommended to Diavik
6 to return the land to what it was before as much as possible. So that is one reason
7 that Diavik is exploring different ways to replant. So when you tell them don't
8 bother to replant I am not sure if that's saying something different than leaving
9 the land as you found it.

10 The women will be back in about 5 minutes. Is there a volunteer to be the one to
11 share what we discussed?

12 **Ed Jones:** I think that you should give them the bad news: that the men outnumber the
13 women.

14 **Natasha Thorpe:** You can volunteer or I can "voluntold" someone.

15 **Mike Francis:** Renewable people 40 years ago put contaminants on the water and on the land
16 and today because these contaminants two years ago I harvested a caribou on
17 Gordon Lake and the heart was sticking to the ribs so I have taken a small piece
18 of the meat and gave it to the renewable resource people and today there was no
19 reports to the meat so some of the caribou are sick.

20 **Natasha Thorpe:** We took a vote on that first question but based on your expertise - you know
21 about how water affects plants, you know about how the slope affects plants, you
22 know about whether a hill is facing the south or the north whether there will be
23 different vegetation - are there ways that we could help Mother Nature heal itself
24 a little faster or a little better?

25 **Ed Jones:** I believe that nature knows more than we do, let nature take its course.

26 **George Marlowe:** I agree with Ed.

27 **Wayne Langenhan:** I think the way we could help nature to heal itself is to somehow when
28 these mines come into production somehow make a smaller foot print on the land
29 and maybe have a lot better planning on how the mines are going to be operated
30 and the rock being moved around.

31 **Morris Marten:** I believe in nature because when we were out on Mackay Lake there was rain
32 and lightning and there were about 30 caribous and in the morning there were 30
33 caribou cooked. I think the reason lightening struck them was because the hooves
34 touch each other, that's what makes the noise.

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- 1 **Natasha Thorpe:** There is a request for the interpreters to provide some of their input.
- 2 **Henry Ohokannoak:** Let Mother Nature take its course.
- 3 **Peter Huskey:** I think it would be a good opportunity for the University students to do their
4 studies at the same time. Let them speak with the elders and have the two ideas -
5 the traditional way and the scientific way so they have a better idea in the future
6 what they are doing today is going to help for the future generations.
- 7 **Natasha Thorpe:** Are there any volunteers to present to the women when we come back
8 please?
- 9 **John Ivarluk:** I would like to see a trip to the open pit, I would like to see the decline in the pit
10 and how deep and how wide.
- 11 **Natasha Thorpe:** You would like to go into the pits.
- 12 **John Ivarluk:** Yes thank you.
- 13 **Natasha Thorpe:** Somebody said earlier that we could let the University students do their work
14 and see what's growing and how there are ways to help Mother Nature heal itself
15 and that's coming from the scientific way of knowing. Like Peter said, there is
16 also the traditional knowledge way of knowing. Are there examples that you've
17 seen - maybe out at a campsite or where the dogs were tied up for a couple of
18 years - are there examples where you've see plants growing really well and why?
19 Are there some of those lessons that we might apply from traditional knowledge?
20 We need to decide as a group if we are going out or staying in this afternoon.
- 21 **George Marlowe:** For the visitation we should look along the airstrip and walk along towards
22 the lake.
- 23 **John Ivarluk:** The shoreline on the mine site is no different than the main camp, it's all rocky
24 this place. I believe it the shoreline depends on how much snow we have in the
25 winter and how much rain we have in the summer.
- 26 **Ed Jones:** I am trying to think of practical ways to do things and I believe we have already
27 taken a vote on whether to re-vegetate or let nature take its course, we have
28 decided that so where do we go from here. You're the facilitator, maybe you
29 could make a suggestion.
- 30 **Wayne Langenhan:** As Ed said, we're not going to re-vegetate supposedly but I think that we
31 should take a trip to the pits because there are people here who have not been to
32 the pits to see them; pictures don't mean much, you have to see them. I think we

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1 need to look at that rock pile and see how to improve that for caribou and what
2 hazards are there for when they close it up.

3 **Natasha Thorpe:** Test pile or the other one?

4 **Wayne Langenhan:** Other one.

5 **Morris Marten:** We should go check if there is any bear tracks, poop, and any other tracks, at
6 the airstrip.

7 **Mark Taletok:** I want to go to the airstrip. Maybe there will be animals or tracks. It's very
8 obvious that the caribou will come around, I am sure we will see some tracks.
9 Because the island is surrounded by water it is cooler so they will come here.
10 Even seeing the caribou tracks, it's always exciting.

11 **Mike Francis:** I think it's a good idea to check the airstrip for animals and tracks.

12 **Louie Zoe:** The re-vegetation it grows on itself and also it grows by nature and also visitation
13 of the airstrip and once we take a look we can talk about these things. And also
14 the rock pile, we've never discussed this and also take a trip to the open pits as
15 some of us want to fill these with the rockpile. Maybe we should come to a
16 conclusion and talk about these open pits also.

17 **Joe Champlain:** When we take a look at these areas, it's good to see them; although we see the
18 photos we don't how big it is, and I've never seen these areas so I think it is good.

19

20 **WOMEN'S GROUP**

21 **Celine Marlowe:** *Asks about why we weren't using vegetables to create compost on site.*

22 **Colleen English:** If it were to get set up it would have to be in a contained building and then the
23 other thing I talked about with Joanne was we would also have to think about
24 temperature so it couldn't be outside because we actually wouldn't get enough
25 good temperatures to actually start to turn that into any kind of viable soil in the
26 timelines that we were looking at. So it would have to be something that was
27 indoors, in an actively set up engineered compost. It is not set up on site now, it
28 would have to be something that we could look at doing in the future if there was
29 a need, or if we thought that we would be able to create it in the right time lines
30 that we would need.

31 **Dianne Dul:** So that idea was about setting up compost on site I am just going to go around and
32 record people's ideas here and that was by Celine.

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- 1 **Joanne Barnaby:** That's a really obvious question to ask.
- 2 **Celine Marlowe:** All that food is going to waste and then everybody is complaining about how
3 to do the vegetation, why can't they just have that? You're here to mine the rocks
4 not the animals, so just let the animals be. You know they're not bothering.
- 5 **Joanne Barnaby:** I guess the worry was if there was compost outside that it would attract bears,
6 foxes and other animals.
- 7 **Celine Marlowe:** This is an island maybe there is another island there that it could be put on.
- 8 **Joanne Barnaby:** It might be something that could be considered by Diavik in a modified way.
- 9 **Celine Marlowe:** I'm not going to say where what I was is this person kept putting in a
10 container, like every day in the evening someone goes and puts it in there. We are
11 an island with seagulls and animals get at it and whatever is there is there.
- 12 **Joy Dragon:** I have a question for the university students: How long does it take lichen to
13 grow?
- 14 **Student:** 1-2mm or up to maybe 6mm a year depending on species but some of the rock
15 lichen will take way longer than that, they won't even grow 1mm in a year.
- 16 **Joy Dragon:** That was my understanding. It takes a really long time to grow.
- 17 **Mary Rose Sundberg:** And then when you look at the forest when it's burned a couple of years
18 ago the one side of McLeod Bay the whole land was burned and two years ago I
19 went by there, because the second year I didn't go back, the next following year I
20 went back and it was nice and green, it was all burnt and then it was nice and
21 green again. So it just grew by itself again.
- 22 **Student:** What were the species in that burnt area, were they the same species or is it more
23 things like fireweed?
- 24 **Joanne Barnaby:** Did you notice?
- 25 **Celine Marlowe:** I never went up there to check but I went there with my mom, I said I never
26 knew there were raspberries up here and now they are growing here. There was
27 some there - I know there was - but I didn't know there was some growing there.
28 All up in the bushes in the burnt area. I kept saying there is more here, there is
29 more here. So it's interesting going to see where it was burnt and the next time it
30 was green. This time I am going to go and see what all is there. Is it only grass I
31 never really looked before. So it is interesting.

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- 1 **Student:** Do you ladies know what caribou mainly eat other than just lichen, are there other
2 species that they eat and are they attracted by certain species?
- 3 **Unknown:** You know those small little purple plants, they grow faster than other flowers at
4 home. One lady was saying they eat the small little flowers first those smallest
5 tiny pieces first. The squirrel eats the green leaves. Just tiny little plants, maybe
6 the size of your hand the purple flowers.
- 7 **Unknown:** Moss campion.
- 8 **Unknown:** The squirrels eat the leaves; you could even eat the purple flower a tiny little
9 flower. I know they eat willows.
- 10 **Dianne Dul:** So what is the ladies' take on the re-vegetation? I know the men seem to think
11 that if you leave it to nature and let it re-vegetate on its own, it is fine. Are there
12 areas at the mine site that you feel that the effort should go into re-vegetating and
13 in those areas what would you want to see re-vegetated? That's maybe what we
14 should try and focus our discussion on.
- 15 **Mary Rose Sundberg:** Have they thought about not doing anything at all? Have they thought
16 about trying to discourage animals going on the land to eat? I was just thinking
17 because of our experience with Giant Mine they really contaminated that place
18 and at one time I think they did a berry study in a 10 mile radius of Giant Mine
19 and they found that there were some contamination in the berries but that was
20 back in the 1980's when they did that test. Whether things have gotten better
21 today because I don't think another test was done. But I wouldn't want any of my
22 grandchildren or future grandchildren to ever pick berries on Giant Mine Site.
23 Whether they clean it up to industrial or residential standards I would really
24 discourage any of our people to pick anything in that area because it's already
25 dead. They killed that land in that area, even though they are trying to clean it up,
26 reclaim like what is happening here, we could never use it again. Maybe they can
27 convince other people to try to put something there that the city is thinking of
28 stuff to do. They are crazy to think like that, to encourage anyone to go there
29 unless they want to die in a few years. That's what might happen. But with this
30 place I don't know if you guys have thought about not doing nothing at all? The
31 testing that you are doing is very important; it's good to get that information but
32 at the end what if we just say we don't want no animals to come around here?
33 Let's try not to re-vegetate and if it's going to happen naturally, let it happen
34 naturally. I was just thinking about that this morning in the discussion that if we
35 are trying to keep the animals safe as well we shouldn't vegetate, because if we
36 put vegetation places where they may get hurt getting up there or going in that
37 area or even we don't know how toxic these plants will be as well then we might

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1 end up saying it's too toxic we can't allow any animals to eat it even if they are
2 eating it what's happening with those animals.

3 I'm also worried about these slopes that are being created. It looks so easy that an
4 animal go denning in there. If they put dens in those pile or that waste pile, what
5 would happen to that animal? From our experience even a dog team came close
6 to and fell into a tailings pond. By the time they were up on the hill, by the time
7 they got down to the lake to go across to N'dilo those dogs were already losing
8 their hair. The hair was coming out to a point where eventually all those dogs
9 died, all their hair came out and they died because they fell into that tailings pond.
10 It's a good thing that guy didn't fall in, it was just his dogs. He just let the dog
11 team go and they got out themselves and he walked on the land. That's what
12 happened and I am thinking the grouse and the foxes and mice maybe you know
13 that's out here and they make their home in there what's that going to do to the
14 animal? So I am just thinking in those terms whether we should try to discourage
15 animals from going in there. I wouldn't pick berries from around there even
16 though they may taste good.

17 **Joanne Barnaby:** So if the plants are taking up toxins; that's really important.

18 **Mary Rose Sundberg:** So if they do find anything in those plants or flowers or grass or moss
19 they aren't going to plant them right? They are not going to try to put them
20 around?

21 **Colleen English:** A couple of things that I think you touched on that I'd like to respond to
22 because you've raised some really good points and questions. One is that in
23 relation to would we not re-vegetate if you guys suggested that, like if you came
24 back and said look we'd rather just wait and see what happens naturally and we
25 don't want you to encourage any growth of anything. Just like everything else that
26 we've talked about, like every other piece of the mine that we've talked about, we
27 have an approved closure plan and that involves re-vegetating so if we heard that
28 very clearly from communities we would have to take it back to the Board. We
29 have to take everything back to the Board, so the land and water board that
30 oversees that piece of the closure plan we would always have to take those
31 comments back and say this is what we've heard from the communities so we
32 would like to change the plan. If it was bought into by all the communities then
33 we would like to change the plan and that would have to get approved through
34 land and water board. So we don't necessarily have complete control over that so
35 we can propose to them based on what we heard - they are always very keen to
36 hear that feedback piece from the communities and use that in their decisions - but
37 it would ultimately be a decision that came down from the board as to whether or

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1 not we could change that aspect of our closure plan. So that's always something
2 to keep in the back of our minds for the mine site.

3 So looking at the plants themselves, I think there is a couple of things we've done
4 lichen studies as well where we have tested the metals in the lichen and the soils
5 right on site as well as up to 40 km/25miles away and we've done about 50
6 different testing sites; 20 close to the mine, 20 farther away and 4 or 5 other ones
7 that were identified by elders in between there, and those were all based on being
8 key areas that caribou use. One of the things that we found from that study, from
9 an elders perspective, they did find that the dust levels were higher and visible
10 close to the mine site but that as soon as they got away from the mine site that the
11 lichen looked good, the vegetation looked good, they didn't see that concern that
12 they did close to the mine site.

13 They noticed a lot of the forage (the berries caribou eat and such) was still
14 occurring in those far field sites, with less use closer to the mine site.

15 At the same time we did the scientific portion of that study looking at what are the
16 metals levels in the lichen and in the soil because animals can ingest the soil when
17 they are eating the plants so all of those levels were then put through what we call
18 a risk assessment, which is when you say how long are caribou spending in the
19 area, how much are they eating. And we went super conservative on the risk
20 assessment so we said caribou stay here 100% of the time they eat all of their food
21 here because we didn't know; there is no hard and fast answer about how much
22 time they spend or how long they might be here or how much they eat. Having
23 done all of that, there was 1 metal –aluminum, which is found naturally at quite
24 high levels all throughout here - that came back as a higher level, but generally
25 everything else was below risk so there was no risk in terms of caribou eating that
26 metal like the metals in the lichen and the soil. Aluminum is something you'd find
27 that all throughout the north, it's not about mining and we don't have any
28 aluminum in our processes, it's commonly part of the environment at high levels.

29 **Mary Rose Sundberg:** Have you tested the natural growth around the site and how did that
30 come out?

31 **Colleen English:** I think it was something like 14 out of 20 elements that were analyzed were
32 below even detection limit. Don't quote me on this yet I have to check the report
33 for exact numbers.

34 **Joanne Barnaby:** On the basic question of whether there should be a lot of effort put into re-
35 vegetation is everybody in agreement that, that is not the priority that the natural
36 process will take care of that. Are people comfortable with that?

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1 **Colleen English:** One of the things that I saw yesterday that I was curious about from your
2 perspective is that you know when we went to the test pile that you guys walked
3 up (the smooth one), it's got till and it's got rock on top and it's been about 8
4 years that pile has been sitting there covered. And you know when we went there
5 was some sporadic fireweed, there's a couple of other little plants and then you go
6 to the veg plots and you've got 10 years of growth on those veg plots that looks
7 very different from that. That's where in my mind I am kind of asking so how
8 much do you want to help, you know, is it enough when you look at that (test
9 pile) and say that's 8 year of natural compared to (veg plots) that's 10 years of
10 assisted. Is there a place in your mind that's either a happy medium, or is it that
11 certain areas might need that help because maybe you want to see it be a bit more
12 lush?

13 **U of A:** Our research isn't necessarily to develop the communities that are traditionally
14 here but to kick-start that re-vegetation and provide some of the nutrients that the
15 material needs and then those native species - those shrubs, lichens and the
16 mosses - can come in naturally more easily on their own.

17 ***Lunch 12:10-1:10***

18 **Natasha Thorpe:** I hear the session went well with the women as did the session with the men.

19 ***Men's two key questions***

20 →Does it make sense to re-plant?

21 →Are there ways to help Mother Nature heal itself? The group is really looking to
22 the University Students to help with this.

23 ***Recommendations***

24 →Do not re-vegetate

25 →Walk around the airstrip (especially north by the shore of the lake – look for
26 tracks, look at veg.

27 →Visit pits

28 →Visit rock pile to see how it can be improved for caribou (to look at hazards for
29 caribou and how to make it better)

30 **George Marlowe:** The reason why we had the rock pile, the highest rock pile, is we're going to
31 find out exactly where the caribou come from. If they swim across you see the
32 airstrip somewhere around there, they probably walk maybe a little bit to the
33 highest part. They might go once we make a trail then they will use that trail for

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1 sure, the other part for vegetation so something we said too. And for the pits,
2 some of us have never been down there.

3 **Natasha Thorpe:** I am going to let Diavik respond but one thing I failed to mention was in
4 previous sessions the TK Panel has recommended that the land be returned to the
5 original state as much as possible so when I suggested that if they are not going to
6 replant anything then that seems to be a little bit of a mixed message that we are
7 giving to Diavik.

8 **Gord Macdonald:** On going by the airstrip to the north there do you want to go right to the
9 edge of the water or do you want to stay on the land? On our site if you get
10 within 3 meters of the water you have to have a lifejacket on. So we can go get
11 some lifejackets that's no problem if that's where people want to go. You want to
12 walk along the water's edge and look at the rocks and things.

13 **Colleen English:** So if it's okay with everyone going out on the airstrip if we could do that
14 tomorrow that would be better because we also need to do an orientation and get
15 lifejackets and all that stuff so if that's cool we can do that tomorrow; that would
16 be great.

17 **Gord Macdonald:** We can go to a place where we can all look into the pit but we can't go and
18 drive down into the pit. So we can go somewhere we can stand on the dyke and
19 you can see all the shoreline and see all the way to the bottom of the pit but we
20 can't actually take the bus into the pit. The bus doesn't go into the pit and it's still
21 a working pit because they are bringing ore up from the bottom so it's an active
22 work area, you can only go in there with operations clearance, which we don't
23 have.

24 **Joanne Barnaby:** Women's → Main concern being the healthiness of the plants, don't want to
25 rush growth because the plants may take up the chemicals if there are any in the
26 soil.

27 **Mary Rose Sundberg:** One of the concerns I had was to maybe discourage animals from
28 coming to this place because if we do re-growth, eventually the animals will eat
29 that, the little animals and the big animals will eat it, and the caribou will come to
30 us. We need to make sure that the caribou is healthy to eat and if we start helping
31 to re-grow earlier then when it's closed and the caribou start eating all the food
32 around this area then what I have a concern about is that we eat the caribou, we
33 don't know how sick that caribou might be if we eat it. So the longer it takes to
34 re-grow, like naturally re-grow, it might be a good idea, and also a way to try to
35 discourage animals from going there is not to plant anything. Even though it may
36 be a caribou migration path, maybe we can try to help the caribou to come over

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1 whichever way their path goes and just keep going hopefully. If there is nothing
2 to eat there, they won't stop there. And the other was the slope, to leave it the
3 way it is and make it as natural as possible but the boulders I fear the caribou will
4 step on them and break their legs.

5 **Joanne Barnaby:** One idea was to make slopes around the rock pile except where we don't
6 want the animals to go. For example, at the slimes/PKC area, find ways to
7 discourage caribou and other animals from going into that area. The other issue
8 that was brought up by Celine was the idea of composting. Even though it hasn't
9 happened yet, there might be opportunities to start composting in a contained
10 area, recognizing we don't want to draw wildlife here but it would help produce
11 soil for the future.

12 People want to see the areas that are undisturbed, the more natural areas so where
13 we go on our field trips they'd like to see an area like that. And they are thinking
14 of this area down here (southwest) partly because Diavik is looking at using the
15 natural water ways that are there to encourage future run off from the PKC to help
16 clean the water before it gets to Lac de Gras so we were interested in visiting
17 there. There is also interest in seeing the North Inlet area and looking at the till
18 pile and what's happening with the vegetation there; we hear that it's really
19 growing strong there, that's because they used the material from under the lake
20 and it's got lots of nutrients in it so they wanted to see that. And the dyke, there
21 was interest in seeing the dyke and recognizing that there might be another built if
22 a third pipe is mined, so they want to learn more about the dyke system and how
23 that works.

24 **John Ivarluk:** First thing I would like to add to is about trying to keep the caribou out of this
25 area. Does she mean that there will have to be somebody here all the time
26 providing the caribou stay out of this mine site for 5 years or so before they start
27 eating from here?

28 **Mary Rose Sundberg:** No that's not what I am saying. I am saying the more we don't re-
29 vegetate the area, the caribou will come anyway. Even though we make a path for
30 them they will go anywhere, but I am really concerned if they eat anything in this
31 area it might be contaminated and not safe to eat. If it's their food, and if they get
32 sick, then we might get sick; if we don't replant then we don't encourage them to
33 come.

34 **Joanne Barnaby:** There was lots of interest in the research that the students are doing and their
35 testing and they want to keep hearing reports back on what's happening there,
36 what they are finding out from those test plots.

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1 **Natasha Thorpe:** I am hoping that we can make sure that we document our recommendations
2 to U of A about what they should or could be doing. I use that example that
3 George mentioned taking some mats from the tundra to see how they perform.

4 **Mary Rose Sundberg:** You guys have been having these session for many years and I think it's
5 a good idea to try and get everyone's perspective, especially the women. I think
6 this trip we're supposed to take a lot more women than we have here, but things
7 happen. I would like to recommend that maybe we can have just a women's
8 group up here and really concentrate on the plants and the berries and get that
9 traditional knowledge from the older ladies, the elderly ladies, that are able to
10 walk and able to travel. We need to bring these people up here, no disrespect to
11 the elderly men, the men here. I believe in Dene law, everything is supposed to be
12 equal. We are all equal people on this earth. Everybody has got their own role.
13 The men have their role, they are the providers and then women have their role,
14 they are the caretakers. I think I am an elder in training and I want to learn more
15 from the elders.

16 **Joanne Barnaby:** Checking if we haven't missed anything from our separate sessions.

17 **Colleen English:** One of the things we missed from the women's group was they requested to
18 see the PKC area because a lot of the men were in the PKC discussions last time
19 but the women haven't seen it themselves. So we could tie in that southern area
20 that the women requested and then go do an observation point to look at the PKC
21 or we could actually see the PKC from on top of the rock pile. So if you wanted
22 to, we could do the rock pile and the south side.

23 **Joanne Barnaby:** So does that make sense? We will do the rock pile and the PKC and then that
24 southern area where the water drainage is and potentially where a new rock pile
25 would be formed if there is a new pit.

26 **Colleen English:** View into the pits would be tomorrow as well with the dyke.

27 **George Marlowe:** What Mary Rose said, I like the idea of having only women coming here.
28 The reason why I am saying, it is not all women work with caribou hide.
29 Something that I am finding out from my wife that I never told her when we used
30 to go hunting, when we were first married, when we collect the hide it was good.
31 Lately every time I skin caribou I give it to her because she does a good job, takes
32 the hair out right away. Now she looks at the hide when I am cutting caribou and
33 this hide is not very good. I don't know why and she puts it away.

34

35 ***FIELD TRIP → South area, rock pile, PKC***

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1 **Joanne Barnaby:** A round table to check with everyone to see if you have any thoughts on
2 what you saw today and then spend some time talking about what we should
3 focus on tomorrow so that you have time to think about that tonight.

4 **Mark Taletok:** Good afternoon. What I saw today is good. The rock pile was taken from the
5 open pit, all the flowers are growing, it will be growing lots again in the future.
6 We could see lots of flowers growing: there will be more in the future.

7 **Mike Francis:** The look around was good. I see no rabbits.

8 **Joe Champlain:** The things that we see, if there is improvement in the future when they work
9 on this rock pile - the slope - can be much more favorable for wildlife would be
10 good. If the slope could be like what we saw yesterday (test pile), that would be
11 good.

12 **Celine Marlowe:** I was happy when I saw some foot prints of old caribou trails. Where we
13 went on the high ground, I saw some old tracks there and I saw caribou droppings
14 and I could see where it ate some of the leaf branches; there are some plants there
15 they can eat.

16 **George Marlowe:** What I see there is really good but at the north end of the pile you have to
17 make a slope, not really all the way, but make a caribou trail to pass up to higher
18 and then another one at the south east end to come down, some kind of a slope for
19 caribou. Then a second one is when I look at the waste material (PKC) there.
20 Right at this time I don't want no animal to come down, don't make any pass for
21 caribou to come down there. Leave it the way it is until maybe 2021. The third is
22 maybe, where we went, the last one, you see where it's going to be a third pit in
23 the ground. Some women pick berries, it looks really good. Something like that,
24 they are going to have a stock pile there, though, right where we were, but I was
25 looking at the other side at the small lake, try to keep it the way it is as much as
26 possible for the animals to pass again.

27 **John Ivarluk:** From what I have seen up there, it looks pretty good for replanting itself, except if
28 they could decline a little bit on the main high part, make a gradual slope on the
29 rock pile. Otherwise everything looks pretty good the way it's been before the
30 mine started.

31 **Mary Rose Sundberg:** What I saw up on the rock piles and the natural surroundings that we
32 went over, especially on top of the hill, there we are talking about and thinking
33 about the safety of animals. I am pretty worried about the animals because you
34 see all these boulders and sharp rocks and that's not safe. Definitely something
35 has to be done. The other things that I heard earlier when this whole process
36 started the people wanted the landscape to go back to the way it used to be as

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1 much as possible. I think that is impossible to do, looking at what has been done
2 but if that is one of the recommendations that is going to be done, I think we have
3 to make it accessible for any animal to go on it. So that means we have to kind of
4 round it off you know what I mean. Kind of make it like the landscapes that you
5 see all around here, most of the lands around here are not just sharp it's like a
6 slope so something similar to that has to be done. And when we were up there I
7 don't know what the plan is but I see a lot of berms all around on the top, those
8 berms right now as it is it's not high enough if they are trying to prevent animals
9 to go over they can go over that berm easily. I don't know what the plan is for
10 those berms on top it either has to be sloped off or else it has to get higher to
11 prevent animals from going over.

12 The other natural areas that we went we saw a lot of berries and vegetation. Once
13 the A21 goes ahead that means that whole area is going to look like the area up on
14 the hill we went up on. Every time I come to the barren lands it makes me think
15 about my grandfathers and all our past elders they used to travel on this land, they
16 used to live up here, they used to have to come here to go hunting for their people,
17 for the family, and working up in the tundra and the barren lands is very difficult -
18 you have to be skilled, you've got to know what you are doing to work up here
19 and I am thinking about all those things. They were powerful people, they were
20 strong people to be able to work on this land and it saddens me at the same to see
21 all that ugliness that's what it looks like the blasted rock and I am telling you like
22 it is. I also hear all the good things that are happening to reclaim the land but I
23 think just kind of happy that you guys have the elders involved in the TK. The
24 land renews itself, each year it just replenishes itself naturally.

25 **Ed Jones:** I believe that once the remediation is complete there won't be any berms at the
26 top of the piles and as for the caribou they won't be climbing any high walls they
27 will be looking for the easy way to the top.

28 **Wayne Langenhan:** From what I heard around the table here, I don't think I have any more to
29 add it has been covered.

30 **Morris Marten:** I see that those big rocks I was wondering about in fall time when it rains and
31 caribou migrate and it's icy and they would just go tumbling down to the
32 boulders, I guess they are smart enough to follow the shore line I was looking for
33 a rabbit dropping but I haven't seen nothing and I had binoculars looking for
34 ptarmigan and wildlife I guess they are not coming by yet.

35 **Joanne Barnaby:** Thank you, we need to begin formulating the recommendations for Diavik,
36 they have asked us several questions that we should try and address, we've got
37 some consensus on some of the basic issues but we need to get more detailed. We

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1 were thinking that tomorrow we might be able to spend some time talking about
2 what to do with the roads, we understand that you don't want a lot of time and
3 money spent on re-planting but we still need some direction on what to do with
4 things like the roads and the airstrip and if there is any more detail on what to do
5 with slopes on the rock piles both the existing rock piles and a possible new rock
6 pile in the future so that wildlife are safe and the ability of nature to re-vegetate in
7 a natural way over time perhaps is taken into account as we give that advice.

8 So in terms of how we work tomorrow we can look at breaking into groups again
9 if you want and spend part of the morning doing that, how do people feel about
10 doing that again? Did that work okay today? So we can do that again tomorrow
11 and we've still got plans for another field trip tomorrow by the sounds of it. If we
12 end our field earlier tomorrow, I think we need to otherwise we only have one
13 morning for recommendations, so we can start working on those
14 recommendations after our field trip tomorrow because we haven't got a very
15 clear set of recommendations out of the session yet. We have a good start but we
16 need to make sure everyone is clear on what our recommendations are.

17 **Natasha Thorpe:** While you are going over your transcripts tonight I will try to make sense of
18 the many sheets we have here [on the wall] and try to group them a little and see
19 if they can help us with tomorrow thinking about recommendations. As you've
20 been talking throughout the day I have been trying to write down some key
21 points.

22 *Done 4:10pm*

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1 **Day 4: Sunday August 17th, 2014**

2 **Joanne Barnaby:** Good morning. Going over the recommendations handout.

3 **Natasha Thorpe:** Panel Recommendations to Diavik

4 74 71 from panel, 3 from EMAB

5 46 Supportive response

6 5 Out of scope

7 23 Not supported (5 relating to slimes)

8 **Joanne Barnaby:** We wanted to bring this out because some of the recommendations that have
9 come out now contradict previous recommendations. So we want you to be aware
10 of that.

11 **Natasha Thorpe:** Around the room are the key points that have come out over that last couple
12 of days.

13 **Ed Jones:** Before we go further I want to mention one of the recommendations that we made
14 asking Diavik to perhaps add betonite to what you call slime and that would
15 solidify the slime. Diavik states it would be too costly, but Wayne and I have
16 discussed this and we were thinking they don't have to solidify the whole thing,
17 they could solidify enough on the surface to support say the wildlife to walk on.
18 Betonite if you don't know what that is, its' a clay material that when you wet it,
19 it expands and seals and it would be the ideal I guess you would call it chemical
20 but it is inert and you could solidify the surface of this and you wouldn't have to
21 do the whole thing. As I said Diavik is complaining that it is too costly but they
22 could cut the cost by doing the surface only.

23 **Natasha Thorpe:** Power point for Recommendations-Re-vegetation, Rock Pile, Roads and
24 Airstrip.

25 **George Marlowe:** The Diavik island when I first came here way back in the 80's it was not that
26 rough, it was a little bit smooth to walk around, like where we walked yesterday it
27 was like that. So if you want to put a lay down to make it rough but it wasn't
28 rough back then so maybe we don't want to do that. It wasn't rough it was nice to
29 walk on before and maybe we just keep it that way. When I look at it yesterday
30 we went to the highest part and we seen some caribou tracks up high so that
31 means animals have been there already I don't know how many but they have
32 been there. The slope there on the north is too big but the east end where the A21
33 there is going to be a pit again and yet where we were yesterday there is suppose

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1 to be a rock pile there but I think in 5 years when you are taking the rock pile out I
2 think you shouldn't put it too high, flatten it as much as possible. When I look at
3 the land there I think that's what they should do there, that means when it's closed
4 you won't have to do too much on it. Smoothing the rock pile I can't make
5 suggestions myself; we've got a lot of people in our home town, chief in council,
6 the public so that's what's my idea and when I go home we will talk about it
7 again.

8 **Joanne Barnaby:** If they make the new rock pile shorter, the rock pile would take up more
9 space on the ground.

10 **Mark Taletok:** My comment is when I used to live inland we used to walk to the mine it got
11 named Lupin when they started to build the airstrip I wasn't too happy because
12 the caribou used to rest and feed there waiting for the weather to get cool out
13 before they started walking and it's a really high area. My wife and I we used to
14 walk to the mine site to visit, we walked around because it was closed and there
15 used to be caribou that was hurt, I never used to kill them even though they were
16 hurt because it was too close to the mine. I really pity the caribou because they
17 get broken legs; it's been a long time now. They built the airstrip too high, the
18 caribou used to rest and eat around that area and when Lupin started building the
19 airstrip I used to think and I didn't like it. We used to have meetings before. We
20 used to catch fish and we used to go fish in that area and we hardly go fish again
21 because there were lots of white people and we were scared by them. The fish is
22 migrating in the water they go by the shore in the fall. We used to use bow and
23 arrow to hunt caribou there. And when they started making a road there we were
24 not happy because that was where the caribou used to swim across there and a
25 trail there for caribou to migrate. I learned there with bow and arrow to hunt. And
26 sometime we used to see caribou in the evening when we had meetings we would
27 go by that lake and they were deciding which places they were going to build the
28 road.

29 **Natasha Thorpe:** Thank you Mark.

30 **Joanne Barnaby:** The concern yesterday was if we re-vegetate we encourage animals to come
31 here and they might get poisoned by the plants then the people who eat them may
32 as well. If we let the re-vegetation happen naturally it would take longer and
33 hopefully by then it would be healthy.

34 **Ed Jones:** I don't care for the term 'encourage'; we don't have to encourage anything, it will
35 happen naturally. And as for re-vegetation or anything like that, the animals are
36 not going to eat anything that is poisonous or hazardous to their health so I don't

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1 think you need to worry about wildlife; they know what is safe to eat and what
2 isn't.

3 **Mary Rose Sundberg:** I still have concerns regarding that but what I want to hear is the opinion
4 of Diavik and the students here whether they think that either way, either to re-
5 vegetate will be healthy or are they thinking about our opinions about letting it
6 grow naturally or help it to grow or if we do help it to grow how healthy are these
7 vegetation going to be so I would like to hear what Diavik would say and also the
8 students that are helping.

9 **Colleen English:** Good question Mary Rose. Diavik does not have final say, we report to a
10 Board and our water license is tied to our closure plan. Anything we do related to
11 closure has to go through approvals under the land and water board that oversees
12 Diavik's water license. So if we heard back very strongly from you, and if that
13 was supported at the community level - like through your bands and organizations
14 - that you didn't want Diavik to re-vegetate, then we would have to put that
15 through the land and water board for approval under the current closure plan. I
16 would say that it's unlikely that they would approve 100% no effort on re-
17 vegetating around the mine site. I would think they would want to see some
18 efforts made by the company and I would think that Diavik would probably want
19 to do some initial assistance in terms of trying to re-vegetate a little bit. But you
20 know it's easier for them to try to find a happy middle ground if we have that
21 feedback from you and the communities, and what the current plans are.

22 The other thing we talked a little about in the break out session was the biggest
23 concern about toxicity or chemicals in the plants relates back to what we use as
24 the soil. We have committed to testing the processed Kimberlite, and the plants
25 that are growing from the processed Kimberlite, and we want to know if there is
26 chemicals that are obviously going to come into the plants through that. We need
27 to know that because if it's not a good material to be using to grow plants or to
28 have even just available for wildlife that are maybe just walking through, then we
29 want to make sure that type of material is contained. So the plants aren't the
30 problem, it's what they are growing in and what might cause the problem in the
31 plant. So we want to make sure we are using the right materials to grow those
32 plants.

33 **Valerie (U of A):** So for the research project, the focus is on understanding if the substrate
34 materials we are using are safe for the plants, so one of our plots is being used to
35 test if metals are being brought up into the plants and this research project is to
36 provide some insight into how to help assist re-vegetation and then allow natural
37 recovery to play a role as well.

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1 **Joanne Barnaby:** Colleen could you comment on the question right now within Diavik on
2 whether you want re-vegetation around the PKC and what your reasoning is for
3 your position on that?

4 **Colleen English:** Some of that information on the side where we say we've got 74
5 recommendations and about 23 are not supported, a lot of those not supported
6 ones came from the last session during the PKC, and a lot of it was related to the
7 slime removal and the re-vegetation efforts within the PKC. Now there seemed to
8 be differing opinions after the last session, but Diavik's view is certainly that we
9 do not want to re-vegetate within the PKC; our preference is to contain that PK
10 material under rock layers and have a small pond in the middle for the water to be
11 able to get out. And the bulk of the reasoning for that is you saw the area
12 yesterday and you saw how big that area is and the materials in there are very
13 light - you felt them out at the re-vegetation plots - they can easily move by wind.
14 So our preference is to contain that material so that it's not blown by the wind and
15 disbursed around the mine site or elsewhere and to not focus on re-vegetation
16 within that area.

17 **Louie Zoe:** As we are talking about the re-vegetation even out of the North Country rock just
18 for instances our tour yesterday you saw the wildlife, there is growth on the land
19 the food is easily accessible even the North Country rock pile. When the wind
20 blows and the dust blows in all these crevasses and that's what goes into those
21 crevasses maybe there will be growth. On our tour there is lots of food for the
22 wildlife but if we improve our re-vegetation but if there is going to be A21 then
23 there we will have to spread out evenly so that it's not too high.

24 **Mary Rose Sundberg:** Thank you what Louie said is correct it would be good to talk about
25 these things in that manner but as for us living in Yellowknife, those who was
26 involved in these meetings are not here with us so some of the things that we are
27 talking about we're not very aware of so we're questioning these
28 recommendations. It is very difficult as leaders to make a decision; there are still
29 chief and councilors, we have to question them, and also from our communities
30 we have an elder senate that represent these issue and topics we are talking about
31 so we have to approach and question our elders senate. They are the keepers of
32 our knowledge and they are our elders; we still have a lot of elders, it would be
33 good to question our elders in our community. It would be good if we don't make
34 a decision at this time but I thinking if we ask our elders that's what I think about,
35 that I am just gathering information at this session. And I just want to share that
36 with you. We have our elders at home and we should bring this question home to
37 them within our communities and maybe Diavik can arrange that for us. At times
38 they would have a community meeting and they talk with the elders and these

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1 things are taking place; the recommendations are put in place so they should be
2 shared with the elders and I'd like to put it as a recommendation.

3 **Joanne Barnaby:** Its interesting because there are mixed feelings about re-vegetation and
4 maybe we need more information from the elders back at home so maybe we can
5 resolve the mixed messages the mixed feeling about going one way or the other
6 with re-vegetation. There may be opportunities to have that discussion at the local
7 level with some support from Diavik for encouraging that particular discussion on
8 a broader basis.

9 **Colleen English:** We do meet with the communities but how we meet with them depends on
10 what the community wants.

11 **Natasha Thorpe:** The photo I put up is where the testing is going on for what can grow in it and
12 also if chemicals end up in the plants.

13 **Morris Marten:** What Louie had mention he is correct in saying wildlife food is out on the land
14 in nature and when they blast and then move the rock then the dust goes in the
15 wind, and when it rains it will seep into the ground and probably go into the
16 water.

17 **Joanne Barnaby:** Discussion on Roads – picture of different options.

18 **Colleen English:** Mine site roads have big berms and they are like that because of the big
19 trucks; regulations say that the roads have to be that big and the berms have to be
20 that high.

21 At closure that can change. Slide shows three options: 1) high berms stay and the
22 road is dug out in the middle, 2) create a dome shape by rounding the roads
23 upwards, or 3) push out the road and berms to create a nice slope with a flat top.
24 More of the tundra would get covered with the last option because of pushing out
25 the material so that it's not so high.

26 The other thing that we can think about and discuss that Natasha highlighted as
27 one piece of the recommendations that you've had in the past is whether or not to
28 scarify, or rough up the surface of the roads, so that it makes it easier for plants or
29 seeds to try to get in there and establish themselves.

30 **Natasha Thorpe:** In the past you have said not to rough up the roads, not to put vegetation on
31 top of the roads, but to put vegetation on the side to help with filtrating water and
32 stability.

33 **Mark Taletok:** If this is going to be the case my recommendation would be the last one (3). I
34 don't like the idea of the first one (1) but that last two (2 and 3) I don't have any

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1 problems with as long as it's not a steep slope. It's too steep the first option (1). I
2 know the vegetation will grow in time in the last two options (2 and 3). I still
3 remember the old roads the grass is growing on the roads.

4 **Joanne Barnaby:** Any other questions or comments or other ideas.

5 **George Marlowe:** For the road now today the mine site at the highest part up the gravel pit you
6 have to have the berm for safety. Without safety, workers could get hurt. On a
7 mine site you have to have a berm for safety. I seen one accident and that was
8 enough for me, I was close to the airport and they didn't put a berm on it and a
9 driver didn't want to hit a caribou and went off the road and tipped over but
10 landed on a soft fox den, it was lucky for him.

11 **Natasha Thorpe:** George what about closure when this place is no longer a worksite?

12 **George Marlowe:** For closure for me the bottom idea (3), the last idea a little bit flat and not
13 steep, that's the one we chose for the same meeting with Ekati. That roughing up
14 is too rough even for caribou and for people to even walk.

15 **Joanne Barnaby:** Is there any place after closure you would want to see berms.

16 **Wayne Langenhan:** I can't remember if there was a big culvert we saw whether it was at this
17 mine or at another mine but there should be something for that if there are big
18 culverts going underneath, I guess it was the other mine. I don't see the point of
19 having berms once closed; I also don't see the point in scarifying because the
20 wind and rain will take care of that.

21 **Joanne Barnaby:** Okay any other questions or comments?

22 **Colleen English:** If we head out this afternoon, a lot of you have said 'gradual, gradual,
23 gradual' if you can look around when we are driving around and show me an
24 example of what you think is 'gradual' and what would be a good slope for the
25 sides of the roads? That would be really great if you could point that out as we are
26 driving around.

27 **Wayne Langenhan:** On that small pile that we walked up, the test pile I think the angle on that
28 would be sufficient.

29 **Ed Jones:** Joanne I think we're discussing a lot of things that nature will look after, just
30 leave it and everything will be fine.

31 **Joanne Barnaby:** But Ed a lot of people are saying that they don't want to leave the roads high,
32 they want them brought down and they want them sloped.

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1 **Ed Jones:** Well I believe the weather will bring that down, flatten it or whatever, like I said
2 nature will solve a lot of these problems, we are getting involved in something
3 that nature will naturally look after, that's what I am trying to get across, over
4 time look at the end of the remediation that's after closure and remediation is
5 completed and years down the road you come back, you'll see a totally different
6 picture and you'll say to yourself gee we worried about all these things and look
7 at it now nature fixed it all remember in life everything will balance itself you
8 should know that if you had some religious training.

9 **Joanne Barnaby:** Clearly there are different views on how much should be done. And in my
10 own experience I lived around the Pine Point area where very little was done and
11 they walked away and that's 30-40 years now and there is very little vegetation
12 and very little wildlife returned to the area and it's still a waste land so my
13 personal experience is you'd better do certain things to clean up the mess you
14 made and the changes you've made to the land, you better do certain things to
15 help nature recover. So that's my own personal experience.

16 **Mary Rose Sundberg:** A couple things I want to say the three choices we see on the board and
17 I agree with the third choice (3) I think it makes more sense and is easier for
18 animals and it won't be too high. And what we are trying to do here I understand
19 what is being said here and I agree and I disagree all at the same time, for two
20 reason, we need to help nature I guess to re-grow and I understand things do
21 happen naturally time will take care of itself yes but what happened on this land is
22 not a natural, man has made this big mess I'm sure they are happy with all the
23 money but it's not a natural thing that happened here so we can't leave it to nature
24 this company has to make sure like some people said to try to go back as natural
25 as possible but that would never happen. I too live next door to 2, 3 mines in
26 Yellowknife and they are doing reclamation right now. The government is
27 saying, the city is saying oh eventually people can live here once we reclaim the
28 land. I say I do not want my grandchildren; future generation to live on that
29 arsenic there is no way they are going to get my people to live on that arsenic.
30 Maybe some other people unknown to the land and once they start seeing grass
31 and trees growing they are going to say wow cheap land maybe I'll buy this and
32 build a house here. Let them do it I am going to keep this information to my
33 grandchildren to my next generation to tell them to never to use that land again
34 because that land is dead it's going to be a similar thing here that is why I have a
35 concern about re-vegetating but I don't want to disrespect previous decisions that
36 were made and I have respect for those elders and people that came here for this
37 meeting they must have a good reason why they recommended those things.
38 That's why I am saying the elder's senate. Yes I see the recommendation here
39 where that information had to go back to the community and this is relayed to the

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1 people but if you don't take something like this and guide it right through, take
2 this and go to the community and go to the elders senate, it won't happen. I live
3 there, I sit on council. So we've got to make sure that this is guided right to the
4 grassroots of the people and get their own opinion when you come to our
5 community on a yearly basis. You've got to make sure this happens because
6 sometimes it's easy to come to these meetings and then go home and we don't go
7 back and present to the chief and council. Or we don't say these are all the
8 important things that were said here. I want your opinion that's part of our job I
9 will do that as well.

10 **Joanne Barnaby:** Thanks Mary Rose, Wayne.

11 **Wayne Langenhan:** I don't know how familiar the people are in here with the different mines
12 but I know that when you are mining for a base metal such as copper, gold, iron,
13 or silver whatever you are dealing with a lot of chemicals that are never ever used
14 in a diamond mine. There are not big tailings ponds like around on these other
15 mines you know such as Lupin or Giant Mine, Con Mine that were gold mines.
16 Diamond mines you don't see that. The biggest diamond mine in the world is not
17 as filthy as the smallest base metal mine in the world because of the toxins and
18 chemicals that are used to process these ores to get the metals out of the rocks and
19 such. Here is just a matter of crushing and picking. We have a by-product of
20 kimberlite which is I don't think very toxic and so we are looking at a totally
21 different picture here as to any of the mines like lead, zinc mines or silver like I
22 said copper, gold whatever. So diamond mining is very, very clean mine
23 operation, you don't have to worry about all these toxic chemicals flowing into
24 the water system. There are a few that they use, mostly likely but they are in such
25 a small quantity compared with the other mines that I don't think there is a big
26 worry here about it. Mark he's been over to Lupin Mine with big tailings pond,
27 Giant Mine, Ptarmigan Mine and Con mine all have big tailings pond's that are
28 like Mary Rose said I would never build a house on those things I wouldn't care if
29 they gave me the land it's just too much stuff in there but here this area is a whole
30 different ball game.

31 **Ed Jones:** I don't think I should say anymore listening to the different opinions. I should
32 keep my mouth shut, let me finish, I think it's well put by Mary Rose. I agree to
33 disagree.

34 **Sarah:** What is an acceptable time scale by the elders if you want to do natural re-
35 vegetation? How long is acceptable for natural re-growth to get to a point where
36 you are comfortable?

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1 **Joe Champlain:** During our discussions we are listening to and thinking about the wildlife
2 when the wildlife eats its food, the wildlife will smell its food before it consumes
3 it. Maybe three or four years just because they use haul trucks and there are
4 fumes from the haul trucks.

5 **Joanne Barnaby:** Any other comments on how long people think for natural vegetation to
6 come back or what we can expect there? I think people have a hard time with
7 what's acceptable because whatever is natural is acceptable. The students are
8 saying it's not natural anymore because of the mining activities so what can we
9 hope for, what can we try and encourage so that it comes back in a good time.

10 **Natasha Thorpe:** Two comments from past reports were 100 years another was 30-40 years.
11 Nature will take its course but so will the regulators. They will not let Diavik
12 walk away. So you have the opportunity to help guide them in an area that is
13 unnatural now.

14 **Mark Taletok:** My comment I wanted to say I know where we live its really nature going fast
15 even roads and the tree's are growing around and the willows are really growing
16 long. It's really full of willows even around our houses right in our town and just
17 like it's really growing fast even nice flowers are growing. Sometimes we see
18 different flowers in Kugluktuk going to Bloody Falls where we used to go fishing
19 now it's really different because willows are growing in the trail and in the future
20 I think it will be like Yellowknife willows. I always tell my wife that nature is
21 growing faster than it used to be. Sometime I always think that people always
22 lived long time ago because they always know if it was going to be windy,
23 stormy, rainy and the people who used to live there camping and they left the
24 camping places and now the willows are really long and I guess the nature is
25 growing really fast even when we go by Honda, I never used to go by Honda
26 because I just have dog team. Our water is getting low also in our river and we
27 always see lots of rocks and we don't get much snow. And sometimes there are
28 fountains coming out of places that there used to be no water but it used to be
29 really cold and there was ice in between some surfaces but now it's too warm.
30 And now you don't drink cold water anymore it's warm. The ice is melting away.

31 **Joanne Barnaby:** Clearly it is getting harder to predict with the climate change that is going on.
32 I think everybody agrees that it's going to keep getting warm; there is probably
33 going to be less water, lower rivers.

34

35 Break 10:10-10:30

36 MENS GROUP

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1 **Natasha Thorpe:** Using the map to show areas where RED- You don't want wildlife to go

2 GREEN-Encourage re-vegetation or re-growth

3 BLUE-Encourage wildlife through modifications

4 **Unknown:** That would be very hard because you can't tell the wildlife don't go here but you
5 can go here. He's still going to go there.

6 **Natasha Thorpe:** It is true wildlife have a mind of their own and they are very smart - you've
7 said that.. If we don't say something into a microphone it won't get recorded.
8 Whatever you say will not inform your process.

9 We have one big map to mark but you also have your own maps if you would like
10 to use those.

11 **Natasha Thorpe:** So George you are marking with a red pen. I will let you describe.

12 **George Marlowe:** Because they have waste kimberlite there, they have that cloth and the waste
13 kimberlite on it so the water doesn't go down; they try to have the water not to go
14 this way. That's why they have that cloth underneath. So 2021 you got 2 more
15 years to work on it 2023 it will be shut down so me, yeah that for my waste they
16 dump it there right now.

17 RED GM1

18 **Wayne Langenhan:** Okay we are going to do this in three different stages right, the red, blue
19 and green. Okay so we are starting out here with what George said he doesn't
20 want the wildlife to go through. This is the red zone. But that isn't really
21 necessary, but we are starting out there with the legislators or whatever we call
22 them here, they are bound and determined to put some grass or berries or
23 something down here right, they want something grown here right. We were all
24 in agreement yesterday that we'd let nature take its course so if we are going to
25 put something down why don't we just put here and there and not all over.

26 **Natasha Thorpe:** That's fine this is your time do as you wish. So Wayne your suggestion is to
27 mark all the red areas first. Is everybody okay with doing that?

28 RED W2

29 **Wayne Langenhan:** I think the pits are a little too deep for animals to crawl out so I marked
30 around both pits and I will mark around the third pit, I think George got that third
31 pit.

32 RED M3

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1 **Morris Marten:** I don't want wildlife to go down there and start drinking that slosh water or
2 whatever it is. And the bear will go there to cool off so it's better off to just
3 barricade that place, that area.

4 **Mark Taletok:** For me the part that they marked red after myself the water is too close to there
5 so I don't want any wildlife going into that area but it's going to be very difficult
6 to try and protect the wildlife from going there. So maybe we put like Morris said
7 earlier put a barricade around that area and so if I have been seeing this area
8 whenever I come here and there is never any change in that area at all so I don't
9 want caribou or any wolves or any other source of wildlife that goes to that area.
10 I think it's going to be very difficult to try and prevent them from going there.

11 RED JI4

12 **John Ivarluk:** I believe this is one of the dangerous parts including the tank farm, the fuel is not
13 too healthy for any wildlife. I believe there will be no planting in this part as well
14 as in here.

15 **Natasha Thorpe:** No planting in the South East corner by the fuel tanks and also by the North
16 West corner.

17 **Louie Zoe:** The mark that I made the PKC it probably seeps into the water and the wildlife if
18 it's going to consume water, drink water to prevent the wildlife from getting sick
19 so when the caribou migrate in this area it would be good if it's identified and
20 make sure the wildlife don't come into contact with this area.

21 RED L5

22 **John Ivarluk:** Sewer line?

23 **Thorpe:** We can ask Diavik where the sewer out fall is but everything is treated first before
24 it's released according to the water regulations, according to their licenses.

25 **George Marlowe:** How about a sewer line going to Lac de Gras?

26 RED MF6

27 **Natasha Thorpe:** Does anyone else want to mark no go areas to deflect or deter wildlife?
28 Before we talk about some areas that we are okay with wildlife going to, such as
29 the slope, mark areas that we would like to allow wildlife passage, or wildlife
30 eating or wildlife moving through in a blue felt.

31 **George Marlowe:** I don't know too much about how steep the slope is here; I don't know how
32 many feet so I can't say where the wildlife could go, what do you think? The deep
33 slope here the wildlife cannot go on top unless they go on the road.

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1 **Natasha Thorpe:** Right. So that is the way it is right now but you can give advice for closure
2 about where they should make the slope more gradual. So if you mark on blue
3 areas where you think it should modified, the slope, that would be helpful.

4 BLUE GM7

5 **George Marlowe:** You want to put another one here?

6 **Natasha Thorpe:** We don't need to put anyone's name on anything we can just highlight the
7 areas.

8 BLUE GM8

9 **Natasha Thorpe:** Would you rather we not record names?.

10 **Mark Taletok:** No names.

11 **Participant:** I think we have to bear in mind at the end of mining the picture is going to look
12 totally different and I don't know why we are drawing lines or making plans right
13 now for the end of mining. We should be doing this in the later stage of
14 remediation that's at the end of mining and into remediation. I think it's too early
15 to be doing this stuff.

16 **Natasha Thorpe:** So just to remind everybody, it's not too early because they are starting next
17 year or the year after with changes in the slope. They don't want to wait another
18 10 years before they do anything. They want to start as soon as possible, trying to
19 heal the land.

20 **Participant:** The picture you are looking at is going to be totally different years down the road
21 you're going to have a totally different picture.

22 **Natasha Thorpe:** Are there any other areas we want to make some modifications on slope?

23 **Participant:** I would like to say something before anyone puts anything else on here. At the
24 beginning of the mine, the big shots come and visit the town letting us know that
25 they were starting this mine and they put away so much money for the closing to
26 clean up as much as possible after they are done. So why are we doing this for
27 them?

28 **Natasha Thorpe:** The reason that we meet as a TK Panel, the reason that Diavik meets with
29 communities, is to get you to document your wisdom, your expertise, your wants,
30 your needs . . . it doesn't mean that they are going to do everything you say but if
31 you say nothing then they will only use science, they won't use any traditional
32 knowledge. So it's not perfect, I hear that sometimes this is frustrating, sometimes
33 it's hard to see where all your hard work is going but I want to remind you that of

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1 74 recommendations, 43 of those have been accepted by Diavik. So if you never
2 said anything, you would have zero.

3 **Participant:** Yes it's never perfect, once you move a rock, it is never the same, not like the
4 way it was before when you walked on the land. You've got no track there but
5 when you move a rock it's not perfect anymore. Not like the nature. Yes that's
6 what I am talking about at the beginning of the mine life, before they start, they
7 make a statement that they will put it back as close as possible to nature the way it
8 was when it first started. That I have been in the mine site before this it's never
9 the same they just leave the garbage there and they take off.

10 **Participant:** In Ekati mining areas, they put metal fencing around, it's just like fish nets, it
11 surrounding so that any caribou and any wildlife don't go into the camp so that
12 way the caribou detour towards the east part of the mine. So that way the wildlife
13 doesn't wander into the camp. That is working very good so when you see
14 caribou coming around they go around the fence. So that would probably be the
15 fastest solution for what we are talking about.

16 **Natasha Thorpe:** Thank you Mark for the good suggestions. That we wrote up last night was
17 about the mines working together to coordinate ways of deterring caribou away.

18

19 Lunch and prayers 11-1pm

20

21 **Dianne Dul:** *Presentation:* Map for where all the exploration mines are, map for current mines.

22 Picture of the mine in 2000, pictures of the mine from 2000, 2001, 2002

23 Older caribou pictures 2000, 2003

24 New caribou pictures

25 Mentioned caribou behavioural monitoring that is done by Environment
26 department with help from community members. Joy Dragon participated in this
27 monitoring program in 2013 and Dianne asked her to explain what they did.

28 **Joy Dragon:** We came up here, it was a 4 day trip, and we toured around in the chopper around
29 the site looking for caribou and monitoring the effects of the helicopter as well as
30 the mine site area. We flew about 30 km out to the Northwest and came upon a
31 herd of 3000-5000 caribou healthy herds. When we flew down we landed then we
32 waited until the chopper blades stopped then we each took note of about 10
33 caribou and we watch them for 10-12 minutes and just observed if they resumed

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1 eating, if they laid down nothing seemed to bother them they all resumed normal
2 activity. We reported back that the herds were healthy that the wildlife that we
3 noticed around them there were plenty of wolves and one notable factor that I
4 noted was that there were a lot of white wolves. And we saw some pups and
5 some dens and then on the other day we flew to the Northeast about 60km out and
6 again we came upon a large herd of about 3000-5000 caribou. All I reported back
7 was that they were healthy herds with many wolf packs following them for me
8 that's a good sign of a healthy herd with many wolves and pups and dens.

9 **Dianne Dul:** Caribou pictures

10 **Natasha Thorpe:** Thank you for the presentation Dianne.

11 **Joanne Barnaby:** Present to each other the work on the maps.

12 **Mary Rose Sundberg:** (Presentation of the women's work - the work is not transcribed but this
13 is what came out of the work.)



14

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1 Where we can do reclamation so that's the kind of things that we touched on this
2 morning. First of all on the airstrip the green markers that we put to reclaim that
3 area, there are no toxic's in that area the road is airstrip so we would like to re-
4 grow the vegetation around that area. All the green markers are to encourage the
5 re-vegetation and replant. So we would like to have things grow in that area,
6 plants.

7 The blue markers maybe the animals would go through so we would like to do
8 some modification and all the pile of rocks maybe they can kind of smooth that
9 for to encourage animals on it. If there is a really steep pile of crushed rocks
10 maybe they can put it down so we can encourage that animal to go through there.

11 And in this area the shop it seems like it's only buildings maybe they can have
12 replants of vegetation and all the red markers and two open pits and PKC in that
13 area we would not like the animals to go through that and there is storage of oil
14 tanks and a waste field there, not good to go for animals and there is waste rock,
15 maybe there is oil tank, gas tank that's been used, barrels once ice road gets here
16 maybe they can haul that back. Where all the red markers hope the animals don't
17 go in that area.

18 The North Country rock pile maybe the animals can go on top maybe where
19 there's a den and where is the path that caribou migrate I think the elder know
20 better and maybe we need elders help on that area. A21 once they have the open
21 pit, we have to think about the waste rock pile they are going to have in that area
22 we have to think about. The elders would know more where the animals come
23 across this island. I would like to consult with the elders first.

24 **Joanne Barnaby:** Thank you very much Mary Rose.

25 **Natasha Thorpe:** Volunteers to speak. I think it is quite interesting that there are a lot of
26 similarities in the red and blue.

27 **George Marlowe:** (Presentation of map)

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We never did too much we just started talking, talking, we talked about the red line. I drew this red line and other people too so nobody will touch no animals will go there we wanted that and also I did the blue here at the North pile I want to put a slope down and we said that really having to flatten everything is not necessary. Don't touch till 2021 between PKC and rock pile. And also from A21 pit there going to stock pile here that we said don't put it to high, leave it as low as possible so the ramp from here will go up and down again not all over. It's high so you could push it down towards the road. Red line here for that sewer they don't want any caribou to go there. They don't want any caribou to go to the north inlet.

Just about the same we could put it together. What shall we do?

Celine Marlowe: What you guys are saying is similar to what the ladies did. Are you going to agree to our map and your map because they are just about similar?

Wayne Langenhan: I did mention one thing about the new pit that's going in why can't they take some of the rock and truck it over to the other pits and build it up a bit and make it a little more shallow instead of building another rock pile?

Gord McDonald: Because we are still mining in those two pits. The underground continues till the very end. It's not like the underground stops and A21 keeps going, they'll

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1 both be mined at the same time so we can't go putting rock on the top of guys that
2 are working underground.

3 **George Marlowe:** I think it's better to not touch those two pits because people are working in
4 there. Keep it light as possible, don't put rocks or water in there right now. Only
5 later on when closure but right now just keep it the way it is.

6 **Natasha Thorpe:** I want to clarify what George said we ran out of time.

7 **Joanne Barnaby:** The women did indicate which areas they wanted to encourage re-vegetation
8 or natural re-vegetation. Do the men feel that is a problem or could you support
9 that idea?

10 **Wayne Langenhan:** We didn't get far enough into that the re-growth putting the vegetation in
11 but from what I can see on the women's map I could go along with that. Should
12 we take a vote on that?

13 **Joanne Barnaby:** Wayne is suggesting we have a show of hands. I am just going to point out
14 the areas that the women suggested for re-vegetation or encouraging natural
15 growth.

16 Patches of red in the green and blue we would avoid for re-vegetation due to oils
17 and such being stored there.

18 Vote on who supports the women's map? Against-1 For-12

19 **Natasha Thorpe:** No names on anything.

20 **Ed Jones:** Remind you that just because the majority says yes doesn't mean that should be
21 the right choice.

22 **Wayne Langenhan:** I think I am going to differ with my colleague here, the majority takes it
23 and that's that. The map here we all agreed to it so I don't know why we should
24 have to draw anything on our maps but if Ed has a beef with it I think Ed should
25 make his own map.

26 **Ed Jones:** I don't believe in re-vegetation and I don't believe we should deter any animals as
27 they will go where they please.

28 **Joanne Barnaby:** I think we understand your perspective and that's fine and that can be noted.

29

30 FIELD TRIP 1:30-4:00

31

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1 **Natasha Thorpe:** I know everybody is pretty tired. Quick round table.

2 **Celine Marlowe:** It was really good to be out on the land again today I had a great time but it
3 was kind of scary for me because when I was looking at that dyke because I didn't
4 know how it was made but now that I have been on it and I am still interested in
5 looking at the movie or if you have the copy of it I wouldn't mind to have one so I
6 can look at it or even keep if you could so I could show it to my other
7 grandchildren back home and tell them how interesting it is you know where his
8 cousin is working.

9 **George Marlowe:** When I went on the field trip towards the south side of the airstrip I still see
10 the caribou trails there and when you look at the trails and you look at the rock
11 piles I really I mentioned that how far it is going to come down and it looks good
12 and also I look at the land and Diavik started 10 or more years ago when I look at
13 the berries cranberries and crow berries I was looking for how much dust was on
14 them but I don't see any looks pretty clean and also I look at the willows and they
15 were pretty clean. So that means and on the way there while we were walking I
16 seen vegetation growing willows, fireweed and one part I saw blueberries leaves
17 too came out so that means something is growing and it will grow now for sure so
18 I am kind of happy with it the only thing we are not finished with the map, men.

19 **John Ivarluk:** Thank you for a pleasant morning and trip it reminded me of back in Lupin and
20 safety comes first yes. It was nice pleasant out there I see they are doing really
21 good at their job and I enjoyed it. We had a good experience and sometime I wish
22 we had students up here see what we are doing so in the future they know what
23 we are doing, what the miners are doing. I enjoyed the trip I will be glad when I
24 get back home to tell the people what we did the last few days.

25 **Martha Ivarluk:** Thanks so much we went on the field trip. It really good to see the vegetation
26 growing it will not grow if it is not good. I am so thankful I am here with the
27 panel.

28 **Ed Jones:** I didn't go out this afternoon but I have been out to the airport and around the
29 rock piles many times before. I am sure Diavik is going to live up the agreement
30 of cleaning up and I can envision these rock piles being smooth at the end of
31 mining and remediation. And I am sure they don't want to leave a mess, they've
32 already put up a bond and I am sure they don't want to put up any more money
33 than they already have put up as a bond so I believe they will clean it up as they
34 should and I have no worries about that. I believe they will live up to their
35 agreement.

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1 **Morris Marten:** Since I got here I learned quite a bit, I didn't expect to see this it was very last
2 minute when I got to come. I forgot my reading glasses so I brought my wife's. I
3 learned quite a bit and to go out into the field now I know what you guys are
4 talking about when you talk about the slope and when it rains you just need to
5 watch out for a creek going down to the main lake. I hope in the future I can come
6 back again.

7 **Mary Rose Sundberg:** You really have a different perspective once you see what we talk about
8 a lot at meetings sometime when they have these annual meetings they have all
9 these maps and all this stuff on the wall sometimes you can't really envision it
10 unless you come and see it yourself. And I have been here a few times and I have
11 been to the other place a few times and Snap Lake and I always love coming back
12 because it really reminds me of my grandfather both of my grandfathers actually
13 they were born in this area. My grandfather Itò Sangris was born on the north end
14 of MacKay lake and my father was born on the south side of the MacKay lake so
15 every time I come back here I feel like I've come home again and my husband
16 and I also work in Gary Jaeb's camp over here for at least a couple of years so I
17 always love coming back. Seeing everything that has to be removed or dismantled
18 it seems like it's a huge job that still has to be done and right now I can't envision
19 it all disappearing and they'll be nothing here. I kind of have some worries I
20 know when you work on a big huge job like this obviously they have all the plans
21 in place and regulations they have to follow but also we have to think about a lot
22 of other stuff we seen whether some things can be donated to the communities
23 those that can get to their communities somehow those things should be
24 considered like the sleeping quarters some of them can be dismantled. When you
25 see things first hand you get a better understanding and that's what I am thinking
26 and what still has to be done and which area they need to work on. Some areas
27 that they shouldn't touch at all because it doesn't look like we should do anything
28 to it for a while. It will take awhile. Another important thing for me to do and
29 everyone is we really need to consult back to people especially our elders I have
30 so much more questions to ask them, maybe not in a formal meeting but if I see
31 them I will ask them when I see them.

32 **Mark Taletok:** I myself I enjoyed the field work because it was very extraordinary to be
33 outside because you can smell the grass. So I have been coming here a few times
34 and this is the first time, first time seeing the end of the airstrip and going to check
35 for fresh caribou tracks but there was nothing there. The caribou trails from
36 previous years I saw. It is very obvious that the willows and vegetation really has
37 grown. I guess the caribou don't come this way as much anymore. It was good to
38 be out today it feels like being at home. You know when you go out and see the
39 country side, the landscape it makes your soul feel better like it's always nice to

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1 see the land is healthy. I was trying to see if there was any kind of spill out there
2 and there wasn't any gas or diesel. It is very clean out there. So I commend
3 Diavik in keeping the site clean and it is nice that they invite us up here to do our
4 traditional work here. One of my concerns is that those big heavy equipment
5 that's going into the pits, I can see that they have good breaks and I would like to
6 thank the organizers and the facilitators for taking us out on the land today thank
7 you.

8 **Mike Francis:** We were seeing ground squirrel, we seen a fox carrying a ground squirrel we
9 have been here for the last few days and we feel good, I feel good I haven't seen
10 any diamonds.

11 **Louie Zoe:** It is true what people are saying we went to that airstrip and it is a good area for
12 the animals to go up on top of the airstrip so it's not too high up for the animal's
13 safety. So I hope the pile is not too high so it's good kind of safe place around that
14 area a safe place for animals so it's not too high up. We see fox and we look at all
15 the lakes and we seen the open pit which is really far down and we still have to
16 think about what is going to go in there at closure, we are still going to have to
17 discuss that.

18 **Joe Champlain:** We've seen a lot of things when we went on the sightseeing today I feel good
19 looking at the landscape and the barren land. I seen two things I seen the fox and I
20 look in the binoculars, I seen a wolf with the binocular but I don't think you guys
21 seen it, it went so fast. I felt good having a tour of the airstrip, and the open pit. It
22 looks good but we still have to talk about how it's going to be refilled, the open
23 pit, we still have to talk about a lot of things about the closure. I hope I come back
24 again for the next session.

25 **Natasha Thorpe:** I am sorry I wasn't out with you today. I look forward to hearing more about
26 it.

27 **George Marlowe:** For the next session I remember that some people said they didn't remember
28 what Kimberlite is. I know how it looks as I have been working at Ekati so I was
29 thinking about A21 before you take it out before you blast maybe ask Diavik if
30 maybe people could look at it - how it looks before the blast, after it is clear and
31 ready to be blasted. It is a different color dark and that one there.

32 **Natasha Thorpe:** Reminder about copies.

33 **Morris Marten:** I need all the notes so I can talk with Alfred Baillargeon when I get back.

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1 **Ed Jones:** Is it possible if you would consider replacing this type of headset and go back to
2 the old type that we were using before at previous meetings? We have had trouble
3 with this model. It seems to be a cheaper model.

4 **Natasha Thorpe:** That's on the record.

5 **George Marlowe:** This afternoon we were driving on the dyke, way back I don't know how
6 many years ago we talked about the dyke for closure when it's time for closure
7 they are going to take everything down light poles, and everything and they are
8 going to make a door or something for water to come in. If anybody has any
9 better ideas today or for the next one.

10 **Joanne Barnaby:** George thank you for that for remembering that because we should be
11 talking about what other issues we need to address in the future sessions.

12 **Ed Jones:** I have heard you use that term we will revisit this topic and so on and are you
13 trying to say well we will revisit this until we get it to your satisfaction? Is that
14 what you are trying to say?

15 **Joanne Barnaby:** No we want to make sure it is to your satisfaction. In this session you know
16 we picked up on the possibility of a change in direction right? So there's going to
17 be times like that because over time you see things, you learn new things. Your
18 understanding becomes deeper. You may want to reconsider ideas and
19 recommendations that you have made in the past or you might want to simply say
20 we are good with those.

21 **Wayne Langenhan:** I can't get this pit business out of my mind. The pits are very close to each
22 other. I worked at Con Mine. We went down in a cage to the 2300 feet level
23 where we would get off and load onto cars. The cars pulled by a loki would then
24 haul us about a mile and a half down a drift to a place called the winds. There we
25 would go down another shaft. The mine was about 5100 feet deep then. The two
26 shafts were off set. What is the distance between the two shafts? Like are we
27 going to put that waste pile up top there why couldn't the mine work off one shaft
28 to link both the ore bodies? They used to have a network of ladders underground
29 where you could climb for 3000 feet going up. I can't see if the distance isn't too
30 far between the two pits why one shaft wouldn't serve both ore bodies? That way
31 the waste rock that is coming out of the third pit could go in one of those pits so
32 we wouldn't be burying a miner.

33 **Natasha Thorpe:** Dianne just ran out to get a copy of that map so I see people getting quite
34 tired and they have homework tonight too so we can take a look at it when she
35 comes back and I am suggesting that maybe we wrap up for the day. We will see

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1 you back around 7 to hand over the transcripts. And we will return to Wayne's
2 question tomorrow morning.

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1 **Day 5: Monday August 18th, 2014**

2 **Natasha Thorpe:** Welcome back to our final day of our 7th session. I hope everybody is well
3 rested and ready to do some hard work today. We have the challenge today of
4 pulling together the key points that we have talked about the last few days. This
5 morning we are going to go through some of the recommendations that we think
6 we heard over the last few days. But this is where your hard work and patience
7 and guidance will really make sure that we get the words right in these
8 recommendations. I am going to hand it over to Joanne but two things I am
9 hoping you can keep in mind: Please make sure that we get the words right and
10 please make sure that we haven't forgotten anything.

11 We have Brenda McDonald from EMAB who will come into the room within the
12 next hour or so and otherwise Diavik will not be here, the U of A students will not
13 be here this morning. This is your private time to work freely and work hard.

14 Once we are done we will invite Diavik back in the room and present the
15 recommendations to them. They will then give a short response and from there
16 those recommendations will add to the 74 that are already in this table and they
17 will provide a formal response, a written response, for your next session, session
18 #8. Any questions or thoughts before we move into today's work?

19 **Joanne Barnaby:** If something is not as clear as it should be please make suggestions for
20 making it clearer or stronger. If I forget something please let me know. The way
21 I organized the draft comments and responses are following the four questions
22 that were in our agenda that Diavik asked us to address, so to remind you here are
23 the four questions.

24 Presentation of Recommendations to discuss

25 The four questions

26 General Responses and Comments

27 *In Camera Session*

28 **Joy Dragon:** Presentation to Diavik on Recommendations including General Responses and
29 Comments

30 **Gord Macdonald:** Thank you very much that was very well said and actually quite clear.
31 Natasha do you want to go back to the beginning and we will just walk through
32 and Colleen jump in if you've got any comments as well. In general I thought all
33 the recommendations were quite clear. Toxicity in here I am presuming you mean
34 the effect of eating vegetation on caribou or on people? When you say toxicity it's

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1 not toxicity to the plant, I am guessing that its toxicity to something that might be
2 eating the plant.

3 **Joy Dragon:** Yes and no.

4 **Gord Macdonald:** So the way it's written it's a bigger ask than you think; to actually try and
5 expose caribou or people to something that's toxic is kind of a difficult study to
6 do.

7 **Joy Dragon:** I think if they find something dead or in the case of the rabies outbreak that
8 happened that would be reported back and tested.

9 **Gord Macdonald:** So what we would normally do, it is built into the re-vegetation work, is to
10 do chemistry analysis on the re-vegetation to see if it's different in those areas
11 versus somewhere else and use that information to infer, I guess to suggest,
12 whether it is good or bad.

13 **Natasha Thorpe:** I think just to clarify Gord and Joy I think the idea with that one was to test
14 both out on the tundra and in the seed plots on site to make sure or to monitor
15 what's in the plants, what's toxic in the plants, and I understand you are already.
16 We looked at a slide where you are already doing that but there is a want to do
17 that both out on the field as well as on those test sites. Is that right panel? Okay
18 good.

19 **Colleen English:** Another question I had for number 1, we talked yesterday about the roads and
20 what the ultimate shape of the roads at closure would look like, so everybody had
21 sort of pointed to the bottom one (3) where the road kind of expands out and the
22 slopes are made more gentle, but that would disturb new areas by pushing those
23 roads out. We talked about as soon as you push the road out to reduce the slope
24 you are going to cover more tundra. So I just want to clarify if number 1 is still, I
25 guess, if the road option we talked about yesterday is still okay in relation to your
26 recommendation number 1?

27 **Natasha Thorpe:** Please jump in here but I think there is an understanding like say with the
28 rock pile for A21 and the other roads that to keep the rock pile height down we
29 would have to go out further at the base but other than that and for the roads, the
30 request was to decrease as much disturbance as possible.

31 **Gord Macdonald:** So maybe add that in, 'except for flattening out roads'. That would be
32 helpful.

33 **Natasha Thorpe:** Is that okay with the panel if we add that about the roads?

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1 Changing Recommendation #1 to add except for areas such as roads, A21 and the
2 rock pile for A21. → All in favour

3 **Celine Marlowe:** So that first one are you saying that you will accept the road for the mine
4 gravel on the side of the roads and not do nothing about the rock pile, is that what
5 you are saying?

6 **Gord Macdonald:** No what we are saying is we understand you don't want us to disturb new
7 areas I mean other than in areas we're already planning to disturb areas, like with
8 the A21 rock pile, but also in places where you want us at closure to flatten out
9 the roads. Those will, when we flatten them out, those will cover more vegetation
10 but we understand that that's okay.

11 **Celine Marlowe:** Okay thank you.

12 **Gord Macdonald:** Also just to be clear with everyone, I'm not trying to go through this and say
13 whether we are accepting or not accepting each recommendation, I am really just
14 trying to ask questions to make sure I understand them. The next time we meet is
15 when you can expect us to come back to you and tell you whether we agree or
16 disagree or what we are going to do. I am not quite good enough to answer these
17 questions on the fly.

18 **Natasha Thorpe:** This is a good opportunity meeting face to face with Diavik so that you can
19 make sure that they really understand what you are trying to say. So it's a great
20 exchange between everybody.

21 **Gord Macdonald:** So there were a couple of places where I have seen reference to caribou
22 maps and I am wondering how much. So we did a lot of that back in baseline, like
23 before the mine was here. We have a whole bunch of maps from a whole bunch of
24 different sources; elders included, communities included, scientists included that
25 we've used as the basis for how the animals used to interact with the island before
26 development but I am getting that this group probably hasn't seen those things, so
27 I think that would be a good starting place is to take those and say how does it
28 build from there? Try not to start with nothing, start with something that was
29 already there and let us know if you think that's still true and more importantly
30 how you think, we've also experienced how it's changed with the mine site and
31 then the next question would be what will happen once the mine is not active
32 anymore, will they come back to those routes or not?

33 The fencing question is always a good one; we've always received mixed
34 information about whether to fence or not to fence, and the challenges with it. I
35 think that is a good one for the panel.

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- 1 **Natasha Thorpe:** I just realized we didn't write down about the material on the side of the
2 airstrip exactly like it is now, the slope and the sides but there was discussion
3 about that being a recommendation for the sides of roads but we didn't as a panel
4 close the loop on that one. We might need to revisit that one.
- 5 **Gord Macdonald:** You will have to educate me on a mat.
- 6 **Natasha Thorpe:** A tundra mat.
- 7 **Gord Macdonald:** So you cut out a piece of, a chunk of tundra and then put it on to the...
- 8 **Natasha Thorpe:** So maybe where you are widening roads or putting on a rock pile that's
9 where those mats would be harvested.
- 10 **Gord Macdonald:** Okay.
- 11 **Gord Macdonald:** Do we count as local animals? Its treated sewage, disinfected sewage. So
12 that's no. So is that actually a recommendation to not use sewage or are you
13 being silent on it? Because I could easily read "naturally local fertilizer" as
14 including people.
- 15 **Mary Rose Sundberg:** I can't remember why we said we didn't want to use that, it maybe
16 because they put a lot of; you have to clean it right it goes through a cleaning
17 process. It doesn't seem like its right to do that. I think it was because there was
18 going to be other things in it that we didn't want to use.
- 19 **Joy Dragon:** There's a student here that knows a little bit about this stuff we are going to get
20 her perspective. How do you feel about that being used as a fertilizer for this
21 process?
- 22 **Valerie (U of A Student):** I use sewage in the green house and in the field and we've done
23 some tests on it and we haven't found anything harmful in the sewage and it's
24 quite good for vegetation. We find plants grow very well, it's almost comparable
25 to the natural materials. We're still studying if it's a good fertilizer but based on
26 initial results it seems quite good and not very harmful at all.
- 27 **Joy Dragon:** Would the panel like to revisit that recommendation of using the treated sewage as
28 a fertilizer at a future session?
- 29 **Gord Macdonald:** Its not uncommon for people to not want to use sewage for vegetation, it's
30 not an uncommon thing, I just want to be clear that that's what you mean.
- 31 **Natasha Thorpe:** My question is does what Valerie said change your mind or is this
32 recommendation still the same?

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1 **Valerie (U of A Student):** I would just like to add to that, that we would like to use materials
2 like soil as amendments but there is very little onsite, even if we mined A21 so we
3 are trying to find other materials that we can use and most are very, very limited.
4 Sewage is a material on site so we don't have to ship things in, so it reduces some
5 of the effects so that's why we've used sewage.

6 **Joanne Barnaby:** I think there isn't a level of comfort with it yet but its perhaps something the
7 panel can discuss in the future sessions.

8 Change recommendation #12 to add no human sewage – this issue will be
9 revisited

10 **Gord Macdonald:** So I will read that as being not from people.

11 So I though the TK Literature review was complete?

12 **Joanne Barnaby:** Just very preliminary findings, there's quite a bit more that has to be done to
13 complete it and make it useful and accessible to others and we haven't had a
14 chance to review it with the TK Panel yet as well.

15 **Gord Macdonald:** Okay. So I do understand where you are going with cumulative effects but
16 before you go writing letters to Ekati and ENR I think we're going to have to
17 think through this thing, because this panel's mandate is specific to Diavik so it's
18 quite a challenge to open that up to others and it's probably inappropriate that you
19 do it, it's probably more appropriate that we do it. This panel certainly can't be in
20 the position of making recommendations to Ekati and that's well beyond the
21 scope of this panel. I understand what you are saying that it's all blended and I
22 understand the idea of trying to get, I don't even know if Ekati has a TK Panel,
23 but to try and have this panel together with another panel or this panel together
24 with their operations. I understand that but it would have to be done through us
25 versus this panel approaching anybody specifically.

26 Same thing with regulators - you're going beyond your mandate here, to be saying
27 what you think regulators should do.

28 And the map one I think we touched on earlier and I think we have some early
29 information for you on that one.

30 As long as you are reporting back to your own organizations if that's what you
31 mean by direct to Aboriginal governments. I have no problem with you advising
32 that to your organizations, who you think should sit on this panel and what you
33 think makes sense, that's perfectly reasonable and that's who we approached to
34 do these things.

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1 Yeah so on 21, I think we are just a little bit early on that one. We still need to get
2 back to you with more information about the North Inlet, I think, before we can
3 go much further in terms of deciding whether it's a go or a no go zone. So I think
4 it might be a bit early for that one.

5 Again both those other two on the maps I think they're sort of similar to the other
6 ones.

7 One 23, I think it links also back to future sessions. I do definitely get the sense,
8 particularly from this session much more than the last session, that you guys are
9 getting ahead of us. You're providing us with more information than we've been
10 able to process into the closure plan. What it really needs, and I think you're
11 ready for it now and I think we're ready for it now, is to take all of this
12 information and come back to you with how we think the island will look. Like
13 some actual images that you can look and review and see if it fits with these ideas.
14 And I presume it will give you a lot more ideas as well but it's getting kind of
15 difficult to be talking in pieces of the map. We need to put it all together and
16 show you where we're at in terms of all of these recommendations as a new
17 starting place to move forward from, instead of always looking at these maps of
18 the developed site. I think we need to start looking at maps of a closed site with
19 the kinds of information that we are all heading towards taken into account on the
20 map.

21 You are way ahead of us, yes. You are giving us more information than we can
22 possibly process.

23 So on the first one with the pits and the underground, I understand. I would want
24 to go underground, too if I were you guys. It's not that we can't do it, we just
25 need to plan for it that is all. If that's what's important, we can make that happen
26 and it's certainly easier to get into the pit, it's much more difficult to get into the
27 underground. Only it's more difficult for you guys; there's a level of training
28 everybody has to go through before you can go underground, but again if we plan
29 for it we can do it.

30 Here's the women only again. Here's my suggestion on this... I guess I'm
31 answering this one, I guess I'll leave it because otherwise I'm answering it.

32 Big picture I agree, that's back to where I was talking before that's on us to come
33 back to you with the big picture and get your review of that big picture.

34 Monitoring is definitely next to the big picture, monitoring would be next on my
35 list. How to get good monitoring programs, information from you guys on
36 monitoring programs that, formed, that the communities could implement. So that

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1 when we say everything is going well (scientifically), we say the water is good to
2 release to the lake that we could then, you know, have a group of community
3 members - whether they are elders or the panel - could come up and give us their
4 opinion on whether it's good to release or not to release.

5 On the PKC, this idea of you guys making a recommendation, us considering it
6 and in this case not accepting it, I fully expect that this has a loop back that you
7 then come back and say, 'well okay that was our idea, you didn't accept it, now
8 where are we going' and can we look at that again and for sure that's exactly what
9 it should be as we refine the program going forward, and I think that ties into the
10 big picture one.

11 Yeah we've always found, expected there's two opportunities for Aboriginal
12 people at closure, one is actually doing the work and the other is monitoring its
13 success. I will be interested to hear more about what the healing ceremonies are or
14 would be and how we can build that in.

15 I am surprised you want to meet more frequently. I get the feeling we are
16 exhausting you, and you are telling me you want to do this more often. Do we
17 really think, I mean the last one was October, it's now August, do we really think
18 we would have done another session between these two? It's a lot of time.

19 **Wayne Langenhan:** We have endurance.

20 **Gord Macdonald:** Clearly more endurance than I have.

21 Okay, I mean okay we will think about that. Knowing what's happening next
22 year, we definitely want this full panel up and I definitely would like it to be
23 about the big picture but we do also have a traditional knowledge camp planned
24 for next summer, what some of you might know as the fish tasting or the aquatic
25 effect monitoring program. So there are already two programs planned next year
26 so I think it would be a struggle to fit in a third next year but let's go one session
27 at a time anyway.

28 Linking back to the communities we'd really appreciate your advice and support
29 on how to do that. I think we've got, you guys have a much better understanding
30 of what's going on the site and what we are doing with closure than almost
31 anyone I think in your communities, and we struggle to get that information back
32 to your communities. How we can link you guys into that and help you relay that
33 message and validate that feedback coming back to us would be very helpful.

34 I am not sure how much we want to share all of the good things you've done with
35 other mining companies, we are kind of protective of you guys.

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1 See diamonds - that's an interesting question. That would be in Yellowknife
2 versus here, at the sorting facility in Yellowknife - and that would be an even
3 bigger challenge then getting underground - but it's a fair ask. You may not like
4 the terms and conditions that come with the ask but, yeah I mean that's a good
5 point. Are you just looking for a tray of diamonds to see what they look like?

6 **Celine Marlowe:** The ones that just come out.

7 **Gord Macdonald:** Yeah, yeah before they are polished, it's a shiny rock, yeah. You've seen
8 the pictures on the wall I'll show you the pictures on the wall but yeah we could.
9 You won't see them in the rock (ore).

10 **Celine Marlowe:** This is how it looks before it's polished.

11 **Gord Macdonald:** Yeah we can for sure do that but if you want to just look at the kimberlite,
12 the black stuff and expect to see a diamond in there, you will be looking for a long
13 time before you are going to find one. I mean I'll show you right now there is a
14 picture out on the wall what they look like but we could get some to physically
15 put on the table for you, along with all the security guards and everything that
16 comes with it.

17 **George Marlowe:** Just that elders like John said, I don't know why we are talking here for I
18 never seen a diamond, where it come from what kind of rocks or what. They
19 don't know about kimberlite and the rocks, they don't know because like me I
20 was working at Ekati I seen it myself me because I was there but those people
21 they have never seen it.

22 **Gord Macdonald:** When we had an open pit it was much easier to see it because we could
23 actually go and walk on top of it but in the underground it's very difficult to
24 actually see the kimberlite so maybe when A21, if A21 happens, that would give
25 us something that we could do, because it used to be that we went down in the pit
26 and walked on the kimberlite. Believe me we are mining diamonds, only
27 diamonds, no other minerals.

28 Just in closing thank you very much for your efforts I know it is a lot of work, you
29 do put a lot of energy into these days and these facilitators really do run you into
30 the ground with getting all the information out of you, so we really appreciate
31 your time and especially taking up a weekend of your time for coming up, so
32 thanks very much.

33 **Colleen English:** Can I ask one more question too? You mentioned that the recommendations
34 about the balance of men, women and the youth as more of an internal
35 recommendation, but we do communicate with your organizations when we are

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1 leading up to a session. So if you are communicating that back, do you still want
2 Diavik to also be saying, as a reminder, the panel recommended that this should
3 be the content of the panel? (Panel confirmed that this would be preferred) I just
4 wanted to double check that thanks.

5 **Natasha Thorpe:** One last question the panel wanted to ask Diavik was what material are they
6 going to use to build the dyke for A21?

7 **Gord Macdonald:** The rock from the North Country Rock Pile that we were standing on top of.
8 They take that and some of it is just like it is there - big boulders like that - but
9 most of it goes through that big building at the bottom, the crusher, and it gets
10 crushed into very specific types of material, but it all comes from that big rock
11 pile. So I guess we really are putting the rock pile back into the lake then.

12 Where we are going to take the rock from the pile for A21, we want to try and
13 line it up with where we want to flatten the slopes out for caribou so that it makes
14 it easier for doing that.

15 **Joanne Barnaby:** Are there panel members who wanted to say anything further, regarding our
16 recommendations, George?

17 **George Marlowe:** Diavik said that they are going to use the highest rock pile but after you build
18 the dyke you are going to have to take some more rocks out again. What are you
19 going to do when you take the next rocks out we don't want it too high?

20 **Gord Macdonald:** How about we come back to you with that? I mean right, it's that square box
21 really where it's shown on the map there; that rock is going to go on the south
22 part of the island. But I would be happy to come back to this panel, it's still quite
23 a ways away before we'd be mining that rock, to how we can lay out that rock
24 pile so that it's as close to what you want at closure. So then we don't have to
25 move it around and if you want it lower and flatter versus taller and skinnier,
26 that's actually easier for us than tall.

27 **George Marlowe:** I think it's a good idea I think the panel do a lot of work, I know it's hard all
28 the time I think they should get a little bit more money. Me I said me you, you've
29 got good wages already. So in the mean time I am asking for a little bit more
30 higher again for the elders. The elders are tired, we are sitting here and you know
31 how much I get, only few hundred dollars a day not much you, you get that in an
32 hour.

33 **Joanne Barnaby:** Some of the elders just before we invited you in were talking about all of the
34 work that they still feel they need to do and the importance of scheduling the
35 work out over the next few years and so we appreciate your feedback on the

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1 topics that would be timely for you but they do feel, even when they were
2 working under EMAB meeting 4 times a year, that there was still much more
3 work to be done. So there's a lot of concern that the number of sessions have been
4 cut back so much and you know part of it is we have to re-orient; you're in this
5 job full time, they come in you know with long periods in between and sometimes
6 we find we are going back over old ground because that momentum gets lost and
7 there's a feeling that we're always short of time. We would like to have
8 addressed other topics as well this time and there wasn't enough time to do that.
9 We would like to have, for example, finalized the Working Together document
10 and the Checking Nets and we, the panel, is feeling quite proud of the work that
11 it's done and we feel that it has been helpful and useful to Diavik and that you
12 should be equally proud of that and share that with other people who are working
13 in northern and with aboriginal communities. So we'd like to see that out there
14 and so you're feedback on those documents as well as our own chance to finalize
15 them would be very good.

16 **Gord Macdonald:** So just one I guess opposite to that view. I understand the question of
17 momentum and I am also trying to think forward -it's a long journey still and I
18 kind of want some energy at the end as well as at the beginning, so I am trying to
19 pace you guys that it is a longer journey and we want you involved all the way
20 through rather than just now. So I also don't want you to try and tackle every
21 question out there when we still have a long time to go and things might change
22 along the way. So it's a longer journey than you might be thinking.

23 **George Marlowe:** About the Ekati we talked about Ekati about having a meeting together but I
24 know it's hard for you to say yes but the reason why we said that was because of
25 Misery. It's blocking you for the caribou migration that's the reason why we said
26 that but it's not over yet when I get home I am going to talk to my chief and
27 councilors and I think Akaitcho is still having a meeting in Yellowknife. That's
28 something that I am going to bring up too.

29 **Gord Macdonald:** Just don't say it was our idea.

30 **Colleen English:** Also just to let you know, you again probably don't see it, but we are linking
31 in with Ekati all the time. We are sharing the information between Diavik and
32 Ekati. As an example, I met with Ekati before I came up here to meet with you
33 guys and let them know what we were doing and they've done some veg work
34 last year that you guys saw some of the results from in the literature review, and
35 we talked about some of the learning's from that and the people that were
36 involved in that. Similarly, I have committed to following up with them to let
37 them know some of the outcomes from this session. So that does go on behind the
38 scenes, between the companies, just so you are aware of that as well.

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1 **Gord Macdonald:** And I don't know if you guys know but Ekati now owns 40% of this mine
2 so Ekati pays for 40% of what you earn here. It's not like we don't know each
3 other.

4 **Joanne Barnaby:** As you can appreciate people from the communities have a different
5 perspective and so when they see things going on over there, recognizing that you
6 are a separate mines, you have separate management, you may have some
7 ownership cross-over, there's bridges at other levels that people would like to
8 form. Communications around issues of common concern, some of these overlap
9 areas, some of the common concerns around retracing old caribou routes and how
10 that can be supported in the future with closure planning. If the confidence was
11 there that, that discussion can happen at a bigger level and that it was a more
12 cohesive discussion recognizing that the caribou move around and other animals
13 move around and migrate, water flows and fish swim that would help I think. So
14 if there are opportunities for joint initiatives that would be great.

15 **Mary Rose Sundberg:** I just want to emphasize 4 points that you don't seem to agree with the
16 way you are talking: 1 I know it's really important to include the women like I
17 said the women are the care takers and they are closer to the land then we really
18 think. They know a lot about plants and healing plants so they have a different
19 perspective so what we want is to make sure that they are involved - just one
20 women from each region or another idea was when you come to our community
21 on an annual basis you take the time to have an extra day just to meet with the
22 women and there you can pose some of those questions that we've been working
23 on last few days. That's another way of trying to get their feedback and what they
24 think. It's very important because some of these women that you are going to be
25 talking to they used to live on the land day and night and these ladies are still with
26 us today. We're lucky they are still with us and they have a lot of knowledge
27 about this area.

28 So I wanted to mention that and we know that we have no control over the
29 regulators and the boards but we want to make sure that they understand that
30 before they start approving all these mines left right and accepting their water
31 permits and everything, you guys already know this but we are telling you again
32 because we know how important it is and these social issues that are happening in
33 our communities. I was telling them that in the 80's and early 90's we had
34 presentations from Africa and Australia and they were telling our people this is
35 going to happen to you guys when the mining industry starts in your land. They
36 told us that crack cocaine is coming, the cash stores are coming a lot of social
37 problems are going to come.

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1 We didn't believe them at all at the time, I never believed them but I remember
2 what they said, how they emphasized the importance of preparing yourself for this
3 kind of industry to come to your community and one of the things that they also
4 said that I never mentioned is when a person gets a lot of money sometimes they
5 are not able to manage that, or they don't know how to budget themselves. So
6 much money comes and it's going every time they come back to the community.
7 One guy said he worked at the mine for 10 years, he made approximately 1
8 million dollars and he has nothing to show for it except for his vehicle and then
9 the other thing they said to us was your people or someone who works here
10 because they are getting so desperate being in debt, they are so indebt they are
11 working here but they are so in debt that they are going to find ways to steal
12 diamonds. They are going to try to smuggle it out for other people. That hasn't
13 happened yet, maybe it has I don't know but they said those things will happen
14 they are going to find ways to steal diamonds to take out because maybe someone
15 will just say here I'll give you \$10,000, you're in debt I will loan you this money
16 don't worry about it. A few years later oh you owe me money you want to do me
17 a favour here. That's what they said to us that's what's going to happen here.

18 So when we talk about we don't what no more mines we know we have no
19 control over those regulators but we want to start telling them that this is
20 happening to us in our communities and we do have IBA's that comes with just
21 little pennies they gave us, that doesn't cover what is happening to our people
22 especially the people in Yellowknife we are just next door to all this that is
23 happening so that's what we mean by that.

24 Healing the land even though we are not the ones that are working on the land,
25 ripping at the land, digging into the land we are not the ones doing that but we are
26 somehow involved because this is our land and we allowed it. A healing
27 ceremony is so important we did that once with Giant Mine and we decided that
28 we are going to do it every year so it's paying respect to the land it is a ceremony
29 that you should learn about from our elders, they know what that is all about that
30 is just giving respect to the land and saying we are sorry for what we have done to
31 you. It's going to take a long time to heal but we're helping it and giving respect
32 back to the land.

33 You're telling us to slow down because this is a long process he said it's a long
34 journey, we realize that but a lot of things have come up because sometimes
35 research takes a long time as well. This is probably not going to take a few years
36 it's going to take longer than that so there's a lot of things that questions what's
37 coming up. It's not for next year, it might be for next 5 or 10 years so when we
38 request more meetings it's because the more we educate people the more we talk
39 about it maybe some other things might come up that we as a group has not

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1 thought about. So I just wanted to touch on these things I think it's very important
2 that you know where we are coming from and I am sure you are going to see the
3 minutes and the rest of the recommendations regarding what I just said.

4 **Gord:** Thanks that was very helpful.

5 **Ed Jones:** I would like to add to what Mary Rose said I wonder if Diavik would consider as
6 Wayne suggested some time ago that they would have a happier crew if they gave
7 short courses in money management skills that would help the employee plus the
8 communities.

9 **Gord:** I am the wrong person to ask that question to but I will pass it on. It's not a new
10 idea and it was certainly done earlier on in the mine life, I don't know if it's been
11 done more recently.

12 **Joanne Barnaby:** Alright so if there are no more comments from the panel I thank you very
13 much for coming in and taking the time to hear the recommendations and you'll
14 receive a more complete report soon. We do have a bit more to do before we
15 finish off today so I would suggest that we move into that. One of the things that
16 we wanted to do of course is do a round table, give everyone a chance to make
17 some closing statements, Joe Champlain had approached me on the first day and
18 said he wanted to share a little bit about his life when he lived out here and he's
19 been very respectful in not jumping in when we are dealing with agenda items and
20 so I would like to offer him that opportunity to do that before we leave and then
21 invite the members to make their closing remarks. And you are welcome to stay.

22 **Joe Champlain:** Thank you for as I listen Mary Rose I am thankful that she shared her wisdom
23 with us and also she had a good sharing and also I have never traveled to these
24 meetings before. The thing I saw and the way the mine operates I've seen it with
25 my own eyes and I am thankful for that. Yesterday even Sunday they gave us
26 time to pray the rosaries even for that I am thankful. As of today I remember in
27 the past is totally different so I just wanted to speak to that piece today everything
28 is simplified and in the past we had to struggle for as I remember it, today we use
29 airplanes to transport, in the past it wasn't really like that. In the past if people
30 wanted to go to certain place people would use dog teams, as I remember our
31 elders used to talk to us, they used to walk on the land and that's how they
32 survived. They lived off the caribou, the fish that's all they did was hunt and for at
33 that time there was hardly any employment, so people would go long distances to
34 go trapping, and with the trapping they would earn money. We were in poor
35 condition in the past and sometimes in the morning we would have nothing to eat
36 and if other people had something to eat they would share their food with each
37 other, with other families and at that time we had no child care, or old age

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1 pension, that's how our elders survived and our ancestors they traveled in this
2 area this is where we used to hunt and trap and as I remember it when I was just a
3 young child the men would go trapping for the white fox I remember that and
4 they would communicate with the Inuit and they would trade their dogs because
5 some dogs were healthier than other that's how they would help one another also
6 with caribou clothing.

7 And also the people from the Yellowknives and Łutsel K'e they would travel
8 amongst each other and all the elders that live on the land and people would travel
9 to Whati and beyond Mackenzie to Wrigley and visit one another and that's how
10 sometimes people would meet one another. Although Great Bear Lake is quite a
11 distance people would meet and also from Fort Simpson that's how people used
12 to travel on the land and with the dog team and those things that I remember I just
13 want to share with you. That people used to really struggle in the past. When I
14 see the barren land when I was a young boy and the white fox and our elders and
15 our forefathers went to barren lands so they could harvest the white fox and when
16 they tell their stories even with the firewood they cut fire wood within the tree
17 line and then they would load it up on their sleds and they would go into the
18 barren land with a load of wood. The only time they would make a fire is to cook
19 their food and because they want to preserve their firewood they have to work in
20 the harsh climate like that.

21 That's how the stories were being told but as of today we still rely on each other
22 the white people and the aboriginal peoples all though it is a long distance
23 between communities, the long distance is shortened by the travel of the airplane
24 you know people can go a long distance and meet one another shaking hands and
25 hearing one another stories, I am thankful of that because of one another sharing
26 our stories and we share our stories and it's very important that we do this and
27 while I am telling my stories you know the women were very pitiful, they were
28 always trying every day even and the women would go on the tundra and on
29 barren land to try and gather wood and also the women would care for the small
30 babies. I used to see this with my eyes and we grew up in a tent and even with
31 our caribou blankets sometimes it's not very warm but as I remember as a child
32 because a women once told me that I am going to go gather wood watch my
33 children and when I seen these small children they were in a tent, these they had
34 to be tied up so they don't go near the stove that's how they were raised and there
35 is no store bought food there's only caribou meat and blood soup and they used to
36 eat marrows and that's what I witnessed and that's how some of our elders told us
37 stories and they walked on this land with their two feet and that's how, you
38 probably know the stories but I just want to share that story with you.

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1 **Natasha Thorpe:** Thank you Joe for taking us to the land. So we are coming to the end of our
2 four days of work, we've got about half an hour before we need to clear the room
3 so I wanted to have the chance for us to have our own closing ceremony and
4 invite anybody to start that would like to.

5 **Wayne Langenhan:** I would just like to say thank you for all of those who attended I know
6 some of you come from a long way like Mark there and I think it was a pretty
7 good session I think we got some pretty important work done here this time.
8 Thank you to the facilitators for all their hard work and sleepless nights and I
9 would also like to thank the people at Diavik for the free room and board because
10 you know you would pay good money for that in Yellowknife. I wish you all a
11 safe flight home or drive whichever way you are going and hope to see you back
12 here in the next meeting. Thank you.

13 **Morris Marten:** I am sorry I was suppose to take you out for lunch but I haven't got my credit
14 card on me besides that I'm short on change so I couldn't take you out.

15 **Joanne Barnaby:** And your wife is at home waiting for you.

16 **Mark Taletok:** Although I am becoming an elder it is very grateful to see my fellow elders here
17 we have a similar culture and I was listening to this person who was talking about
18 living on the land, even though when I was growing up I used to lived in a tent,
19 when I was growing up there was no sleeping bags all we had was traditional
20 blankets that were made with the fur. The first time I saw a man made blanket boy
21 it was pretty and beautiful, and then my grandmother used to look after me very
22 well and she used to tell me to try and help the fellow Inuit, our traditional
23 clothing's were warm. The clothing we have today is good for nothing because
24 the caribou skins clothing we used to have kept us warm. I would like to thank
25 each and every one of you in this room today and I'm going to remembering our
26 meeting here so have a safe trip home don't go hungry go hunting and help one
27 another and give a little gift to each like even a tea pot, it's the thought that
28 counts. Whenever someone gives me something even if it's really small I am
29 always very, very thankful to that person. If my hunting is successful I will pay
30 them back with a little bit of meat. Now a days it seems our children have to stay
31 in the house all the time, they are afraid of going outside, they don't go to outpost
32 camps anymore. We hardly use our traditional ways anymore and I still talk to my
33 grandkids in my traditional language. I would like to thank Diavik for giving us a
34 roof, giving us a lot of good food and I would like to thank all the organizers that
35 put the meeting together.

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1 **Mike Francis:** Thank you during this session although it's not long we had a good meeting some
2 of the things that we had no knowledge about now I gained some knowledge so
3 that's good.

4 **Louie Zoe:** As they said we had a good meeting and they are correct in saying for future
5 generations they are walking in our footsteps and we are making a trail for them
6 and setting a journey for them and the youth. I am thankful for the facilitators and
7 transcriptionists and also for the women with supporting one another and working
8 on the maps I am thankful for that, even though we put in these recommendations
9 the things might be touched upon and we don't know how long into the future we
10 are going to be able to be working together but in the end we should all come
11 together and you know work with the recommendations, that's what we are here
12 for. I am thankful for everyone here and I hope everyone has a safe trip home.

13 **Joe Champlain:** Thank you we had a good stay a good night's sleep and good food and we
14 were well taken care of and there's a lot of good knowledge and wise words being
15 shared here today and also they're saying people would have a safe trip home and
16 they are correct in saying that but although you come home, go home safely you
17 have to take care of himself that's what the elders often say if someone becomes
18 ill or sick we can't do nothing but if we travel amongst one another.

19 **Celine Marlowe:** Thank you for being here and I want everybody to have a safe trip home I
20 know everybody is anxious to get back to their grand children because I am for
21 sure and I have respect for everyone that was in this board meeting here and I
22 would like to thank everybody from the bottom of my heart.

23 **George Marlowe:** First of all I have to say thank you to the translators and the facilitators. I've
24 been to this kind of meeting lots and I think the way I see it we got something's
25 done on the board there, a lot of things. I think Diavik will think about it I know
26 they will support everyone of them I guarantee don't throw our words away. But I
27 thank you very much for staying here, beautiful students over there too; I wish I
28 was young again. So I thank you to everybody.

29 **John Ivarluk:** Thank you and I would like thank this man here for making this gathering here
30 available to all of us. It's been very nice to see all of you again familiar faces
31 ever since I started meeting with people like these people here. It's not my first
32 time to see a mine site still working they are doing a great job but I really hope to
33 keep Nunavut clean thank you.

34 **Martha Ivarluk:** I would like to thank you for bring us here to participate in this meeting. I
35 would like to wish each and every one of you a safe trip home and I would like to
36 thank you Diavik for giving us good accommodations while we are here.

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1 **Ed Jones:** I don't have much to say I want to thank you for exchanging ideas I was quite
2 surprise that Diavik was still in operation because we don't have many meetings
3 to keep in touch.

4 **Joy Dragon:** Thank you to everyone who I met and the facilitators and especially to the
5 interpreters and the translators and the students for being open to questions and
6 open to learning it shows a good spirit.

7 **Mary Rose Sundberg:** Mahsi cho for giving me an opportunity to be involved me in this
8 process. I have definitely gained a lot of knowledge from every one of you. With
9 this knowledge I will definitely talk to my people and most importantly to my
10 grandchildren so that they can pass this information on to their own children and
11 grandchildren. I think it's important that they know the process and what has to
12 be done to replenish the land again. We want to make sure that reclamation is
13 done properly so I am glad I was involved in whatever I had to offer. So I am
14 happy about that and the other thing I want to say every time I come to the barren
15 lands I feel so comfortable. The other day when I said I saw ugliness out there I
16 don't mean the healthy land. The healthy land makes me feel like I am at home
17 but when I see rock piles and all that grey ugly things that's what I mean by
18 ugliness. So don't get me wrong I love this land and I always love coming here
19 because my family was born in this area so it's really close to here. And I didn't
20 really that I also do have relatives through Henry and Mona I have aunty and
21 uncle that live in Cambridge Bay so they know them and they are related through
22 in-laws. I found that out and I am so happy to meet them, my aunty has been
23 living in Cambridge Bay for over 40 years.

24 All the work that we are doing here and everybody's contribution is very
25 important even though sometimes we don't agree with each other somehow at the
26 end we always manage to say okay we will think about that. The other thing I
27 think it's important too I didn't realize that Ekati owns 40% of this mine so I
28 don't see any problems trying to work together if the two companies are working
29 together in that capacity. I am sure Ekati is not going to say no I do not want to
30 work with you guys I am sure they are going to be open so you have to keep an
31 open mind and tell them the importance of we're trying to save you guys money
32 actually if we work together so you have to think about it that way as well. I felt
33 like I was on a holiday for some reason I think it's because I don't have a cell
34 phone, phones ringing.

35 **Joanne Barnaby:** I just want to once again welcome Brenda McDonald and we look forward to
36 re-establishing close communications with EMAB and helping you to stay in
37 touch with the traditional knowledge part of your mandate and in terms of

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1 bringing that forward in the system that you are working within and so I wanted
2 to give you a little opportunity to say a few words to the panel before we break.

3 **Brenda McDonald:** Thank you Joanne, I represent EMAB the executive director. First of all I
4 would like to say thank you to Diavik for the invitation to attend this session. Just
5 looking around the room at all the notes and all the discussion I would have
6 thoroughly enjoyed being here the whole weekend but at least I made the last day
7 and I caught the over view and some of you I know, I have worked with you in
8 the past so it's always good to see old friends. And I am very passionate about the
9 work I am doing and I would like to see this relationship with the TK Panel
10 renewed and strengthened and how we can assist and build a strong relationship
11 with the TK Panel in meeting our mandate protecting the environment and
12 working with Diavik and with the communities and with our elders to take all the
13 knowledge combined so that we protect the environment in the end. So I just
14 want to thank you all and I look forward to meeting you very soon, we can get
15 together and I would really like for my board to meet the panel and listen to some
16 of the good discussions that have taken place over the last few sessions since it's
17 been out of EMAB's hands thank you.

18 **Peter Huskey:** I want to say thank you to Joe for sharing his story it's a very powerful story for
19 me because I bet each one of us has a story like that. Our ancestors used to roam
20 on the land just like this I will share a little story with you about my great
21 grandfather his name is Bear Lake Chief he was born in Fort Norman but he was a
22 fur trader for Hudson's Bay in the old Fort Rae area. He used to have 7 cabins
23 along the way and he is buried just north side of Gameti it's called Lac Saint
24 Croix in English its Lake of the Cross. He guided a priest Emile Petitot in the
25 1800's there's a book on that and also he guided an archeologist from Iowa State
26 University the archeologist name was Frank Russell and he guided him from the
27 current Fort Rae area all the way to somewhere in the tundra but that guy reported
28 it took him four months to harvest 5 musk ox. Just a small story like that takes you
29 a long way back and each one of us has our stories like that. So I am thankful for
30 Diavik and also for the facilitators and elders participating from each region to
31 have input into this tradition knowledge panel I have been involved in the past
32 and I am very grateful to be here and I am thankful for each and every one of you
33 and to the University Students keep up the great work.

34 **Henry Ohokannoak:** I just want to thank Diavik, facilitators for giving me a chance to come
35 here it's my first time up here at Diavik Mines. It was a pleasure staying here
36 giving us a room and I just wanted to thank everyone for having us here.

37 **Berna Martin:** Thank you again for being for here for this session and thank everyone; Joanne,
38 Natasha and Diavik and those people here Pido Productions, the transcriber that

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1 works here and the interpreters. I know it's hard sometimes it's very challenging.
2 This was a good group of people that were together and share together, we
3 laughed together and we shared stories I really enjoyed that. I wish you all the
4 best and safe trip home. We try to accomplish too much, it's never an easy subject
5 to talk about the mine that we experienced though our community of Yellowknife
6 what we went through but the landscape that our ancestors, my parents parent's
7 that raised us around this area that looking into the landscape thinking back about
8 them like my uncle Joe Champlain said I am glad for the students being here until
9 the next session that we see each other again.

10 **Natasha Thorpe:** Thank each and every one of you for taking time away from your families
11 and coming here to meet with this very diverse family it's a very big honor for me
12 and I am sure for all of us to work across cultures across genders across scientists
13 and non scientists and when I really walk away from this session having heard so
14 much of your stories about mother nature not wanting to interfere too much but
15 also respecting nature enough to want to help move things along I think that
16 somehow nature is involved in all of us working together and helping the land
17 heal and move us along. It's not new that we've been working together like Peter
18 tells a story from the 1800's and Joe and Mark and others have talked about other
19 ancestors meeting in the same area many, many years ago so even though we
20 come from very different places I see a very together, moving forward with a very
21 strong voice. I just want to express a very big thank you to the interpreters, to our
22 scribe Janet it's really hard work and these guys don't get much of a break at all.
23 They work long hours every day we are here so that they can get the words right
24 and back to you so I am just really grateful I feel like they go the extra mile and
25 lastly I just want to say that while they are going the extra mile last night was
26 walking out and seeing a table with one person from each of the 5 groups just
27 laughing and sharing stories and that just really warms my heart I think not only
28 the work that we do in this room but the relationships that are built outside of this
29 room are very special relationships and I really respect you for moving those
30 forward. Thanks again it's an honor to have facilitated this session for you again.

31 **Joanne Barnaby:** I just wanted to add my thanks to everyone, every time I get a chance to work
32 with elders it's really hard for me to say no. It's been my life's passion and I feel
33 really privileged to learn from you and to try and relay the very deep knowledge
34 and very deep love you have for the land and to take care of your traditional
35 responsibilities with taking care of the land. I really honor that and cherish that
36 and thank you for working so hard to carry out those responsibilities.

37 **Colleen English:** Thank you for all of your time and your efforts this weekend and it sounds
38 like you enjoyed it and I think we had some good opportunities out on the land as
39 well as in this meeting room.

Appendix E

Session Poster Points

DDMI TK Panel Session #7

August 14-18, 2014

Quick Summary of “Poster Points” (i.e. highlight notes / key points taken on sticky notes and put up on poster sheets around the room)

Caribou

Must respect the caribou

There is a ball in the caribou intestine; you sew this into your ammunition bag when you are hunting and it brings

Caribou follow a leader

Caribou know where the vegetation is good

Animals won't eat anything poisonous; they know what is safe and what isn't

Caribou are smart

Mid-August is a good time to hunt caribou for clothing

We don't hunt caribou that are close to the mines

Don't hit caribou with a stick or you will scare them away for four years

Caribou might have trouble if there is ice on the rock pile

Caribou Migration

Caribou will find their old migration routes

Migration routes change so our hunting routes change too

Caribou routes are always changing; they know where to go

Caribou make their own trails; we don't need to plan too much

Inuksuit are used to mark caribou crossings (*nalluit*)

Caribou route goes right over Misery pit; the pit should be put back as it was

The East Island is a main part of the caribou migration route that goes near Misery, near EK'ATI

Caribou are going away; they migrate into Saskatchewan or over to Rankin Inlet; they are changing their migration routes

Caribou should be here right now – something is wrong

Caribou and Wildlife On-Site

Caribou will find the ramp, road or easy way so don't worry

I was happy to see caribou tracks and droppings on the mine site

We cannot prevent animals from coming here

I feel peaceful and good after going out on site; I saw a fox and wolf

I saw fox and ground squirrels here (but no diamonds!!!)

There were caribou trails at the south side of the airstrip; it looks good

Caribou and Vegetation

If caribou don't have food, they won't come around; they are smart animals

We need to focus on caribou and vegetation

It is unhealthy for the caribou in summers when nothing grows

When there is nothing to eat, the migration routes change; it has been 6-7 years now that the caribou have stayed in the barrens

I don't see changes in what caribou eat (around Artillery Lake)

There is not much for caribou to eat at the test plots, 10 years later

Vegetation

Don't disturb new areas

Return the East Island to the way it was, as much as possible

Replanting and regrowth will take time

Even though it will regrow, it won't be as much as before

We need to improve conditions for regrowth

As the wind blows dust will go into crevices and then things will grow

Moisture is very important for growth; you need moisture underneath (e.g. for lichen)

Some summers there are good berries; others there are not

Can we pick the berries here again? I don't think so

The berries and leaves in the undisturbed areas look the same as before

Vegetation on the East Island is different from the mainland (it could be human activity or introduced species)

Grass will grow after the mine closes but I'm not sure about the lichen

Vegetation is not a concern; the worry is about hazards and concerns for caribou

Wildlife smell food before they eat it; they may roam around but not eat

I was looking for dust on berries and willows, but I saw that they were pretty clean; seeing it first hand helps

Fire

There is an impact of ash and smoke on vegetation from fires

There is no more caribou in Gameti because of the fires

It has been 8-10 years since there have been many fires and not as many caribou coming around

Wildlife and their food burn in fires; I worry about the burns

Smoke keeps mosquitoes away

Fire destroys the land and vegetation

At McCleod Bay, Nanacho Lake is all burned; if the caribou don't go to Fort Reliance, we will know this I why; even from Fort Resolution to Artillery Lake

It is painful to see animals suffer but what can I do? (smoke hurts caribou)

Climate Change

Weather is getting warmer; this is nature

In the future, it will be like Yellowknife in Kugluktuk; nature is growing plants faster than it used to

Where we live, nature is going fast, changing, willows are growing fast, we see nice flowers now

It is harder to find cold drinking water; the ice melts away faster and the water is warmer

Water levels are decreasing and we can see more rocks along the shore

The water went down, there is no rain, there is more forest fire; things are different today and I worry

Willows are taller now at places we used to camp

EK'ATI road now has lots of trees because of climate change

More caribou are drowning now

There are different species coming to our area (e.g. a yellow bird); this was predicted by my Grandma

We cannot help nature because of climate change

Nature Knows Best / Nature will Heal

Want to discourage regrowth; time is needed to heal the land so good to keep animals away
Don't bother with re-vegetating as nature will heal
The environment is powerful; nature will heal; it will grow again
Tundra vegetation is very powerful; it is like there is something underneath that is helping
We saw nature kill 30 caribou from lightening near Mackay Lake
What happened at DDMI is not natural so we cannot leave it to Nature to heal; we need to help Nature

Regrowth Happens

Roads from the 1960s now have growth
They never replanted at the DEW lines and today they are beautiful
We learned from the DEW lines that vegetation grows again
The plants will grow
Natural revegetation is happening
I saw flowers on the rock pile; there will be more in the future
I saw that [natural] vegetation is growing again and I am happy with it
Vegetation grows very slowly (recovers very slowly)
The key to regrowth is to keep the footprint very slow
University students will help us know how to help regrow

Rock Pile

Keep the slope as it is at the test pile
The slope is good at the rock pile, it will be good
Slope at the test rock pile would be good for the side of roads too
Slope looks good at the test pile; keep it as natural as possible
There are some big rocks at the bottom that need to be covered (like on the test pile)
Big boulders should be pushed aside
Till on the rock piles means less moisture
The berms on the pile need to be made higher or sloped off
Think about the slope in the winter too; not just when it is snow free like now; it depends on the wind
Think about denning (e.g. fox) on the rock pile
Slope needs to be made for caribou at the North end as well as the South-East end
I'm worried about boulders and sharp rocks for animals
Don't make any easy passes for caribou to go to waste
Put muskeg at the bottom of the rock piles to invite wildlife
Once remediation is done, the berms will be gone
Rounding off the rock piles has to be done
The A21 pile should not be too high (okay if it is wider for now)
The East end will have a rock pile; don't make it too high; must be flat at top

Roads and Airstrip

(Consider Options 1, 2, 3 in slide)
Options 2 and 3 are okay, with a gradual slope, vegetation will grow
Prefer Option 3 for closure
Option 3 is easier for animals
The airstrip is good for animal safety; I hope other piles look like that (slope, shape, etc.)
There were caribou trails at the south side of the airstrip; it looks good

Lac de Gras / Fish / Water

Water levels at the shores change with snow levels
Fish move great distances
Fish travel by the shore during the fall when they are migrating
DDMI is on an island; it is different so I worry about water and fish
Dust moves through water and could go into the ground
Underwater vegetation is important for the fish
Watch out for streams going down to the lake

Questions and Comments to DDMI

What do the students and DDMI think about re-planting?
How long will they keep testing the plants (for contaminants)?
What is under the big rock pile?
How long will the mine operate?
Can a chemical be added to the slime to make it safe (harmless)?
How would you evaluate that water is safe before release into Lac de Gras?
Have they researched water in pits elsewhere (same ecosystem) or putting materials back in pit?
Will the water level of Lac de Gras go down when the pits are filled?
Is the rock pile going to get any bigger?
Where in the US is the pit that was filled?
What will happen to the airstrip?
What is the cost to fill the pits back again?
What is the dyke going to be made of (for A21)?
If EKATI and DDMI are jointly owned by Dominion Diamonds, isn't it easier to work together on things like the TK Panel?
How come we never see real diamonds (seeing is believing)?

Thanks for looking after our land
Everything looks pretty good
I am sure DDMI will clean-up as they should; they don't want to leave a mess; they posted a bond
I believe DDMI will live up to their agreements
I commend DDMI for doing such a good job at keeping it clean
Good to see the land looks healthy
There is a huge job left to closure; it is difficult to envision; communities should be offered as much as possible
Good to see with my own eyes as photos don't tell the whole story

Questions to TK Panel

What is an 'acceptable' level of natural regrowth and how long does this take?

Cumulative Impacts of Mine

Used to be lots of caribou and fish around Lupin, but we don't go there anymore
Jericho mine was really
Diamond mines are different from metals mines (i.e. no chemicals, toxins in the process)
Mines look scary to me; I have experience and I have to be honest
EKATI wants to open Jay pits
Airstrip at Lupin was built too high
Remind BHP to fill in the pit at Misery

EK'ATI and DDMI are on the same Lake; same system; work together
We must remember that mines close; they operate in cycles

TK Panel Process

We need to verify all quotes / legends
We need to ask the right questions
We need to consult our Elders; I have so many questions for them now; both formally and informally
Elders are the keepers of our knowledge; we need to ask our Elders about these things
The TK Panel has a responsibility and job to present this work back to the communities
Elders 'senate' needs to review these recommendations; to guide the grassroots
University students doing a good job
Seeing it first-hand helps

PKC Area

Use Bentonite to solidify the surface of the PKC

Old Days, Spiritual and Miscellaneous

The barrens remind me of my ancestors; they were powerful people; it is sad to see this ugliness
Coming here reminds me of my ancestors who were born here; I really love coming here; it is my home
When you go outside, it makes your soul feel better
We struggled in the past; when our forefathers would come to the barrens, they would bring wood and hunt fox
Women worked hard back then with caring for children, collecting wood, preparing food
In the old days we would travel, visit, take care of one another
The traditional life was easier as we had no worries; there was no mines, no hardships in communities
Today we need the means to go out hunting
Kids are afraid of the cold nowadays; maintaining our traditional ways is difficult
We survived on ground squirrels when no caribou came our way
If there are too many lemmings, they will get rabies
Fox can eat squirrels and get rabies; there was an outbreak 5-6 years ago
It was a little scary at the edge of the pit
My grandma told me to help my fellow Inuit
Today we still rely on one another; Aboriginal and non-Aboriginal
We couldn't believe the when they told us, or anticipate the social problems that have come

Recommendations

We need to decide what to talk about next time (e.g. what about the dyke, pits, etc.)
We should use landmarks (e.g. trees from Walmart 😊) to direct caribou away from mines, well north of Lac de Gras
Steer caribou away from Lac de Gras area to avoid Ekati and DDMI
Return the East Island to the way it was, as much as possible
Cover the East Island with a dome, smooth sides
We need a schedule about how often and when to meet.
The main thing is to get the lichen growing
Study vegetation east and north of the East Island (for caribou)
Study how caribou pellets (poop) fertilizes their migration routes

Study / find-out caribou routes from long ago (review previous reports and talk w Elders)
Keep it nice on the other side of the lake for caribou to pass
We need a women only session on vegetation
Recommend a women only session in the field
Students should have been here
TK Panel wants to see the open pit and water treatment facilities
Concern about leaving airstrip: some want it left for emergencies and others want it removed

Closing comments

I learned a lot
I am grateful to DDMI for bringing us all together
Thank you for having us
Wise words shared here
Being together is part of our healing
I've been afraid to hunt since they confiscated the meat
The youth are walking in our footsteps
Thanks for being open to learning and sharing

Appendix F

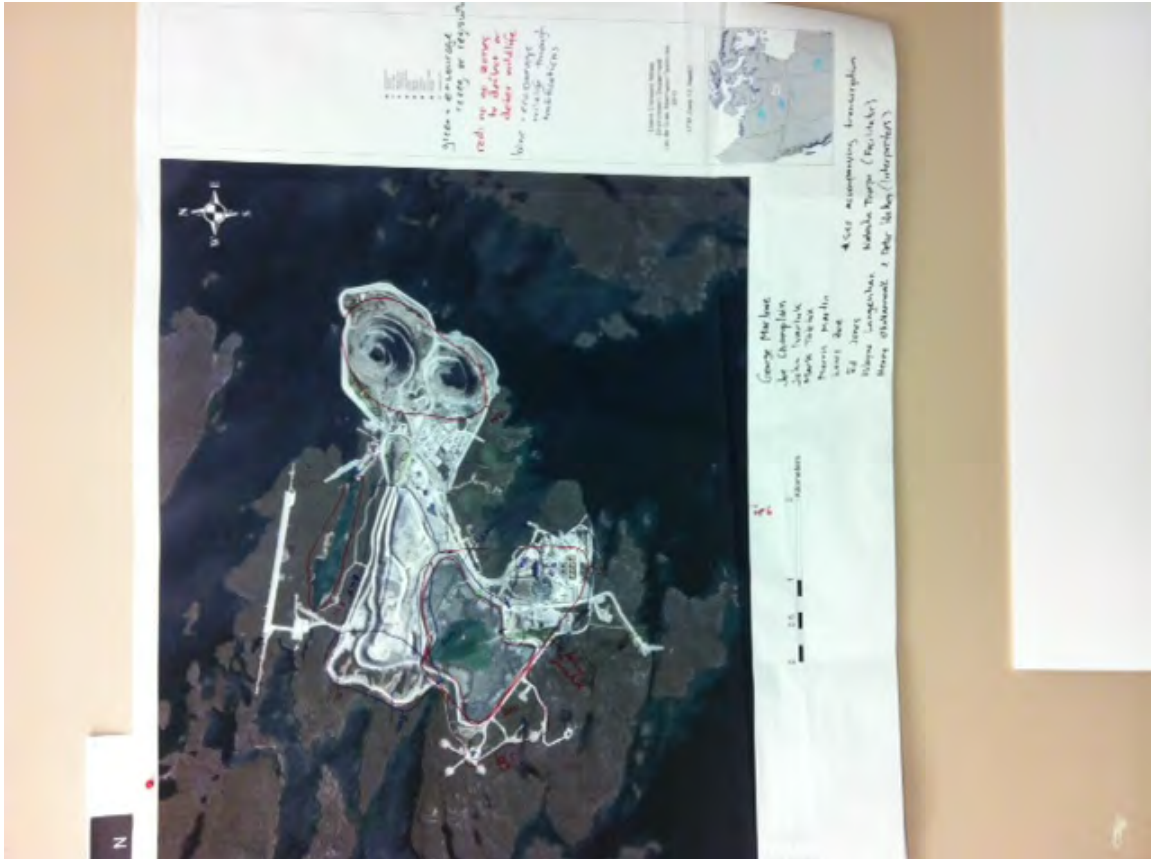
Proposed Re-Vegetation Maps

Key to Maps:

Red - You don't want wildlife to go

Green - Encourage re-vegetation or re-growth

Blue - Encourage wildlife through modifications





Appendix G

Presentation on Literature Review of TK of Plants

TK Panel Session #7

TK of Vegetation



Diavik Diamond Mine
August 14-18, 2014

Prepared by Natasha Thorpe,
Joanne Barnaby and Mistrelle
Lockhart

TK Panel Session #7

Resources: TK of Vegetation



Diavik Diamond Mine
August 14-18, 2014

Prepared by Natasha Thorpe, Joanne Barnaby and
Mistrelle Lockhart

Why?

- The TK Panel
 - recommended a session on vegetation
 - expressed the need to review TK material that has already been shared
 - doesn't want to repeat themselves
 - respects the contributions of Elders from the past



What did we find?

- TK is an oral tradition: more is known than is written
- Over 100 reports reviewed: 25 reports most relevant
- People know a lot about both individual plants and their importance to the environment



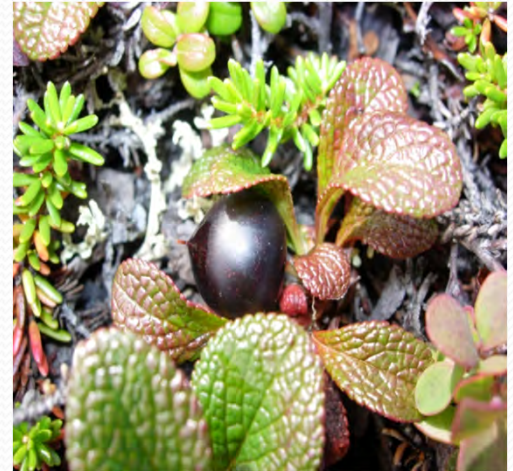
What did we find?

- TK helps us understand connections between:
 - vegetation and animals
 - vegetation and people
 - vegetation and weather and climate (water, temperature)
 - vegetation and land (slope, freeze-thaw cycles)



What did we find?

- Traditional use of vegetation includes:
 - Subsistence (eating, nutrition)
 - Medicine (healing, prevention, treatment)
 - Technology (fire starter, sleeping pads)
 - Animal Food and Habitat (caribou - lichen, bears -willow)
 - Cultural Importance (cottongrass to light the *qullik*)



Questions for our Session

- How do we re-vegetate to keep wildlife safe?
- Which habitats or plants create safety for wildlife?
- Where should habitats or plants be placed?
- What should DDMI do with site roads?



Appendix H

Presentation on Closure Plan

Diavik Diamond Mines

**Closure Planning for Vegetation (Plants)
TK/IQ Panel Discussion #7 – August 2014**

Document #:
Template #: DCON-029-1010 R2



Closure Planning for Vegetation

Content

Re-vegetation – focus for TK Panel Session 7

- How does Diavik monitor plants right now?
- Closure plan research & development for re-vegetation
- Mine site facilities overview
- Information requests for the TK/IQ Panel

1998 Pre-feasibility



400 0 4

Current Site-wide Closure Objectives

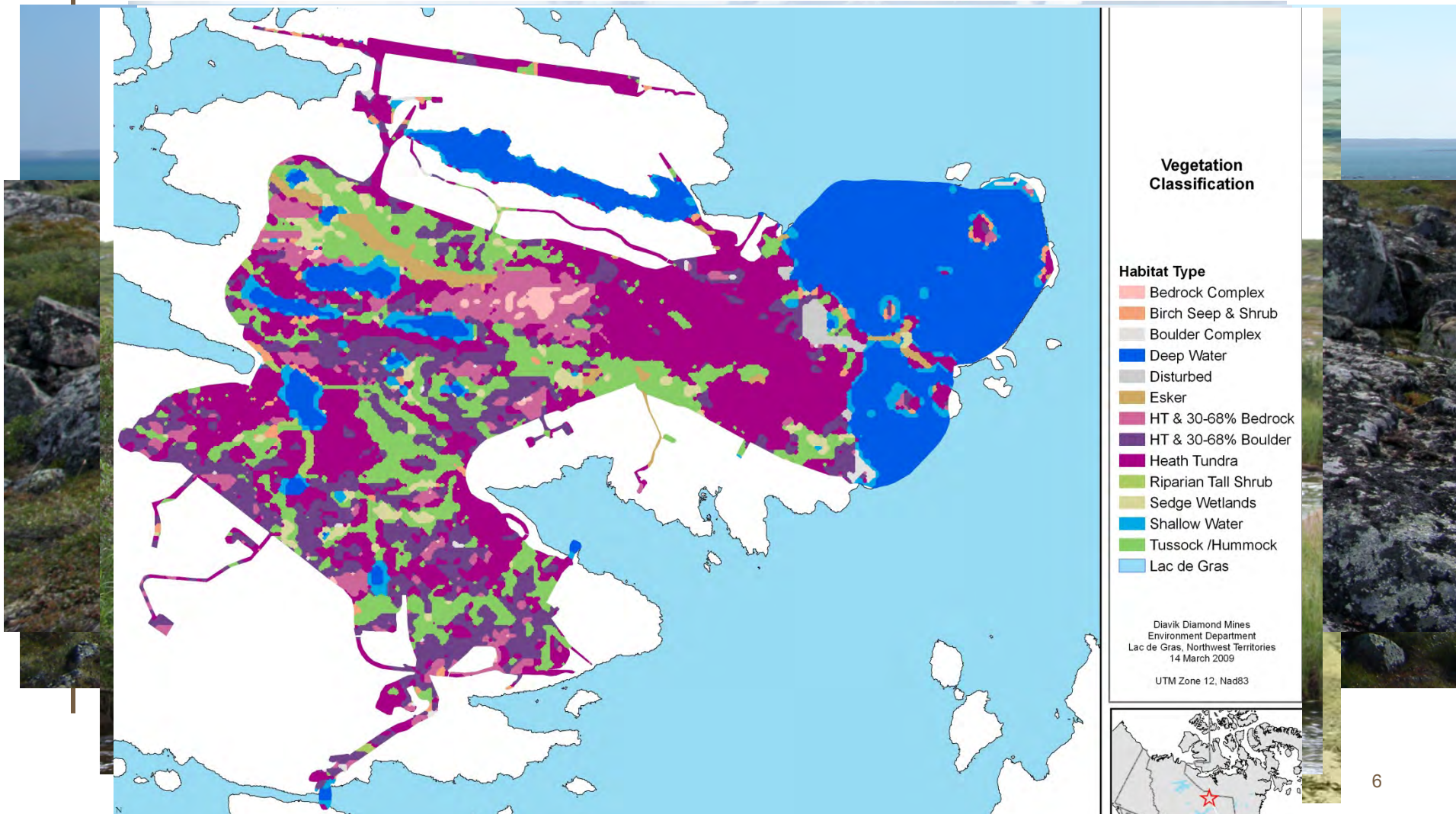
- Safe dust levels that do not affect the taste of plants for wildlife.
- Re-planting targeted to priority areas.
- Features on the land (plants) that match what is naturally found in the surrounding area.
- Safe passage and use for caribou and other wildlife.

Diavik Closure Goals

- Land and water that is physically and chemically stable and safe for people, wildlife and aquatic life
- Land and water that allows for traditional use
- Final landscape guided by Traditional Knowledge
- Final landscape guided by pre-development conditions
- Final landscape that is neutral to wildlife – being neither a significant attractant nor deterrent relative to pre-development conditions
- Maximize northern business opportunities during operations and closure
- Develop northern capacities during operations and closure for the benefit of the north, post-closure
- Final site conditions that do not require a continuous presence of mine staff

How does Diavik monitor plants?

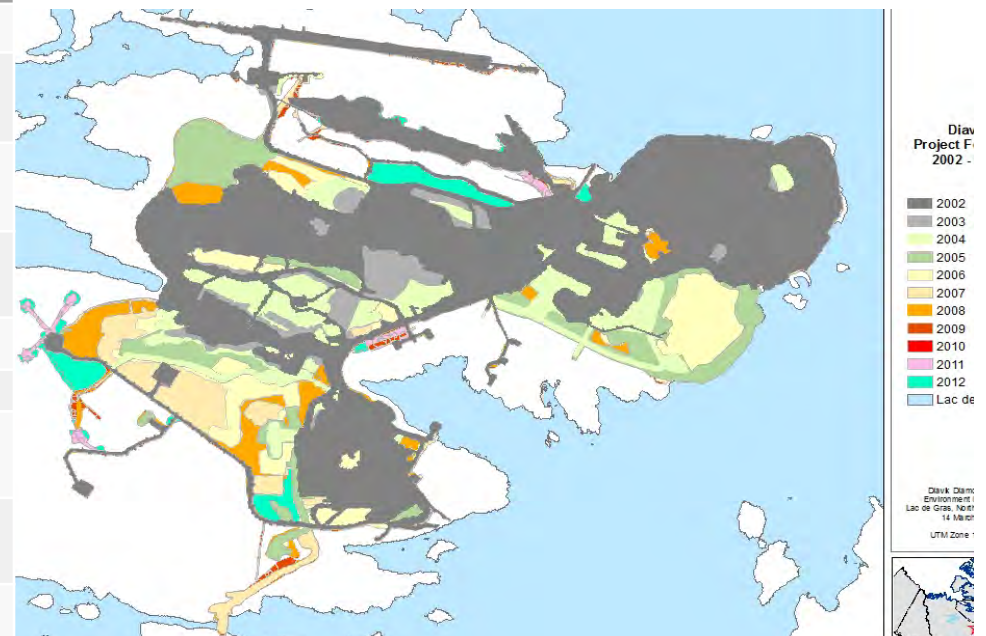
- Baseline



How does Diavik monitor plants?

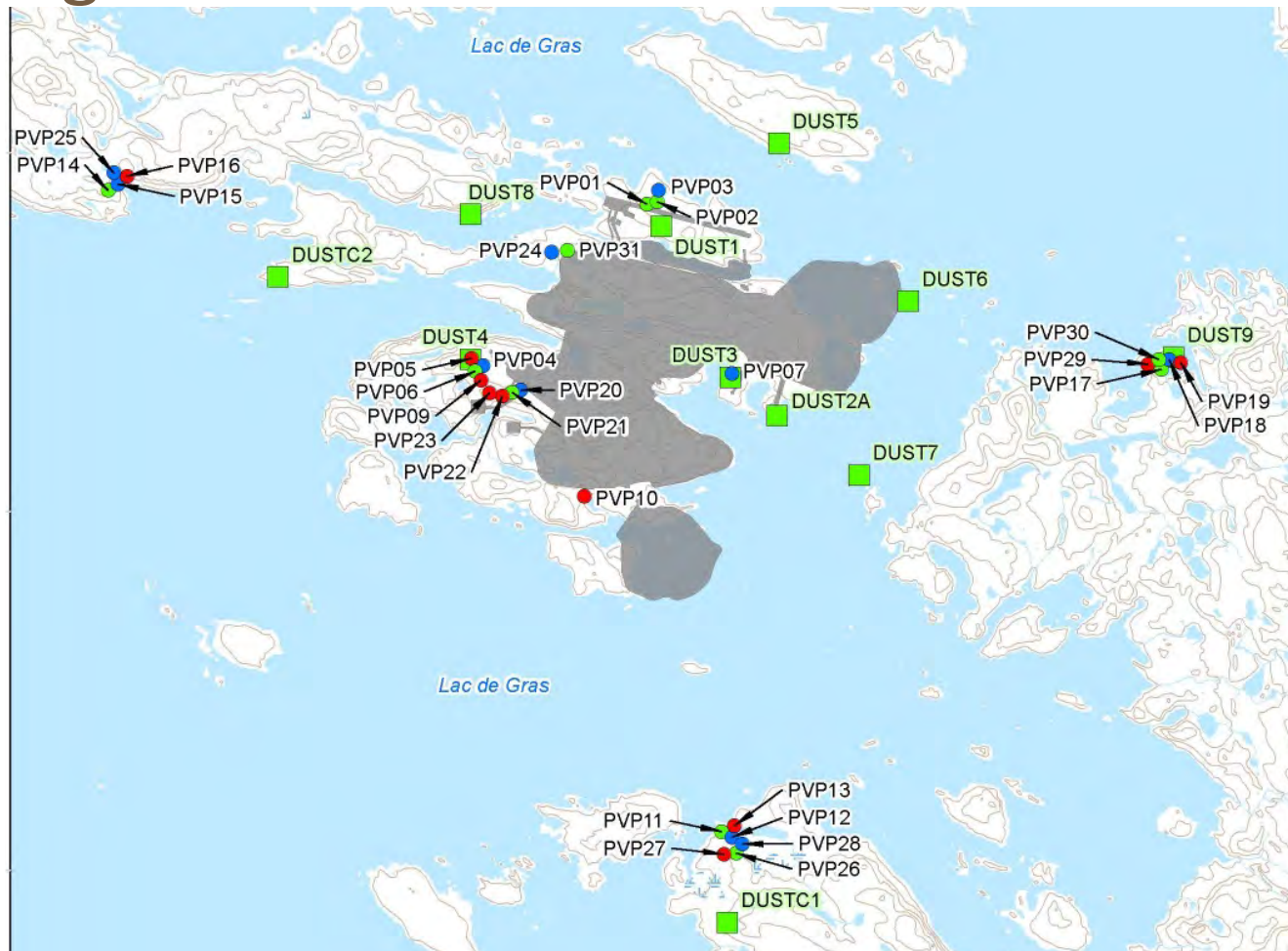
- Habitat loss to date

Habitat Classification	Total Area (/km ²) to date	
	2013	Predicted
Heath Tundra	3.2	3.68
Heath Bedrock (30-68%)	0.64	0.78
Health Boulder (30-68%)	1.62	1.89
Tussock/Hummock	1.46	1.64
Sedge Wetland	0.22	0.26
Riparian Shrub	0.03	0.03
Birch Seep & Shrub	0.1	0.11
Boulder Complex	0.04	0.05
Bedrock Complex	0.07	0.07
Shallow Water	0.36	0.48
Deep Water	2.13	3.46
Disturbed***	0.06	0.06
Esker	0.17	0.16
Total (km²)	10.12	12.67
Total (mi²)	3.91	4.89



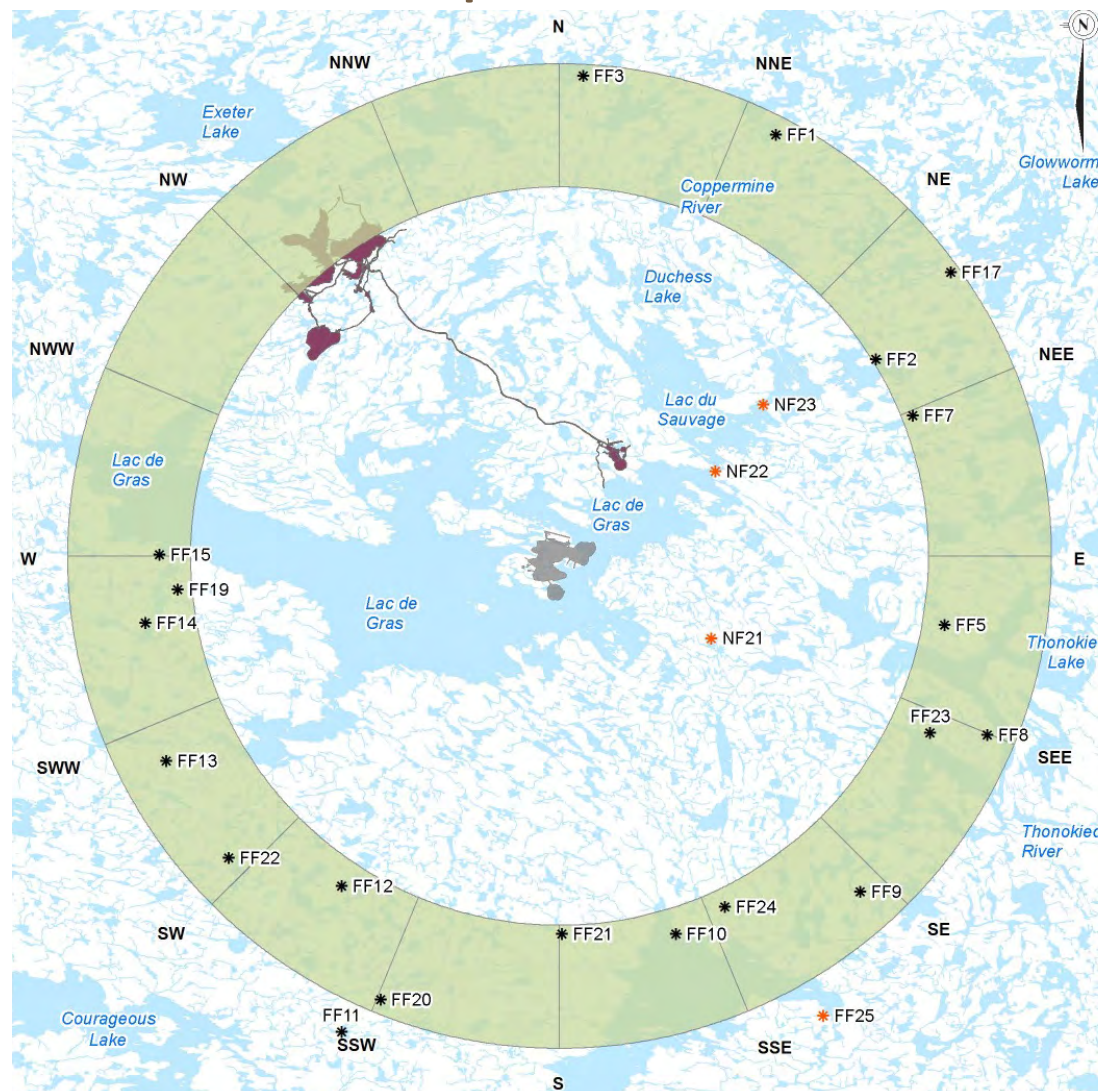
How does Diavik monitor plants?

- Permanent Vegetation Plots (PVP's) & Dust Gauges: on and off site



How does Diavik monitor plants?

- Metals in lichen & possible risks to caribou



Re-vegetation Research

- Testing plants, methods and different materials that can act as soils for use in closure



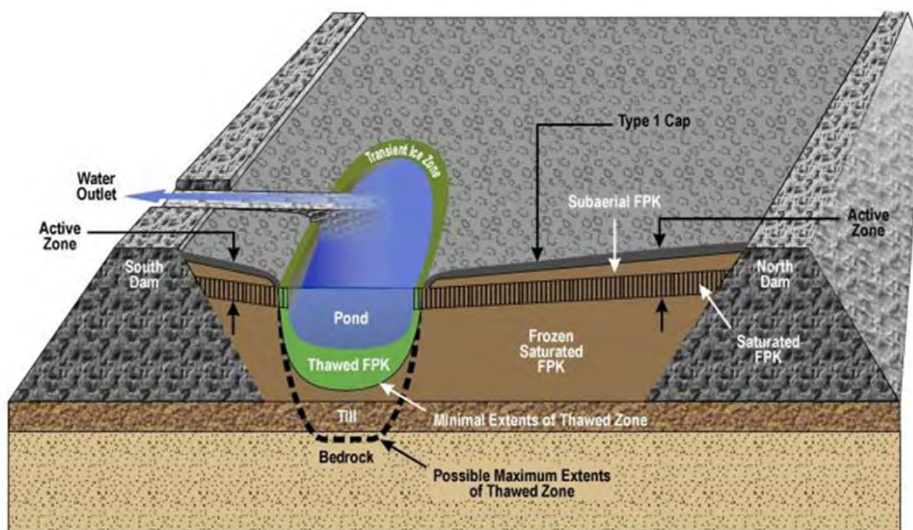
DDMI Closure Plans – the mine site

- The footprint of the mine will remain identifiable on the land
- Most of the areas you see around site that are still in their natural state will stay that way



DDMI Closure Plans – rock pile & PKC

- The approved closure design does not include re-vegetation of the rock pile or the PKC



DDMI Closure Plans – roads

- Approach to restructuring site roads is yet to be determined



Research on Plants & Soils – What have we learned so far?

- ‘Soils’



Research on Plants & Soils – What have we learned so far?

- Amendments (similar to fertilizer)



Research on Plants & Soils – What have we learned so far?

- Plant growth



What have we heard from you so far?

Experiment with possible deflection zones

Re-vegetate the bottom of the rock pile with shrubs

Create marshy areas with moss, lichen & berries

Leave the airstrip intact – do not re-vegetate it

Re-vegetate according to baseline TK

Create wildlife habitat

Smooth slopes on sides of roads & scarify surfaces

Use willow to stabilize ground

Try to re-create natural conditions if possible

Leave some steep areas for denning

Re-vegetate to support biodiversity

Provide travelways for caribou made of soft materials

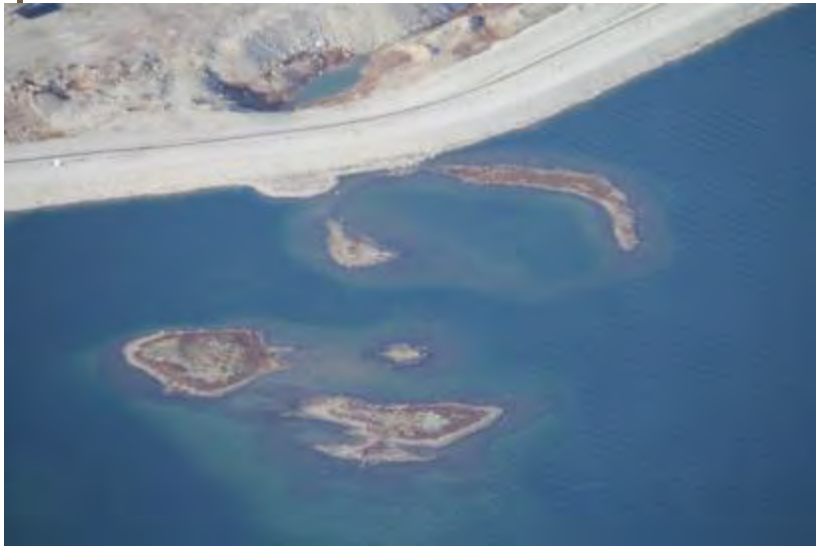
Re-vegetation at Closure – Requested Input

1. At a side-wide level, what is the best approach to re-vegetation to help wildlife stay safe?
 - a) Passageways
 - b) Stay and play
 - c) Keep away
2. What kinds of habitats or plants would be useful in creating that approach?
3. Where should these types of habitats or plants be placed; equal effort across the site or area-specific focus?
4. What should DDMI do with the site roads?

Overview of Closure Plan by Area



Open pits



Rock Pile



North inlet



PKC



Infrastructure



Re-vegetation at Closure – Requested Input

1. How do we re-vegetate (grow plants) to keep wildlife safe?
2. Which habitats or plants create safety for wildlife?
3. Where should habitats or plants be placed?
 - a) Focus on certain areas or use the same amount of effort all over the site?
4. What should DDMI do with the site roads?

Appendix I

TK Panel Recommendations

TK Panel Session #7

Recommendations

Diavik Diamond Mine

August 14-18, 2014

Introduction

- This TK Panel Session on Vegetation was requested by the Panel
- Diavik asked for direction on four key questions related to vegetation
- The TK Panel has provided general comments, responses and recommendations

Questions posed by Diavik

- How do we re-vegetate to keep wildlife safe?
- Which habitats or plants create safety for wildlife?
- What should Diavik do with site roads?
- Where should habitats or plants be placed?

General Comments

- Nature is powerful, natural re-vegetation should be encouraged overall
- At the same time, some re-growth should be encouraged
- There are specific areas where re-vegetation should not be encouraged out of concern that any possibility of contamination going up the food chain should be avoided: there are areas where we do not want wildlife to forage

General Comments

- There is a lot of TK that has been shared in the past about specific plants and their uses by people and animals, the completion of the literature review report together with results from our session will give specific direction on some of the questions raised by Diavik
- Climate change is affecting vegetation now – this will only increase in the future – warming is introducing new species and everything is growing faster
- Wild fires south and west of the mine may force wildlife to come closer to the mine as their food source gets burned: smoke and ash from the forest fires will impact the air and vegetation

General Comments

- It is important to always get the women's perspective – they have specialized knowledge that is needed to make good recommendations
- The Panel supports the research being carried out by the University of Alberta students and wants to work together to watch that develop over time
- The work of the TK Panel should be shared with the students

General Comments

- The TK Panel needs to meet more often in order to keep the momentum going
- Diavik has said they will not remove the slime from the mine site, we must re-visit our recommendations to re-vegetate the PKC
- Since the diamond mines started, caribou are migrating further south and east

Recommendations: How do we revegetate to keep wildlife safe?

1. Do not disturb new areas, protect natural vegetation areas on the Island (except for A21 and the rock pile for A21)
2. Study vegetation east and north of the Island to understand good caribou habitat
3. Use traditional techniques (e.g. flags, trees) to keep caribou away from areas that are unsafe (both near and far from site)
4. Test both natural and seeded plot plants for toxicity

Recommendations: Which habitats or plants create safety for wildlife?

5. Create safe passage for caribou over the rock pile and through the site following their old migration routes on the north and south east sides (see map)
6. Use fine crushed rock on passage-ways to protect the feet of the caribou (like what is on the sides of the airstrip right now – August 2014)
7. Create barriers and other means between rock pile and PKC to discourage animals from to the PKC
8. Allow more time for TK Panel to talk about options for keeping animals away from certain areas (e.g. fencing)

Recommendations: What should Diavik do with site roads?

9. Create slopes on roads and on the rock pile similar to that on the test pile to support safe travel for animals using crushed rock on the surface (like airstrip)

Recommendations: Which habitats or plants create safety for wildlife?

9. Transplant a variety of natural 'tundra mats' and compare them to seeded test plots; this will help natural recovery by maintaining the biodiversity of the area
10. Use the natural tundra mat to guide plant selection to ensure natural balance (learn from the quilt)

Recommendations: Which habitats or plants create safety for wildlife?

12. When using fertilizers, use natural local fertilizers like droppings from local animals (the question of treated human sewage will be revisited)
13. Complete the TK literature review report so that it can be used as a guide in the vegetation program and closure plan and be available to communities

Recommendations: Where should plants and habitats be placed?

14. We need to revisit the North Inlet in terms of it being a no go zone, replanting zone or encouraging wildlife zone.
15. The maps are not yet complete and we need to spend more time discussing and finalizing them.
16. The TK Panel would like to mark maps that show TK of traditional caribou migration routes and use this “big picture” to identify areas for sloping (modification) on the East Island
17. Have a women’s only session in the field next summer to address vegetation and other issues of interest to them

Recommendations: TK Panel membership and operations

18. Diavik must meet its commitments to support a minimum of two TK Panel sessions a year
19. TK panel members need to verify TK recommendations with elders back home
20. Require one male and one female member on the TK Panel (or formal alternates); where possible, members must know the LDG area (directed to Aboriginal governments)
21. Formalize our recommendations to Aboriginal governments to have youth participate
22. Celebrate our TK Panel as a model for other mining companies

Recommendations: Topics for Future Sessions

- Panel (vs. DDMI) to develop a list of questions to answer related to closure, and establish priorities to guide future sessions
- Review ‘big picture’ closure and reclamation plan and share literature / report review jointly with EMAB
- Develop a plan for including both traditional knowledge and western science in regional monitoring for post closure
- TK Panel to draft letter to other mining and exploration companies and governments regarding opportunities for Aboriginal peoples in closure

Recommendations: Topics for Future Sessions

- Water, fish, shoreline, muskeg, plants/filtration at closure
- Air quality
- Knowing the slime is not going to be removed, pull together what has been said about the PKC and tie this into another session
- Climate change impacts on closure
- Cultural landscapes and closure healing ceremonies to ask the spirits to return

Recommendations: Topics for Future Sessions

- Update 'Working Together' Document
- Compare non-Native and Native plants re-vegetation occurring naturally: how Nature is healing
- Seeing with Our Own Eyes
 - Want to see what is being mined (e.g. diamonds) so we can believe what is being mined
 - Pits: Panel wants to go into the pits and to the water treatment plant, some want to go underground

Recommendations: General

- DDMI should request regular meetings in each community with women during annual updates
- Provide participants with a copy of this presentation to take back to the communities

Cumulative Effects

- Support from Diavik requested by TK Panel to:
 - Acknowledge the problems created by multiple industrial activities (exploration and development) occurring at the same time along the caribou and fish migration routes
 - Encourage Regulators to limit the number of mines operating at one time to recognize that the land and animals can only handle so much especially when climate change is also happening fast. No further industrial activity on migration route should be approved until the caribou population grows.

Cumulative Effects

- Create a joint TK Panel session with other mines to address issues of concern around closure in the area (e.g. caribou migration, water and fish in Lac de Gras): work together
- Develop a map that brings together known caribou migration routes and calving grounds of the past (TK from all five groups) – Bathurst and Beverley
- Encourage the filling of the Misery Pit as it is in the middle of the caribou migration route (TK Panel to draft letter to EKATI)

APPENDIX IX-1.7

Reefs & Water Monitoring

DDMI Traditional Knowledge Panel Session #8

FOCUS ON REEFS AND MONITORING WATER

Yellowknife, NT
December 2–4, 2015



Thorpe
Consulting
Services

**Diavik Diamond Mines (2012) Inc.
Traditional Knowledge Panel Report**

Session #8: *Focus on Reefs and Monitoring Water*

Yellowknife, NT
December 2-4, 2015

Facilitation

Joanne Barnaby, Joanne Barnaby Consulting
Natasha Thorpe, Thorpe Consulting Services (TCS)

Participants

Kitikmeot Inuit Association	Bobby Algona, Nancy Kadlun, Ethan Kadlun (youth)
Łutsel K'e Dene First Nation	August Enzoe, Bertha Catholique, Lucas Enzoe (youth)
North Slave Métis Alliance	Ed Jones, Kathy Arden
Tłı̨chǫ Government	Dora Migwi, Louie Zoe, Janelle Nitsiza (youth), James Rabesca (interpreter)
Yellowknives Dene First Nation	Mike Francis, Fred Sangris, Mary Louise Black (youth), Berna Martin (interpreter)

Observers/Presenters/Visitors

Fisheries and Oceans Canada	Julie Marentette and Georgina Williston (presenters)
Environmental Monitoring Advisory Board	John McCullum
North Slave Métis Alliance	Chloe Dragon Smith
Tłı̨chǫ Government Lands Department	Phoebe Rabesca
Diavik Diamond Mines Inc.	Gord Macdonald
C&E Consulting	Colleen English
Thorpe Consulting Services	Janet Murray (transcriber)

Interpreting equipment provided by Pido Productions.

Background

The TK Panel is mandated to assist Diavik Diamond Mines (2012) Inc. (Diavik) and work with local communities in facilitating appropriate and meaningful accommodation of Traditional Knowledge (TK). The TK Panel provides guidance in environmental management and monitoring as well as in closure planning at the Diavik Diamond Mine. From 2011 through early 2013, TK Panels were assembled by the Environmental Monitoring Advisory Board (EMAB) to discuss select concerns related to the Diavik Diamond Mine. The most recent session was held in Yellowknife, NT from December 2–4, 2015 and was the fourth in a series of TK Panel sessions now administered under Diavik rather than EMAB, but the eighth in the series of TK Panel sessions.

Session Purpose

This eighth session focused on Diavik’s closure plans in relation to water monitoring and the dike, including reef construction and shoreline design options. Both small scale and landscape level considerations for the immediate mine site (e.g., East Island) and broader Lac de Gras area were discussed (Figure 1).

The TK Panel drew upon their knowledge of fish and water, as well as observations made during previous site visits and the 2015 AEMP TK Camp, ultimately elaborating further on concepts, values, understandings, and complexities offered in earlier TK Panel sessions (e.g., advising that undisturbed areas within the dike should not be disturbed when the reefs are constructed). The TK Panel developed recommendations and commented on future sessions for review and consideration by Diavik.

Session Goals and Activities

The TK Panel reviews closure plans for various areas of the mine, shares their knowledge in relation to each topic and presents recommendations to Diavik at the end of each session. In this way, they are continually increasing their understanding of the mine site and its closure challenges, while also directly influencing Diavik’s closure plans. The goals for Session 8 were to:

1. Provide an opportunity for TK Panel members to determine priorities and methods for managing and monitoring water post-closure.
2. Review the results of the 2015 AEMP TK Study.
3. Consider fisheries habitat upon closure, specifically the proposed reefs within the dikes.
4. Learn how recommendations provided to Diavik in the past session are being considered presently.



Figure 1 Diavik Diamond Mine 2015

This three day TK Panel Session was held in Yellowknife and structured according to these key goals. At the outset of the session, the group reviewed the proposed format, scheduling and agenda. An evaluation process held at the end of the session helps to improve future sessions.

We are talking about the importance of the water. This is our land. That our land won't be so disturbed that we'll have it forever and we are not talking for ourselves we are talking for our future, that we would always have the water clean. – Louie Zoe, December 2, 2015

Report Overview

This report first outlines key themes around water and fish related to closure planning that were discussed during the session and closes with recommendations made by the TK Panel. Appendix A includes some photos from the session. Appendix B includes the session agenda while Appendix C contains a blank copy of the informed consent form that was signed by participants new to the TK Panel. Since it was not possible for the participants to review the session transcripts, these are included in draft form only in Appendix D.

Bobby Algona and August Enzoë gave a detailed update of the AEMP TK Study (see Appendix D [Day One] and Appendix E) highlighting the summer camp, recent verification session, review the related draft video-documentary [<https://vimeo.com/artlesscollective/wefishtodayforfishtomorrow>] and report conclusion [available through Diavik public registry: <http://www.mvlwb.ca/Boards/WLWB/SitePages/registry.aspx> after March 2016]. Diavik provided an update of the closure plan (Appendix F) and reported back on TK Panel Session 7 recommendations on vegetation (Appendix G). Diavik also reported on water quality (Appendix H) and presented an informative / educational presentation on fisheries habitat, with a focus on reefs (Appendix I). The Department of Fisheries and Oceans Canada gave a presentation on reefs/ shoals (Appendix J).

On the morning of the last day, the youth collaboratively presented the work of the TK Panel to Gord Macdonald through a presentation outlining key observations and comments as well as recommendations on reefs and monitoring water (Appendix K). A short presentation delivered on the next steps is included (Appendix L), followed by a summary of participant evaluations (Appendix M).

Proceedings: Key Themes

The key themes discussed throughout the session included:

1. It is important to continually monitor water quality and quantity after closure using both TK and western science.
2. With slight modifications, the current Aquatic Effects Monitoring Program (AEMP) TK Study is strongly supported and should continue at the current location until at least 2018.
3. Fish need to be respected and have different habitat considerations for different life-stages.
4. Youth need to be involved, both now and in the future.
5. Diavik and the TK Panel is a model for collaboration between western science and TK.
6. The future is uncertain and efforts to increase energy efficiency and monitor for climate change are important.

1. Continually Monitor Water Quality and Quantity after Closure

The TK Panel was unwavering in advising that water and fish continue to be monitored long after closure, both at the present site (e.g., East Island) within the dike and in surrounding waterbodies (e.g., Lac de Gras, the Narrows, Lac du Sauvage, outflow to Coppermine River). Discussions started with the current AEMP and included how a monitoring program should continue in the near future and post-closure. As part of these discussions, issues around water levels, flow and monitoring capacity of communities were frequently mentioned.

It's got to be monitored even after Diavik is gone. It's got to be Aboriginal people because it's our land. We don't want anything to happen, we don't want just anybody to walk away and leave it. So it's got to be monitored for the next generations, the next generations that are coming. It's got to be ongoing. Because it's water, it's the only thing that gives life. – Bertha Catholique, December 2, 2015

We do need to monitor an ongoing program for after the mine is closed, we've already heard that. Until we are satisfied - that is a strong phrase there - until we are satisfied. I think that speaks for itself, after the mine life is done. – Bobby Algona, December 2, 2015

Throughout the three days of discussions, the TK Panel considered which areas they would like to sample and why; how, where and whether to interweave TK and western science in water monitoring and specific features of the land that might clean or heal water.

The TK Panel expressed that Diavik has an ongoing responsibility to make sure that “all is well” and “people’s minds are at ease” but that community members want to help and ultimately take the lead today, tomorrow and long into the future.

2. Aquatic Effects Monitoring Program

The TK Panel voted to keep the current location of the AEMP camp until at least 2018. After closure, participants asked that Diavik consider options to donate camp facilities to people traveling to Lac de Gras and, if it is not possible to keep the current camp intact, that at least the tent frames remain.

The financial, logistical and capacity challenges of community members to continue AEMP activities (both the scientific and traditional knowledge elements) were raised multiple times. The Panel recognized that monitoring is costly and advised that Aboriginal groups should start working with governments and industry today to plan for closure tomorrow. A monitoring program similar to the AEMP could be administered through the Environmental Monitoring Advisory Board or another independent agency that could pull together the five Aboriginal groups and governments.

One suggestion was to use the bond posted by Diavik as a possible funding source to support monitoring post-closure. However, Diavik clarified that the bond is considered a “safety net” which is not meant to be used unless something extreme were to happen (e.g., company bailouts, bankruptcies).

Discussions of monitoring post-closure helped the TK Panel realize that current community capacity is not at a level where Aboriginal communities could take-over monitoring in the same way as is done presently. The importance of supporting monitoring training today thus becomes even more critical. Further, participants strongly advised that people start monitoring training now so that youth today can carry through to monitoring post-closure, equipped with *personal knowledge and experience* (i.e., the foundations of TK) of decisions and activities today. One suggestion was to build a school in the north specifically for monitoring; however, the TK Panel recognized that there are several existing monitoring programs to help build monitoring capacity:

- *LKDFN Watchers of the Land* (www.landoftheancestors.ca/team/ni-hatni-dene-program.html)
- Aurora College Environmental Monitor Training Program (www.auroracollege.nt.ca/_live/pages/wpPages/ProgramInfoDisplay.aspx?id=64&tp=PRG) or Environment and Natural Resources Technology Program (www.auroracollege.nt.ca/_live/pages/wppages/ProgramInfoDisplay.aspx?id=117&tp=PRG)
- BEAHR Environmental Monitoring Coordinator, etc. (<http://www.eco.ca/beahr/program-options/>)
- Programs such as CIMP that are supported by the territorial and federal governments

Aboriginal groups must continue to monitor fish and water long after closure in a coordinated and well-funded program that integrates TK and western science.

During the update of the 2015 AEMP TK Study, Bobby Algona and August Enzo mentioned that a few changes to the methods were suggested for next time, including tasting water in its pure form rather than as tea. The TK Panel discussed and supported this suggestion.

Figure 2 shows sampling locations for the scientific components of the AEMP that were developed with community input and are still supported by both 2015 AEMP TK Study camp participants and members of the TK Panel. However, given the importance of the Narrows to wildlife, fish and people, the TK Panel members advised that both fish and water should be sampled from this area henceforth for the TK component of the AEMP.

Water Quality Monitoring [Lac de Gras]

During this session, many indicators of good water quality from the TK perspective were shared. One example was that “bugs” within the lake have long been an indicator of good water for drinking.

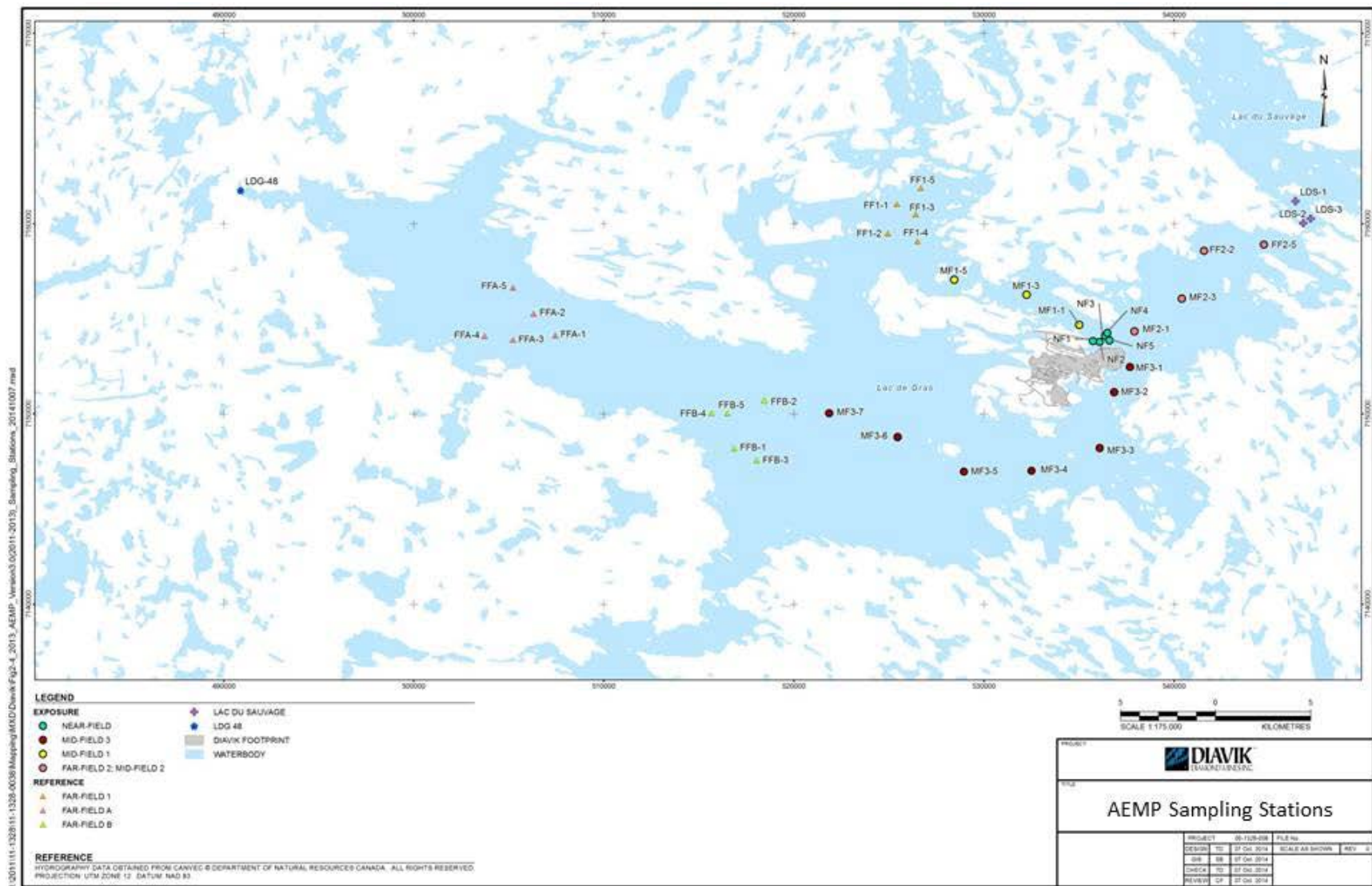


Figure 2 AEMP Sampling Stations

Even without water or tea testing, which I saw this summer when we did water sampling from underneath the lake. When the lake bottom comes up, we saw all kinds of little bugs and that makes me happy because I know the water is healthy because all those little bugs wouldn't be living if it was contaminated. They are so tiny and there were lots of kinds I was happy to see that. They are so tiny they couldn't live with the contamination. – Nancy Kadlun, December 2, 2015

Another example was that animals could be monitored to see if they drink from particular water sources. If they hesitate to drink or come near a water source, this might mean that the water quality is compromised.

TK Panel members spoke to the importance of continuing to taste lake water to evaluate quality. Lessons from TK suggest that the best drinking water comes from deeper areas, below the surface. One must look for scum on the surface of the water as well since this can be an indicator of poor or altered water quality.

When the water changes, there is a scum around the cup, – Fred Sangris, December 2, 2015

Fish tasting is also an important indicator of water quality. The TK Panel explained that when the water quality changes, the fish can taste different.

Water Quality Monitoring [Water flow in/around site]

In addition to the AEMP sampling locations, the TK Panel discussed in detail how water should be monitored in and around the current site, within the dike on the East Island and within the context of the current surveillance network program (SNP) as shown in Figure 3. After much consideration, dialogue with Diavik and review of current maps showing pit location, undisturbed areas and landscape, the TK Panel decided that when the pits are refilled and the dikes breached, the natural lands between the pits and dikes should be left alone to facilitate natural regrowth, and reefs of various heights and composition should be constructed away from existing vegetative growth and lake bottom sediments.

Participants emphasized that the land can heal itself and that vegetation and mosses are known to filter water. Placing mosses or encouraging certain types of vegetation to grow in key aquatic areas such as channels and shorelines should be considered as part of the closure plan and included in post-closure monitoring.

Given concerns about possible water contamination in the areas within the dikes, TK Panel members suggested that water quality monitoring on East Island post-closure should be done through scientific analysis and visual inspection led by the communities (i.e., not by tasting). However, tasting water in Lac de Gras and other areas farther from the immediate mine site would continue as part of any monitoring program such as the AEMP TK Study.

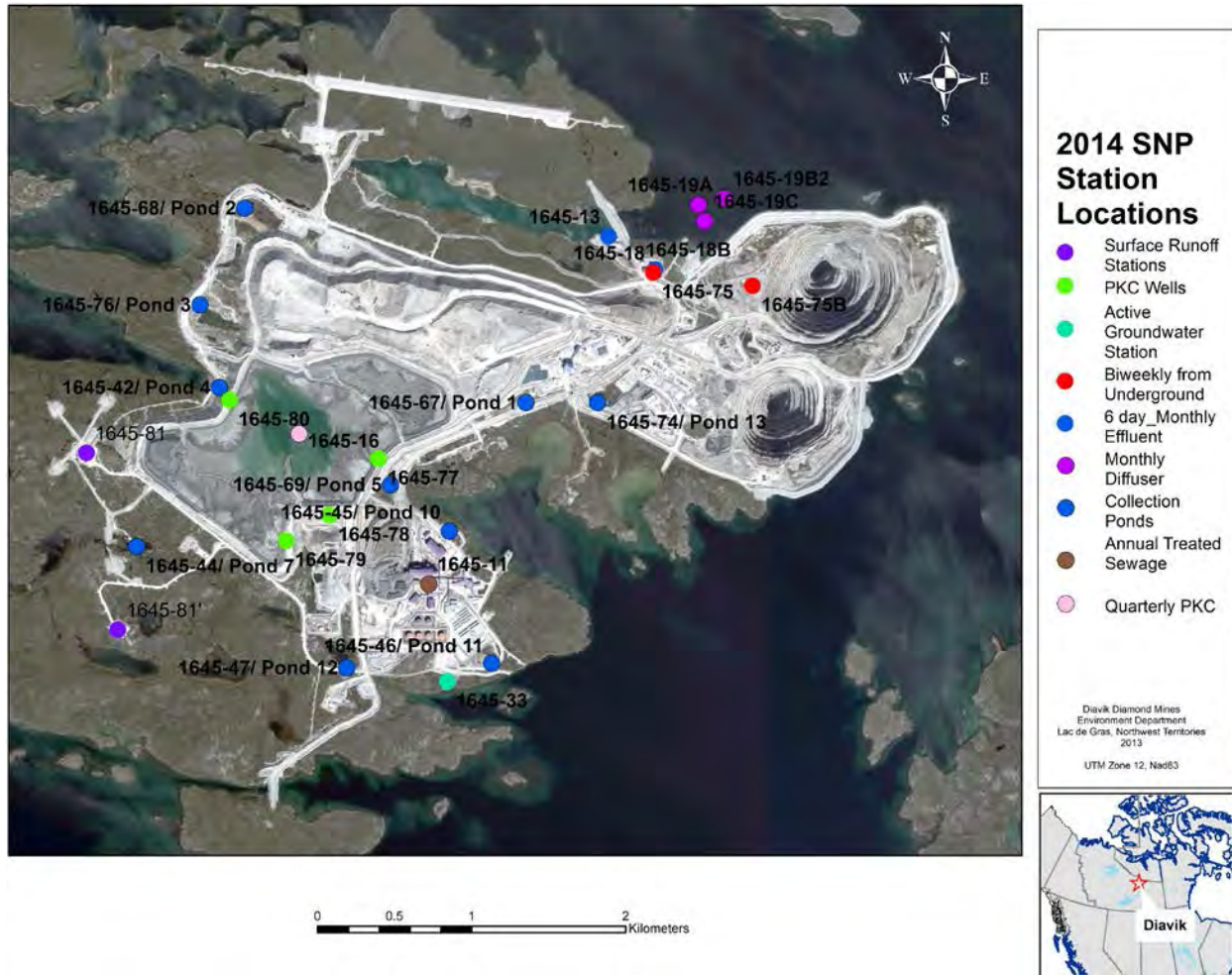


Figure 3 2014 Surveillance Network Program Station Locations

I know that the Elders don't want to drink the water there because there is still residue from the dynamite on the walls of the open pits, ammonia and so on, so I wouldn't want to drink it anyways but I think the idea of getting samples or continued study on that would probably be good. The pits themselves have to be studied, get the water, get it studied to check that the water is still the same or if there are any changes happening to it we need to know. But I think a lot of us here are not going to continue to be involved; most of us will probably move on but I think it's important to bring our youth, get them involved, educate them, they need to continue to be involved so that the monitoring can continue and the reports can come out and they can understand the reports so that 2030 maybe continue into the future, we don't know when is the end. – Fred Sangris, December 2, 2015

TK Panel members expressed concern about groundwater and how tunnels extending under the pits may lead to contamination. Diavik explained that they plan to remove any items from the pits and underground tunnels that would lead to water contamination. Given that water is saltier deeper under the earth's surface, water will be monitored within the pits as they are refilled. Extensive testing and monitoring of water is required before, during and after the dikes are breached.

3. Fish Need to be Respected and have Different Habitat Considerations for Different Life-stages

The third key theme that emerged from the session is that fish need to be respected and that they have different habitat considerations for different life-stages. Fish need special considerations: they can hear and feel what you are doing on the ice, they need shorelines that provide sources of oxygen, and pressure ridges or open water are well known areas that attract fish because of the oxygen. Presence of too much algal growth on shorelines can be an indicator that there is less oxygen for fish, so this should be monitored.

In future AEMP TK studies, the TK Panel advised that nets be set on both sides of East Island and that both fish and water be monitored.

The TK Panel discussed at length how artificial reefs, shorelines, and pits should be handled post-closure to maximize fish habitat. Participants outlined what makes habitat "good" for spawning, nursing, rearing, and resting with a focus on water movement, substrates and slopes. They considered potential reef shapes and sizes, the type and size of rock to use, and how deep underneath the surface of the water they should be. The TK Panel also considered the shorelines around the dike and pits, thinking about how they should be best modified for fish, wildlife and vegetation.

Reefs

After both Diavik and DFO gave presentations on how reefs are constructed to maximize fish habitat, TK Panel members advised that the current approach sounds reasonable and that efforts should be made not to interfere with undisturbed areas on East Island, within the dike and when constructing reefs. It was agreed that the areas within the dikes should not be constructed to encourage spawning, but focus more on rearing and resting.

They like to lay their eggs in a very sandy area, maybe not sandy but gravel, and it has to have a slope. The current can't be really strong but it has to be moving. . . . When the fish are born, they like that shallow area with a little bit of gravel. They don't like the sand, and most areas in the east where there is a lot of fine sand you always find dead minnows floating around. They have no protection to hide from the waves so the waves just wash them up and that's why we find

lots of minnows on those sandy beaches. After they are born they want to go into the shallow areas, so through the islands you will find lots of minnows. But they are not going to go in the pits. – Fred Sangris, December 3, 2015

Participants also clarified that a variety of shapes and sizes should be considered for reefs, but that they should not pose a safety hazard for travelers. Specifically, it was advised that the reefs remain low enough under the water that the ice still freezes solid. Reefs can affect currents and lead to open water if they are too close to the surface. If the reefs extend out of the water (i.e., become islands), snow and ice can accumulate such that the ice is not as thick in the middle of the lake due to insulation effects. Bobby Algona cautioned:

I have come across a lot of shoals . . . where I grew up and lived all my life and there are many, many shoals on this lake and I have to be really, really careful around those areas. . . . That was my big concern, for safety. Am I going to be safe coming to this place when there is a shoal there that I didn't know about, and it's keeping the ice thin. – Bobby Algona, December 3, 2015

Participants advised that in addition to substrate, currents are a determining factor in spawning site selection and successful spawning. Fish are known to lay eggs in shallow areas where there is current. After much discussion, it was suggested that there was good spawning habitat elsewhere in Lac de Gras and that this needn't be a focus for the reefs, shorelines, dikes or pits.

Shorelines and Pits

The TK Panel reviewed satellite photos of the current mine site (Figure 1) and drew from their experiences “seeing with their own eyes” while onsite to conclude that the shorelines on the dikes can be left largely as-is. The group agreed that upon closure, the roads leading down into the pits could be left as-is, but the approximately 1 km cliff along the shoreline of Pit A418 should be modified such that caribou and other animals can have easy and safe passage. Session participants thought that the caribou might fall or be chased off the cliff in Pit A418.

Yes I understand there is a drop about 10 feet which is dangerous for the caribou and the wolves and the foxes. So before the water is pumped back in there, I suggest maybe you put some sort of a slope. – Louie Zoe, December 3, 2015

Further discussion clarified what modifications might work:

What if you left pieces of it as a cliff but add pieces of gradual slope for the caribou? – Gord Macdonald

Yes, that would work. – Bobby Algona, December 4, 2015

Participants agreed that the shoreline around Pit A154 can stay as-is and didn't pose any hazards. Given the challenges of providing guidance without seeing the pits and shorelines at the site, the TK Panel members asked that they be given the chance to visit these areas to see for themselves and provide specific in-the-field guidance on the shoreline to Diavik at a later date.

During closure and when building reefs or making modifications to shorelines, the stages in the moon cycles should be considered as they are well known to affect water flow and currents.

You can use a fish line as an indicator of current and watch how it changes; it is important to understand currents in Lac de Gras and Lac du Sauvage when thinking about reefs, shorelines and pits. – Bobby Algona, December 3, 2015

Pits

As in previous sessions, members of the TK Panel shared their concerns that the pits were not going to be re-filled with rock and that the pits would be too deep for fish habitat. People also discussed concerns about water quality in the pits once they are filled with water, as discussed above. Diavik reviewed the current closure plan and explained how the pits would be filled with water and tested for approximately five years before the dikes were breached. From that point, it was suggested that it would take “just a few short years” before the fish would return to the area.

4. Youth Must be Engaged

Although current efforts were recognized, better ways to engage youth by community members need to be explored. Accordingly, two youth from each Aboriginal group should be attending camps and meetings. It was recognized that elder panel members could help ensure that Aboriginal governments select appropriate youth in a timely manner. Both the importance of, and challenges with youth engagement have been discussed at every TK Panel session.

5. Diavik and the TK Panel Demonstrate a Collaborative Model

Collaboration between different groups, disciplines, and generations strengthens the nature and quality of the work that is carried out by TK Panel members as well as the resulting actions taken by Diavik (for example, see responses to recommendations from Session 7 in Appendix C). While the membership of the TK Panel has shifted slightly to become more gender balanced, many members have been participating since the TK Panel began in 2011. Such commitment levels are indicators of the success of the TK Panel and enable the members to move through a series of related topics with each session, building on their knowledge from one year to the next.

As Bobby Algona summarized:

I think there is a whole lot more things that we can learn from this as well and certainly as TK holders we have come to appreciate what scientists have brought as well. I think we need to work much more closely with the scientists as well so that scientists can learn from us as well as to how we came to learn these things.

– Bobby Algona, December 2, 2015

Early in the session, one participant asked Diavik how they could help advise Diavik regarding planning fish habitat when the pits were reconnected, given that TK Panel members had never seen this “problem” before. Yet the very point of the TK Panel is to facilitate interweaving TK expertise that simply may not have been applied in the same setting before, but nonetheless, is integral to a fulsome understanding by DDMI, scientists, TK holders, regulators, and northerners alike. Indeed, it is the commitment of TK Panel members and Diavik staff alike to respect one another’s perspectives and to see value in learning from each way of knowing that is at the core of this successful collaborative model.

. . . give a little insight about what the dangers might be and to get them to think a little bit about what your future might be with what the mining industry is doing and how the mining industry as well can help the youth with a program or what they might be doing in the future. That’s a most wonderful thing that we can do as Elders. We can have these that we can bring home and it makes it a whole lot easier to explain to the young generation with these tools. – Bobby Algona, December 2, 2015

One thing that we can probably use is, we all come from different communities, maybe there is something we can bring back to the community to show them what we are doing and they can see the progress we have made. So our community people have an idea, you were involved, we are helping with the recommendations, this is how closure is going to work and this is how we are going to be monitoring. We need to show something to the community so they know the mines are not being abandoned and you are not walking away. So there is progress and there are people thinking about the future. And safe guards are there. – Fred Sangris, December 3, 2015

Given the success of this collaborative model, the TK Panel members emphasized that materials that reflect this collaboration in monitoring and planning should be shared publicly and widely. Educational “tools” such as videos (DVDs), books, photos, should be given to TK Panel members as well as more widely distributed. Reports and video-documentaries developed for the AEMP TK Studies of 2012 and 2015 are examples of such materials.

6. Increase Energy Efficiency and Monitor Climate Change

This particular TK Panel Session took place the week after the *COP 21: UN Climate Change Conference* such that environmental issues, in general, and climate change impacts, in particular, were on people's minds. Throughout the session and during the breaks, TK Panel members spoke of the importance of this global conference. It was as if the conference provided a certain level of urgency and responsibility as well as empowerment to the work of the TK Panel. Such discussions provided opportunity for Elders and youth to come together to talk about the mining industry, climate change and the accompanying responsibilities held by Indigenous peoples in monitoring their lands.

I notice everything around us here, when I look at things, how many ounces to make this one tool that we use. How many ounces to make this one microphone that we use as a tool? . . . Looking at all that, we need to think a whole lot more about the mining industry itself. We can't get away from the mining itself, I see very far into the future the mines are going to be ongoing all the time now, we cannot get away from it. I think even though I have a lot of qualms about the mining industry itself, then I start to look at a lot of other good tools that they make alright but I always think of something that we should be doing. – Bobby Algona, December 2, 2015

I like that Bobby touched base on the environment. I think what Diavik and all these mines really need to take into consideration is doing things more energy efficient now, not in the future, not when we are closing but now. Work on the little things, it's the little things that count; they make big things one day. So any little thing that we can do to help the environment because climate change is here, it's in our face, we need to deal with it now otherwise none of us will be here and its really serious. – Janelle Nitsiza, December 2, 2015

Youth Lucas Enzo asked the group: “Are we going to find an alternative way to make better tools for a greener place to help out the earth, or keep destroying the earth?”

Concerns about lower water levels across the North were also shared along with the concept that water is life-giving and precious:

Okay well I want to make a point, too. Water across the world is very precious. I think it's more precious than the diamonds that we are digging up because are you going to drink diamonds when the world runs out of fresh water? I don't think so. – Janelle Nitsiza, December 3, 2015

The TK Panel spoke to the importance of planning for climate change through closure and post-closure:

My concern is the volume of water that we have right now. We know lakes are becoming very low now. Global warming has an effect on this, too. Are we going to have rain coming down in the future? Looking at it in the future we are not getting much rain right now that's what I have been really worried about. Are the natural levels going to come back to Lac de Gras due to climate change as well? And having that volume going back into the pit was my concern; taking that little bit along with global warming and not much precipitation over the last few years, that is my concern. – Bobby Algona, December 3, 2015

Outcomes: Recommendations

The TK Panel collectively developed 33 unanimous recommendations related to reefs and monitoring water at closure (Appendix K). These recommendations flowed from a common vision expressed during previous TK Panel sessions that the mine site be returned to the most natural state humanly possible and that monitoring efforts continue, in part, to support fish and wildlife.

Following observations and comments about fish, water, the AEMP, reefs (shoals), shorelines, and other general issues, the recommendations are divided by the following themes:

- AEMP TK Study
- On-Island
- Reefs
- Shoreline
- General

Recommendations are numbered to reflect the TK Panel session identification (i.e., Session 8) and to subsequently identify each specific recommendation (i.e., 8.1–8.33).

TK Panel Next Steps

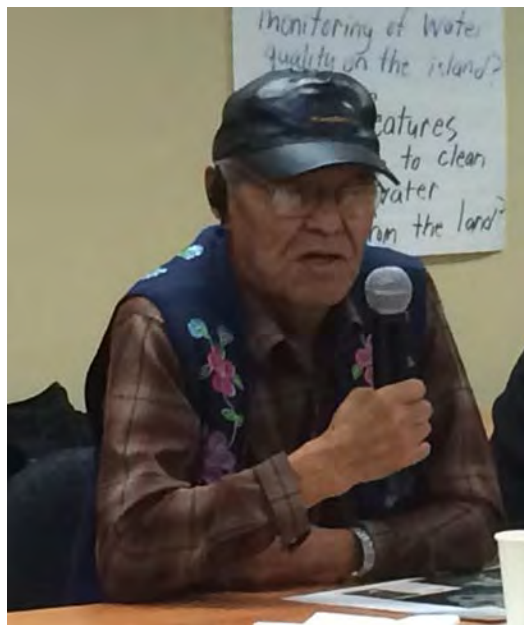
Following from planning carried out at previous sessions, Diavik gave an overview of the next TK Panel topics and schedule suggestions (Appendix L). The TK Panel supported the following suggestions: TK Panel Session #9 will focus on post-closure wildlife monitoring and be held on-site at Diavik in either May/June of 2016; and TK Panel Session #10 will focus on a closure plan update and landscape overview and similarly be held on-site. The TK Panel reiterated that they would like to visit the North Country Rock Pile to view the current height, the pit shorelines, areas planned for reef construction within the dikes, as well as the sewage treatment plant.

Appendix A

TK Panel #8 Session Photos



Dora Migwi



Mike Francis



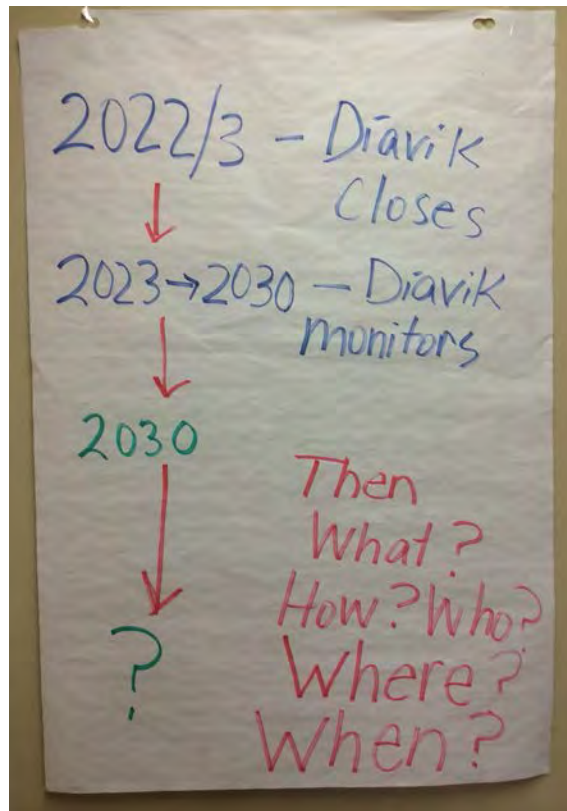
Janelle Nitsiza shares a laugh with Elder Louie Zoe. Janelle recommends humour as a way of connecting and bridging language differences with Elders.



Ed Jones and Kathy Arden participate in discussion (foreground); Chloe Dragon Smith and August Enzoe remember the AEMP TK Camp of 2015 together.



The Panel puts forth ideas for water quality monitoring [Nancy Kadlun; Bobby Algona; Ed Jones; Kathy Arden; Joanne Barnaby (L-R)].



The TK Panel provided guidance on post-closure monitoring, using flip charts, sticky notes and session recordings to capture their ideas.



Gord Macdonald of Diavik provides a diagram of the dike for discussion purposes.



Elder August Enzoe and Lucas Enzoe (foreground); Janet Murray and Mary Louise Black (background).



Fred Sangris reflects on his experience with the AEMP TK Camp to provide guidance on how water and fish should be monitored in the future.

Appendix B

TK Panel #8 Session Agenda



Agenda

**Diavik Diamond Mines Inc.
Traditional Knowledge Panel
Session #8: Aquatic Systems
Yellowknife, NT
December 2 - 4, 2015**

Wednesday, December 2

- 8:30 am Opening Prayer
- Welcome, Round Table Introductions, Review Draft Agenda, Workshop Purpose Overview
- DDMI Closure Overview & Session Focus
- Break
- 10:30 am Aquatic Effects Monitoring Program 2015 TK Study Update
- Group Discussion: *Monitoring fish health and lake water in the future*
- 12:00 pm Provided Lunch [Play AEMP Video from 2015]
- 1:00 pm Group Discussion: Cont'd
- Break
- 3:30 pm Recommendations Table Update Review
- Group Discussion: Recommendations
- 5:00 pm Close

Thursday, December 3

- 8:30 am Overview of Day 1
- Diavik Presentation: Water Quality Monitoring [water flow on/around site]



Break

Group Discussion: *Monitoring water quality on East Island after closure*

12:00 pm Provided Lunch

1:00 pm Shorelines & Fish Habitat in Lac de Gras after closure (Presentations by Diavik & DFO)

Group Discussion: *Shoreline and fish habitat design in Lac de Gras*

4:00 pm Review of Days Key Messages / Recommendations / Notes

5:00 pm Close

Friday, December 4

8:30 am Compile and Review TK Panel Recommendations for DDMI

Group Discussion

Break

Group Discussion

Noon Lunch

1:00 pm Present TK Panel Recommendations to DDMI

2:00 pm DDMI Preliminary Response to Panel Recommendations

Next Steps – plan for 2016 meetings

Break

3:30 pm Round-table

5:00 pm Closing Prayer

Appendix C

Informed Consent Form

Diavik Diamond Mines Inc. Traditional Knowledge Panel

Informed Consent Form

I (name) _____ on _____, 2015 give permission for Diavik Diamond Mines Inc. and its contractors to take notes, photographs and / or audio and video recordings related to my participation in meetings, workshops and events related to the Traditional Knowledge Panel established for the Diavik Diamond Mine. I understand that my participation includes meetings and workshops held throughout each year either in communities in the NWT or NU or at the Diavik Diamond Mine.

Through my signature below, I understand that:

1. I consent to have my words, activities and responses regarding and related to my knowledge recorded on maps, in notes and photographs, and using audio- and video-recording equipment (collectively referred to as Traditional Knowledge Data);
2. I am free to choose not to respond to any questions asked or participate in any discussions without prejudice or penalty;
3. I can choose to be anonymous in my participation without penalty;
4. My representative Aboriginal Organization, DDMI and / or its contractors may use the information collected to contribute to operations and closure planning at the Diavik Diamond Mine;
5. DDMI and its contractors may share my information which I have verified and given permission to share in either reports and/or photographs and provide such information to my Aboriginal organization and other regulators;
6. I agree that my contributions may also be used for future educational, cultural, heritage, and environmental purposes that are outside the scope of the TK Panel and that my representative Aboriginal organization, DDMI and/or its contractors will make all reasonable efforts to consult me, or my descendants, before using my information for purposes not indicated above;

7. I will receive financial compensation for my participation in accordance with DDMI policy;
8. I am free to request that any information I share is removed, erased or deleted and that I will have the opportunity to verify draft video-documentaries, reports and maps to make edits before I sign them off and that final copies will be provided to me;
9. I also understand that DDMI cannot ensure the protection of the Traditional Knowledge from public release once the reports are released (e.g., via youtube.com, Facebook, other social media, or Aboriginal group websites);
10. The Traditional Knowledge Data will be summarized and integrated with scientific data into a report, which will be publicly available.

Signed this _____ day of _____ 2015, in _____
Northwest Territories,

Signatures:

Participant

Aboriginal Organization

Diavik Diamond Mines Inc.

DDMI Contractor

Appendix D

Draft Session Notes

Appendix D

Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Wednesday, December 2nd, 2015**

2 **Joanne Barnaby:** Mike Francis will offer the opening prayer.

3 **Mike Francis:** Opening prayer

4 **Natasha Thorpe:** Welcome everybody it's good to see familiar faces around the table. I
5 am hoping everybody has an agenda. I am going to take a moment to walk us
6 through the next few days, planning for mine closure. Bobby and August are
7 going to give you an update on the AEMP, the fish and water testing camp, that
8 was held out at Lac de Gras this past summer.

9 We've got a video to show you at lunch time.

10 Before lunch we are going to talk a little bit about monitoring fish health and
11 lake water into the future.

12 At the end of the day Colleen will be presenting the response that came back
13 from Diavik to the last set of recommendations that you made in Session 7
14 regarding re-vegetation.

15 Looking forward to having a discussion about what the AEMP TK study might
16 look like after closure. 2022-2023.

17 Lunch is provided. DFO is coming in to talk about reefs and planning
18 construction for after closure and talking about how Diavik might do this and
19 what they can do today to plan that into the future.

20 So at the end of session we will review what we have talked about so far. Give
21 any specific feedback or recommendations. And then Gord from Diavik will be
22 here to listen to those and provide an initial response. And we will discuss
23 plans for 2016.

24 Questions, comments??

25 We have a few new faces at the table so I am just going to pass the mic around
26 so you can introduce yourself, your community and maybe tell us how long
27 you have been involved with the TK Panel for Diavik.

28 **Gord Macdonald:** I have worked for Diavik for almost 20 years now and always in the
29 environment department and currently my focus is on closure planning but
30 while it is currently my focus it was also my focus back in 1996 when we were
31 designing the mine and so a lot of those ideas that we had then and we got from

Appendix D

Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 the communities then are in the closure plan. And now we are coming back to
2 it after 20 years verifying where it is and working on the details of that, that I
3 will present to you later this morning. I have been involved with the TK Panel
4 from the beginning and some of its precursors and again I am looking forward
5 to working with you and hearing recommendations from you on Friday.

6 **Lucas Enzoë:** Hi my name is Lucas Enzoë and I am new for this TK Panel and I am from
7 Łutsel K'e.

8 **August Enzoë:** My name is August Enzoë and I sit on the wildlife management board for
9 Łutsel K'e.

10 **Bertha Catholique:** I am Bertha Catholique. Originally I am interpreter/translator and I have
11 been involved since before the Diavik mine had started and now they put me as
12 participant and I don't feel right sitting here at the table. I am supposed to be
13 back there (points to interpreter booth).

14 **Janet Murray:** Transcriptionist and I have been with the TK Panel for 2 years.

15 **Colleen English:** I worked for Diavik for about 10 years and I now do some consulting
16 back to them. I have been involved with the TK Panel since the start and
17 environment is also my back ground, similar to Gord, so I am here to sort of
18 help with the Panel and do a lot of the behind the scenes work.

19 **Mike Francis:** Mike Francis from N'dilo.

20 **Louie Zoe:** My name is Louie Zoe, I have been with the TK Panel for quite a while so I am
21 just trying to catch up and be able to have a good closure plan. And talk to
22 what the elders are looking for into the future.

23 **Janelle Nitsiza:** Janelle Nitsiza. I am from Whatì was with the Panel in 2013 when we
24 went to visit the site.

25 **Dora Migwi:** Hi my name is Dora Migwi and I am an elder from Behchokò. I have been
26 participating as an elder regarding the closure plan and the TK Panel. And
27 although I was scheduled to go to the fish study this past summer, there was a
28 problem with the community so I stayed behind but I am happy to be back.

29 **Phoebe Rabesca:** I work for the Tłıchq̓ government, and I am just new on the Lands
30 department. I was in finance for 10 years it is my first time here.

Appendix D

Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Nancy Kadlun:** My name is Nancy Kadlun, I work with the visitor's heritage center and
2 I am so happy I made it to Lac de Gras this summer.

3 **Ethan Kadlun:** My name is Ethan Kadlun from Kugluktuk and I am new to this TK
4 Panel.

5 **Bobby Algona:** My name is Bobby Algona. I am from Kugluktuk and I have been with
6 Diavik ever since they started up right from the beginning doing environmental
7 work and then from there I've done a lot of group sessions like this right from
8 the beginning. Closure programs, ongoing programs, I do a lot of those and
9 hoping that this will be a more communicative part that we have always been
10 working together and trying to come up with ways of helping Diavik with their
11 ongoing programs and closure programs. Thank you.

12 **Ed Jones:** My name is Ed Jones. I am a North Slave Métis Alliance elder I have been
13 involved with this since the beginning but missed one or two meetings that
14 were held on site.

15 **Kathy Arden:** Hello my name is Kathy Arden I am with the North Slave Métis Alliance and I
16 am new to the TK panel although over the years when Diavik first started I was
17 sort of on the other side of the table taking the notes and so it's going to be nice
18 to see how far the TK Panel has gone and hopefully I can put in some input
19 with you guys too.

20 **Joanne Barnaby:** I am one of the facilitators, I have been involved with Diavik in
21 different ways. First of all helping communities prepare for the meetings and
22 the hearings in the early days and I did some cross-cultural training work for
23 them. I have been with the Panel about 4 or 5 years now.

24 **Natasha Thorpe:** I am Natasha Thorpe and like Joanne I have been involved with the TK
25 Panel since it started. It was first run through EMAB then through Diavik, and
26 my personal goal is trying to bridge western science and Traditional
27 Knowledge.

28 House keeping issues, bathrooms are down the hall, keys are on the table.

29 **Colleen English:** Just if we did hear a fire alarm just go up the stairs and meet at the back
30 parking lot.

31 **Natasha Thorpe:** Gord will talk first.

32 *Presentation – DDMI Closure Overview (Appendix F)*

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1 **Gord Macdonald:** So what I wanted to do is to give a presentation at the beginning of
2 every TK Panel. How many people have not seen the site? And how many
3 people have not seen the closure plan?

4 As we go through the next few days I am not going to be here the whole time
5 but I am across the street so I can come back.

6 PKC is where the waste kimberlite goes and we spent a lot of time talking
7 about the North Country Rock Pile where the big boulders go. We talked about
8 re-vegetation, you made some helpful maps and the women won. That was the
9 best example the TK Panel has done so far because it's something we can use
10 now.

11 Back to the focus of what we want to look at today. We have heard the water is
12 equally important and we need to have a landscape where the water is in a
13 condition that doesn't affect the fish and wildlife. We have been monitoring
14 and in the future when the operations have stopped, we need to figure out how
15 that may change. And how we would monitor into the future so from a time
16 perspective, 2015 is almost over and I keep thinking that 2024 is a long time
17 away but it comes so quickly. So that's when commercial production would
18 stop. Then it would be 2025 when we would really want to start monitoring
19 how this closed system would affect the wildlife and fish.

20 *Presentation on screen*

21 How we got here. What it looks like right now. I have been involved with
22 Diavik 20 years this is the slide we took to the communities back then. Then a
23 slide that shows what it looks like now. They are largely the same. One of the
24 main reasons it didn't change is because it is on an island. But again just the
25 main pieces of it, the pits, then the rock pile. In the very middle of these (pits)
26 is where the kimberlite is. North inlet used to be part of the lake but is now part
27 of the island and is where all the water is stored before it is treated.

28 Closure goals.

29 -Land and water that is physically and chemically stable and safe for people,
30 wildlife and aquatic life

31 -land and water that allows for traditional use

32 -final landscape guided by Traditional Knowledge

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- 1 -final landscape guided by pre-development conditions
- 2 -Final landscape that's neutral to wildlife-being neither a significant attractant
3 nor deterrent relative to pre-development conditions
- 4 -maximize northern business opportunities during the operations and closure
- 5 -develop northern capacities during operations and closure for the benefit of the
6 north, post-closure
- 7 -final site conditions that do not require a continuous presence of mine staff
- 8 Overview of closure plan by area
- 9 -North Country Rock Pile
- 10 -PKC - consistency of toothpaste, wanted to know the chemistry of that
11 material, has been sent to a company in Saskatchewan and I will update later
12 on this week.
- 13 -North inlet- built a dam across so we could use the pond as part of our
14 treatment plant. Material has settled on the bottom of the north inlet.
- 15 -Buildings need to go somewhere – off site or into landfill, Wind towers?? Will
16 they still have value in 10 years?
- 17 -The pits and the underground – the road around it is actually a dam, the brown
18 part used to be the bottom of the lake, want to fill the pit with water for shut
19 down. The deep portion is not usable as it is too deep for freshwater fish but the
20 edges are usable.

21 **Kathy Arden:** What was the discussion about possibly partially filling that hole so it wasn't
22 so deep??

23 **Gord Macdonald:** You mean filling it with rock?

24 **Kathy Arden:** Yes from the North Country Rock Pile.

25 **Gord Macdonald:** We have had that discussion many times and the answers are it's not
26 something we could do practically. It would be prohibited expensive to do and
27 it was discussed from the very beginning that, that isn't an option for us. The
28 only way it might have worked, and it wouldn't work at this site, is if the
29 sequence of mining is that you're finished in one before you dig the next one

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1 and you can directly fill it that way. But all of our pits are still working because
2 we've got underground mining underneath them so you can't fill them back in
3 while you've got all of the mining going on underneath it, so it doesn't work at
4 this site.

5 **Kathy Arden:** So now your North Country rock pile there, are you going to reform that to the
6 land? Is that what the plan was?

7 **Gord Macdonald:** Yes we are going to soften the slopes so that caribou can get up them
8 and people can get up them but mostly so that it's chemically safe, so that any
9 water that lands on it will stay in it and not come out.

10 **Kathy Arden:** So it will be a big hill. Okay, because you were talking about melting the ice
11 and all that because right now we have a lot of this environmental warming
12 things going on and is that a factor that you have in your formula?

13 **Gord Macdonald:** Yes it is, good questions. So the pits will be filled back in with lake
14 water.

15 **Natasha Thorpe:** The water will sit in there 5 years.

16 **Gord Macdonald:** We will fill it but the dikes will still be fully in place so we can do all
17 the testing before we reconnect it to the lake. Build fish reefs but no fish could
18 go there until everyone is comfortable.

19 So that is just an overview for you.

20 **Ed Jones:** Gordy I am just wondering at this point, well your plans look pretty good and
21 what I want to say is, how can the TK Panel help you because we have never
22 had this problem before?

23 **Gord Macdonald:** Yes that is true but you also don't know what information that you do
24 have that you can share with us that will help us. Honestly take what a good
25 fish habitat is like. That's something you know you have, you've just never
26 applied it to this kind of a problem before. Same thing when you evaluate water
27 and say it is good or bad, how do you do that? How do you evaluate something
28 in a natural landscape, and can you use that to do this?

29 **Colleen English:** With water quality as well - with water on the island and also the water
30 in the lake - you can help in terms of where you would sample and why, and
31 what you are looking at based on what you would normally see.

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1 **Gord Macdonald:** Also I am very happy to have the Panel say that you want science
2 information on something like water chemistry and that's the information you
3 need. Then we will make sure that we provide and explain that.

4 **Nancy Kadlun:** Just wondering about if you have to fill it with water and it's going to
5 be very contaminated from the man-made dike and all the birds get in there and
6 have that water that would be bad. Or can we just leave it the way it is?

7 **Gord Macdonald:** All of the information we have is that it won't be bad water. It will
8 actually be very good water. But that is the question that everybody has and we
9 will talk a bit more about the studies we have done to test what the water is
10 going to look like. That's why we want to fill it before we connect it. If we just
11 left it, it will fill up with water, but it will just take a long time for it to fill, and
12 it also won't be as good of water. It will be from deep in the ground, not like
13 the water in Lac de Gras, so we would like to fill it up quickly with good water.

14 **Louie Zoe:** I'm concerned about not only the open pit that we see right there. I can see that
15 the company has gone underground and how they got there and then the water
16 is going to connect to all the tunnels under there. So what type of materials
17 have been left behind like air pressures, connecting to the underground steel
18 pipe and all that stuff that might be left behind that might be causing some
19 contaminations. And so these are things we've thought of before.

20 **Gord Macdonald:** Under both of the pits there is substantial underground workings that
21 would get filled and we would be leaving materials behind exactly like you
22 said - pipelines, ventilation - which we don't think would be a problem for
23 contamination. What we do need to remove is all of the motors or anything
24 with hydraulics, fuels, or lubricants that could get into the water. What we
25 would be removing is anything that could contribute to contamination. Once
26 we have approval, again maybe we need to have you come walk through the
27 tunnels and see that what we have left behind is okay to leave. Then we would
28 fill it up with water.

29 **Phoebe Rabesca:** If it's not filled with water then you say bad water is going to come up. I
30 just want to know where is the bad water coming from and where is the
31 contamination from and what kind of contamination is going to be in it and
32 from where?

33 **Gord Macdonald:** The deeper you go into the ground, the saltier the water gets. Its natural
34 but not what we see regularly, more like ocean water. We are a fair ways down
35 in the ground now and we measure water down there and that is much saltier

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1 then what Lac de Gras is. So if we leave the pits they will fill up with that
2 saltier water, that's the bad water.

3 **Natasha Thorpe:** Any other questions?

4 **Bertha Catholique:** When was the whole discussion on the open pit because I remember
5 when it was first started when you guys were going to go underwater and make
6 a dike and make an open pit. Then a lot of people in Łutsel K'e didn't want that
7 because what they are saying is that you guys are digging a hole in the ground
8 making it like a big scab on your arm and then you are going to fill it up with
9 water and the concern was to fill it back up, leave it the way it was. Is it too
10 expensive to do that or is it expensive to take the rocks out and leave it like
11 that? So that is my main question: is there any discussion around how we can
12 heal that sore that you guys made?

13 **Gord Macdonald:** The discussion about putting the rock back into the pit comes up every
14 time we have a discussion about closure. Yes, the answer is it is too expensive
15 and we said that right from the beginning, back in 1996, 1998 that we couldn't
16 heal that hole once we did this.

17 **Joanne Barnaby:** If there are no other questions.

18 **Fred Sangris:** I just walked in. I wasn't here early in the morning but I heard about this
19 reclamation and heard about the water being filled in years ago but the water
20 quality on that lake is very good, Bobby and I drank water from that lake, we
21 ate fish from that lake. But the surface of the ground is all natural but once the
22 grinded rock and materials is disturbed this is also a chance for salt and acid
23 runoff. So I just want to know if that's filled in with water and the fish come
24 around to spawn, is that going to affect the spawning area or is that going to
25 affect the fish? What kind of contaminates is on that rock because I am sure it
26 has some sort of effect.

27 **Gord Macdonald:** Our biggest worries are the pit walls themselves, the chemical reactions
28 that have been happening on the rock walls being exposed that will get washed
29 into the water when we fill it up. So we did a washing experiment, washed the
30 walls then tested the water, is that water still good for the fish. There is lots of
31 good water coming in, and not a lot of chemicals are going in it. What we
32 found from our water studies is that it will still be very good water because
33 there is so much Lac de Gras water going in with so little material coming off
34 of the wall. It was also raised about hydrocarbons what happens? The last thing

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1 I want to do is fill this up then find out its bad water so we don't want to do
2 that either.

3 **August Enzoë:** We have been working on this closing part from the start and we did
4 have a lot of input in there on how it should be done and that's really good. The
5 sample of water there and rain goes in and out you didn't mention that, rain and
6 snow water.

7 **Gord Macdonald:** We measure the amount of rain water and how much snow falls; we
8 measure snow chemistry but not rain water chemistry.

9 **August Enzoë:** The snow and rain once it's in the water I mean.

10 **Gord Macdonald:** Yes, we do test that.

11 **Bobby Algona:** I am hearing again how these pits are going to be reclaimed, living
12 downstream from all of this mine fall out that we are experiencing. Hearing the
13 chemicals that are going to be staying under that water for many many years
14 and I am wondering if you are thinking about leaving that dike for several
15 years and studying that water quality. And you're telling me that what if this
16 water when it's filled up very soon, it might become a problem, that would
17 become a problem for us, too, downstream and you are telling me that it is very
18 expensive to process it to clean that how you want it. That might be expensive
19 for you but what if that water gets all contaminated and runs downstream into
20 Kugluktuk - isn't that going to be more expensive then what the mine is
21 proposing to do?

22 **Gord Macdonald:** That's exactly why when we fill it up with water we won't be putting
23 holes in the dike until we know that that water is good. So you can take
24 Kugluktuk as the best example; we don't want to release that water into Lac de
25 Gras until we are confident that it is good. What if we are wrong what if we fill
26 it all up with water and the water isn't good, and then we have to run it through
27 a treatment plant and replace it with clean water until we can get it to that
28 point? So I think Kugluktuk should feel safe. Bobby you are going to be the
29 guy that we are going to be asking, "can we put a hole in it?"

30 **Bobby Algona:** In the mean time when you fill these pits with water and it comes to the
31 top that the level is what you want or the level that is stable what about those
32 animals that want to go though the dike and like caribou or wolves that want to
33 drink that water. Are people going to be monitoring on a full time basis until its
34 good water?

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1 **Gord Macdonald:** That sounds like a very good recommendation. Absolutely during that
2 period particularly if the water is poor for some reason and if it's bad enough
3 that it would be a problem for wildlife we would definitely have to have that.

4 **Nancy Kadlun:** I am just wondering when you said if it just fills up over time and just
5 leave will it over flow? And if you can't do anything about it then who will
6 clean the lake?

7 **Gord Macdonald:** It won't over flow, the water will only come up to the same level the
8 lake is at now so it won't over flow. And who's responsible for cleaning up the
9 water in the pit? We are.

10 *Break 10 mins*

11 **Joanne Barnaby:** For the past two days some of us have been meeting, those that went to
12 the fish camp have been meeting. We have also been reviewing the report that
13 we've been writing up and we also have been reviewing the video that is still a
14 work in progress that you will see later on today.

15 Bobby and August have agreed to present.

16 *Presentation – 2015 AEMP TK Camp Overview (Appendix E)*

17 **Bobby Algona:** We have been going to the TK Camp for the last few years and it's
18 good to have the ongoing program with TK. I am pretty sure we are coming up
19 with something new and doing some things that we are learning as TK holders.
20 As TK holders we can only do so much as to say that all our traditional
21 knowledge that we have come to know out on the land is being kept alive and
22 well. And all of what Gord has been explaining over the last few years,
23 especially the water seepage and air quality, and what the mine has been doing
24 to keep our minds at ease as TK Holders over the years. This is one of the good
25 things we have been doing the last few years, is testing the water, the quality of
26 the water, testing the water, testing the fish and doing a lot of traditional
27 knowledge stuff as well. Some of us have been doing a little bit of plant life as
28 well. Madeline and the ladies have been doing berry picking and its really good
29 to see and a lot of the things we have come to appreciate what Diavik has been
30 doing for us keeping the TK camp going. Over last couple of months we have
31 been doing the same thing we did in 2012.

32 In June we had a pre-program session about what we were going to be doing at
33 camp and all the different ways we would be testing at Lac de Gras and from
34 that we had a good insight on how we wanted to keep this camp going and

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1 what changes we might do in August. Come August we have been doing a lot
2 of things we wanted to look at in June. Comparing it to 2012, there was not
3 much different [in 2012] from what we saw this summer. But it's a good
4 program, we need to do this water testing and look at the fish and the fish
5 habitat and what the water is doing to the fish habitat. From that we look at the
6 mine as when we come into the camp, we look at the dust from this camp and a
7 lot of that dust goes into the lake because Diavik is on an island and most of
8 that dust is falling into the lake. And we have been listening to all the scientific
9 work that Diavik has been doing and we have all evaluated that as TK Holders
10 and everything seems to be very well and the fish that we tasted was really no
11 different from the last session in 2012 so that was really good and the water
12 quality was no different from 2012. So that was good to see not many changes
13 due to the activity from the mine and a lot of these programs that we have been
14 doing is almost the same parameters from 2012 looking at fish and all the
15 different ways that we have been preserving and putting our minds at ease with
16 the scientific program. I think it's really good to work right alongside the
17 scientific people as well. As TK Holders we've been out on the land and we
18 learned a lot from our elders to keep the waters as clean as possible for today
19 and tomorrow for our youth. And these discussions over the last few days like
20 last time I think all this dedicating these programs to the youth and making the
21 film and a copy of what we have been doing and dedicating all the hard work
22 we have been doing over the last few years to the young people of today for
23 tomorrow.

24 That is a really good thing that Diavik has been doing for us as traditional
25 knowledge holders even though I have lived out on the land a lot we still forget
26 to mention some things. A few new things can be learned through this program.
27 I think there is a whole lot more things that we can learn from this as well and
28 certainly as TK holders we have come to appreciate what scientists have
29 brought as well. I think we need to work much more closely with the scientists
30 as well so that scientists can learn from us as well as to how we came to learn
31 these things. As TK holders we've come to appreciate all the helpful insights
32 that our elders have been giving us for many thousands of years and to this day
33 I think that in the future, hopefully in the future and all this water and the air
34 and plant life and everything around the camp can be kept as clean as possible
35 for all of us to share. As a TK Holder, I have come to appreciate a lot of people
36 that I have come to know and come to work alongside with over the years and
37 there is still a whole lot of things that we need to do as well, not only with the
38 water but there are something's that we could really be looking at as well. I
39 mentioned earlier that the ladies have been doing their part picking berries and

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1 looking at the plant life as well and maybe in the future or through these
2 sessions we have been working on I think there are some ways that we can
3 truly think about, maybe there are some things that we need to look at more
4 closely. And that's what we have been doing over the last few years and if
5 August wants to say a few more words.

6 **August Enzoë:** I don't know what I can add in, you almost said everything. This was
7 my first year this year; I wasn't there 3 years ago. But I was there this year and
8 they did pretty good. From my side [for a similar program in Łutsel K'e] in the
9 spring time we asked for 2 youth and to me it didn't happen. I asked for 2
10 youth, 1 girl, 1 boy and that didn't happen because of money. [At the Diavik
11 camp] I had lots of fish. One whole week of it - lots of fish, boil it, fry it, cook
12 on the fire, fish eggs we all had that for samples. It tasted good and the water
13 we made tea and coffee and that tastes the same to me. You should taste just
14 the water because if you have tea and coffee you can't taste it the same. Like
15 Bobby said there's lots of dust going into the lake. I went up the hill and I
16 touched the rock and my hand was just white from all the dust from the mine.
17 So how far is it about 500 feet across or more I don't know.

18 We made a movie and the movie is really good [*We Fish Today, For Fish*
19 *Tomorrow* available at:
20 <https://vimeo.com/artlesscollective/wefishtodayforfishtomorrow>]

21 When we were fixing the fish that's a problem we all had because I couldn't
22 hear what I was saying to the reporter. For the camp it's a good camp, I really
23 enjoyed myself eating fish every day plus a good meal at night and breakfast.
24 For the next time I did mention yesterday when we were in the other meeting
25 we should try for one night to have nets on both sides of that island, just for
26 one night, just for a sample of the fish that are closer to the mine.

27
28 **Joanne Barnaby:** Thank you August. I was just looking around the room to see who else
29 was at the camp.

30 **Ed Jones:** I wasn't allowed to go because I have macular degeneration; I am slowly going
31 blind so they didn't want me on the property.

32 **Joanne Barnaby:** Yes I guess they were worried about your safety.

33 **Nancy Kadlun:** I couldn't wait to go to Lac de Gras after hearing about it so many
34 years, especially when the mine was there for so long. I tried the water it was

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1 so good, pure water but again when the river goes down to Kugluktuk from all
2 that mud, it's kind of thickened back at home you know from all the mud going
3 down. But in that lake when you have water from the lake, the middle of the
4 lake from the top, that's very yummy water. I like when camps like this happen
5 because lots of our youth they don't know, they are not experienced, so when
6 we have more youth that come to stuff like this they will learn more and they
7 will want to do more.

8 **Joanne Barnaby:** It was really unfortunate that we didn't have as many youth as we
9 wanted then but I am really glad we have more youth here today.

10 Any questions or comments regarding the 2015 camp? Fred did you have any
11 questions or comments?

12 **Fred Sangris:** Last time I ate fish there I am still full from it, that's how good it is. I think
13 over time in that area we have water quality that is coming down from
14 Contwoyto right through to Lac du Sauvage and right onto this lake [Lac de
15 Gras] and it drains on through to Coppermine River. We were there at one time
16 and we wanted to try everything out including water quality to make sure the
17 water didn't change at the time of the operation of the mines and we wanted to
18 see if there were any changes in the fish as well. Because when water quality
19 changes in lakes, the taste of the fish changes to. We know that because of our
20 own experience here in Yellowknife Bay. There are lots of rubber boots in the
21 bay here, they don't taste that good. When the water quality is good, its good
22 and we don't want to make changes to it because there's life in the water. The
23 aquatic life, the fish, and there is little critters that the fish depend on, it's
24 underwater too. Those are the food for the fish and it's very important. If the
25 food is not there then the fish aren't going to be there. So I think when you are
26 studying fish and you are eating fish and you are looking at the texture and the
27 quality of fish you also want to make sure the food source of the fish is not in
28 any way affected or impacted from the mines. We want to make sure that the
29 fish continue long after the mines are gone and we want to make sure the water
30 quality doesn't change. And that's why we are involved; to make sure that it
31 happens. But like any other mines in this country, mines can have some impact
32 and affect to water and land and we are concerned with the reclamation with all
33 the rock pile, the acid run off and it could be as well from the blasting and the
34 ammonia I forgot to mention that on the walls of the open pit. We need to do
35 more studying on it to decide if the ammonia and the dynamite blast is still
36 staying on the walls so we need to know that so it doesn't have an effect on
37 future spawning. Because long after the mines leave the fish are going to

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1 continue to live there and continue to spawn and if the spawning areas is not
2 impacted the fish will be there long after we are gone and that's what we want,
3 the quality of life for the fish that was there when the mines first came in. After
4 the mines leave we want to make sure those things are still the same, not
5 changes to it. So I think for us and the scientists and the mines that we are
6 working together to make sure that we understand that not too many changes
7 are taking place. That is what we want and I think that is what we did in 2012
8 we tasted a lot of different fish, all different sizes, we tried cooking it different
9 and we tried to get the taste of the fish and made some tea.

10 When the water changes there is a scum around the cup, you know when you
11 go camping and you go to little ponds and you have to make tea and you see
12 the scum after drinking then you know there is something there, there are
13 changes in the water and that's what we try to watch for at Lac de Gras when
14 we make tea. But we didn't see a lot of that so to me it means that even though
15 the mines are operating across, there hasn't been too many changes but it's
16 always important to continue to monitor and keep doing this kind of work so
17 that when the mines close down and the reclamation happens you want to make
18 sure you leave that place in a good way so that you know you walk away from
19 something that didn't have too much impact. You want to make sure the
20 continuation of life and wildlife quality is going to be there forever. We are on
21 a mission looking for truth, that's what we are trying to find out, we are
22 probably in the middle of it probably beyond it, because there is going to be an
23 end life to that mine and we are working with it to make sure that these things
24 are studied and that we understand it.

25 **Joanne Barnaby:** Thank you Fred, that is actually a really good lead in because we are
26 looking at what kind of monitoring should take place once the mine closes and
27 we have this program that runs every three years that we should look at how
28 that might continue after the mine is closed. We need to look at issues like
29 where should a camp be set up, how would we maintain that camp, how would
30 we pay for going out there to do this fish and water tasting and testing. Should
31 it continue to be both TK and science and these are the longer term issues that
32 we need to figure out we should look at where there should be sampling sites,
33 we can look at where they are now and where they should be after the mine
34 closes and there are some questions in the air about the future and how do we
35 continue and what is it that our own organizations from home want to do and
36 all the different Aboriginal peoples and how do we maintain the collaboration.
37 These are the issues we want to focus on this week. The closure and post

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1 closure and how to make sure that someone is keeping an eye on the fish and
2 the water.

3 **Ed Jones:** After the mine closure I believe that the monitoring of the water quality should
4 be done by the government who are independent of Diavik; they can
5 periodically check the water quality and report back to the public. I don't think
6 they should allow Diavik to do this, because I really don't trust mining
7 companies, to be truthful, I don't.

8 **August Enzo:** I was at the table way back since the mine was started, 1997 or 1998.
9 Albert was still with me, Eddie Jones is still with me. All those words we've
10 been saying towards the mine, the Elders, how it should be done for the record.
11 Way back me and Eddie found out that the mine at Diavik wasn't doing what it
12 said it would in those days. The Elders that were with us from Rae and
13 Yellowknife and Lutsel K'e and not one of them is with us now, well Eddie is
14 with us. We put a lot of work into the mine about how it should be done in the
15 future. Like right now the round table is all new ones, newcomers for me and
16 they don't know too much about what we said way back. That's how it sounds
17 for me. That is what I would like to mention that to you people.

18 **Colleen English:** I just want to respond to Ed's comment. Mostly Diavik staff -
19 employees, some from the communities and some from Yellowknife - they do
20 the actual samples. We bring up guys like Bobby sometimes to help us out with
21 different programs and they take the samples and then we give that information
22 to independent consultants who then make that into a document that basically
23 says to the people like the Land and Water Board, and that is given back to
24 communities as well, this is what the water quality is like. At the same time,
25 the government does come up to the mine. Inspectors come to the mine site and
26 they take their own independent samples as well. I get your concern, but there
27 is definitely overlap.

28 **Natasha Thorpe:** I would add that the community based monitoring that you will
29 continue to do is a big part about how Diavik decides to do things. One
30 suggestion from here, from Ed, is that we should be monitoring in the future, so
31 do you mean Aboriginal governments? If so, how do we move forward once
32 Diavik is gone?

33 **Ed Jones:** I did not fully explain myself, what I wanted to say is that the government
34 holds a bond for the cleanup and Diavik shouldn't have to monitor after the
35 closure because the government holds a bond and does have the money to do
36 that.

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1 **Joanne Barnaby:** Perhaps Colleen in answering that question you can also outline
2 Diavik's commitments in terms of monitoring after closure.

3 **Colleen English:** The bond is actually for instances like Giant Mine where the company
4 walks away. The bond, ideally, Diavik does not want to cash in on that bond.
5 They don't want to hand over that money and have the government do
6 everything. Diavik wants to be doing that work until the mine is done and
7 closed. So the bond is there as a safety net and it's only really a safety net. It's
8 not meant to be used unless something dire happens with the company and you
9 get bailouts and bankruptcies and that sort of thing. With Diavik's mine plan
10 right now, the mine closes around 2023 and the current plans have monitoring
11 that extends another 5-7 years beyond that to make sure that everything is
12 functioning properly before the company is completely done. And then the
13 reality that we don't really know yet, I think, is what happens beyond those 7
14 years. No one knows what the obligations would be, do you come back a
15 couple times a year? Do you come back yearly? The governments here haven't
16 had a mine close properly so it's a tough question. What is the point where we
17 can say, 'yes, we are all happy and we are done?' These discussions help with
18 defining that.

19 **Mike Francis:** The water in that hole, samples and everything, I just want to know if
20 they are going to change the water later or stay there forever.

21 **Colleen English:** Do you mean once they put the water back in the pit, are they
22 reconnecting??

23 **Mike Francis:** Are they going to change the water if it's contaminated.

24 **Colleen English:** The way that Diavik is planning to do it now is to bring the lake water
25 in to fill up the pits. They'd keep it in there for about 5 years and it should be
26 good. They wouldn't need to change that water again. What Gord was talking
27 about is if they saw something that they didn't expect, something that was not
28 good, then they would need to look at taking that water out, treating it, then
29 putting it back. So that's why they want to fill the pit and leave it to see how it
30 goes for a few years, and monitor to see how it's responding. Because you can
31 plan all you want, but things can happen, so you want to have protection and a
32 buffer before anything goes back into the lake.

33 **Natasha Thorpe:** Tomorrow our discussions are supposed to focus on really getting down
34 to it in terms of exactly how and where Diavik should be monitoring water
35 quality around East Island post closure, once things are covered up and things

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1 are reclaimed. Then in the afternoon I am going to get down into the details
2 around when the waters are reconnected; what should the shoals look like.

3 Who, what, where, when, how 2022/23 Diaviks closes, 2023→2030 Diavik
4 monitors 2030→ Then, what, how, who, where, when????

5 Some have said they don't want to taste the water after they are reconnected,
6 they would rather the scientists monitor the water.

7 **Nancy Kadlun:** It would really help to let people still go because who do we trust?

8 **Natasha Thorpe:** Your organization, yourselves.

9 **Nancy Kadlun:** They still have the same things that we did so continue camps like that
10 so people and the youth would really understand if our water is still good or is
11 it not good anymore.

12 **Natasha Thorpe:** If you still want to do that camp and Diavik wasn't doing it anymore,
13 how would your organizations work together? Any suggestions to make that
14 happen?

15 **Louie Zoe:** We are talking about the importance of the water, this is our land. That our land
16 won't be so disturbed that we'll have it forever and we are not talking for
17 ourselves we are talking for our future, that we would always have the water
18 clean. And the company and the development and how they use the water, we
19 don't know, and once the water gets into the open pit and it gets over flowed
20 and all the water gets into the big lake again and then water will be traveling
21 into our lakes and ponds. When there is rain and snow that goes all over the
22 place once the water gets contaminated it would be hard to get fresh water
23 again. We know from the examples from other mines that I have been traveling
24 with other people and this one mine there are some people and other places
25 they said that once you contaminate that water it's not going to get clean and
26 fresh again. That is what we are being told by other people from other areas.

27 **Fred Sangris:** It's true what we say about the open pit how it can be monitored. For a number
28 of years we have been working on this project and we go to the site. Our
29 concern has been that in the beginning of the mines is that there will be less
30 impact and we want to be involved and that is what we are doing, we are
31 involved. Once the reclamation, the mine closes and the reclamation begins,
32 then the mines will be gone. So we have to find a way where we can continue
33 working on this project long after they are gone. But there should be some
34 dollars so that our communities can continue that work. Coordination would be

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1 kind of difficult but if someone was to send us a letter saying get some elders
2 and youth up there, then we will make that trip. I think it's possible because we
3 need to still be involved long after the mine closes, we need to continue to
4 make sure that the water quality and all the plans is doing what it is suppose to
5 be doing. I know that the Elders don't want to drink the water there because
6 there is still residue from the dynamite on the walls of the open pits, ammonia
7 and so on, so I wouldn't want to drink it anyways but I think the idea of getting
8 samples or continued study on that would probably be good. The pits
9 themselves have to be studied, get the water, get it studied to check that the
10 water is still the same or if there are any changes happening to it we need to
11 know. But I think a lot of us here are not going to continue to be involved;
12 most of us will probably move on but I think it's important to bring our youth,
13 get them involved, educate them, they need to continue to be involved so that
14 the monitoring can continue and the reports can come out and they can
15 understand the reports so that 2030 maybe continue into the future, we don't
16 know when is the end.

17 We have Mary here who is a youth with the Yellowknives Dene and I think
18 people like her are very important. Every organization should have an Elder
19 and maybe two youth so that you know when we kind of disappear and fade
20 out, they'll be the people to continue and ensure that water monitoring and
21 quality is there. The plans are doing what it is supposed to be doing. If we
22 don't get the young generations involved then they'll have no idea of the
23 diamond mines that have had an effect on the past. What we are trying to do is
24 work with the industry to make sure what they leave behind is going to be good
25 in the future, and it's not going to have so much impact. But it's the
26 generations that have to be involved to make sure that those things are done
27 properly. For how long, I don't know, but I think maybe 2030 could be a target
28 date, maybe 8 years after the mine closes. Continue that work but Mr Jones
29 said that the Federal government's got the bond so my question would be
30 whose going to pay for it after. Who will bring up the dollars to continue to pay
31 for this kind of work?

32 **Joanne Barnaby:** Thank you Fred. We have the Environment Monitoring Advisory Board
33 that is set up through Diavik and this Panel worked under for a few years until
34 it started working under Diavik. EMAB or an organization like EMAB might
35 be the tool that we need to continue past closure. I know everyone has their
36 own experience with EMAB but the whole idea of an organization like that -
37 that does represent or has representation from the communities and that has the
38 mandate to monitor and that brings all of the different cultural groups together -

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1 that might be the kind of tool that we could use into the future. The question is
2 who would fund this. Currently all its funding comes from Diavik, so we'd
3 have to look at that and we would have to look at whether Diavik is prepared to
4 make longer term finding commitments to an organization like that, or whether
5 it needs to shift to a partners funding model where a mix of public governments
6 or Aboriginal governments and perhaps Diavik, in a smaller way, contributes to
7 the work.

8 **Bertha Catholique:** The concern I have is who is going to monitor after the mine is all gone.
9 So what I would recommend is we should start training our youth today to be
10 the monitors and the keepers of our land. That's the only way that we could
11 teach them how to look after the land so it can be a continuing thing and we
12 could sort of build a big school or something in the north here where we could
13 teach all this monitoring. Because they are monitoring stuff and they are
14 analyzing it, like the fish, they have to take it out to wherever they are looking
15 at the fish for contamination. Maybe they should have a building like that here
16 in the North where it won't be so expensive and then our youth and our
17 communities will all be under one roof so we won't get stuck. Like where the
18 money is going to come from if something is contaminated and everybody
19 walks away. Like right now what they are cleaning up after the first mine that
20 came to the North. They made all these messes now they are cleaning it up. We
21 don't want that to happen. So we need to come up with ways to teach our youth
22 right now or even in schools, make curriculum. But they have to see, the Elders
23 are always saying when you are teaching someone on paper if you don't really
24 know how to read and write you can't understand it and you are shy. I was one
25 of them. Because I was always told don't ask too many questions. So I was that
26 person and then I became an interpreter so I would talk all I want but it's not
27 coming from me. I think a big school would be good.

28 **Natasha Thorpe:** I think any of us who has worked with youth gets that feeling of the
29 responsibility of making sure that they are inspired and have a passion for
30 something, whether it's interpreting or fish analysis, because that's what keeps
31 the future moving forward. You'll see in the video that we play that one youth
32 in particular talks about making this realization or connection of how interested
33 he is after spending a few days out on the land. It's very true that's how we are
34 going to make people, youth, inspired to monitor long into the future.

35 **Dora Migwi:** I've been attending a few meetings like this. I have heard clearly what you
36 guys said that we love our land and to protect our land and our environment,
37 animals, that everything will be safe. We all come from each region in the

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1 community and something is contaminated and the water - what about the
2 animal, it will affect the animal. Today we have all kinds of scientists and these
3 doctors and they work along with the TK people. Into the future the young
4 people sitting here today, and there are not much Elders in the community,
5 there are only young people today in the community. That's all it is in my
6 community, there's times that if there is a meeting going on we have two youth
7 coming to the meeting so they can learn from the meeting. I am very thankful. I
8 have a lot of grandkids so I couldn't go but I feel really comfortable and a lot
9 of information is coming from the communities and we care for our land and
10 water. I can't sit back and say nothing.

11 **Janelle Nitsiza:** I am really thankful for what Dora just said. The bond between Elders
12 and youth is really important. I know from experience because I was raised by
13 my mom but I was also raised by my grandparents and I just lost my grandma
14 last week. So you really need to love your grandparents because they are a
15 textbook of knowledge for us. Any questions that I ever had for my grandma
16 she always knew the answer. I am grateful for what she taught me. And I am
17 grateful that these Elders really want to incorporate youth because, as a youth, I
18 really want to be involved and I really want to learn more. I am not the greatest
19 with landscape or navigation but I am only 21 so I have lots of time to learn. I
20 am just collecting stories from these Elders; I have collected so many stories
21 from my grandma. I have traveled the Tłı̄chʔ region for work so I was
22 fortunate enough to gather lots of stories. Even though there is a language
23 barrier I always find a connection to them and the recommendation for youth is
24 laughter; laughing with elders and making them happy, because when you
25 laugh you build that connection and that's how I built my connection with my
26 grandma was by laughing and telling stories.

27 **Bobby Algona:** It's really wonderful that some of our youth can really speak up. That's
28 what we are here to do and when we are coming to meetings just ourselves as
29 Elders it gives us ideas on what we want to do in our communities to help our
30 children and our children's future as well. When I come to these meetings I
31 often think of ways . . . we're not going to get away from the mining industry
32 in the near future. I am always coming up with ways of teaching our younger
33 generation back home and these are the things that we need to teach our young
34 generation. It's really wonderful that we have come up with water quality
35 monitoring programs and have CD's and books that we come up with.
36 Sometimes, just on my own, I go to the school and talk to young students. And
37 sometimes I get asked to go to the school or get asked to come to a meeting in
38 the community and I give a little insight about what the mining industry is

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1 doing and how our organizations and the Elders that we work alongside with,
2 with the mining industry itself, we give a little insight to our young students. In
3 the future having these CDs would be a really good tool. I have these tools
4 now, these CDs, that I can work with to show a classroom what we are doing
5 for our children when we come to the mining discussions groups/workshops in
6 our communities. And give a little insight about what the dangers might be and
7 to get them to think a little bit about what your future might be with what the
8 mining industry is doing and how the mining industry as well can help the
9 youth with a program or what they might be doing in the future. That's a most
10 wonderful thing that we can do as Elders. We can have these tools that we can
11 bring home and it makes it a whole lot easier to explain to the young generation
12 with these tools. And I myself have my own CD I put together myself of an
13 outpost camp. I have an outpost camp that my family go to every year. Even
14 though our family portraits are just family portraits I tend to use these as tools
15 now that I bring to these workshops. Sometimes I get to show it a little bit to
16 the group sessions that we have here, what the land means to me and my
17 family. I use this as a tool to present to the mining personnel as well. I've been
18 working with the mining personnel for a very long time; sometimes it's hard to
19 tell them how I do things out on the land. My pictures start to come in handy
20 when I start to try and explain things that I do with my family, what I need to
21 do, what I need to teach my family out on the land. But I've come to use these
22 tools that I came up with, these family portraits, to show the mining personnel
23 about what I do and what I do out on the land and what the land means to me.

24 **Natasha Thorpe:** Thank you Bobby. So maybe when you are thinking about monitoring
25 fish and water down the road it may be important to have those tools.

26 **Joanne Barnaby:** I've been involved in some work in the Dehcho region so that they
27 could be involved in the monitoring. They have actually set up a program and
28 its building slowly because they need to raise money and they need equipment
29 and they need support to carry out the work they want to do. Łutsel K'e is
30 involved in something similar - Keepers of the Land - and they came to the
31 Dehcho and presented information on their program and shared their approach,
32 which is something similar. The work is coordinated by the First Nation and
33 the Elders committee and the Lands and Resources Committee that August sits
34 on and they over see that and they train their young people with scientific
35 techniques as well as TK. The young people go out by boat in Łutsel K'e and
36 they are reminding people to be respectful. If they are noticing problems, they
37 are reporting the problems to their community or to ENR if needed. And I was

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1 thinking that because we are all from different regions, an organization like
2 EMAB that coordinates can maybe run that program.

3 **August Enzoë:** I was just thinking we are starting to get kids with us, the youth, and we
4 should continue for their future. If we are gone they'll be saying behind us
5 Grandpa was here once and they'll remember for their future. Because we
6 won't be sitting along with them, we don't know how many years yet so I am
7 really happy that we got the youth. Diavik could put more money, put a million
8 dollars, towards the kids.

9 **Colleen English:** Just further to what Joanne was talking about, there are some really
10 great programs that already exist in the North, and that Aurora College has
11 organized as well. They had a BEAHR program where they would go out on
12 the land, its environmental monitoring for youth that includes TK and also the
13 scientific side of it. And it's amazing. We had gone and helped them out when
14 I used to work for Diavik. I would go and do sessions with the kids and teach
15 them about water quality sampling and then they would have Elders there. Also
16 something that is very unique to the North is that you can get a certification as
17 an environmental monitor based on hours working, even if you didn't go to
18 school but you start working at one of the mines as an environmental
19 technician or whatever. There's a program you can do through the college, you
20 get a work book, you have to log your hours; you do all that and you become a
21 certified monitor. That's pretty cool, and you can't really get that anywhere
22 else in Canada that I know of.

23 **Natasha Thorpe:** I think August has spoken and let's take a break to eat.

24 *Lunch Break.*

25 *Video of AEMP TK Camp (25 minutes)*

26 **Joanne Barnaby:** As we explained earlier, the video is not quite final. There is more
27 editing to do and the title, which hasn't been determined yet, hasn't been
28 selected. We were brainstorming some ideas for the title for the video and for
29 the written report from the camp this year. We have lots of ideas but no
30 consensus yet. So we are working on that. Some ideas also for distributing the
31 video as well. Perhaps offering it to APTN, asking North Beat to do a story on
32 it and of course getting it into our communities as well, hopefully to inspire
33 young people to turn out for the next camp.

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1 **Natasha Thorpe:** You are the first official non-participant screening group here, so we
2 are really interested if you have any comments or thoughts about the film that
3 you just saw. Anybody want to say anything? Any suggestions for future
4 activities?

5 **Dora Migwi:** Look at the lake itself, the Lac de Gras area. My dad used to trap around that
6 area for white fox. My dad had travelled by dog team on the barren lands and
7 my dad had lived with the Inuit people, people from back then what used to be
8 Coppermine. While my dad was out trapping white fox before Christmas on the
9 barren land, my mom and us were living in a tent on the tree line and we were
10 young at the time. My mom was expecting a child and apparently it died there
11 and he is buried out there on the tree line somewhere. So that's what happened
12 while my dad was out on the land hunting. I am not saying my dad was the
13 only one but there were a lot of people who were harvesting the white fox back
14 then. I guess how those people trap the white fox is they use the caribou meat
15 as bait, and back then, before my dad's time, I guess the people used to harvest
16 the caribou hides for clothing and even to make tents out of it. So that's how
17 they were raised and then they were using the firewood, they were using the
18 small willows and small birch willows and that I guess throws a lot of heat and
19 you cut them in bundles. So the days when my dad used to harvest a lot of
20 caribou, all the families would use the hides to make mitts, mukluks and
21 caribou meat. But nowadays things have changed and a lot of hunters that used
22 to live on the barren land, especially the Dogrib tribe, they used to go out in
23 July to the barren land to harvest dry meat and specifically to get the caribou
24 calves when the hair is really thin enough to make a caribou hide parka. So
25 remembering all that I guess brought back a lot of memories and the places my
26 dad has traveled. I was too young to remember when my younger sibling died
27 on the barren land.

28 **Joanne Barnaby:** Thanks so much Dora. Any other comments from people who haven't
29 been out there, any suggestions for how we might do future camps?

30 **Bertha Catholique:** I was just thinking about us having one youth from each community
31 and it was kind of hard for that youth to speak because they don't have another
32 person from the same community. And to make friends it's kind of, they are
33 kind of shy. So I would suggest that we bring 2 youth and 2 elders so they
34 aren't so shy. I would suggest that.

35 **Joanne Barnaby:** In the planning meeting that we had in June before we went out, we
36 talked about different things that the Elders could teach the youth but also
37 things the youth could teach the Elders. So if you could think about that, too,

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1 that would be great. Over the last couple of days we talked about the people
2 that went out, we talked about any changes that they might want to make and I
3 think that there was a consensus that instead of boiling the water for tea and
4 coffee, instead they want to taste it as pure water straight from the lake. So that
5 is one change. Any other questions, comments? How did you feel about the
6 video?

7 **Bobby Algona:** Once in a while, if not every other day now, I can't help but look at the
8 TV and I look at all the things that are happening around the world and just last
9 week or so we have come to learn that other companies are working on a
10 climate change conference in Paris. And I am just hoping that they get things
11 right now and start to realize that the industry itself sometimes really
12 contributes to natural climate change itself. And when you look at things
13 around us, I notice everything around us here, when I look at things, how many
14 ounces to make this one tool that we use. How many ounces to make this one
15 microphone that we use as a tool? And when you look at mining ounces per
16 tonne. That's what I look at. How many ounces does it take to destroy tonnes
17 of other ground and the natural ground that they are looking at. And when you
18 look at Diavik and all the other mines, you look at all of that waste rock, how
19 many ounces or carats do they get out of that rock. You look at how much rock
20 is being moved and how much water is being used. I look at all that myself. I
21 am just learning in my residential school days sometimes we get into a little
22 discussion ourselves and in those days you look at all of the things you have all
23 around us not just in this room alone. How many tonnes of rock or waste rock
24 is being used to make this one tool or all the tools that we are using here to
25 work with as tools we have. And there's another thing we've got going. Going
26 to Toronto a couple of years ago I looked at the city, how many ounces, how
27 many tonnes of waste rock to make that city. And how many cities are in the
28 world right now? You look at that and you see what climate change is doing
29 now maybe it is from the industry itself, we have to look at those things. I look
30 at all of those things. Learning just from the TV that I have at home. I look at
31 what is being done all over the world; people are destroying each other for the
32 industry or what they do to make their country a little bit better for themselves.
33 I look at the TV a lot. I learn from the TV by seeing what everyone is doing to
34 each other in the world and I try to teach my children. Looking at all that, we
35 need to think a whole lot more about the mining industry itself. We can't get
36 away from the mining itself, I see very far into the future the mines are going
37 to be ongoing all the time now, we cannot get away from it. I think even though I
38 have a lot of qualms about the mining industry itself, then I start to look at a lot
39 of other good tools that they make alright but I always think of something that

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1 we should be doing. And just from that TV at home alone or just from the
2 school that I've come to work with in my residential school days, how many
3 ounces does it take to make this tool and how much land has to be destroyed
4 just to make this one little piece of tool that we use. Those are the things that I
5 look at most every other day now.

6 **Joanne Barnaby:** Do the youth have any suggestions or would a program like this interest
7 you in the future?

8 **Lucas Enzo:** I think the things that he said is true - that we destroy the world for all the
9 technology we use and take for granted and it's still happening to this day.
10 How many times will we destroy this earth just to get the tools that we want?
11 Are we going to find an alternative way to make better tools for a greener place
12 to help out the earth, or keep destroying the earth?

13 **Joanne Barnaby:** Thank you Lucas. Pretty big questions. Ethan did you want to say
14 anything? Janelle?

15 **Janelle Nitsiza:** I like that Bobby touched base on the environment. I think what Diavik
16 and all these mines really need to take into consideration is doing things more
17 energy efficient now, not in the future, not when we are closing but now. Work
18 on the little things, it's the little things that count; they make big things one
19 day. So any little thing that we can do to help the environment because climate
20 change is here, it's in our face, we need to deal with it now otherwise none of
21 us will be here and its really serious. It's that serious that we could be the last
22 generation to live on this earth and we need to take that into consideration.
23 Even Justin Trudeau brought up that the world needs to learn from Indigenous
24 people because we are still reliant on the land. We may be strong like two
25 people, we live in both worlds, we live in the traditional world and we live in
26 the modern world, but we need to come back and live more in the traditional
27 world then we do in the modern world. I mean, I have said it before, I think
28 post secondary education is very important but I think you need a PhD on the
29 land before you go on and do that. Because when all else fails, the world fails
30 you, what's this document going to prove to the world, nothing really. But if I
31 can start a fire on my own, if I can cut up dry fish on my own, if I can live on
32 my own that's real survival for me. That is a better education. So 4 years ago I
33 went off to post secondary, I quit, I quit the first year because I realized there
34 were still things I needed to learn back home. So I went back home and I
35 learned from my grandma. She passed away last week and she was still
36 teaching me. She was sewing right up until the day she passed away and she
37 was working with hides, and she was putting together gloves. My aunty and my

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1 mom didn't know how to put together gloves so she spent that week teaching
2 them how to put together gloves. That's a real skill I think right there. I would
3 rather take a course on how to put together gloves then to take a course on
4 native studies. I would rather hear the stories while I am learning a new skill.

5 Charlie Apple, I know Charlie Apple, and he is a really, really kind Elder. I got
6 a chance to work with him and he is right [in the video]: I am kind of
7 embarrassed as a young person, I went to Marion Lake with Louie and he could
8 work way harder than me and he could do things that I couldn't do. What am I
9 going to do if this old man can survive and I can barely survive? He kept me
10 going and he was very encouraging but when Charlie said young people are too
11 distracted by material things, he is right. When Charlie was young it was all
12 about survival and it's like that now but we're lost. We don't know where the
13 caribou are, most young people don't know how to set a net, they don't know
14 how to do a lot of these things. And I'm not saying I am top, that I am number
15 one, but I've taken it upon myself to learn from whoever will teach me. So I
16 have made lots of friends with Elders and I am grateful for that because that's
17 the kind of knowledge I want to grab before they all disappear. We are losing
18 our Elders every day. Like last week there were two elderly women that passed
19 away, my grandma and another lady. That's a lot of knowledge, that's a lot of
20 grandchildren who don't have somebody to turn to. My grandma's message to
21 me before she passed away, she gave me raw sinew before we took off to
22 Edmonton for radiation, and she said put this in your room and keep it good
23 because one day you are going to need it, one day you are going to teach all
24 your babies. I was the only grandchild that took the time to learn from her.
25 Every day of my life, I am so grateful for that.

26 **Joanne Barnaby:** Just one last check with Mary, we would love to hear about the program
27 you mentioned just after we broke for lunch. It's very relevant.

28 **Mary Louise Black:** I recently took an environmental monitoring course in Fort Smith.
29 Which was a six week course. It's a really short course that you can get hours,
30 when you get up to 100 hours you are a certified monitor. I took another
31 workshop last month where ENR and the Government of Canada sat together
32 to try and pull youth together from all the different communities so they can
33 have their own monitors in our own areas that you were speaking about earlier.
34 So they are working on that and I think they are going to take in 13 youth per
35 summer from each community - which is a lot - and they will teach you until
36 you are able to do it up to Terex standards and then you will be eligible
37 monitors. So that's there, so eventually we'll have more youth being about to

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1 go out and sample our own waters and soils or whatever the community has
2 concerns about. We can get together and go out there and try to answer some of
3 these questions for Elders and people who don't understand just reading the
4 data and all the stuff that comes back.

5 **Joanne Barnaby:** Thank you very much. I just had a vision of our youth coming out with
6 the Elders and the youth doing the science portion of the program and with the
7 Elders doing the traditional part of the program. So it will be all Aboriginal
8 people doing the monitoring in the future and that would be wonderful.
9 Especially when those youth are so committed to learning traditional
10 knowledge as well.

11 **Natasha Thorpe:** I was just going to follow up with what you were saying about
12 monitoring. We wanted to check with the TK Panel here today about whether
13 the idea of changing the water sampling process that we have been doing up at
14 Lac de Gras makes sense. Just to give you a little more background, the
15 program that we just watched has several different parts to it. One is going out
16 setting nets, collecting the fish, opening them, examining them, and looking at
17 their color, smell, feel, according to science and TK. There are the fisheries
18 biologists as well as the TK holders. And then there is tasting the fish to make
19 sure the fish still tastes right, as it should, as you are used to tasting. Second
20 part is testing the water and the scientists go out and collect water samples, the
21 locations that they select are determined in part by science but also by
22 community members. In August there was a recommendation from participants
23 that next time we should sample on both sides of the island. You know what
24 kind of recommendation is really helpful for planning for the future. Once the
25 water samples are collected they come back to camp and we make tea and
26 people taste the tea to make sure again it's what they expect good tea to taste
27 like and the water is okay. This program was suggested by Elders - by your
28 ancestors - back over 10 years ago and Diavik has generally followed that
29 model. But this year there were questions on whether it made sense to drink tea
30 from the water or whether it just made more sense to drink water by itself
31 without the tea. So we had the discussion yesterday with the Aquatic Effects
32 Monitoring Program participants and asked what they think and...Nancy is
33 going to interject here.

34 **Nancy Kadlun:** Even without water or tea testing, which I saw this summer when we
35 did water sampling from underneath the lake. When the lake bottom comes up,
36 we saw all kinds of little bugs and that makes me happy because I know the
37 water is healthy because all those little bugs wouldn't be living if it was

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1 contaminated. They are so tiny and there were lots of kinds I was happy to see
2 that. They are so tiny they couldn't live with the contamination.

3 **Natasha Thorpe:** So Nancy that's a wonderful example of how you tell whether the water
4 is good to drink, whether the water is still healthy. The scientists might take
5 that same water and send it to a laboratory and test it for various contaminants,
6 but that's an excellent example of water quality based on Inuit
7 Qaujimajatuqangit (IQ).

8 **Ed Jones:** I know you are going to laugh at this but I would test the water not through
9 making tea because I will tell you, the brand of tea will change the taste.

10 **Natasha Thorpe:** Ed, you are exactly right and we had this big discussion - do we have
11 Red Rose, do we have herbal, do we have Tetley. So that you know, that's
12 exactly the discussion we had out on the tundra. So I want to bring this up to
13 this group of Elders and experts, when thinking about 3 years from now when
14 we run the program again and three years after that, and we are wondering
15 what you think, should we continue to test the water by tasting it in tea or is
16 there a better way?

17 **Kathy Arden:** I think just tasting it as water would be the best thing. I think it was
18 Fred Sangris that said this morning sometimes you can make tea with water
19 and it will leave a scum. So obviously you know that something is wrong with
20 that water. If you drank it, it might even taste a bit off. So water is water
21 whether it's grey, clear, got bugs in it, no bugs in it you'll know when you taste
22 it if it's good water or not. And so I would say do that water test but then after
23 drink your tea, have a cup of tea and use your Tetley tea bag or green tea but I
24 think that's the best way to do the water test.

25 **Natasha Thorpe:** What do other people think?

26 **August Enzo:** Tea comes from water. I noticed the lake water and the tap water is
27 different. I make tea from the tap water. It's not like the lake water you make
28 tea. It's a different color, it shows on the cup, it's darker. That's how it is right
29 now. We drink more water, or either tea doesn't matter, coffee because coffee
30 is always black so we don't know.

31 There is just one thing I would like to say about the movie. It looks good right
32 now but it will be better later next time you see it. Like us, the way we clean
33 the fish, how we did it, you are going to hear us speaking when we are cleaning
34 the fish.

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1 **Natasha Thorpe:** Thank you August. You reminded me to tell the TK Panel that
2 yesterday we spent the whole morning, stopping and starting the video so that
3 people could make their recommendations on how to change it. Whether they
4 wanted it expanded or altered or changed in anyway. That was a good
5 suggestion of yours August. So I am hearing at least two voices that seem to be
6 okay with changing the way we do things out there to taste just plain water,
7 cold water, as well as boiling it to look for the scum or the slime. Does
8 anybody else have anything, any opinion or thought? We would like your input
9 whether that's something we should change for next time.

10 **Louie Zoe:** We were talking about the water before in Rae area, Point Lake. We used to
11 travel there when there was no caribou and we would get water from all the
12 little streams and ponds, we didn't know if the water wasn't good. Now that we
13 are using choppers and prospectors and Elder prospectors and mine people they
14 use the monitoring and all these kinds of equipment there that we know how
15 the water is. They are doing fish tasting and sampling and we had travel quite a
16 ways from Rae. Even I used to travel with my dad with the dog team, use the
17 water, the snow to make tea. The water was good and the snow was good to eat
18 but nowadays all the chemicals people are using and all the fumes and so today
19 there's a lot of variable things that goes on there.

20 **Natasha Thorpe:** Thank you for sharing.

21 **Kathy Arden:** There was something mentioned earlier about dust coming from the rock pile
22 and of course it's going to land in the lake and I don't know if they test the
23 water. Or if there is a prevalent wind that blows in a certain direction and that
24 dust lands on that part of the lake, if you took a water sample from that portion
25 of the lake that receives more dust and then took that water and either let it sit
26 on the side when you first go there and see if there's any settling of dust on the
27 bottom of the pail or a clean beaker or something like that, or if you boil it is
28 there a difference in the color or the clarity of the water. I don't know if anyone
29 has done any testing like that but I think if my memory serves me that had been
30 mentioned many years ago about the dust in the water. Not just Diavik mine
31 but the other mines, too that are surrounded by small creeks and ponds and
32 other lakes. Probably something like Snap Lake because they are right next to a
33 waterbody there so that's a suggestion that I am thinking of.

34 **Joanne Barnaby:** Are there suggestions for – again, as we look into the future, and past
35 the operating phase of Diavik, and once they are closed - are there ideas for
36 what should be monitored and how that can be done after Diavik is gone? Are

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1 people going to be satisfied with Diavik demonstrating that everything's okay
2 or are you going to want to go back and check on it after they are gone?

3 **Bertha Catholique:** What I think is that it's got to be monitored even after Diavik is gone.
4 It's got to be Aboriginal people because it's our land. We don't want anything
5 to happen, we don't want just anybody to walk away and leave it. So it's got to
6 be monitored for the next generations, the next generations that are coming. It's
7 got to be ongoing. Because its water it's the only thing that gives life. If we
8 don't have any water we're not going to be here. And already parts of the
9 world, on the other side, the waters all contaminated and this is the last little
10 cup of water that we have that's pristine and how do we watch that doesn't get
11 contaminated. And now with the climate changing, it's warmer. So now if we
12 are going to have to survive I think we are going to be the last Aboriginal
13 people that would survive and it's really scaring me to think like that. So I
14 think its Aboriginal people have to make these strong recommendations. I
15 always remember what Pierre Catholique said, an Elder, when they first made
16 him chief and then they wanted that park to go ahead. At that time they were
17 just picking people, the chiefs and leaders. They'd say, we are going to put a
18 park there and yeah, yeah, yeah...and the parks just went up like that. Then
19 when it came to Łutsel K'e, he said "No" you guys never planned to have a
20 park on my land, it was never planned and all this time you took me and my
21 wife to Ottawa to sign, to get a park going, no he said. I got to wait, us Dene
22 people we don't just jump into something and take it, we think about it, we
23 really analyze it first, so it's like monitoring. So for me that monitoring has to
24 go on forever. That's my strongest recommendation, it's got to go on forever as
25 long as we're the last Aboriginal people in this world.

26 **Natasha Thorpe:** Thank you Bertha those are all really important points and I appreciate
27 you emphasizing and raising them.

28 Another really important question that came up yesterday and also at the camp
29 was once Diavik is closed and into post closure and the water is connected
30 again and not behind a dike, are people going to want to taste the water then? Is
31 that still going to be part of the study? Right now we taste it: you collect water
32 from Lac de Gras and taste it. Are you going to want to continue to do that
33 after Diavik closes? Are you going to want to continue to taste the fish or
34 would you rather just science be the storyteller of how the fish are doing in
35 their tissues and how the water quality is?

36 **Nancy Kadlun:** Yeah, it would be good because I don't think Diavik will be the last
37 mine. I am pretty sure that somebody's going to jump in right after Diavik

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1 goes. This is not going to be the last mine in that area. There will be some
2 people jumping right away as soon as they know nobody is there, so we would
3 like to still go there and monitor the area.

4 **Bobby Algona:** You read my mind Nancy. I have often said it before who is going to
5 monitor the water and the animals after the mine. I am hearing they will be
6 monitoring it for a period of time until everybody is satisfied that the water and
7 the area is clean for all animals to use again after the mine is closed. I think we
8 need to do a whole lot more and let's think a whole lot more about the things
9 we need to do. These are some really good recommendations, sessions that we
10 go to. We do need to monitor an ongoing program for after the mine is closed,
11 we've already heard that. Until we are satisfied - that is a strong phrase there -
12 until we are satisfied. I think that speaks for itself, after the mine life is done
13 for that mine.

14 **Colleen English:** I think those are two really good points. I just have a couple of
15 questions around that. One that I hear you saying is that to be comfortable with
16 the fish quality or the water quality, you would still want to be tasting them. So
17 one of the questions I had was that back in 2009, I remember I was at the camp
18 with a few people - I don't think that anyone here was there then - but one of
19 the Elders who was there, before we got there we'd had a couple of meetings
20 and he was like, "I am not eating this fish. I am not eating it, it's on a lake that
21 has a mine on it and I am not eating it." And so we had said that was okay, and
22 that they could still come to the camp, can still hang out and do whatever you
23 want to do, and we understand it's everybody's choice and you don't have to
24 eat the fish when you come there. So we got there and we did some fishing and
25 we pulled the fish in and we started cutting up the fish and then he saw the fish.
26 And then he tried the fish, because he was comfortable with what he saw, with
27 the discussions that everybody was having and the talks that they had. And I
28 thought that was a really great example of some of the things that you talked
29 about earlier, Bobby, about being a little bit uncomfortable with that lake being
30 reconnected to the pits. Does this program then become that the number one
31 thing that we do is we look at the fish. It's a visual inspection that we are doing
32 before we eat anything. We have the intention of tasting, that option is always
33 there, and we will always have the science people there, but do we make it a
34 multistep process where we want to look, we want to see, we want to be
35 comfortable with what we see, and then we taste if we are comfortable with
36 what we see. So I think that's one of the questions that I would have in terms of
37 that comfort level with everyone, once everything is reconnected again.

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1 The other thing that Nancy brought up in a roundabout way that I think is an
2 important question, too, is right now, for example, we have the Ekati mine that
3 is very close to Diavik and they're going through permitting for Jay Pipe at the
4 moment. That is upstream of Lac de Gras, in Lac du Sauvage. It's not far, it's a
5 few kilometers, so do we start saying that we want to test fish from Lac de
6 Sauvage? August mentioned expanding the area within Lac de Gras a little bit.
7 Does the Narrows become a more important site to get fish from every time we
8 go to that camp? So do we add that to the list of the places we want to go, and
9 the fish that we want to test and taste? I think those are two really important
10 questions that you guys touched on in your comments.

11 **Joanne Barnaby:** I just wanted to mention that in fact at this last camp we failed to follow
12 through and understand Madeline when she would look at the fish and discard
13 a fish. She would say, 'no, I don't want to work with that one' and what we
14 didn't do, and should have done, was question her as to why she rejected a fish.
15 So I think that's something that we definitely need to pay attention to and
16 address if it happens again.

17 So are people comfortable with identifying areas that you want to sample water
18 from and to take fish from?

19 **August Enzo:** Yeah I mentioned down there, there is one place there, they call it the
20 gap [the Narrows], it's a caribou route right across there. We should sample
21 fish there. We didn't go this year because of the weather. Take samples of the
22 water because the reason I am saying this is there's another big mine going
23 way up there, Jay Pipe you call it, and they are going to build a big dam around
24 it, bigger than the other ones you see. They are going to start work in probably
25 another 5 years. Before that we have to watch that lake, the gap there; they
26 should have a station there.

27 **Natasha Thorpe:** August do you mean the narrows between Lac de Sauvage and Lac de
28 Gras. [nodding yes] Colleen, do you want to speak to the current monitoring?

29 **Colleen English:** We will go over this a bit tomorrow too but this is a good map to try to
30 explain some of those concerns. [Figure 2 and 3]. We have a water quality site
31 at the base of the Narrows and then we basically sweep our way across the
32 lake. This is the outflow that heads to Kugluktuk so there is a sample point
33 that's at the outflow of Lac de Gras as well. Once you get past there it gets
34 complicated, as Diavik is not the only one out there. There are other
35 exploration groups, there's other mines and so you start having a river system
36 with a lot of different natural and human inputs and it becomes very difficult to

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1 distinguish what might be Diavik's and what might be somebody else's. So
2 that's the reason for this sample location. And, right now, Ekati actually has
3 some outflow up here, too, but that last point of control is the main reason for
4 that sample location. So that's where Diavik can last check, at the outflow from
5 Lac de Gras, that Lac de Gras water is okay before it goes into the Coppermine
6 River. And it's not just water that they sample. Nancy, Bobby and Berna you
7 guys came out with us. There were a few people at the camp this summer who
8 came water quality sampling with us and saw everything Diavik does when
9 they go out there. Its taking sediments, its taking the bugs off the bottom of the
10 lake, it's the water itself, it's the bugs that float in the water, it's the fish, it's a
11 very extensive program for testing all different kinds of things that could be
12 happening in the lake.

13 **Natasha Thorpe:** In the future I am wondering where you might consider testing water.
14 Same places or different places?

15 **Bobby Algona:** Water sampling the very first time, we all said as a group we all agreed
16 on a place that we wanted to test each and every time we went. And it didn't
17 happen this time for some of the places that we wanted to sample because of
18 weather. We couldn't get around to the other side of the island itself. In my
19 mind I think it would be a good idea to sample every time we go out there. We
20 had to change our sampling place. We sampled a place a few years ago, we
21 wanted to keep sampling from that same spot, and in my mind the water is
22 always moving especially in the big lakes. In my mind it doesn't really matter
23 where we sample from, the water is moving all around the lake. I think it would
24 be a good idea if we sample and we agree in this workshop let's do it in that
25 one spot we didn't do this time. Because the water is always moving and the
26 pressure itself is, the tides and the moon do a lot to move water.

27 **Colleen English:** I wanted to follow up with everybody and show everybody where the
28 samples that they took at the camp site were. In 2012, of the two samples they
29 were taking, one was taken at the discharge line and the second was over in the
30 bay where Diavik takes in drinking water for the camp. This year we had some
31 weather issues and so we took them where the fish nets were set.

32 **Joanne Barnaby:** So we have been talking about whether or not there are changes we
33 want to make to the program and a lot of people have said they are okay with
34 sampling water, boiling it without making tea or coffee out of it. So I just
35 wanted to check in.

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1 **August Enzoë:** Testing water we could still boil it, but don't make tea. Let it sit over
2 night then taste it.

3 **Joanne Barnaby:** Would you want to taste some before its boiled and then taste it after its
4 boiled?

5 **August Enzoë:** You would still have to taste it before its boiled but also boil it and
6 check it the next day.

7 **Joanne Barnaby:** How do other people feel about that approach? Good? I think we have a
8 consensus on doing that next time. Show your hands please.

9 **Phoebe Rabesca:** I don't know, I am new at this and so I am not sure if this was done
10 before, but have they ever tested the water before its boiled? Do they do
11 sampling of water before its boiled and after it's boiled? And what's the result
12 of that?

13 **Natasha Thorpe:** Do you mean to taste or scientific testing?

14 **Phoebe Rabesca:** Scientific testing.

15 **Colleen English:** We don't do science samples on boiled water; it's only just the cold
16 water out of the lake. There's a way that you can analyze water to look at the
17 dissolved chemicals in it, which is kind of the same idea as if you were to use
18 boiled water and get rid of some of the total particulates and stuff in there.
19 They do that through an extraction method in the lab. Its called 'digesting' and
20 they put it through a microwave digester and then it removes the floating,
21 suspended 'total' particles and just gives you the dissolved fraction. So it's
22 kind of a similar method as boiling to break out those two types of metals that
23 you would be concerned about, the totals and dissolved. That's the closest
24 thing they can do to boiling.

25 **Natasha Thorpe:** Boiling water would kill some of the things they were looking for, like
26 the bugs which Nancy said is an indicator of healthy water.

27 **Phoebe Rabesca:** The chemicals in the water and I'm not sure, I'm not a scientist, my
28 mind is going, when you take a sample of water and they do testing on it, do
29 you know what kind of chemicals is in it and all that? Let's say in one spot you
30 take water and you take two samples: one just regular water to see what kind of
31 chemicals are in there, and then what if after you boil the water from the same
32 spot to see before and after, is there any difference, regarding chemicals or
33 anything?

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1 **Colleen English:** Boiling water does change water. Diavik wouldn't have any samples
2 from the mine on boiled water, because they don't boil their samples, but they
3 do a very thorough analysis, in a different way, that get at the same questions,
4 like what I was talking about before.

5 **Phoebe Rabesca:** So what you are saying is the water is not boiled but it would show
6 more stuff in that when you look at it.

7 **Colleen English:** Yes, it's just looking at it in a different way.

8 **Natasha Thorpe:** Alright I can see that we are ready for a break. We have fresh coffee
9 and hot water and snacks there.

10 *Break*

11 **Colleen English:** So we had one last question in relation to this fish and water camp and
12 it comes down to more logistics. This is about where the camp currently is and
13 what the future plans for the camp may be. The current location of the camp is
14 separate from Diavik so it's on the other side of the lake, the south side of Lac
15 de Gras. It's on a land use permit area, so Diavik has a completely separate
16 land use permit for the camp. That land use permit is going to expire within the
17 next year or two, so there needs to be a decision made as to whether Diavik
18 should re-apply for a land use permit, which would give us another 5 years at
19 that current site, or we can talk about changing the location of the camp. It's
20 not wide open. If any changes were made, it would be to scale back, as
21 opposed to a change a location. Diavik doesn't want to go and make a new foot
22 print for a camp somewhere, they would rather just move it onto the mine site.
23 So it would be on East Island as opposed to being out on the land. Those are
24 basically the two options: do we keep the camp where it's at, even if it's just
25 for a few more years (up to about 5), or do we move to the mine site? I would
26 say, this is just my gut instinct as I don't think anyone at Diavik has ever
27 confirmed this, but that we would have a maximum of 5 years at the current
28 location and then that would kind of be it, because they would be starting to
29 close and shrink their overall foot print by that time. They wouldn't want to be
30 holding on to another land use permit for a place where they would need to go
31 clean up and remove everything.

32 **Joanne Barnaby:** If the renewal is scheduled for next year, would we have use of the
33 current camp two more times?

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1 **Colleen English:** No, it would be one more time and then they'd be near the end of the
2 permit.

3 One of the things that I thought of in terms of the future, in my view, I think
4 2018 is realistic. I would probably want to keep the camp where it is for the
5 next time, 2018. After that, the mine site is going to get a lot quieter so the
6 mine won't be as busy. You aren't going to have all of the people that are there
7 now and all of the equipment; it's going to be a lot quieter in 2021 as they
8 approach closure. I think that there's been a lot of discussion we have had in
9 this Panel around healing the land at the mine site and I think that there could
10 be some pretty cool opportunities to do that if we used the mine site as a base
11 and maybe had a tent, a gathering tent set up somewhere sort of onsite, but in a
12 nice quiet area where there is some natural tundra that's a little away from the
13 buildings. So you can still go out and you can still fish and you can still go take
14 water samples and stay at the mine and then use this tent as the meeting place,
15 gathering place, where you would cut your fish, where you would do all of that.
16 But you can also be on the land at the mine site to get a better feel for how
17 things are changing, because they will be changing a lot at that point in time.
18 And we have had a lot of feedback saying that people at the camp also want to
19 see the mine site. The camp can change, the camp can evolve. It can move
20 location, but it's really a choice between where it is now or being based on site.

21 **Joanne Barnaby:** Thoughts on the location and whether we should recommend staying at
22 the current camp for the next time or moving before then?

23 **Ed Jones:** Colleen mentioned there are quiet areas on that island, I don't believe that. First
24 of all why move? That's my question.

25 **Joanne Barnaby:** As Colleen explained, they won't have a land use permit for where the
26 camp is currently. After a certain amount of time, it will expire. If they don't
27 have a land use permit, yes they have to move. Yes they can renew but, as she
28 explained, if they did renew next year, it gives them 5 more years. But after
29 that Colleen doesn't think that Diavik will be interested in renewing again
30 because they will be focused on closure and taking things away. Are you
31 suggesting that you want them to renew again after the next renewal, so for
32 another 10 years, they would have that camp? If that's the case are you also
33 asking them to leave all of the buildings and tent frames and such? If they don't
34 have a land use permit that stuff has to be moved. Any other thoughts on this.

35 **Bobby Algona:** The land use permit for that camp expires and if you do get to where
36 you have to move equipment, these tents and stoves and stuff that you have

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1 there, I think if we could. Each group here would like to say a few things
2 maybe. I myself as a hunter and trapper I have often come to Lac de Gras and
3 if there's a way that the communities can say we would like to keep those tent
4 frames there at least. They aren't going to go rotten, they can leave those tent
5 frames there, they are still fairly new and can be use by the different
6 communities for another 20 years from now. I think it would be a good
7 recommendation to Diavik.

8 **Joanne Barnaby:** So the option of selling the tents to the communities at say \$1 each.
9 What would that mean in terms of land use permits because community people
10 don't need land use permits to set up on the land camps.

11 **Colleen English:** Yeah and I think one of the challenges is that Diavik does need a permit
12 and to get out of the land use permit we need to clean it up. So it would either
13 have to be something that we explore outside of the box with the government
14 where it's a sign off, the communities would rather keep it here as oppose to it
15 being cleaned up and then someone coming back in to re-establish in the same
16 area. So that would have to be flagged pretty early on for a discussion with
17 them. The other option is to dismantle the camp where it is and give all of those
18 materials to everybody and you can set up wherever you want after that. Then
19 Diavik gets that close off piece with the land use permit and liability, and you
20 guys get the gear and equipment and can set up a camp wherever you want to
21 be.

22 **Bobby Algona:** As an elder and as a hunter trapper all my life, I think I would like to
23 use the camp in the future. Maybe if my health were to come back I would like
24 to go up there again and I think that's something. If you are going to lose that
25 land use permit anyway I think handing it off to a community or maybe an
26 organization or maybe to all the communities around the table we could use
27 those in the future. I have no qualms about leaving such good lumber there. I
28 could always use that as camp, instead of having to move it away.

29 **Colleen English:** Yeah I know for the government it always comes back to how long is
30 that going to sit there, are people just going to leave it and forget about it and
31 walk away. That's the big concern and if it's got the Diavik name on it, you
32 can bet that they are concerned about it may come back to them later.
33 Something would need to be signed off somehow.

34 **Natasha Thorpe:** Do you know how the original camp location was selected?

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1 **Colleen English:** It was done back in 2002 with support of the communities but I don't
2 know the exact process. I know everybody sat down with a map and picked a
3 spot and it had to be close enough that Diavik could support it but quiet enough
4 to have some space away from the mine and have a camp feel.

5 **Natasha Thorpe:** I think that's important to know that there was community input in the
6 beginning in selecting the location.

7 So for 2018 what would the TK Panel like to recommend? Staying where the
8 camp is, or move to the island.

9 **Bertha Catholique:** I don't want to move away because there are a lot of cloud berries there.

10 **Natasha Thorpe:** We were lucky this year to see a bear and a wolf. Lots of ground
11 squirrels. Is there agreement to keep it where it is or do we want to think about
12 moving?

13 Keep it where it is: Yes, majority.

14 We are going to switch channels here to talk about the recommendations that
15 you as the Panel delivered to Diavik at our last session when we were at camp.

16 *Presentation – DDMI Response to Session 7 Recommendations (Appendix G)*

17 **Colleen English:** Very early on we got a lot of feedback that you wanted to hear back on
18 your recommendations. So that is what this is. One of the commitments that we
19 made very early on was to respond to every recommendation that the Panel
20 brings forward to Diavik. Usually, at the end of every session, you guys will
21 present to Diavik, and Diavik will give an initial response, a best guess of their
22 initial take on things. But then they also take it away and have some time to
23 think about it and figure out what works and what doesn't in relation to the
24 closure plan, or whatever topic we are discussing. Then, someone presents the
25 official responses from the last session at the beginning of the next session. So
26 that's what we want to do today. Last time we talked about plants and re-
27 vegetation, re-planting at the mine site and trying to rejuvenate the land after
28 the mine is done. So today I am going to walk through some of those
29 recommendations and give you the response from Diavik. If there are any
30 questions I can't answer we will park those and make sure that Gord answers
31 those when he comes back tomorrow.

32 **1. Those [recommendations] that are supported (16 recommendations)**

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1 **Kathy Arden:** Before Diavik started mining on the island did they have a group of
2 environmentalists that went on there and took pictures and samples of the
3 vegetation? And then do sort of a mapping of it? Because on there you said
4 studying the vegetation on the north and east side of the island. And I am sure
5 the vegetation in those areas would run throughout the island. But if I
6 remember correctly, many years ago, like in 1998 when all the mines were
7 starting up, they had asked the mines to start taking samples of the vegetation
8 right away. So they have done that?

9 **Colleen English:** Yes, and there are two sides to that question, from a TK perspective and from a
10 science perspective. From a science perspective we've got all that. We have the
11 vegetation based maps that show us exactly what types of vegetation are present all
12 around the area. And Diavik has done studies since day 1 about what types of
13 vegetation have been seen, is it growing faster, are species changing? Those are all
14 questions from the science perspective that have been looked at. And also dust on
15 vegetation, particularly lichen in relation to caribou. That's been another study that has
16 been done in relation to plants. On the TK side of things, Natasha and Joanne probably
17 want to speak to that from your literature review. I don't know which one of you wants
18 to speak.

19 **Joanne Barnaby:** Let me just say that what struck me about that work was how well our TK
20 holders in our communities knew that area. You know the full variety of plants that
21 they identified, in some cases they identified how they were used for food or medicine
22 or for fire. And what they knew was critical vegetation for animals and in particular
23 the caribou and what they knew about how long it takes that vegetation to grow once
24 it's disturbed. So it was very rich information and its there, it's available to us.

25 **Kathy Arden:** With that in mind, you have a length of time that this vegetation would take to come
26 back on that mine site. So it might be 10 years before the lichen would come back.
27 Because I was just thinking that we (the TK Panel) and Diavik are going to make the
28 paths back for the caribou to roam through but the mine is going to be done and gone
29 but not much of the vegetation is going to be there yet to eat. So I guess what you are
30 thinking of is that they will probably pass through and go to areas where they can feed
31 because I don't know how long it would take them to go through the site.

32 **Colleen English:** Yeah it doesn't take any time, it's a pretty small site. But one of the things that
33 a couple people raised that I found really interesting, Joanne and I were talking about it
34 after our site visit last time, is we have vegetation plots, a research plot that was 10
35 years old when we were there last. It has big, tall grasses on it. But its grasses, so a lot
36 of people were like, 'well that's different, that doesn't look like the tundra that is all
37 around'. It was really important for people to see that, because it's a staged approach.

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1 Even when you plant and you encourage growth for different species, the first type of
2 plant that can take to anywhere is either fireweed, as August observed, or grasses.
3 Then those grasses die and you start getting some nutrients in the soil and that's when
4 you start to see your willows and your berries and those types of things coming up. So
5 those will be even longer before you are going to see that type of change to similar to a
6 truly natural landscape. So you may see swaying grasses on the tundra for a little bit
7 before you are going to start to see what looks natural to your eyes, for those who are
8 used to being on that land.

9 **Nancy Kadlun:** I was wondering what are you going to do with all those huge buildings?

10 **Colleen English:** The buildings will come down. What happens to them will depend on the state
11 of the building, if it's in good condition. We have done some studies but will probably
12 have to re-evaluate this as we get closer to closure in terms of which ones have value
13 to keep using or sell or donate. Those that don't will be buried in the on-site landfill.

14 **2. Those that Diavik wants to modify (5 recommendations)**

15 **Joanne Barnaby:** One of the things that we found in the literature review was you could really
16 see the specialized knowledge of the women, and it was quite different from the
17 knowledge that men had. So that's why we wanted the specific women's session, so
18 that we didn't miss the deeper knowledge that women have about plants. And I haven't
19 given up pushing for that one for the vegetation, because we don't want to miss out on
20 their knowledge.

21 **Joanne Barnaby:** So you are saying the Panel could meet three times a year?

22 **Colleen English:** It could be 1, 2, 3 times a year, but based on the information that can be shared
23 and what is relevant at the time. Especially when a large part of the Panel's focus is on
24 closure and there's aspects to the closure plan that Diavik doesn't even have all the
25 right information yet. They are still doing research in order to know what that closure
26 plan piece is going to look like. So to have a discussion before they know that is sort of
27 futile. They can't share enough information with you so it puts the Panel in a tough
28 position to be able to make useful recommendations back to them as well. So we just
29 want to make sure that it's relevant.

30 **Natasha Thorpe:** So I just want to check in with the TK Panel to summarize that the slide that
31 Colleen showed you before, these are all the recommendations that came from you last
32 time that have been supported. Then there are these ones that they would like to
33 modify. They are not saying no but they would like something slightly different. So

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1 based on what Colleen has just shared, I want to check in with the Panel to see if there
2 is a response or comment on these 4 that they are wanting to revise.

3 **Kathy Arden:** Earlier when we were talking about the PKC pit, I haven't seen it but I have a picture
4 in my head that it's something very eerie and scary and green and stuff like that. And
5 like you were showing us on the map that sort of natural barrier between the rock pile
6 and the slope that goes down into PKC. What is preventing the caribou, if they decided
7 to migrate lower and come across, is there something blocking it all the way around
8 that PKC pit or are you just more concerned that they are going to actually cross over
9 this nice little walk way we are going to make them. I mean caribou change their mind
10 and have gone different directions over the years for various reasons of course, but
11 what about the bottom end.

12 **Colleen English:** Yes that's a good question. There is a very big dam, very tall, that goes all the
13 way around the PKC.

14 **Kathy Arden:** So now I can see why your concerned and your concentration is on that rock pile and
15 the barrier there, because it's not as high.

16 **Colleen English:** Right so it's easier for them to get down.

17 **Natasha Thorpe:** I want to add that it's really tough to come in to the TK Panel because we have
18 been going a few years and you also weren't at the last session. Not just you, but we
19 have some members that are not here all the time and we are so excited that there are
20 new members, especially more female representation, which is what you
21 recommended as a panel before. If anybody is interested in reviewing, taking home
22 with them previous Panel reports, these recommendations, I think it will all make a
23 little bit more sense and I am thinking Phoebe for you, too. Because it's really tough to
24 be parachuted into a process so thank you all.

25 The other thing I wanted to mention is that Colleen is presenting and it's a lot of words
26 and thank you for being patient. This is just what you came up with last time so just to
27 give you an idea, this is how hard you are working and how many recommendations
28 came out. There were 22 or 23 recommendations from last time and we will probably
29 add the same number around that on Friday after we figure out all the comments you
30 have made today, tomorrow. So this is the 8th session of the TK Panel so we have 8
31 sessions times 10, 20, 30 recommendations and they are all in a huge table. It shows
32 here is the recommendation, here is how Diavik is responding and here's the action.
33 This was something that I got involved in when I started working for this TK Panel. I
34 advised Diavik, I said people need to know exactly where their recommendations are
35 leading to action. You make these recommendations and then sometimes in other

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1 situations you don't hear back and it's frustrating. So this is an example of you hearing
2 back how Diavik is responding to your recommendations. You have made over 100
3 recommendations at this point.

4 This is you hearing back from Diavik about your recommendations.

5 **3. Those that are unsupported (2 recommendations)**

6 **Ed Jones:** I just want to remind you that human waste is used as a fertilizer in China and they
7 have been using it for years and I believe that is what keeps them slim.

8 **Nancy Kadlun:** I don't think that we will need seeds because it will do it itself.

9 **Colleen English:** There has been a lot of discussion around people thinking that the land will do
10 it itself. August was saying that he really noticed when we went through the mine site
11 to camp this summer. He noticed that there was fireweed everywhere, growing on the
12 sides of the rock piles, growing beside the roads. Mary Rose Sundburg said it best, that
13 nature will heal itself but it is a big scar that has been put on to the land. So for nature
14 to heal itself, it would take a lot more effort than it normally would. So if we can help
15 and we can try to encourage that growth then that may be a good thing in this case.

16 **Joanne Barnaby:** I just want to make a suggestion that we visit the treated sewage area next time
17 so that maybe you all know better what it is and maybe you will feel better about it.
18 You know our people used nature in the past always without even treating sewer and a
19 lot of times that sewer that we produced, human waste that we produced, went into the
20 water ways and nature healed it and kept our waters clean and we do have experience
21 with that.

22 **Bobby Algona:** I would like to remind you again, I have said this one time before, when we
23 want to reclaim and replenish the mine site and get the perspective on how to do that
24 we should go and see old camp sites nearby. There was a lot of human activity in those
25 camp sites and they haven't been used in many years because people long ago found
26 one spot that they could use which had a lot of human activity because of a lot of
27 animals around and plant life and the animals around the area. And just a couple of
28 years ago Ekati went up to my camp on their caribou surveys and they landed on my
29 campsite and they told me and showed me pictures of my camp and all the grass and
30 everything is all over my camp now. I think if we are going to reclaim and replenish I
31 think we need to go visit my camp to get a perspective on how we can reclaim the
32 mine site. As a TK holder I see this all the time. I find old camp sites on my travels. I
33 don't know who's ones they are and if it's my people, the Dene people and it looks

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1 like the explorers from the past. And those grasses and shrubs have really grown fast
2 in those areas.

3 **Natasha Thorpe:** I have added that as a recommendation. I don't want to put you on the spot
4 Lucas but we do have someone around the table with quite a bit of experience with
5 vegetation. Lucas has worked on a mine site before in a vegetation program. Are there
6 any words of wisdom you have for us?

7 **Lucas Enzo:** I did work at Ekati Diamond Mine replenishing and seeding, and testing the Canadian
8 geese, that go up there and feed on the grass and test if it's okay to eat. We test the
9 soil. It does have chemicals in there but it's not too much, so it's not harmful. But it's
10 actually growing.

11 **Natasha Thorpe:** So do you think moving these tundra mats might work?

12 **Lucas Enzo:** You don't need the tundra mats you just need to give it time and it does work.

13 **Natasha Thorpe:** Thank you Lucas. Any other questions and comments?

14 **Louie Zoe:** You're talking about things that will be important that the country rock that is up really
15 high. I don't think the animals can climb up high, they can lower it down so animals
16 can go up other rocks and further down this side. They are going to be making another
17 rock pile in the process of making the new dike. We once told Diavik the rocks piled
18 up like that is too high for the animal.

19 **Natasha Thorpe:** So we will put that down again as a concern. Can I put that down as something
20 we can talk about with Gord when he comes back? So thank you very much. I know
21 that everybody is tired, so let's call it a day. If we can meet here, we would like to get
22 started about 8:30 a.m., if that works for you guys? And tomorrow we've got Diavik
23 going through a presentation about monitoring water quality right on East Island. So
24 before you go home or to the hotel we are going to be talking tomorrow about
25 monitoring water quality on site, and putting together some recommendations. And in
26 the afternoon, that's when we will be hearing from both Diavik and DFO and focusing
27 on shorelines and fish habitat, and making recommendations.

28 **Louie Zoe:** I had mentioned in the past that the sewage is being treated and with the PKC are the
29 putting that back into the lake? This is an additional question.

30 **Natasha Thorpe:** He was asking earlier and suggesting that the height of the Rock Pile is too
31 high for animals.

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1 **Gord Macdonald:** I can't answer the question if it's too high for caribou or not - you would
2 probably know a lot more about that than me. So it is as high as it is. It's not going to
3 be any bigger, but it also is not going to be any smaller. It will be capped. So
4 when A21 rock comes out, that rock is going to go somewhere in here [southwest side
5 of Island, on Figure 1]. I haven't decided exactly how or where yet, and it is something
6 that I think we talked about at the last Panel session. Do we make it large and flat or
7 smaller and higher? Those are the options that we have, so those are decisions you can
8 help us with. Because once we put it out there, whichever way we build it is the way it
9 will be forever. Other than what we will use to cover the north country rock pile, all
10 the rock [from A21] is going down here.

11 I think you asked a question about whether the sewage is treated.

12 **Colleen English:** Does the PKC go to the lake and is the sewage treated?

13 **Gord Macdonald:** The liquid sewage is treated and it goes into here [PKC], and if there is too
14 much water in here [PKC] we send it to the north inlet to be treated before it goes back
15 into the lake.

16 **Colleen English:** That's the sewage water, then there are the solids too.

17 **Gord Macdonald:** Then the solids come out and right now a lot of them are being placed up on
18 this till pile. We saw that when we were doing the re-vegetation session. We've got
19 options, but we would like to be able to use it as part of the re-vegetation process. I
20 know there were some concerns from this group about using that for re-vegetation.
21 Any other questions?

22 **Joanne Barnaby:** I think everybody is tired, we have absorbed a lot today. If you can think about
23 what Diavik said and if you have any other comments bring them in the morning.

24 **Louie Zoe:** Closing prayer

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1 **Thursday December 3rd, 2015**

2 **Nancy Kadlun:** Opening prayer

3 **Joanne Barnaby:** So when we finished off yesterday we were focused on Diavik's response
4 to your recommendations from the last session on plants and re-vegetation.
5 Everyone was tired and we agreed to come back to it this morning and give you a
6 chance to comment on it, especially if you had any questions to Diavik about any
7 of the recommendations that they don't support. So just to remind you, I believe
8 there are 2. This first one was in relation to the use of tundra mats to re-vegetate
9 certain areas. Colleen explained that the timing was really challenging to do this
10 and they don't see that it can be done. They have tried and it didn't work.

11 The second one was the use of treated human sewage as fertilizer. If you
12 remember, some Panel members were uncomfortable with using human waste as
13 fertilizer and Diavik feels that it's a very effective fertilizer and it's there, its
14 treated and its safe for use.

15 In terms of recommendations they would modify, there were 4. The one
16 recommendation related to using the small crushed rock similar to what's on the
17 air strip. Diavik explained that a very specific crusher was brought in specifically
18 to construct the air strip to produce that really fine rock and it would not be
19 feasible to bring that back. They feel that it's not necessary, that the test slope that
20 we saw seemed to be satisfactory to the Panel and it would be at that level of
21 crush.

22 The idea of creating a barrier between the rock pile and the PKC slime area,
23 there's still a need to explore options there on how to do that.

24 And the idea of having a special women's session on vegetation, their preference
25 is to incorporate women into all the meetings and not have a special session.

26 Also in terms of meetings per year they are basically saying they would rather
27 approach it on an as needed basis so that's if there's something that needs to be
28 addressed in terms of planning for closure that needs some direction they would
29 rather approach it that way.

30 Any comments on the recommendations that they suggest either modifying or
31 rejecting?

32 **Janelle Nitsiza:** Good morning. The third modification incorporating women in the
33 vegetation. I think it's actually more important if we do have our own women's
34 sessions. I mean I don't have to be incorporated but I would love the opportunity

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1 because we could use that time for Elderly women to teach about traditional
2 vegetation, like how to collect moss and what's good for this and what's good for
3 that. I know my grandma taught me lots just from around our area and it would be
4 interesting to see what's growing in the Lac de Gras area. I know a long time ago
5 when they had meetings the men went, it was mostly men who were incorporated
6 and they got to see the caribou stuff and all the things that affect the caribou. But
7 women use the land and we need to see it ourselves and we need to learn because
8 not many Elderly women are around now, so I would be very grateful just to see
9 what the vegetation is like there and just to see what we can do to help, from both
10 sides, the scientific side and the traditional side.

11 **Joanne Barnaby:** Any other comments?

12 **Bobby Algona:** When we look at the fine crush rock I agree that we don't really need that
13 really fine crushed rock. When we go to the mine you see lots of crushed rock all
14 over the camp site itself, you see them under the culverts or the pipeline, the water
15 line. You see growth underneath the buildings as well and near the water pipelines
16 especially. There was this one person that we were working with, he was
17 wondering, we did not put any additives to any crush rock. I told him when you
18 crush rock there are ingredients in that rock sometimes, it's not always acidic or
19 anything that can really deter plant life. Sometimes you see that on the water
20 pipelines. There are natural ingredients in that crushed rock as well. It all comes
21 from the rock, you see all the plant life on the tundra, that all comes from the
22 rock.

23 **Joanne Barnaby:** Any questions or comments about any of the responses from Diavik?

24 **Natasha Thorpe:** I am just going to speak to the Women's session on vegetation. During the
25 Aquatic Effects Monitoring Traditional Knowledge program when we are out at
26 the camp there was some work that we did with the vegetation, particularly with
27 the women. But we also had some of the men comment that they would rather
28 more fish related lessons be taught at the camp than vegetation related. So I think
29 the idea with this if I am remembering is that it was sort of something that would
30 happen once, not on a regular basis, but that it would capture the specific
31 knowledge of women.

32 **Ed Jones:** I just want to say that I don't know why they keep harping on this re-vegetation
33 thing because I have said many times that you can allow nature to take its course,
34 they don't need to do that. You take the risk of introducing something that
35 shouldn't be there. You can allow nature to take its course and there is no danger
36 in that. If you are introducing new plants they could be harmful. I think it's a

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1 waste of time talking about this, should we or should we not re-vegetate, but it
2 doesn't seem to get through that you can allow nature to take its course and there
3 is no danger in that.

4 **Joanne Barnaby:** Just to be clear Ed, everyone is in agreement that no new plants will be
5 introduced. It would only be local plants.

6 **Kathy Arden:**I think I had asked yesterday and I fail to remember what the answer was, has
7 someone from Diavik already done a collection of seeds in that area or are they
8 waiting until closure?

9 **Colleen English:** They do have the University of Alberta that is on site and doing re-
10 vegetation research. As part of that work they are also collecting seeds and
11 shrubs. Diavik has also tried to source northern seed supplies, one example is
12 Aurora Resource Institute. Two summers ago they did a NWT wide seed
13 collection program and we've sourced seed from them. There's also a supplier in
14 the Yukon that have NWT species, so we also source from them. Between those
15 three that's where we get all of our seed from for the programs that we are doing.

16 **Joanne Barnaby:** No other questions or comments?

17 **Bobby Alguna:** That fourth one that the TK Panel meet two times per year? Why was that
18 not accepted? Is it for once per year or three times per year?

19 **Gord Macdonald:** Its not that it wasn't accepted. We said we shouldn't fix the number of
20 sessions, it should be based on what is needed to be done.

21 **Joanne Barnaby:** Okay, last chance for comments or questions.

22 **Kathy Arden:**Forgive me for harping on the seed thing but going to the women's session on
23 vegetation and the identity of the plants in the Diavik mine site area. It's been
24 commented that women have used plants for medicine to treat their families and
25 even consume so I think that a women's session on vegetation using the identity
26 of plants in that area would good because then they, those people that are
27 knowledgeable in the consumption or use of those plants for medicine, would be
28 good. Then we could ensure that those plants manage to re-grow in that area so
29 that in the future our youth who will learn the use of these plants would be able to
30 go there and use them and consume them and know what they are for. So perhaps
31 a women's session with lady Elders that know of these plants would be a good
32 thing because then it would be ensured that these plants have come back in that
33 area. I know Eddie has mentioned that we are always talking about re-vegetation

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1 and let nature takes its course and I am sure it will, but identifying those plants
2 and making sure they come back would be good.

3 **Joanne Barnaby:** Any other comments or questions?

4 **Louie Zoe:** Yesterday talking about plants and vegetation is a very important question and the
5 plan and the gravel that we talked about. I am concerned about the height of the
6 waste rock pile and then the big boulders and think maybe we would try to reduce
7 the size of it and then eventually, but it's hard to know how long, for the
8 vegetation to come back. It's going to take years for sure, none the less if you had
9 some fine dirt scattered all over on top maybe that way the wind would take over
10 and nature would take its course.

11 **Dora Migwi:** Taking the vegetation back and the re-growth is very important because it's
12 seasonal and every spring I guess when all the plants that come back to life and all
13 the shrubs are all out there. I agree that we should just leave it up to nature to take
14 its course. The animals really depending on it and we don't have to put new
15 species of plants in there that maybe the animals that are using the land might
16 change their diet. It will change the whole landscape. It looks grey brown because
17 everything is dried up and leave it up to nature to run its course.

18 **Joanne Barnaby:** Any other questions or comments?

19 **August Enzo:** Good morning this program we are working on I have been working on
20 this for 3 years now. We work on it for three years what should be done and what
21 should not be done. And I was looking at it and it looks pretty good. The rock pile
22 we want them to make it level so the caribou could come back and be able to go
23 on top of it. And for other things we did a lot of talk about what should be done
24 but now the mine is going to be going another 5 or 6 years again so what we are
25 doing now is for the future of the mine. Mother Nature will do her part with the
26 flowers and stuff.

27 Short story. Rush River way back in the 1920's there was a lot of people living
28 there, a school everything, church, Hudson Bay. 1960 it closed and everyone
29 moved out. And I was there after 10 years and all the houses were gone and the
30 land was really growing again. I used to travel around there and it was really
31 growing back, everything is growing even where the houses were.

32 What's going on with the Jello, or slimes?

33 **Gord Macdonald:** We call it slimes but I think we should change it to jello, it would be a
34 good idea. Since the last time we talked, we said we would get back to you and

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1 we will do that tomorrow about them. Pails of the stuff went to the University to
2 have toxicity testing done on it. Nothing has changed in terms of what we are
3 going to do with it.

4 **Joanne Barnaby:** Ed you wanted to say something.

5 **Ed Jones:** I just want to mention that we do a lot of talking about what the mines are doing,
6 environmental damage, but you know this is not the time for me to say it but I am
7 going to. The biggest threat to our environment is the Tar Sands at Fort
8 MacMurray. I don't hear our government representatives talking about it or even
9 the average Yellowknifer. They tend to ignore that, why I don't really understand.
10 Fort Chipewyan and Fort Mackay have shut their mouths, they don't criticize the
11 Tar Sands anymore, I suspect because they have been paid under the table and I
12 am wondering if our government is also being paid under the table to keep their
13 mouth shut. I know this is not the time or place, but I just want to remind people
14 the biggest threat is not the diamond mines, but the tar sands.

15 **Joanne Barnaby:** Thank you Ed. No more questions then we should move on. I believe
16 Gord has a presentation.

17 *Presentation - Post-Closure Water Management and Water Quality Monitoring (Appendix H)*

18 Questions from Diavik

- 19 1. What areas would you want to sample and why? (eg. Migration routes,
20 caribou crossings, ponds, etc.)
- 21 2. Would you want to do any type of TK monitoring of water quality on the
22 island?
- 23 3. Are there features that would help clean/heal water draining from the land?

24 **Fred Sangris:** I know when they operate the mines the rocks are stockpiles and the most harmful
25 rocks are normally stockpiled somewhere else. Can you tell us where the harmful
26 country rocks are? And what's in the surrounding area?

27 **Gord Macdonald:** The more harmful type rocks, they are what we call type 3 rocks, and they
28 are located in the middle, the core, of the North Country Rock Pile. So we put it in
29 the middle of the North Country Rock Pile and it is sitting over top of the old
30 quarry that was initially dug to build the dikes. So it's in the heart of this pile and
31 the plan we have for that is to put a cap on the top of it that is made up of a layer
32 of till, some gravel and a layer of rock. The idea is that it's going to make a cap
33 over top of it to keep the core of the pile frozen so that, as much as possible, we

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1 can keep that type 3 rock away from any snow melt or rain fall. So the design is to
2 have everything run off of it, not in to it.

3 **Mike Francis:** The big pile of waste rock. Once the closure of the mine are they going to
4 put it somewhere else? Or put in the open pit? I am concerned for the waste rock
5 once the closure of the mine and that water.

6 **Gord Macdonald:** I think that there was a question about whether the rock is going to stay
7 here and the answer is it is going to stay here. It's not going anywhere. We are
8 using the good rock for on-going construction, type 1 rock. The Type 3 rock, the
9 bad rock, is in the place it is intended to be.

10 **Bobby Algona:** As you I know we are in the heart of global warming and everything is
11 melting all around us and hunters are finding these sink holes out on the tundra
12 and especially around these esker areas and where there's a lot of permafrost, its
13 melting. When you talk about that harmful rock and you want to put a cap on it
14 and you think it's going to stay frozen. I am thinking how is that going to happen
15 when everything is melting. It's eventually going to melt if global warming
16 doesn't stop what it's doing now. It's not going to stay frozen with all the global
17 warming going on.

18 **Gord Macdonald:** That's a very good question Bobby and that is exactly why we are doing
19 this the way we are.

20 This is a picture of the rock pile and all of this would be frozen, but every year in
21 the summer and you get a depth of thaw, about 1.5 meters of annual thaw in the
22 ground. The thaw back on the rock pile is 15-20 meters every year. Global
23 warming would likely increase that, if we left it the way it is today.

24 **Natasha Thorpe:** The math geniuses would play around with a few different cases, like if
25 climate change went really crazy. What if it was small, what if it was somewhere
26 in the middle, where would that thaw go?

27 **Gord Macdonald:** There are a range of scenarios looking at the paper these days about
28 what's going on in Paris. There's a whole range of views that people have about
29 what the world is but just like in any other engineering communities, the
30 regulatory communities come up with reasonable scenarios and they ask every
31 development, particularly developments in the North, to evaluate your designs
32 against those global warming scenarios. So that is exactly what we have done is to
33 evaluate all of our engineering, even back when we were doing the mine design,
34 all of the engineering was done with global warming scenarios. The scenarios
35 have changed plus or minus but when the average temperature at site is still like -

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1 11C, you'd have to go 11 degrees of average temperature before you'd end up in a
2 thawed environment. But regardless, global warming is not working in our favor
3 for the mine site. So we want to make the rock pile act like the ground with
4 regards to the annual thaw back. And the difference between what happens on the
5 ground and what happens in the pile is that this [pile] is all big rocks with big air
6 spaces in between, so the thaw can move faster down the column. What happens
7 in here [ground] is its more compacted, it's more solid, so the annual thaw back is
8 less. So the way we are doing this is to add 1 meter of the till [lake bottom
9 material] out of the new pit and put it on to the rock pile. Then we top that with a
10 3 meter thick layer of rock, which will protect the till from thawing. So even with
11 the annual thaw back, it [type 3 rock] still stays in the frozen zone.

12 This isn't something that we are going to do in 2023 or 2025. This is something
13 that we actually have to start next year; we have to start re-sloping this pile
14 because 2018 is when we will start mining A21 and we want to bring that material
15 straight out of A21 and put it straight onto this pile so that we can start this
16 process of developing this cap.

17 And I say all that because, in order to do this, next year we come back to the
18 Panel with what we have been working on for the shape and the slope and caribou
19 access on the North Country Rock Pile. It is because we have to make these
20 decisions about what that final slope is going to look like next year, so that we can
21 have it set and we can start building on top of it. Because what we don't want to
22 do is build this cap on top of it and then, you know, have the Panel come back and
23 say, you know, we would really like a caribou ramp over here. That gets a lot
24 harder then.

25 **Natasha Thorpe:** Are there any more questions for Gord?

26 **Fred Sangris:** Here in Yellowknife, about the last 30 years, over the last many years we don't
27 get a lot of rain. Have you been monitoring the rain season? Has the rainy season
28 been diminishing or have you been getting more rain?

29 **Gord Macdonald:** It seems to come in more storms. So we have been getting the same
30 amount, more or less, every year. We have had a couple of dry years but the
31 storms seem to be bigger. The global warming prediction for the North is more
32 rain, which we haven't seen yet, but that's what all our scenarios are designed for.

33 **Fred Sangris:** Is the rain going to help or is it going to be a problem?

34 **Gord Macdonald:** It's harder not so much for this, but for the PKC where it's a pond and so
35 we have to design to those higher volumes. We can design to it properly but the

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1 bigger problem is if we didn't see rain. Then those slimes on the bottom end up
2 getting exposed. Dry would be good for the North Country Rock Pile, not so good
3 for the PKC.

4 **Natasha Thorpe:** Thank you Gord I think that gives us a good start to our discussions. We
5 have three questions to think about.

- 6 1. What areas would you want to sample and why? (eg. Migration routes,
7 caribou crossings, ponds, etc.)
- 8 2. Would you want to do any type of TK monitoring of WQ on the island?
- 9 3. Are there features that would help clean/heal water draining from the land?

10 **Louie Zoe:** Definitely I think the mining company wanted to work with the Elders and now
11 that we have that component in there I would like to help the best possible way.
12 The Elders are concerned mostly about the land, the wildlife. Another concern is
13 the way the company is looking at putting the waste rock back in the pit. As far as
14 the filling it back up with water, I think the open pit will be cleaned out with the
15 water any given day the water would be so deep that the fish might not want to
16 use it. There's the dike itself at the water front do you see any vegetation that
17 might be growing back in that area and if we could make the landscape more
18 pleasant.

19 **Fred Sangris:** I feel the same was as the Elder from Gameti. We have learned from the past the
20 mining companies just walked away so we want to see the best closure possible.

21 **Natasha Thorpe:** You are giving early guidance to Diavik so they can meaningfully and
22 respectfully bring in TK into how they are planning closure. And when I hear that
23 closure is planned for 2022-2023, its exciting that you have the chance now to
24 guide them according to your experience and your wisdom.

25 *Break*

26 **Natasha Thorpe:** I am going to put up the map of East Island at closure. Our focus is to look
27 at East Island. This island. What areas on east island would you want to sample
28 and why? The blue lines are where Diavik thinks there will be water flow, that's
29 where there will be cuts in the dike, that's what they are planning for. Are there
30 places on the land, in some of these water bodies, maybe where the two pits are?
31 We are free to take a marker and mark the map as well if you have ideas as to
32 where you want monitoring to happen after closure. We could also break up into
33 small groups. Colleen is getting you smaller maps. Let's look at the second
34 question until the maps get here.

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1 Would you want to do any type of TK monitoring of water quality on the island
2 after closure? Right now you are monitoring by tasting it, tea test, boiling it,
3 looking for scum.

4 **Fred Sangris:** I know in the past before the mine was developed that whole island was a
5 spawning area for fish. It's a very important area. The water drainage I am a little
6 concerned about for the fish. I am concerned about the water quality on the one
7 area of the bay (south west of the two pipes or east of the PKC) we seem to have a
8 lot of breaks of water coming into that one little bay. That area seems shallow and
9 would probably be a spawning area? So maybe we can talk about that part maybe
10 we can make it a cell with slow drainage or we can take a look at the flow of
11 water, how much water is going in. And that might be an area that sampling
12 would take place for a very long time.

13 **Natasha Thorpe:** Fred that is great suggestions, I wonder how would you suggest to monitor
14 science or TK?

15 **Fred Sangris:** TK alone can't tell you, science alone can't tell you but I think, combined, I think
16 you could get the best information for long term, and that could be an area where
17 we want to go. But along with that the mine is going to close in 2023 and also
18 there was a mention of bond, the dollars that's there but long after Diavik leaves
19 the property I'm not sure if the bond money is going to be there for a very long
20 time or who is going to use it or are we going to use it as part of this committee.
21 This kind of committee needs to continue the work long after the mine leaves
22 because we need to continue working and monitoring this place here, providing
23 the best TK recommendations as possible but along with that I think there has to
24 be dollars put aside for this committee so that other people involved and sampling
25 and the information and reporting is done. I think the money might be an issue, if
26 the money is not available then we can't go any further.

27 **Natasha Thorpe:** That sounds to me like a recommendation. That money be set aside to
28 continue and whether that's from the bond, whether that's from the government it
29 may involve asking or having the TK Panel put together a letter or formal
30 recommendation to the government.

31 **Fred Sangris:** I agree, I'm not sure of the amount. But I think for the long term monitoring, there
32 might be a long term impact we don't know, but I think it would need to be a
33 substantial amount of money set aside so that monitoring continues with this. At
34 the end we all want to see a beautiful thriving island again. The little critters that
35 were on the island before maybe they could be returned.

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1 **Natasha Thorpe:** I am wondering if anyone has ideas if you imagined the youth or Elders
2 going back out to monitor East Island using TK, what would that look like?

3 **Fred Sangris:** I think it's important to because many Aboriginal people have TK since this is the
4 very first of the mines that are working this way, it could be a model that could be
5 built for the future for the other mines. I think for many of us we could pass on
6 the traditional knowledge and then the youth need to continue that roll. I think it's
7 important for the young people to learn about the TK and how it works and we are
8 going to be partners with mine industry in the future, there is no way we are going
9 to walk away from it because we all need the jobs, we need the economy we need,
10 the young people are looking for a future. But I think we can work with that but
11 also passing on our information and passing on our TK so that these things are
12 taken care of long after the mines are gone and the healing process continues, so
13 that there is no big impact. We want the herds of caribou to come back and some
14 people may not agree with me but I hunt caribou a lot and I know the caribou will
15 come back to this island. This island was an important caribou habitat at one time
16 and we have to make that island, design it so that the animals will come back, the
17 caribou will come back to it and other animals as well and use the island again.

18 We also have youth that are trained in the environmental fields they could be
19 scientists. A partnership should be struck with the First Nations community and
20 the governments. This could be a model the way we design this.

21 **Bobby Algona:** Looking at the water currents around the lake I've had a little discussion
22 earlier on the panel even over the summer. I have asked this question and I didn't
23 really get the full answer, of all the monitoring of water currents around the lake, I
24 am wondering have the currents been monitored around the little bays? I was
25 really wondering if there was any monitoring in those areas and as a hunter and
26 trapper trying to find fish and coming to know these little bays. Fish need water
27 currents to move around on the lake and coming to know these little bays no
28 matter how small they are, I see the water currents when I am fishing you set your
29 fish line down in the water, you see the curve on the line all the time, that's the
30 water currents in those areas. And if you put it down later it's going in a different
31 direction. As you know the moon has something to do with this water currents
32 even out on the ocean you see these water currents moving back and forth all
33 along the ocean. I was wondering if there was any water currents in these areas?
34 When you look at that fish and land you know there are currents in these lakes
35 and no matter how small the lake is there is still the current, its still there. I always
36 find no matter how small the bay is there is a current. Those would be the places
37 to monitor because of the . . . (stops).

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1 I recommend that those dikes not be open for many years after the mine closes,
2 same as those blue lines. Until we can monitor the seepage spots that the mine
3 has. If they are not drastically changing then when we are all comfortable and we
4 can monitor these as well. Don't break any dikes or channels for a number of
5 years after the mine is closed.

6 **Natasha Thorpe:** I wonder two things Bobby, one when you say monitor the seepage so that
7 you are satisfied how exactly would you monitor it by tasting, by looking.

8 **Bobby Algona:** We can be working along with the scientists as well. We don't really want
9 to be tasting it or do anything with it. I think we will be working closely with the
10 scientists after closure. I think science can help us a lot in those ways too.

11 **Natasha Thorpe:** So I am hearing you wouldn't want to taste the water on East Island? Is
12 that a general feeling? Right, we taste it at the camp from the big lake, but right
13 now we are talking specifically on East Island.

14 Everybody agrees? (Yes.) Okay.

15 **Phoebe Rabesca:** I do agree with Bobby not to open up the dikes. If you look at the map
16 right now you see the big two giant holes and once the water's covering it, it's
17 there forever. 200 years, 300 hundred years. And also with the North Country
18 where there is contamination in the rock, chemicals. That is there forever. Then if
19 you look at the PK that to, there's slime inside and that too is contaminated and
20 this land is not reversible 100% because, and I'm sure Diavik doesn't want to be
21 accountable after they leave, they want to make sure everything is done. That's
22 the reason why they created the TK Panel to get the Elders perspective, to get the
23 peoples perspective and for me this Panel right now, this day and age, while we
24 are making the decisions if we make one or two mistakes and we didn't do
25 nothing right, 150 years from now they are going to say the TK Panel didn't do it
26 right. Diavik can say the TK Panel didn't do it right because they created this
27 committee because they don't want to be accountable and then with the bond,
28 Fred is talking about the bond because he wants money there, its true. Diavik
29 came into our traditional area, a hunting area and they did all that, they got the
30 money they want, they got the diamonds they want and now, if you think about it,
31 they don't want to be accountable for it. And now they say well let's ask the
32 government for money. You can't just look at the government, Diavik has to be
33 accountable. I know that Diavik and Rio Tinto don't want to be accountable. It's
34 not like Giant Mine. And if we think about it the water is going to be there. It's
35 flowing through Kugluktuk, 50 years from now what is it going to be like when
36 you are not there. 50 years ago by this time it use to be -50 out on the trap line,

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1 now it's -12, we are 40 degrees above normal if we think about it. My mom when
2 she was growing up in the bush it was -60 in the month of December. Global
3 warming is not going to be reversible for a very long time. Tar sands is flowing
4 this way, ray rock is flowing this way, the j-pipe is eventually going to flow into
5 your area.

6 **Natasha Thorpe:** Thank you very much for those thoughtful comments. It's not easy for
7 anyone to plan for these types of events. One thing you mentioned about the bond
8 to clarify, the bond is not government money, the bond is Diavik's money that
9 they have to put aside. I understand they put aside 4 million dollars a year. The
10 government requires that Diavik has 150 million dollar bond set aside and to have
11 that available. Its not government money that funds the bond.

12 I wonder about different times in the moon cycle or the different moons over the
13 12 moons of the year. Are there ways that your knowledge of moon phases and
14 how they affect water quality or water quantity? I am wondering if that expertise
15 that TK holders have about the moon might affect how you monitor the water
16 based on the moon.

17 **August Enzo:** Can you please repeat what you said about the moon?

18 **Natasha Thorpe:** I was listening to Bobby talk about the moon and about how it affects
19 water currents and it made me wonder if that TK that you have about how the
20 moon affects water - quality, quantity, how it tastes, how it moves, how deep or
21 shallow it is - whether there is anything that could be applied to how you want to
22 monitor water in the future on the island?

23 **August Enzo:** The moon you are talking about what it does to the land, to the world the
24 way the creator made it, it's no different there is nothing changed for me same as
25 the sun. Now we are talking about the mine and that island and are there any
26 small mice and ground squirrels around? Because I have been in there a lot of
27 times and when I get there it's just like I am in jail. They don't let me out to walk
28 around (laughing) they all know it so are there any small creatures like mice and
29 ground squirrels? Yes okay, well that creature and rabbit they will do their part
30 we know there will be wolves and caribou.

31 **Mike Francis:** Airstrip what is going to happen with that?

32 **Colleen English:** We have had some feedback from the panel on that in the past in that the
33 preference is to leave it for an emergency airstrip. The thing that Diavik would
34 need to look into with that, that we have talked about before too, is that it is a
35 liability. So if that airstrip is left and it's not signed off as an uncontrolled airstrip

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1 that's there 'just in case', its too much of a liability for Diavik. Because the reality
2 is that airstrip is going to deteriorate over time, when Diavik's not maintaining it.
3 So it wouldn't be that nice smooth perfect airstrip, and a plane could come in and
4 try to land and then end up crashing because it is bumpy and it has had some
5 permafrost heaving. If it were to be left intact, again coming back to the closure
6 scenario and working with the governments, we would need to get that as an
7 agreement from everyone. Everyone would need to sign it off that it is okay to be
8 left as is and only as an emergency landing strip, including government.

9 **Natasha Thorpe:** The 3rd question we have is what features or types of landscape that would
10 help to heal the water draining from the land? What I have heard from you in the
11 past is that you often get drinking water from where a muskeg or wet land filters
12 the water and you get it from the other side, because you know from your
13 expertise that the wet land helps to clean the water so I am wondering if there is
14 any features or types of landscape or plants that would help to clean or heal the
15 water that drains from the land after closure?

16 **Nancy Kadlun:** I am worried about the pits, they are really, really big and if the water sits
17 there for a long time and its going to be very contaminated to go back to the lake.

18 **Natasha Thorpe:** So how would you like to monitor that water, how would you know its
19 ok? Bobby always says ease in your mind and ease in your heart, that water is
20 healthy.

21 **Nancy Kadlun:** Maybe do samples again in about 30-40 years from after it sits there for a
22 while because it's not going to be the same as soon as they close it. They might
23 think it's clean but in about 40-50 years time that water is going to be very bad.

24 **August Enzo:** You are talking about sampling water after its all closed. I know they are
25 going to do it but after its closed they should take samples around the island that
26 year, and a year later do it again to be on the safe side. Saying 30 years is too long
27 for them.

28 **Natasha Thorpe:** Did you mean every year for 30 years?

29 **Nancy Kadlun:** I was saying if the water sits in that area for a long time it's going to be
30 contaminated in the big pit and how would that get cleaned.

31 **Natasha Thorpe:** I think what I heard from Gord yesterday is that the contaminant is that the
32 water is saltier the deeper you go. So Diavik's concern is that salty water that
33 comes out of the deeper part of the ground would mix with the water in the pit.

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1 But as I understand there is not a concern for a chemical contamination. Colleen
2 did you want to speak, did I get that right? Yes.

3 **Ed Jones:** Water lies in various layers and salt water is heavy and it will sink to the bottom. I
4 don't think we should be too concerned about salt. It's the ammonium nitrate that
5 they use for blasting, but it is also a fertilizer so my only worry is that the
6 ammonium nitrate is a fertilizer and you are maybe going to get a lot of algae and
7 plants because of that but the salt itself, that type of salt I wouldn't be concerned
8 about.

9 **Natasha Thorpe:** Thanks for clarifying that Ed.

10 **Phoebe Rabesca:** For the open pit, what if they just do a slow seepage and see what is
11 coming out of there.

12 **Colleen English:** Phoebe, do you mean when you are filling the pits a slow seepage? Or
13 what do you mean.

14 **Phoebe Rabesca:** No after both pits are filled doing slow seepage from it. Then monitor
15 what is coming from it.

16 **Colleen English:** The question is how are you going to fill it? It is the reverse to how we
17 emptied it. We will have a pipe from the lake to fill the pits. The ground water in
18 the bottom of the pits will also be seeping in. So the idea is that you fill it quickly,
19 so you reduce the amount of salt water and it stays at the bottom.

20 So when we talked about filling the pits, they will be full and sitting with that
21 water mixture, so there will be the ground water in there and they will have
22 probably that 5 year period to make sure that water is okay. When the breaches
23 are put into the dyke the only thing it is doing is re-connecting the pit water. By
24 then they will know it's good to connect with the lake, which is just more good
25 water. So there wouldn't be a big change.

26 **Phoebe Rabesca:** I was listening to Nancy about not opening, you know, to leave it as it is.
27 But then I thought about it that if we just leave it as it is, what if there is
28 contamination in there that's what they are talking about. But if they just open it
29 slowly. So for 5 years you will be monitoring it before they open it up, that's what
30 you are saying?

31 **Colleen English:** Diavik is estimating at least 5 years. The way Diavik sees it is that if they
32 can't connect the pits to the lake then Diavik has failed. If that water is not good
33 enough to reconnect then they have failed.

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- 1 **Kathy Arden:** I believe Gord said too, before they fill the pits they will wash the pits down first
2 and then pump that water out and test it. And then over the period of 5 years they
3 will be testing it.
- 4 **Colleen English:** Mostly correct. The pit wall washing has already been tested and have that
5 in the presentation this afternoon. At this point, washing the walls doesn't make a
6 significant change to the water quality so I don't think that they are planning on
7 washing at the end.
- 8 **August Enzo:** Are they going to fill up the pit before or after the mine closes?
- 9 **Colleen English:** It would be after. The reason we can't fill the pits with the rock or water is
10 because there are people working under those pits.
- 11 **Natasha Thorpe:** We have smaller versions of these maps and I am wondering if you feel
12 ready to break into smaller groups and talk about perhaps where monitoring could
13 take place, how monitoring could take place. What sort of features Diavik might
14 consider constructing or creating that would help protect water quality.
- 15 Working with the maps
- 16 **Fred Sangris:** We still got time until noon. What we are doing is trying to educate each other.
17 The pit that we are talking about right now, those pits are dead pits, there is no life
18 in that pit. I think what might help in the future would be to make those pits
19 lively. The beavers on land they work very good and they make life. I think the pit
20 needs some critters to bring life back to the pit. The little critters will bring life
21 back to the pits. I think for this one here [A154] you just need to put something in
22 there. Put some live things in there, bugs. Sometimes I take my caribou hide and
23 put it in the lake and then a week later I go back and it's cleaned; the bugs cleaned
24 the hide.
- 25 The beaver can do a lot of wonderful work, but you can't put the beaver there
26 because there's no trees there. What you can do to drain and filter the water, you
27 want to filter it using moss and such but there are different ways to make things
28 live. And by the time it reaches the lake its filtered. And maybe that's how we do
29 it; find those beaches and it will filter it and in a few years it will have a filter
30 system of its own.
- 31 **Natasha Thorpe:** Fred I just changed the slide up there to show you that I think, from your
32 TK and the science, that you are both agreeing. Remember how Gord said this
33 was the preferred route [for water flow from the PKC]? My understanding is that

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1 its because it allows for that longer route and that filtering through here [long
2 drainage channel from PKC pond to LDG].

3 **Kathy Arden:**With regards to question 1 after the closure, maybe I missed something, is it
4 referring to after those dikes are breached? Because I know that Diavik is going to
5 monitor the water for 5 years within those dikes, so the question of what areas
6 would you sample and why, is that after the breach?

7 **Joanne Barnaby:** Before and after.

8 **Louie Zoe:** Concerned about the water seepage and the water drainage from the rock pile and
9 the drainage that goes through the ditches - somehow they should be monitored.
10 Just one area that I am concerned about is if the dike is too deep and water might
11 not move and so maybe contamination will develop in the future.

12 **Joanne Barnaby:** I believe that Louie was just stating his agreement with regards to
13 continuous monitoring after the dikes have been breached and beyond the 5-7
14 year period?

15 **Phoebe Rabesca:** I think what Louie is trying to say is about once the pits are filled with the
16 water. When a river is flowing, it is always replacing the water, but in the dike
17 there will not be continuous change in the water. So he wants to know about that.
18 There is going to be no river flowing through it, so no fresh water circulating in
19 there.

20 **Joanne Barnaby:** The concern is that you are not going to create a continuous flow of water
21 because the dikes will still be in the way. There were natural currents before the
22 dikes were built and he is concerned we will not get those back.

23 **Colleen English:** The cuts in the dikes are where they are because Transport Canada
24 regulates water ways and dictates where the cuts go because of line of sight. So if
25 you came across this and you went into them you could see a way out from where
26 you are.

27 Back to Louie's question, it will be different here then it use to be. This is going
28 to be very sheltered and protected, there won't be as much wind and wave and
29 current action as there was when this was a completely open lake.

30 **Joanne Barnaby:** Almost like creating a new bay.

31 **Natasha Thorpe:** The blue lines [on site map], why are they there?

32 **Colleen English:** The blue lines are where we have existing collections ponds or where we
33 have broken off where natural flow has been in the past and we would be

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1 reconnecting that natural flow after we are not trying to contain all of that water
2 that comes off the mine site anymore. When I look at the SNP Program that Gord
3 was talking about, and I look at some of these points, I think about things that the
4 communities have said that I have heard over the years. You've said within the
5 Panel that you want to know where water is going, you want to know what that
6 water looks like. And I think that the SNP program that exists right now very
7 much aligns with that concern. It's looking at all of those points where you can
8 lose water off of the mine site into the natural environment and making sure that,
9 that water is contained from a management perspective or sampled from a
10 monitoring perspective. I think that's where you want to get to with closure is
11 identifying those places of concern where water is going to come back into the
12 environment and making sure that those are being watched.

13 And if there are ideas about how to help that water along the way, with moss or
14 plants or whatever it is, then making sure that's incorporated into the design. So I
15 think those are the two biggest things that you can probably contribute with this
16 piece.

17 **Joanne Barnaby:** So the blue lines that are up there now, do they reflect where the natural
18 flow was before the mine?

19 **Colleen English:** Yes, most if not all of them are natural drainage spots that were blocked
20 for mining purposes.

21 **Joanne Barnaby:** Any other questions, concerns, ideas.

22 **Phoebe Rabesca:** She was talking about drainage and they are going to do it again. Does
23 Diavik have anything in place about what is going to be done say in 20 years if
24 contaminants are found?

25 **Joanne Barnaby:** Can you address what commitments would Diavik have 20 years after
26 closure.

27 **Colleen English:** I talked a little bit yesterday about the process for closure, with
28 governments and the mine and we talked about the security deposit, the bond.
29 There are a lot of unknowns about that final tick in the box for the mine and what
30 the governments will want and what we end up doing with security deposits and
31 that sort of thing. So it would be a best guess, just my best guess, that it's likely
32 the government is going to come back at the end - when we they are wrapping up
33 and the mine is clean and they have given Diavik the okay to walk away - it's
34 probably likely that they are still going to ask for a little pot of money that's
35 available for things like that. And when I say little, it's probably still millions of

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1 dollars. So that would be their back pocket protection in the case that something
2 unexpected came up in the future. So that is a likely scenario, in my opinion, but
3 we don't know that for sure. We don't know what that's going to look like in
4 terms of that final agreement between all of the parties that are interested in this.
5 It's something to keep on the radar, it's something to think about for the future
6 and start having those conversations.

7 **Joanne Barnaby:** Any further questions, comments or recommendations? Do you want to
8 spend some time on the maps to start identifying locations for either monitoring
9 or action to ensure that some kind of natural filtering system is supported or
10 developed?

11 Spend 15 minutes looking at the maps and writing on them, then come back and
12 explain what you are proposing.

13 *Lunch Break until 1PM*

14 **Joanne Barnaby:** So what we would like to have everybody do is present their ideas that
15 they came up with when they were reviewing their maps and any
16 recommendations that you have.

17 **Kathy Arden:** So we came up with what areas would you sample and why. Lac du Sauvage
18 entry and exit because of the j-pipe, and even though it's not Diavik's
19 responsibility to find out what happens there, there still could be contaminants
20 coming through so we would like to see that one continue to be sampled.

21 Going on the other side of the lake, is the exit to Coppermine river as well all
22 around the shore line of the [East] island to check for any new algae growth. Even
23 though we can somewhat predict the drainage, there may still be drainage places
24 that may change after they are done their reclamation work. Check all the
25 breached drainage areas too. We would like to see this happen in May and June
26 when the spring runoff happens, this will give a better indication of what is
27 coming off the island.

28 Bobby had mentioned the North Inlet containment which has a lot of heavy
29 metals in it and, even though Diavik would be cleaning that out and ensuring that
30 the water is going to be cleaned before they breach that dam to have it flow back
31 in with Lac de Gras, we would like it monitored for contaminants continuously to
32 make sure the metals are cleaned up.

33 How wide and deep is the pit breaches going to be??

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- 1 **Colleen English:** Each breach is going to be about 30 meters (90 feet) wide and the depth
2 would be variable, ~10 meters [note: later corrected to 2-3 m below low water
3 depth, as per ICRP]
- 4 **Phoebe Rabesca:** Diavik should provide a list of chemicals in the type 3 rock and in the
5 slime so the TK Panel know what they are dealing with.
- 6 Diavik should provide bonds for future use for studying, monitoring and testing.
- 7 Diavik should reseed the land and use dirt and human waste so the land can grow
8 faster. And they should provide a report of the water and the fish sampling every
9 year after the mine closes to see what's going on and to see what's in it.
- 10 **Janelle Nitsiza:** Where the PKC is, so the bodies of the water around it, there should be
11 lots of sampling in that area because we don't know what that slime is, you can't
12 define the slimes to the Elders. So I agree with Phoebe that we need to know what
13 these chemicals are and we need proper translations of chemicals so they [Elders]
14 can understand.
- 15 **Fred Sangris:** What we did with the two open pits, we were talking about putting little insects in
16 there and the red surrounding it is moss. So if the water flow is going back and
17 forth, then anything bad will be caught in the moss.
- 18 PKC area there are two streams coming out and what we did is the red area is just
19 for when the water starts to flow. We want to put a filtering system and/or moss;
20 we talked about possibly two different systems, one industrial one and then the
21 Traditional method of moss. Line them up along the stream that goes on to the
22 lake and work hard at the lake so it is clean water at the lake.
- 23 **Mary Louise Black:** North Country Rock pile and the PKC should be monitored and sampled
24 due to chemicals, all run offs from the mine should also be sampled.
- 25 Monitor and sample the north inlet containment and its run off continuously.
- 26 Continuing to use TK and scientists together.
- 27 **Lucas Enzo:** The dust on the North Country rock pile, does it have any chemicals that can
28 affect the air quality and lake?
- 29 **Joanne Barnaby:** We will return to the discussion around recommendations for monitoring
30 and fish habitat or action that can be taken to rebuild fish habitat on the shoreline
31 and with shoals later on today.
- 32 Right now we are going to hear from Diavik

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1 *Presentation – Open Pit Closure: Fish Habitat and Shoreline Construction (Appendix I)*

2 *****This was not recorded. Sound system did not turn back on until DFO was talking.*****

3 **Colleen English:** Water depth in shoal area would be approximately 15 feet.

4 The plan is not to wash the pit walls because Lac de Gras water ‘wins’ in that the
5 amount and quality of good water beats out the amount of chemical.

6 Fish use some reefs more why is that? Is it because it is shallower, closer to the
7 bay, more moss or more plants? What is your experience?

8 What should the finished reef look like? How big should the boulders be? What is
9 going to encourage the fish to use it most?

10 Should the first part of the roads [that currently go into the pits] get left for easy
11 passage for animals in and out of the water? And the shoreline, what should it
12 look like?

13 Questions?

14 **Bobby Algona:** This is concerning the breach. I am thinking you are going to be breaching
15 the channels to the same levels as the original lake bottom?

16 **Colleen English:** The width is 30 meters. I think the depth is based on the bottom so it
17 would vary. [note: later corrected to 2-3 m below low water depth, as per ICRP]

18 **Bobby Algona:** Because it’s a pit that is very, very deep already. When you open that or
19 breach it I think there will be more water going in and out because of the depth of
20 the pit itself. There are some islands that have shoals and you can see the water
21 going in some directions because of the shoals. Right in the middle of the lake its
22 always moving, the water is always moving under the ice so the ice is thinner
23 there. There is going to be movement there too. So it’s something to think about
24 too.

25 **Colleen English:** Are there any other questions or do we want to get DFO’s information
26 first?

27 *Presentation - Artificial Reefs as Offsetting in the North (DFO, Julie Marentette) (Appendix J)*

28 *****Recording started again*****

29 **Fred Sangris:** As fisherman when we are ready to set a net we know what to look for, we are
30 looking for the right place where fish are going to be. We know where there are
31 going to be spawning areas, we don’t want to fish in spawning areas because the

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1 fish have a different texture and taste different. The last picture where you see a
2 lot of boulders and you said the current is strong, that's where I would set a net to
3 catch a big fish, 6lb to 10 lb. The fish will go back and forth. They like that deep
4 area and they go right through and they are not going to lay their eggs there. It's
5 too cold and too deep. And the waves play a big role in it. They like to lay their
6 eggs in a very sandy area, maybe not sandy but gravel, and it has to have a slope.
7 The current can't be really strong but it has to be moving.

8 Where they built the dike, I was fishing there and the gravel was beautiful there
9 and it looked like a beautiful area for spawning fish. So I threw a couple of hooks
10 in and I caught some fish there and I noticed that the water was moving slowing.
11 When the fish are born they like that shallow area with a little bit of gravel. They
12 don't like the sand, and most areas in the east where there is a lot of fine sand you
13 always find dead minnows floating around. They have no protection to hide from
14 the waves so the waves just wash them up and that's why we find lots of minnows
15 on those sandy beaches. After they are born they want to go into the shallow
16 areas, so through the islands you will find lots of minnows. But they are not going
17 to go in the pits.

18 I have a camp just outside the city here. Every spring I have graylings coming in,
19 it's a small little bay and maybe from here to the stairs and 6-8 feet where the
20 water comes in it's a little bay. And the graylings come in every June and they are
21 only there for about a week. Shallow, big boulders and if there are other big fish
22 that come around they can't get into the shallow areas where the minnows are.
23 The current is the important part.

24 **Joanne Barnaby:** Are there other comments, observations, questions?

25 **Bobby Algona:** Fred was talking about the fish. I agree I find a lot of these fish beds when
26 you are out fishing. There is another concern I want to talk about. Sometimes we
27 come across a lake we don't know about the shoals and we don't know how thick
28 the ice is because of the movement of the lake. And depending on how deep the
29 shoal is from the top, it's going to be moving all the time from side to side
30 whichever way the water is moving. Traveling in Lac de Gras I have come to
31 know where all these shoals are in the winter and they can be really shallow and
32 the ice can be really thin in those areas. I am wondering how deep are the
33 artificial shoals going to be that Diavik is going to be putting in? I have come to
34 know these in my travels and I agree these fish tend to come to the shoals,
35 because of these shoals the water movement is more pronounced in these areas;
36 you need the water movement for the spawning. But I have come across a lot of
37 shoals especially around my lake on Pellet Lake where I grew up and lived all my

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1 life and there are many, many shoals on this lake and I have to be really, really
2 careful around those areas.

3 And living right next to the river, the river doesn't freeze at 40 below. The river
4 does not freeze year round, depending on how the moon is moving, one way now
5 and then a few hours later it's moving a different direction. I have come to know a
6 lot of these types of water.

7 So I want to know about the shoals so I can be safe when coming back to this
8 lake.

9 **Gord Macdonald:** That is a good thing for you to tell us: how deep they should be so you
10 don't fall through? Just picking up with what you said about currents, and what
11 Fred said, it fits with this story as to why there may not be eggs there. I wanted to
12 bring you back to the reefs that we are talking about are on the inside of the dikes.

13 We are not setting this up to be a high current or spawning area, but to be more of
14 a nursing or rearing habitat.

15 We need to look at what we are targeting.

16 **Colleen English:** Further to answer your question, like Gord said, some of the feedback we
17 are looking for is what should those shoals look like, how big or how small should
18 they be? This [referring to diagram] is what is in the closure plan right now:

19 Water will be 15-30 feet deep and the shoals will be 6-9 feet high.

20 The cuts in the dike will be 9 feet below the low water level. I was wrong earlier
21 when I said they would be variable based on bottom depth, so my apologies for
22 that.

23 **Bobby Algona:** When mining companies say they want it to look as pristine and as natural
24 as it was before. Why do we want to do this? The mine wants to put everything
25 back to as natural as it was before it started, why do we want to put these natural
26 fish shoals there?

27 I am having a hard time with this because it's not as natural and pristine as it was
28 before the mine started. Artificial reefs do bring fish alright but I am having a
29 hard time agreeing to this because it's not as natural and pristine as it was before
30 the mine started in the first place. That's what I am having a hard time with,
31 thinking about it myself. The mines said they want to bring it back as natural as
32 we can after the mine closure has been set in place.

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- 1 **Julie (DFO):** When the Fisheries Act authorization was issued for this project, this type of
2 rehabilitation project was built into that authorization to try and bring it back to a
3 more natural state. So that's why we are talking about this now, is that it was built
4 into the authorization that Diavik received about 20 years ago. There is also the
5 pit that's still lost habitat, so we are trying to add a little bit more than what was
6 permanently lost.
- 7 **Natasha Thorpe:** Bobby what is your concern about them creating shoals?
- 8 **Bobby Algona:** My concern is that, depending on how thick the ice is and how deep the
9 shoal is going to be from the top, towards the end of the year I noticed some
10 places as the ice starts to get thicker and closer to the bottom of the lake you see
11 in those shoals the water currents being more pronounced. That was my big
12 concern, for safety. Am I going to be safe coming to this place when there is a
13 shoal there that I didn't know about, and it's keeping the ice thin.
- 14 **Joanne Barnaby:** Is there any plans to mark these areas somehow?
- 15 **Colleen English:** Not as of yet but the dike will still largely be there so that should be a bit
16 of a marker.
- 17 **Bobby Algona:** I am thinking about some people that didn't come to this group and maybe
18 there are going to be people traveling in this area. And they may travel into that
19 dike. I think it's really something to think about that they didn't know that these
20 shoals would be there.
- 21 **Gord Macdonald:** We should definitely design the shoals to be safe. So if the shoals should
22 only be 3 meters under, then we need to know that.
- 23 **Natasha Thorpe:** So maybe there is an approximate water depth that should be above the
24 shoal in order for your minds to be at ease for traveling?
- 25 **Ed Jones:** I think the answer is to build the shoals high enough to be viewed above the water
26 level.
- 27 **Natasha Thorpe:** Its one option.
- 28 **Gord Macdonald:** So that is more like an island than a shoal, which is fine, it is just different.
29 But then this could work.
- 30 **Fred Sangris:** I agree it might be good to create piles of sands almost similar to the way it was in
31 the beginning and the water runs through it with a bit of current, in some areas its
32 deep and in some areas its shallow. There are some areas that we avoid, we go out
33 to the middle where it is deeper. And that way is better if it is underwater it will

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1 freeze over, the ice will be really thick if you use sand and rocks it will be good
2 because that's the way it was in the beginning and the fish will come back.

3 Outside the dike is where it will be perfect for bigger fish and other fish to swim
4 along, but not good for spawning. It might be good to create some areas for fish to
5 come up back and forth. Graylings love shallow water.

6 **Natasha Thorpe:** So what I am understanding, Colleen was saying right over here [shoal
7 area inside dike], that's one area that Diavik is proposing to put those finger
8 shoals. You are saying throw some sand or throw some gravel on these areas, but
9 don't throw so much that those areas would become islands?

10 **Fred Sangris:** You need a little bit of sand and gravel so the eggs can float around.

11 **Gord Macdonald:** It sounds like we are kind of talking about the same thing. We would have
12 these fingers of rock, but the fingers of rock are just to break up the sand beds that
13 are in between. If you just piled the sand there with nothing to break it up, they
14 would probably all just flatten out, so the idea was to separate them with fingers
15 of rock. The key thing was making it shallow, something like 8 meters deep.

16 **Fred Sangris:** You should try all different levels. I will tell you how I found gold. Just north of
17 Gordon Lake on the south side my dad asked me to go down to the get some
18 water. I see all these yellow things so I ran back and told my dad I found gold and
19 I brought him back to the water. But it wasn't gold, it was fish eggs.

20 **Gord Macdonald:** But other than islands, we were thinking everything else needed to be at
21 least 6 feet or deeper so that the ice wouldn't freeze right to it, and for it to be
22 more useful fish habitat in this lake.

23 **Fred Sangris:** I think that would help, having some deeper and some shallower. We are trying to
24 get bigger fisher so we will go on the outside where it's deep.

25 **Gord Macdonald:** You might not want to go fishing in here, but the fish that you are catching
26 on the outside may have come from inside, so they may have been raised there or
27 go to feed there certain times a year. But that's not where you are going to go to
28 catch them, you would stay out where there was more current.

29 **Natasha Thorpe:** Any questions for DFO??

30 **August Enzo:** Look way out over there, it's a big lake. It [map] shows how big the lake
31 is and its only part of it. You guys are working to put a reef in a little spot there
32 for spawning. It doesn't make sense. Because with that big lake, all the fish will
33 go back there, but there is a different spot for spawning. It's like a city for fish.

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1 **Julie (DFO):** I like the idea of it being a city for fish. I think if at least some of the fish in the
2 lake are happy there, that will make us happy too.

3 **Fred Sangris:** I know we are trying to create something and trying to bring something back. A
4 good example is the Giant Mine and the Yellowknife Bay. There was a lot of
5 underground blasting shock and it drove a lot of fish out into the lake. It's been
6 over seventy years, but now they are returning. We have been monitoring the fish
7 and we have been telling DFO they are coming back, but the only person that
8 listened to us was a guy named [Paul] Vecsei. So we brought him out there and
9 said there are exciting things happening, they are coming home. So now we are
10 waiting for the conies to run the river now after many, many years. But the same
11 example might happen here because there has been a lot of blasting here and
12 dynamite, so the fish might avoid this area for a while, As soon as the area is
13 silent they will start making their way back slowly.

14 There was a federal election not too long ago, is there any DFO legislation
15 changed now that Harper is out?

16 **Julie (DFO):** I don't think there has been enough time or if there are going to be any changes. I
17 don't know, we will have to wait and see.

18 **Natasha Thorpe:** How long might it take for the fish to come home?

19 **Fred Sangris:** I think it won't take long, just a short few years. There are no jet boats, I'm not
20 there to bug them, so once it's quiet they will come back.

21 **Natasha Thorpe:** We have some youth here who have been out monitoring; do you have any
22 questions or comments?

23 **Gord Macdonald:** Julie, one thing we never thought about when we were first doing this
24 design was the amount of terrestrial vegetation that would grow in dike in the
25 interim. It's just so visible now in these pictures, but now we are wondering what
26 should we do with it before we flood it? I kind of think it's a good thing to have
27 that much organics left there when you flood it, that it might make a decent
28 substrate. But I don't know that we thought about flooding something that's
29 vegetated versus trying to cut it out before. What do we do with it before we flood
30 it? Do we just leave it?

31 **Julie (DFO):** That's a good question. I am definitely not a plant expert and it has not occurred
32 to me. I haven't heard of any other files that have had to think about this issue so
33 we will have to look into it.

34 **Natasha Thorpe:** I wonder if any of the TK holders have any ideas on that.

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1 **Fred Sangris:** I am trying to help so I can fish there one day. Those two pits are dead pits. You
2 can start putting vegetation on the side as the water is coming back. If you just fill
3 it, it will stay dead for a long time but if you add the bugs and put little critters
4 and plants, it will come back much faster. Bring the critters back. I was just
5 showing Colleen about this one bug that the fish don't try to eat, those are the
6 bugs that you want to bring in there with the plants and the mud and the sediment.

7 *Break*

8 **Natasha Thorpe:** Thank you for such a productive discussion on the shoals. This won't be
9 the only time that the TK Panel will have a chance to discuss this.

10 We spent most of our time talking about reefs before the break and we still have
11 the discussion around shore lines. Same three questions for the shoreline.

12 Gord can you clarify that we are talking about around East Island?

13 **Colleen English:** No not really. Most of the shore around East Island is actually intact so a
14 lot of it, if you look [at the satellite image] you can see a lot of the areas of the
15 mine don't extend right to the shore. So primarily we are talking about these areas
16 in here [open pit access areas], because this will become a shoreline again, as well
17 as over at A21.

18 **Gord Macdonald:** This is almost original shoreline. But this has a distinct shape because that
19 is the edge of the pit. So is that okay if it's going to be a sheer rock wall? There
20 are roads into each of the pits, is it okay to leave them?

21 **Joanne Barnaby:** So are we talking about the outside of the dikes, too?

22 **Gord Macdonald:** We aren't because, just like the discussions this morning, it's pretty useful
23 habitat the way it is. It's a steep, rocky shoal.

24 **Bobby Algona:** Leaving the outside of the dike the way it is, is fine. Even the inside would
25 be something to look at. We are going to be looking at it for a number of years
26 and if something should come up that we are not happy with, we can bring it up
27 then. I think just looking at it maybe we leave it for a year or so.

28 **Joanne Barnaby:** I think we need to keep in mind that Diavik is updating their closure plan
29 this coming year and so deciding to wait and see what happens and then trying to
30 introduce some action for perhaps changing the shoreline at a later point might be
31 more difficult if we don't try to start planning for that now. So there are two very
32 different scenarios. One pit is very steep with a big cliff, the other is not, it is
33 more gradual. Is there any problem that anyone sees with either of these?

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- 1 **Fred Sangris:** How steep is the wall?
- 2 **Gord Macdonald:** About 45 feet from the top to the bottom, but the water level would be part
3 way along it. So let's say around 30 feet deep in the water and about 10 feet out of
4 the water. It's not a huge cliff.
- 5 **Joanne Barnaby:** Thoughts, concerns, ideas?
- 6 **Fred Sangris:** I am not sure what the high ground is there. I am just wondering if the wall is too
7 high for caribou or is it going to go to the water level? I ask because I see caribou
8 falling onto the ice.
- 9 **Gord Macdonald:** If the water level was the floor the land would be the ceiling. So if a
10 caribou walked off that into the water it wouldn't be able to get back up. It would
11 have to go sideways until it found somewhere to get out.
- 12 **August Enzo:** I was just looking at the wall and you are going to make a shore and we
13 don't know how it looks so I was just wondering if a few of us goes down to look
14 at it then we would have more ideas.
- 15 **Joanne Barnaby:** If we looked at it now, we wouldn't be seeing what it would look like after
16 the water is brought back in. That's the problem with trying to see it now; you
17 still have to picture that water there.
- 18 **August Enzo:** When we get there the working guy would tell us where the water would
19 be and then we would look at it and then look at the cliff.
- 20 **Natasha Thorpe:** It sounds like it's more of a caribou problem than fish habitat concern and
21 I know that we have a session on caribou coming up.
- 22 **Fred Sangris:** August is right it's really hard to tell without being there. It is a concern for
23 caribou but it is also a fish habitat too. If he says 45 feet then we need to know
24 how far from the wall to the other edge. So if we were to advise that you fill it in
25 with gravel or materials then we need to know how far it's going to go. So it's
26 really difficult to say without looking at it. You could create a good fish habitat
27 around the edge but you need to see because as the pit goes it's like stairs so you
28 need to see what's there.
- 29 **Gord Macdonald:** We're asking about shoreline here but we are not talking about building
30 any reefs or anything on these shores. That's mostly why we are putting it out in
31 these bigger benches because we know we have that area to work with. Because
32 you are right, these stairs are pretty narrow, really, going down into the pit. The
33 whole distance of the cliff is about 1 km.

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- 1 **Fred Sangris:** Sometimes when the migration is happening the lead caribou could lead. But
2 sometimes they go on the run and at night time they are not going to see what's in
3 front of them. I have seen caribou go over cliffs in the past chased by wolves. But
4 anyways let's think about it.
- 5 **Kathy Arden:** How long would it take the fish to discover the opening in the dike?
- 6 **Natasha Thorpe:** Any ideas?
- 7 **Louie Zoe:** Yes I understand there is a drop about 10 feet which is dangerous for the caribou
8 and the wolves and the foxes. So before the water is pumped back in there, I
9 suggest maybe you put some sort of a slope. Or if you want to leave it as it is, I
10 suggest you put some sort of skirting on it or fence of some sort.
- 11 **Natasha Thorpe:** A while ago I remember when Ekati mine had a fish diversion channel
12 which was a cliff area that the community members were worried about, and they
13 build *inuksuk* / *inuksuit* along the side. Is that what you mean?
- 14 **Louie Zoe:** Even though sometimes there's a wolf pack that chases the caribou around and we
15 just want to make it easier for the animals to get on top of the land not so much
16 steep down around. Once the animal falls over the cliff it's not going to come out
17 again.
- 18 **Natasha Thorpe:** Colleen also mentioned the road that is presently the pit road that would
19 be a gradual slope going into the pit. Does anyone have any thoughts on that in
20 terms of shoreline?
- 21 **Gord Macdonald:** There is a ramp in both pits; it's just like a boat ramp in each pit.
- 22 **August Enzo:** Which pit is that one?
- 23 **Gord Macdonald:** The small one. In the other one its more natural shoreline.
- 24 **Natasha Thorpe:** So the ramp would be a gradual ramp in. Should there be changes or can it
25 stay as is?
- 26 **August Enzo:** I don't mind the way it is, the ramp. I am just wondering about the cliff. I
27 would like to walk there before they put water there.
- 28 **Joanne Barnaby:** Okay so leaving that road in might act as a ramp that would allow caribou
29 to get out if they get into that pit.
- 30 **Bobby Algona:** We have talked a lot about the North Country Rock Pile and slopes there
31 so that caribou have an easier access to it to get away from bugs. I think if we

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- 1 were to look at it like that we all want them to have easier access to land. I think
2 that at the cliff we should have a gradual slope where they might make it look like
3 the NCR pile and they can get in or out. And if caribou did get in then we want
4 them to be able to get out.
- 5 **Gord Macdonald:** What if you left pieces of it as a cliff but add pieces of gradual slope for
6 the caribou?
- 7 **Bobby Algona:** Yes, that would work.
- 8 **Joanne Barnaby:** Any other comments? Are there other ideas for addressing the shoreline,
9 for address fish and fish habitat?
- 10 **Natasha Thorpe:** What kind of shoreline are fish attracted to?
- 11 **Bobby Algona:** Fish tend to look for spots where oxygen is coming in to the water. I have
12 come to know a lot of lakes along my travels and there are some places that there
13 are fish but no oxygen. Fish can also hear and feel the ice chisel and they come
14 there because they need the oxygen. There were some places where I have fished
15 and you don't jig because when the oxygen starts going down that hole the fish
16 come wanting the oxygen, and sometimes there are so many fish that you just put
17 your hook in and pull it out and you have a fish, and if you keep doing it you will
18 have a fish every time.
- 19 They need oxygen year round.
- 20 **Joanne Barnaby:** Other comments, other suggestions?
- 21 **Nancy Kadlun:** These pits are really huge and they are going to be filled to the top and this
22 lake wow a lot of the water from the lake and then our river will be slow because
23 these pits will take most of the water.
- 24 **Joanne Barnaby:** Does Diavik have an idea about what the difference in the lake depth
25 would be once the pits are filled?
- 26 **Gord Macdonald:** I can't remember the numbers but it would be centimeters (cm) in
27 difference in the lake; it is hard to measure exactly. You won't be able to see the
28 difference and we would have a tough time measuring the difference. It looks like
29 a lot of water going into those pits but the lake is very big.
- 30 It was looked at in the environmental assessment and it's continually asked. In
31 particular it's asked about when we're filling up the pit if Ekati and the J project
32 or any other pits will be filling at the same time. We have them all scheduled so it
33 doesn't happen at the same time. The real worry would be if you were trying to

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1 fill all the pits up at the same time, that's when you would have an effect on the
2 lake level.

3 **Joanne Barnaby:** Do you have an idea on how long it would take to fill up one pit and
4 would you be doing the two together or separately?

5 **Gord Macdonald:** The A154 and A418 are actually linked. They are joined underground, so
6 if you start filling one you will fill up the other one. So both of those would be
7 filled up at the same time, but A21 is separate and it would be filled up at a
8 separate time. We are still talking about which ones to do first. There was
9 originally a plan to do A21 first, it's a little smaller, learn from it, then apply it to
10 the big pits. Lots of the decision is going to be about which one is available when.

11 With respect to how quickly or how slowly, it's a matter of how many pipes we
12 want to put in. We want to fill it up quickly, and I mean in the order of 6 months
13 to fill it up, with the idea that the quicker we get the good Lac de Gras water in
14 there, the better the quality of the water. We can be slower about it but it would
15 not be as good of water quality in there. So it's just how many pipes and how big.

16 **Kathy Arden:** I would assume also that the water level would come back up because it is being
17 fed from other places and the spring runoff. I don't think it's going to be affected
18 that much, it'll just sort of come back on its own, right?

19 **Gord Macdonald:** That's exactly right. It will go down for that period of time but it will
20 refresh by the spring.

21 **Ed Jones:** I don't think that you will see much of a drop because the water is coming in to
22 the lake all the time.

23 **Louie Zoe:** So I think that the huge hole in the ground here, the depth of the area is too deep
24 and I am concerned. So I would like to try one pit at a time, rather than two at a
25 time, because we might sacrifice something else for what are we going to do for
26 both pits. I know there are schedules that you have to do this in because there is a
27 very short summer season.

28 **Joanne Barnaby:** Thank you. Any other comments, recommendations, suggestions,
29 concerns?

30 **Bobby Algona:** My other concern is you take out all this rock from these pits and you look
31 at the original bottom of the lake. With all that water going back in to the pits,
32 how is it going to affect the big lake itself when you fill the pits after removing all
33 that rock and piling it up on the hill. My biggest concern is how much water is
34 going to be put in these pits because of how much ore has come out. And the

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- 1 water is going to be used a lot for these pits with how far down the mine is.
2 Including BHP [Ekati mine] and all the mines around the area itself because I live
3 in Kugluktuk and our river is becoming really, really low and the water level is
4 becoming really, really low and we have a brand new shoreline in Kugluktuk. All
5 that water that goes to Kugluktuk is having an effect on the river itself. We are
6 having to divert the channels around the river because of the water level in this
7 river.
- 8 **Joanne Barnaby:** The calculations that Gord described about how much impact it would
9 have on the water levels is that the difference would be in centimeters, very small.
- 10 **Gord Macdonald:** It would go down when you did it but then it would come back up. You
11 wouldn't see any difference in Kugluktuk other than when we were filling. I
12 challenge you to be able measure the difference when we are filling.
- 13 **Joanne Barnaby:** Questions, suggestions?
- 14 **Dora Migwi:** I listen to everything, everyone's comments that everyone shared. We are doing
15 things for into the future. I would like to thank everyone one that is sitting here.
16 The water that's going to be put down into the pit, I don't think there is going to
17 be any difference. My father had said when the water goes down it won't come
18 back up again. But once you guys put the water in that open pit and maybe in time
19 you can keep putting water inside that pit and make it safe for wild animals again.
- 20 **Phoebe Rabesca:** Before they put water in the open pit, what if they measure the river first.
21 Then, when they put the water in, re-measure it. Yeah, measure it before and
22 after.
- 23 **Joanne Barnaby:** I know there is a general concern about water levels in the north going
24 down so this would probably add to those overall concerns.
- 25 **Ed Jones:** The low water levels is right across the territories and its probably due to climate
26 change, not to mining. Filling a small pit like that would not make much
27 difference like he said. 10 cm is only 4 inches; we shouldn't be concerned about
28 that.
- 29 **Janelle Nitsiza:** No offence to Ed but I think it is a big deal. 10 cm of water over the whole
30 lake is a big deal.
- 31 **Ed Jones:** As I was saying that will be replaced, every lake has an inlet, Lac du Sauvage and
32 Lac de Gras has water coming in from other lakes.
- 33 **Gord Macdonald:** Its not 10 cm, it's actually 1-2 cm. If that makes a difference to you.

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- 1 **Ed Jones:** No, it doesn't, I just wanted to make a point.
- 2 **Janelle Nitsiza:** Okay well I want to make a point, too. Water across the world is very
3 precious. I think it's more precious than the diamonds that we are digging up
4 because are you going to drink diamonds when the world runs out of fresh water?
5 I don't think so.
- 6 **Ed Jones:** Yes, I do, but there is nothing I can do at this point. Not many people listen to me,
7 you are the only one.
- 8 **Joanne Barnaby:** I think that is an important message that we all need to hear. There is an
9 issue with water levels across the north and across the world.
- 10 **Natasha Thorpe:** These are issues that are very close to our hearts so I am very grateful for
11 the passion that I am feeling in the room right now. All of our voices are equal
12 and we will carry that message into tomorrow as well.
- 13 I know you are all anxious to get out of here but Joanne has the job of trying to
14 pull together everything that you have shared the last few days into some
15 recommendations that you can then present to Diavik tomorrow.
- 16 **Louie Zoe:** Just a short speech that the water is going to go in to the open pit and it's not
17 going to be in time that the water is going raise up to the top of the pit and its
18 going to rain and snow and everything is going to go on. So in time there will be
19 water back in the open pit.
- 20 **Joanne Barnaby:** And hopefully it comes back up to normal levels, but the idea of
21 monitoring that and measuring that, as Phoebe suggested the pre-filling levels of
22 Lac de Gras and then the measurements after the pits are filled, would be good to
23 have.
- 24 **Mike Francis:** I just wonder if we put water back into the open pit, maybe half fill it for
25 now maybe.
- 26 **Gord Macdonald:** Half first then half later? Why?
- 27 **Mike Francis:** Too much water going in at once.
- 28 **Gord Macdonald:** You are saying do it that way so that there is less of an effect on the water
29 level?
- 30 **Mike Francis:** Yes.

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- 1 **Gord Macdonald:** Yes, if that was a big enough concern from everyone then yes, it could be
2 done like that.
- 3 **Joanne Barnaby:** There was also the concern about leaving it because the groundwater
4 coming up would be saltier, so that if you only fill it half with water from Lac de
5 Gras you might not get the pressure that you need to keep the salt water at the
6 bottom.
- 7 **Kathy Arden:** Just to touch on what Phoebe was saying about measuring before and after, it
8 would be kind of neat to know the 6 months or maybe the following spring to
9 measure that again, just see if it went back up to normal.
- 10 **Fred Sangris:** Ed says only Janelle listens, I am listening, too. I'll listen to you. I think Lac de
11 Gras is a huge lake and there is a large volume of water coming in from Lac du
12 Sauvage and if you used the amount coming in then it wouldn't affect the lake at
13 all. If you use too much water then it might have an effect on the spawning up
14 river, so if you use the volume of what comes in.
- 15 **Gord Macdonald:** Limit the rate to equal the same rate that is coming through the narrows?
- 16 **Fred Sangris:** Yes.
- 17 **Bobby Alguna:** My concern is the volume of water that we have right now. We know
18 lakes are becoming very low now. Global warming has an effect on this, too. Are
19 we going to have rain coming down in the future. Looking at it in the future we
20 are not getting much rain right now that's what I have been really worried about.
21 Are the natural levels going to come back to Lac de Gras due to climate change as
22 well? And having that volume going back into the pit was my concern; taking that
23 little bit along with global warming and not much precipitation over the last few
24 years, that is my concern.
- 25 **Gord Macdonald:** It is interesting that everyone has commented on the low water levels but
26 Lac de Gras water levels aren't low this year, or last year. They do go up and
27 down but they've remained quite constant. But you definitely see it elsewhere in
28 the NWT.
- 29 **Joanne Barnaby:** All right, are people getting near the end of their rope? One more question.
- 30 **Fred Sangris:** In order for us to make a good decision on the water for the pits, we should try to
31 find out how much water is going into Lac de Gras. If we have a better idea of all
32 the streams coming in, we will have a better idea on how it will affect it.

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1 **August Enzoë:** When you started draining the water out of the pits, do you have a record
2 of how much water was in there before you drained it?

3 **Gord Macdonald:** We do know how much water came out but that's not the same as how
4 much is going back in, because now we also have the big hole. But we do have an
5 estimate on how much water it will take to fill up, I just can't remember what the
6 numbers are though.

7 **August Enzoë:** That lake is big. Like Fred was saying, its running from a big lake up
8 there, too. Like the concern in Kugluktuk and the water is all going down to them,
9 lets cross our fingers that the water goes back up again.

10 **Natasha Thorpe:** I am sensing that everyone is starting to fade here. As I started to say,
11 Joanne and I will be working tonight to try to pull together, you must have 50
12 pages of notes now to pull together recommendations from those notes, from
13 these post-its. And tomorrow morning we will go over them, make sure they are
14 in your words and that we don't miss anything. I want to, in 5 minutes, quickly
15 read through what I have jotted down. If there is something that comes up where
16 you think, no you totally got it wrong, let me know. And if you think we've
17 missed something big time, likewise let me know. Okay?

18 Yesterday we talked about monitoring fish health and lake water in the future and
19 the key themes that I had recorded is that certainly for 2018 you want to continue
20 at the current camp site for the AEMP TK program, recognize that funding and
21 administration of it will be difficult in the future [after the mine closes], science
22 and TK work together, 2 Elders and 2 youth, monitoring should be done by
23 Aboriginal people, maybe by Watchers of the Land. Change that you support
24 testing the water by drinking, but not making tea.

25 **Fred Sangris:** One thing that we can probably use is, we all come from different communities,
26 maybe there is something we can bring back to the community to show them what
27 we are doing and they can see the progress we have made. So our community
28 people have an idea, you were involved, we are helping with the
29 recommendations, this is how closure is going to work and this is how we are
30 going to be monitoring. We need to show something to the community so they
31 know the mines are not being abandoned and you are not walking away. So there
32 is progress and there are people thinking about the future. And safe guards are
33 there.

34 **Natasha Thorpe:** Thank you, good point. I know that Diavik is required to, but also
35 recognizes the importance of going into the communities regularly and talking
36 about closure planning. But this may be one other way.

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- 1 We have another video from this summer, its 22 minutes.
- 2 We talked more about monitoring water quality on East Island. I have here that
3 you want to continue monitoring; you know that nature has a way of filtering and
4 cleaning itself, making longer channels so the land has time to heal the water.
5 Stock the water with bugs because bugs tell you the water is healthy.
- 6 Reefs and shorelines: currents are really important for spawning success and there
7 is general support for creating the reef habitats but not clear on how deep, due to
8 human safety. Possibly come up higher, like an island. The moon? Oxygen is
9 important and the vegetation that has already grown back should be left and how
10 that will effect.
- 11 Caribou health and safety on the cliff, so that it is not a solid kilometer long.
- 12 Would like to visit the sewage site.
- 13 Visit the pits to see the shoreline and cliff.
- 14 Better sense of the height of the NCR Pile.
- 15 The responsibility to make sure that all is well or that your minds are at ease: I
16 heard that you still see that as Diavik's responsibility but that you're wanting to
17 help and that you see yourselves doing the monitoring today, tomorrow and long
18 into the future.
- 19 Not only the water quality, but also the water quantity.
- 20 **Kathy Arden:** To touch on the moon part you didn't know, Bobby was talking about how the
21 moon affects the currents in the water.
- 22 **Ed Jones:** I think you and Natasha both missed something and that's the islands, rather than
23 shoals and reefs, so that you won't have to worry about safety.
- 24 **Joanne Barnaby:** We got it.
- 25 **Joanne Barnaby:** Yes, we can start at 9am tomorrow morning.

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1 **Friday December 4th, 2015**

2 **Dora Migwi:** Opening prayer

3 **Joanne Barnaby:** As we said today we are going to focus on the recommendations for
4 Diavik. We want to make sure they are clear and everyone is comfortable with
5 them and in agreement with them.

6 Last night Natasha and I went through all of the notes on the wall and the notes
7 that Janet has provided us and we came up with a presentation that we will walk
8 through this morning with you. So the first part of the presentation sets out some
9 of the main comments, some of the main concerns, some of your insights. As we
10 go through those, we may decide that one of those, or more of those, need to
11 become recommendations so keep that in the back of your mind. But let's walk
12 through that, and then we will walk through the actual recommendations that we
13 heard and see if there is anything missing in there. And we can go back up and
14 move things around or change things as we need.

15 **Natasha Thorpe:** Just a reminder that we will have this morning to do this and then Diavik
16 will be here this afternoon, assuming we are ready to present to them. Also
17 EMAB, who as you know is the independent monitoring agency for Diavik, asked
18 if they could come this afternoon so I wanted to confirm with everybody that,
19 that's okay? They are just going to sit and observe. (Yes)

20 *Presentation – Draft TK Panel Session 8 Recommendations to Diavik (Appendix K)*

21 Observations and Comments FISH

22 Observations and Comments WATER

23 Observations and Comments AEMP TK study (Aquatic Effects Monitoring
24 Program)

25 **Natasha Thorpe:** Nancy was just asking if she could get a copy of this to take home, if you
26 would like copies of this to take home we will get them to you.

27 Observations and Comments REEFS or SHOALS

28 Observations and Comments SHORELINE

29 A418 - Cliffs are a concern for animals

30 A154 – Shoreline looks okay

31 Observations and Comments GENERAL

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1 AEMP Recommendations

2 **August Enzoë:** Can you go back to the reefs or shoals, it says reefs can shift?

3 **Joanne Barnaby:** I believe that was a comment that Bobby said, that reefs can shift. Did you
4 want to explain that to August, what you have seen in the past?

5 **Bobby Algona:** The reefs don't shift; it's the water currents around the reefs that shift.

6 **Joanne Barnaby:** Any other concerns, comments?

7 **Mike Francis:** Yeah about the fish. When we are on the water, you can hear the motor
8 going up to about 400 feet under the water. And the fish would be the same, they
9 can hear the motor. I don't know about winter, but when you are walking on top
10 of snow and freeze they can hear you. And then they get up. It should be the same
11 underwater.

12 **Joanne Barnaby:** Are you concerned about activity on top of the ice disturbing the fish?

13 **Mike Francis:** Yes, because after Christmas, they freeze the top of the ice and when you
14 are walking on top of the ice they can hear you. Same with the ski doo, they can
15 hear you.

16 **Natasha Thorpe:** I just had another comment to me that ice can shift or alter the shoreline.

17 **Louie Zoe:** The TK camp where we are doing water study and fish study and there are some
18 dangers and there are some things happening in our land. And people fall through
19 the ice and arctic divers or the RCMP bring in a dive team to find the body. And
20 the ice is sometimes unsafe because of the current. So the mine site happens to be
21 right on the island and all of the debris that comes off the island goes to the lake.
22 And 24 hours a day on the ice, the vehicles create a lot of dust and the airplane
23 landing and taking off. But, none the less, all the dust, the rest goes back to the
24 land and the rest goes in the lake. I hope that next time we can do some fish study
25 right around the island, not far away.

26 **Joanne Barnaby:** We have added dust as a concern that should be monitored on the land, in
27 the water and the air.

28 **Lucas Enzoë:** If there is too much algae it lets you know there is not enough oxygen for the fish.
29 If it's balanced it's fine, but if there is too much it shows there is something wrong.

30 **Joanne Barnaby:** What about some minimal algae growth? Do we want to have someone
31 assessing whether it's balanced?

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- 1 **Lucas Enzo:** Yeah, you can ask someone to check the algae growth annually to see if the
2 growth is going up or down.
- 3 **Joanne Barnaby:** So once a year.
- 4 On Island recommendations
- 5 **Natasha Thorpe:** There are two different things we are talking about: one is the vegetation
6 inside the dikes, between the dike and the pit wall, but Bobby was also talking
7 about the outside of the dikes and fishing in that deep water. I think it would be
8 good to give Diavik advice on what to do with the outside of the dikes. I am
9 wondering if you want to be able to set nets in that deep water beside the dike.
- 10 How do people feel about the slopes and such on the outside of the dikes, do we
11 leave it?
- 12 **August Enzo:** Yes, it is good.
- 13 **Nancy Kadlun:** Do not disturb it because it was already disturbed before. Leave it alone
14 now.
- 15 **August Enzo:** I want to let you guys know a lot of us have never been around that pit.
16 But I have been around there and I think it is just fine. Leave it alone.
- 17 **Joanne Barnaby:** So we are going to clarify this by making two different recommendations.
18 One relates to leaving the outside of the dike the way it is. And then inside the
19 dike leaving the natural vegetation that has grown there in place, and do not
20 disturb it to encourage ongoing natural re-vegetation.
- 21 REEFS Recommendations
- 22 **Natasha Thorpe:** Are there specific reef depths you would like to suggest? And why? How
23 deep should those reefs be?
- 24 **August Enzo;** It's not the reef you are talking about inside of the dike. For me, if you are
25 going to make a reef it doesn't make sense for me because it is just small. It's
26 going to be really deep when you fill up that dike, you would have to make a
27 really high reef. You don't need the reefs, look around the island at the reefs -
28 what more do you want.
- 29 **Joanne Barnaby:** No we are not talking about putting the reefs in the pits.
- 30 **August Enzo:** Where are you going to put it?
- 31 **Joanne Barnaby:** Around the edges outside of the pit, but inside of the dike.

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- 1 **Joanne Barnaby:** When we put the breaches in the dike it will fill up automatically.
2 Currently there is the vegetation and we are not going to touch that, but it will be
3 covered with water once we fill the pits.
- 4 **Natasha Thorpe:** I really appreciate you asking that question August because this can be
5 confusing. So DFO explained yesterday the reason to make these finger like reefs
6 is to create habitat for fish. When the mine was built, they took away fish habitat
7 so they are required to put fish habitat back to help heal the land. Right now the
8 recommendation is to build those at different heights or depths below the surface
9 of the water and I am wondering if you want to be even more specific around how
10 deep or how high those reefs should be.
- 11 **Bobby Algona:** Yeah just looking at this picture it distracted me. I thought they were
12 doing this on the main lake, not inside the dike. That was my concern. I thought
13 they were doing similar things out on the lake.
- 14 **Natasha Thorpe:** Yesterday you raised a concern about safety but now that you know they
15 are inside the pits are you still concerned about safety?
- 16 **Bobby Algona:** I feel a little differently now I get the real picture. There isn't going to be
17 much movement. Putting these little reefs inside the pit might promote growth. I
18 think in my mind if we could leave that whole bottom, that whole natural bottom
19 that you have there as is and maybe just for reference, just to see. You don't have
20 to put as many shoals in there. It doesn't have to be as drastic, maybe just one on
21 each corner.
- 22 **Colleen English:** I understand your point. Unfortunately DFO requires us to make those
23 reefs, we have to compensate for the habitat that was lost because of the
24 construction of the mine. We have pushed back on some of DFO's requirements.
25 We do have to do this. Its more just a matter of those areas that are green. Most of
26 A154 especially is pretty done for the fish habitat. These pockets that you see that
27 are natural, will stay natural. Some of those fingers will still be put there, but there
28 were all those blue zones, that were on that drawing I showed you, that would
29 stay natural. Also, most of this is the original bottom of the lake. Anywhere that is
30 not, we have talked about adding in that till to connect those reefs so that you
31 have the type of habitat that Fred was talking about with the small gravel that is
32 better, less sand, less dirt. Unfortunately we cannot do nothing, but hopefully we
33 can find a middle ground for what you guys are looking for and what we need to
34 do from a DFO perspective.
- 35 **Bobby Algona:** Looking at it a little differently now from yesterday, I think not all have to
36 be real shoals. It might need to be just a couple on either side and if you can make

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1 little islands along the way. Putting an island in there promotes re-vegetating
2 naturally. The island would be a collection point, for the wind is always blowing
3 leaves and the ground vegetation no matter how far. The vegetation grows way
4 into the middle of the lake right from the shoreline creating a middle ground or
5 from the surrounding areas and the leaves and grasses blowing. I think putting in
6 a little island is a good idea.

7 **Colleen English:** I have one question. When I look at it from a scientific view, the reefs are
8 beneficial because they are long and provide a lot of habitat for a fairly small
9 footprint. For an island you need a lot more material to build up an island, all for a
10 smaller area for fish to use. One thing I think you need to think about, too, is that
11 the whole dike structure is kind of like an island, and that's still going to be there.
12 That is going to be like an island, above the water level and its going to run
13 almost all the way around. So how much effort do we put into making islands
14 inside here when we have this dike which, when the pits are flooded again, is kind
15 of like an island.

16 **Joanne Barnaby:** Is there something we can do on top of the dike to view them like islands,
17 to encourage the very things that Bobby was talking about?

18 **Ed Jones:** I am a bit confused, are you [Colleen] an independent advisor, or are you
19 representing Diavik?

20 **Colleen English:** I don't work for Diavik, but I contract to Diavik. Gord pays me to be here
21 to answer some of these questions.

22 **Ed Jones:** What's your role? A consultant you say, but sometimes you are advising and
23 sometimes you sound like you are Diavik staff. That's where I am confused.

24 **Colleen English:** I use to be, but I am not Diavik staff anymore. I may say 'we' a lot
25 because I worked for them for too long!

26 **Ed Jones:** But my question is who are you and what are doing? You are an advisor, yes or
27 no?

28 **Colleen English:** I am a consultant but I wouldn't call myself an advisor.

29 **Ed Jones:** You confuse me because a lot of the times you sound like Diavik staff. I know
30 you were with Diavik at one time.

31 **Colleen English:** I haven't been with Diavik for 3½ years. I know it can be confusing.

32 **Kathy Arden:** I think it's because you know so much about the mine and what their plan
33 is for closure.

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- 1 **Colleen English:** That is part of the reason I am here. I have that knowledge and I've been
2 involved with it for 10 years when I was with the company. That's why Gord
3 wanted to keep me involved with this Panel.
- 4 **Kathy Arden:** I wanted to speak on the island but I think Bobby is talking about raising it
5 more so it's a little warmer for the minnows and such, not so much to make a big
6 island.
- 7 **Nancy Kadlun:** I was just wondering what about the very bottom of the pit what is there?
- 8 **Colleen English:** Right at the bottom of the pit is the underground mining. They do what's
9 called open sky mining so that bottom of the pit connects to the underground.
10 That's where you get into all of those little tunnels. Then it's largely rocks but
11 some tunnels.
- 12 **August Enzo:** For the future, the Diavik company doesn't know what is going to happen.
13 They are going to fill it up with water. They should leave it, testing it for a few
14 years. They might not break it, or they might. So we got two options after they
15 close the mine. If the water is good, everything is going the way it is.
- 16 **Natasha Thorpe:** One thing about the reefs being above water versus being below water, the
17 higher you are going to build something the bigger the base has to be. So if you
18 are building reefs above water you are going to be taking up more of the bottom
19 with rocks. So would you say half of the reefs should be above water and half
20 under or maybe just 1 in 10 should be above water?
- 21 **Kathy Arden:** The land around the pit is not exactly flat so when you are putting in the
22 shoals or reefs I would say use the high points in the land to make a higher reef
23 and use the low points to make the low ones. Use the layout of the land to plan the
24 reefs.
- 25 **Bobby Algona:** I did see that for a bit, too, the dike itself as a collection point for the
26 natural wind-blown material from the land itself. I do agree. I see it now. You
27 don't really have to have an island now. I keep thinking about the main lake itself,
28 putting an island there, and I keep getting distracted. If you have to put those
29 shoals and reefs, it doesn't really matter how deep they are, as long as you can see
30 the shoreline. If you put some reefs out in the natural lake sometimes you see
31 them, and some you don't. Some of those natural reefs are out in a larger area. In
32 a small area, like in the dike, there is not going to be much movement. The space
33 in between the ice and the shoal itself has a lot of movement and it will be more
34 pronounced versus how thick the ice gets in the winter time.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

- 1 **Joanne Barnaby:** I just wanted to check my assumptions with Colleen. Right now what we
2 see around the pit, am I correct in saying what we see around the pit is old lake
3 bottom?
- 4 **Colleen English:** Yes, the only thing is they have added some rock in there to build up some
5 of those base areas for reefs.
- 6 **Joanne Barnaby:** We are actually going to be covering natural old lake bottom with water.
- 7 **Louie Zoe:** Flooding the open pit with the amount of water has been taken out. The
8 vegetation that has already grown back on the dry land and once the water is back
9 to normal, up to lake level, they are going to kill all the vegetation that's on the
10 dry land. I don't know if the dry plant will come back to life.
- 11 **Joanne Barnaby:** So perhaps the concern that we are going to be killing the new vegetation
12 on the old lake bottom. Maybe there is something to consider moving some of the
13 bottom on to the tops of the dikes.
- 14 **Bobby Algona:** Just another observation, seeing the dike right now its sort of a slow
15 accumulation place for the snow. I am wondering when all that snow has
16 accumulated on there, and looking at it right now, that dike is there it is going to
17 be a collection place for snow. It's going to be much deeper in that pit and it will
18 be insulation for the water inside the dike. If the snow starts to accumulate inside
19 the dike, the ice won't be as thick as it is out on the main lake where the ice is
20 going to be thicker. It doesn't really matter how deep the shoals are; when you
21 have less or more snow in one area, you have more or less insulation so the ice
22 will vary.
- 23 **Natasha Thorpe:** Am I hearing that it doesn't matter if some of them come above the water?
- 24 **Bobby Algona:** Yes, I think being inside that dike is going to be less movement, just like
25 in small bays. It will be breached in some corners. There will still be a little
26 movement, depending on how deep the dike is going to be breached.
- 27 You are creating a little river channel now, when you breach these dikes, a little
28 channel in these dikes, it's something to look at as well.
- 29 **Joanne Barnaby:** So new currents are being created through the breaches.
- 30 **Natasha Thorpe:** So maybe over break think about inside of the dike. I am hearing you
31 don't want any islands inside the dike.
- 32 *Break*

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- 1 **Ed Jones:** I believe the area within the dike walls is too small in comparison to the lake to
2 put shoals, reefs in there.
- 3 **Kathy Arden:** I wanted to speak to the existing vegetation that's around the pit. Those
4 plants are meant to grow on the land, so when we flood that area those plants are
5 definitely going to die. Now they are growing there because of the rich silt from
6 the bottom of the lake but it is also going to help sustain and grow new water
7 plants and food for the fish. So removing it now and putting it up on the dike or
8 something to try and build plant life on the dike I think is not a good idea. We are
9 destroying something that is already there that's meant to be in water. I think
10 on the dike itself plant life will come back from, you know, the seedlings that will
11 be flying around through the wind. I think we should just let the plants be and get
12 flooded and use that as part of the re-growth for the fish.
- 13 **Joanne Barnaby:** Ed just to remember Diavik has no choice; they are required by the
14 Government of Canada to build the reefs around the pits.
- 15 **Ed Jones:** Joanne when you say around the dike do you mean inside or outside.
- 16 **Joanne Barnaby:** Inside the dike, outside the pit.
- 17 **Nancy Kadlun:** I won't be concerned about putting the reefs in as long as it's not harmful
18 for any living animal.
- 19 **Natasha Thorpe:** It sounds to me that maybe we should get rid of 21-ensure built reefs have
20 a portion above and below water and 23-put sand and gravel on top of built reefs.
- 21 **Mary Louise Black:** No body wants to disturb the land that is there and that is already re-
22 growing but then there is the area that isn't and maybe to build the reefs there.
- 23 **Natasha Thorpe:** So the idea is don't disturb new growth and build on something that is
24 already disturbed.
- 25 Show of hands to cut 21 and 23-Yes.
- 26 Change 22
- 27 I have a general question about the area inside the dikes. Do people want to fish
28 inside that area, long into the future? Should we building for that? Do you want to
29 set nets in there sometime, or would you set them out side of the dike?
- 30 **August Enzo:** For that place around there, once the mine is gone? We know how to set
31 nets. We are working for the future.

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- 1 **Natasha Thorpe:** Anybody else have a question?
- 2 **Nancy Kadlun:** We don't usually put fish nets in really deep parts so we don't have to
3 worry about that.
- 4 **Kathy Arden:** I was, forgive me if I am wrong, but I thought we were building this as a
5 spawning area for the fish so they can go out to the big lake later, where we would
6 fish. Putting nets on the outside of the dike was a really good place for the bigger
7 fish. You wouldn't want to eat fish that is spawning so I am sure that when the
8 fish go there they will be able to find the exit so that we can catch them in the net.
- 9 **Joanne Barnaby:** Its one of the questions that we have, do we design this for spawning, do
10 we design it for feeding, resting or rearing because each is a little different. Which
11 should it be designed for?
- 12 **Ed Jones:** Joanne I think we will let the fish decide that.
- 13 **Natasha Thorpe:** There is feeding, spawning, rearing and resting so of these different types
14 of habitat, the fisheries biologists would make slight changes depending on which
15 of those 4 you wanted to build for. Is there any guidance you can give Diavik or
16 the fisheries biologist based on what you want to see? I hear that we don't want to
17 build to set nets inside the dike but how can we plan for feeding, spawning,
18 rearing and resting?
- 19 **August Enzo:** I have been working for government for many years and they want us.
20 They are sitting in the office a lot of them and they have never been on the land.
21 They might change their mind if they go on the land.
- 22 **Colleen English:** A good point August. I just want to add a little bit to what Natasha was
23 saying about how we want to design the habitat. We also need to think about what
24 is going to be there when we are saying that. So Bobby I think you and Fred were
25 talking yesterday that big fish need the currents for spawning, they like to put
26 eggs on the rocks with some current. So this area is going to be pretty closed, so
27 we need to think about the limitations that exist because of the structure [dike]
28 that will be there.
- 29 **Bobby Algona:** If we were going to think about re-vegetating and having a spawning area,
30 I am thinking to myself again that these little breaches will create some movement
31 because most part of that lake on both sides. If we are going to think about re-
32 vegetating fish habitat to be moving, the lake itself will be moving either way.
33 Maybe if we were to breach one of the areas a little bigger so we could get some
34 more movement because of the sediments we need to come in from the lake.

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- 1 **Joanne Barnaby:** Do we know if there was spawning around the island before the mine was
2 build?
- 3 **Colleen English:** Not for certain. There were rocks and islands that were probably used, but
4 we don't have a definitive answer.
- 5 **Natasha Thorpe:** The location and size of the breaches are non-negotiable right?
- 6 **Colleen English:** Location yes, size I don't know. I am waiting to hear back from Gord.
- 7 **Joanne Barnaby:** So let's go back to our recommendations and continue going through
8 them, we may need to come back to these ideas after we have time to get more
9 information or when we think about it more.
- 10 **Colleen English:** It looks like maybe you and fishers disagree. Yes they could be bigger but
11 it would increase the currents, something that goes against the fisheries
12 objectives.
- 13 **Joanne Barnaby:** So DFO wants this area on the inside of the dike to be designed for rearing
14 fish, not for spawning fish. Are you okay with that?
- 15 **August Enzo:** Yes, for now.
- 16 **Kathy Arden:** We don't know if they spawned in that area before anyway.
- 17 **Nancy Kadlun:** What he said earlier, we don't decide for the fish.
- 18 **August Enzo:** The two pits that are open now on the north side, after they fill it up and
19 they test it, they should break it at the top and the bottom only, to make a stream
20 across the pit.
- 21 **Joanne Barnaby:** So Lucas and August have proposed where the breaches should be located
22 and what they want to achieve with those locations is a stream running south and
23 north through both pits.
- 24 **Lucas Enzo:** I am proposing that if you fill up the two pit with water, then make a breach on
25 the north side and south side of the pits, and put the breaches to use the natural
26 currents already there. (i.e. north of the big pit A154, south of the small pit A418
27 and a connector in between the two pits.)
- 28 **Mary Louise Black:** Why don't you want breaches on the side?
- 29 **Lucas Enzo:** No breaks along the side because it would disrupt the natural flow.

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- 1 **Joanne Barnaby:** So that objective is to keep the current strong? So keeping the current
2 strong by limiting the breaches along the side.
- 3 How do other people feel about the idea?
- 4 **August Enzoe:** We are talking for the future so it sounds good.
- 5 **Joanne Barnaby:** August and Lucas, is this something we want Diavik to consider as an
6 option and ask them for feedback on what issues they see with it so we can
7 consider it as an option?
- 8 **Lucas Enzoe:** Absolutely.
- 9 **Joanne Barnaby:** Alright so this will give us another option to consider.
- 10 **August Enzoe:** Is fisheries going to come back today? It would be good if they did.
- 11 **Natasha Thorpe:** It might be possible, we can certainly ask, you never know what their
12 schedule is like.
- 13 If I were to add this in observations and comments: general that we have a
14 proposed solution for consideration or research to breach the dikes at the north
15 end of A154 between the two pits A154 and A418 and at the south end of A418 to
16 support strong current running through. Why do we want a strong current running
17 through the pits?
- 18 **Lucas Enzoe:** It will make like a river from the north to the south and the fish will sense the
19 current. They will think it's the perfect place for spawning. It's like a tiny lake,
20 and around the edges its shallow and you could make reefs so it could be like a
21 fish habitat. And at the same time you can keep all of the outside vegetation that
22 is growing.
- 23 **Natasha Thorpe:** So you are thinking that you would only flood the pits and not the
24 surrounding vegetation?
- 25 **Bobby Algona:** We want so much to re-vegetate these dikes, we want natural growth to go
26 back in there. Creating these currents inside these dikes would be something that
27 the big lake itself has all of these natural sediments and we want parts of that
28 lake to be moving and all the sediments and anything that is coming off of the big
29 lake. It would encourage the natural sediments from the lake to go into the pits.
30 We want the growth to go back in there so I think in my mind these breaches are
31 going to bring back the natural growth and sediments from the bottom of the lake.
32 The natural windblown leaves branches is something to think about as well.

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- 1 **Natasha Thorpe:** So Bobby I added encourage the natural sediments of the lake to come
2 back into the pits. Is everybody okay with the way this is written or added? Would
3 we like this as a proposed solution, or an option to consider?
- 4 Our artist has given us a diagram, is that what you were thinking August and
5 Lucas?
- 6 **Kathy Arden:** So the red is the vegetation and blue is the water? So what happened to the
7 Fisheries idea of rearing and resting, it's gone? So it's going to be a big deep hole
8 of water? It will be like a big river, no spawning, no resting, no nothing?
- 9 **Lucas Enzo:** It will be like a big river and it will be up to the fish if they want to spawn. Think
10 about the part between the two pits as where the fish may spawn.
- 11 **Joanne Barnaby:** My question to Diavik given Fisheries requirements is this an option that
12 you can actually consider?
- 13 **Colleen English:** This small area in between the pits is likely not enough so it will be a
14 challenge from a fisheries perspective. And then there is also A21 we need to
15 think about it in the same manner. Ask Gord to look at it later today.
- 16 SHORELINE Recommendations
- 17 **August Enzo:** Is that shoreline only inside the pit or around the island? Just the shoreline
18 inside the pits.
- 19 **Natasha Thorpe:** We are not talking about outside, we are talking about the shorelines of the
20 pits. Then the ramps, we need some closure on that one.
- 21 **Joanne Barnaby:** We want a recommendation on keeping that road way, which acts as a
22 ramp.
- 23 **August Enzo:** The first pit is okay around the shoreline, the second one with the cliff
24 down to the lake is the one we are worrying about now.
- 25 **Natasha Thorpe:** Does the TK Panel support the two recommendations? One on leaving the
26 shoreline on the pit A154, the bigger pit? Yes.
- 27 **Kathy Arden:** On 27, break up the 1km cliff on pit A418 with slopes because its too long for
28 caribou. Wasn't it that it was dangerous, not that it was too long?
- 29 **Joanne Barnaby:** Break up the 1km cliff with slopes (poses a danger for caribou)

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- 1 **Joanne Barnaby:** Natasha has added number 28. Leave current roads leading into the pit so
2 they would act as ramps that animals can climb out if need to. Are people okay
3 with that?
- 4 **Louie Zoe:** Discussed a lot of issues for recommendations, things that we are discussing
5 today and maybe next visit to the mine in spring. We need to take a look at some
6 of the areas and maybe we don't try to re-vegetate and let it naturally go. The
7 mine people, they hear the people from the TK and I hope they take our
8 recommendations seriously.
- 9 **Joanne Barnaby:** We did have a recommendation that the TK Panel visit the areas again in
10 the spring or summer so that we can see it again.
- 11 **Mike Francis:** How are they going to put the water in the hole?
- 12 **Colleen English:** With siphons and pumps into the pit.
- 13 **Joanne Barnaby:** They are using pumps because they want to get the water in there fast and
14 test it over a period of time before they open it.
- 15 **Mike Francis:** If you use a channel, fish are going to fall in and then they starve, but the
16 pump is good.
- 17 **Colleen English:** There are screens on the pumps so the fish don't get sucked in.
- 18 **Joanne Barnaby:** Diavik wants to monitor for 7 years, TK Panel wants longer. So #28 is
19 looking at how to do that. See what the options are and explore funding options,
20 using a portion of the bond if possible.
- 21 Re-seed land and use dirt and human waste to facilitate re-growth.
- 22 **Natasha Thorpe:** We had a written recommendation from yesterday that this take place and
23 I would like to take a few moments to talk about this idea. I don't think that we
24 got closure on the whole concept of using human waste on site. This showed up
25 on one of the maps, one group did recommend this.
- 26 **Bobby Algona:** Re-seed land and use dirt and human waste to facilitate re-growth. How
27 are we going to do that as the human waste has already been chemically
28 stabilized? I wonder how many chemicals are being used to treat the waste?
- 29 **Colleen English:** I am not 100% sure of all the chemicals that are used to treat the waste but
30 I know the purpose of the treatment is to make the end produce stable, safe. It is
31 stored on site in the environment anyway. It will stay on site even if it's not used
32 as a fertilizer. But I will get back to you on the chemicals they use.

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- 1 **Natasha Thorpe:** If the waste doesn't get put back in areas where people have identified
2 where they want vegetation to re-grow, where would it go?
- 3 **Colleen English:** There are two places where it is stored and it would just stay where it was
4 and then some may be buried in the rock pile.
- 5 **Natasha Thorpe:** If you don't use the waste for areas of re-vegetation then would you have
6 to truck fertilizer up from down south?
- 7 **Nancy Kadlun:** As long as it is un-harmful, make sure its checked and everything because
8 its human waste, and we also have so much chemicals going into the same area.
- 9 **Mary Louise Black:** I think that all the waste should be used if it is treated, and if it's there they
10 don't have to bring anything in and if it would promote growth I think that is a
11 good thing.
- 12 **Bobby Algona:** In my mind we are not only getting the fallout from the mines we are also
13 getting it from the trucking companies that are coming up and are bringing lots up
14 with them. They bring a lot of mud and everything under the wheels and we are
15 having a lot of things come up from these trucking companies and when it falls, it
16 falls out on the road. What they are bringing up from the south as well and all the
17 containers is coming up from the south and these crates and we're having to see
18 all these bugs as well and replanting themselves out on the tundra that we don't
19 know about. Down along the arctic coast we never had grasshoppers before, now
20 we have thousands of them. It's because of the crates and ships that come up.
21 Some of these freighters that are coming from all parts of the world we have long
22 known that these cruise ships are bringing all kinds of bugs and sediments up to
23 us.
- 24 **Natasha Thorpe:** Okay so do we have some final direction about using waste as fertilizer?
25 Can I have a show of hands? Yes, all are good.
- 26 We forgot to ask this morning if there is a volunteer to present these
27 recommendations to Gord this afternoon.
- 28 **Joanne Barnaby:** We still have more to review after lunch but we really do need to think
29 about a presenter. Perhaps the 4 youth could team up and present the
30 recommendations to Diavik? Yes, okay good.
- 31 Okay I guess we don't have any further recommendations.
- 32 **Natasha Thorpe:** Gord has preliminary results for the slimes. He wants to know if you want
33 him to present preliminary information, or wait until next time and have a better

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1 presentation with all the information and maybe one of the researchers to present
2 and answer questions.

3 **Bobby Algona:** It is good if we could have it next time, but maybe give us a little bit to
4 think about this time, too.

5 **Natasha Thorpe:** I am super excited of what you have pulled together so I just want to say
6 that I am going to put on the video again over lunch because we have Chloe here.
7 She was one of the youth from the AEMP TK camp this past summer.

8 *Lunch Break*

9 *Presentation – Recommendations for Diavik*

10 Janelle, Mary and Ethan as the youth of the Panel are presenting to Diavik

11 Observations and Comments: FISH

12 Observations and Comments: WATER

13 Observations and Comments: AEMP

14 Observations and Comments: REEFS OR SHOALS

15 Observations and Comments: SHORELINES

16 Observations and Comments: GENERAL

17 AEMP Recommendations

18 On Island Recommendations

19 Reefs Recommendations

20 Shoreline Recommendations

21 General Recommendations

22 Questions for Diavik

23 Questions addressed by Diavik

24 **Joanne Barnaby:** Thank you to the youth. John McCullum has arrived from EMAB.

25 **Gord Macdonald:** Thank you, youth, for your presentation. I don't know why they keep
26 bullying you to make the presentation, you should push back sometimes, but you
27 did very well, thank you.

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1 On the pressure ridges, is it something we should be looking at? Is there an intent
2 with that or is it just an observation?

3 **Bobby Algona:** It is an observation from something that has been around for many, many
4 years and they are caused by the weather and as you know the weather has
5 fluctuations all season long. Winter time you have long spells of really warm
6 weather in the fall and this creates pressure ridges in the lakes, the warmer the
7 winter the more pressure ridges you have. The colder weather may not bring any
8 pressure ridges. The moon effect and the sun and the rotation has an effect on
9 weather and this causes fluctuations on weather, and the warm spells and the cold
10 spells and how this affects in our season. The long warm weather is what causes
11 the pressure ridges and the spells is not thickening the ice, maybe a week or two
12 weeks because the ice is not thickening.

13 **Natasha Thorpe:** Pressure ridges being important in terms of oxygen and open water and
14 fish, and that being why fish were attracted to those areas.

15 **Gord Macdonald:** But I am not sure there is anything we could do to create one. It's an
16 observation, and I agree, I just don't think there is anything we can do.

17 **Nancy Kadlun:** How many pressure ridges do you see in Lac de Gras?

18 **Gord Macdonald:** Bobby would probably know more, he has snowmobiled on that lake way
19 more than me.

20 **Bobby Algona:** Like I said before, the longer warm weather in the winter time creates
21 more pressure ridges on the lakes. The longer colder spell in the winter time will
22 not create pressure ridges. In my mind to create something like a pressure ridge I
23 think another recommendation that I am coming up with again is to make an
24 example if we want something to look like a pressure ridge maybe make holes on
25 the ice inside the dike where the ice is to make it look like a pressure ridge. Every
26 time you make a hole in the ice fish are going to be looking for that oxygen.

27 **Gord Macdonald:** I think you could do that initially to try and attract fish in the area but you
28 wouldn't want to go back every year to do it.

29 **Natasha Thorpe:** I think, Gord, all of these observations and comments are understandings
30 that are grounded in TK and part of your challenge is to see and track how those
31 ultimately flow into operations or planning.

32 **Gord Macdonald:** Yeah, I was just curious what that was.

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1 I like the animals drinking from the pit as an indicator, that's a good one that we
2 could build into that monitoring of the pit before we breach it.

3 This one [north-south stream across the pits] makes it sound like all of this would
4 have to be at a lower elevation than the lake. The only way to stop it from
5 flooding into the shores, you can't do that and have the water at the same
6 elevation. I like the idea but I just don't know how. Physics isn't helping you in
7 this one.

8 What I understand Lucas is that you are suggesting to only flood the pits and not
9 flood the edges, and leave a hole here [north] and here [between A154 and A418]
10 and here [south] so the water could flow through and gradually add sediments and
11 natural materials into the lake. But the problem is that the edge here [pit] would
12 be 30-40 feet lower than the lake. If you put a hole in here [dike] you are going to
13 fill the area all the way up to the lake level. You couldn't do it as a breach. You
14 could control it with pipes but then you wouldn't get the currents going through
15 there.

16 Why can't you do the same thing but with flooding the vegetation?

17 **August Enzo:** That's because we don't want the water to spoil the vegetation that is
18 growing now.

19 **Gord Macdonald:** I see.

20 **Mary Louise Black:** Another thing we had in there was flooding the whole inside and having
21 the breaches where you said. I think one of the things we spoke about was where
22 the reefs would go, and they didn't want to ruin the natural vegetation because it
23 was originally the bottom of the water; so just using where you had already
24 developed the land and poured the rock for reefs.

25 **Gord Macdonald:** That's exactly what we were thinking. We don't want to put any reefs
26 where there is already natural lake bottom and, in fact, now vegetation. So we
27 wanted to put it in areas, like up here, where we have intentionally put rock. But I
28 think it would be hard not to flood it all.

29 **Ed Jones:** Gordie what I want to suggest is this. Instead of opening the north or east side of
30 the pit walls, pump the water in there to the level that you want and leave it there
31 and don't open the walls at all.

32 **Gord Macdonald:** Yeah we could do that. And then introduce fish in there, or just leave it?

33 **Ed Jones:** Leave it. Until such time that it's been tested and is suitable for fish habitat.

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1 **Gord Macdonald:** Yes, that is exactly what we are doing.

2 For the TK Camp, I understand why you want it to stay but it is really difficult
3 legally to own a camp and allow anybody to use it. We could sell it, give it away,
4 but it would be difficult for us to hold on to it and take all the legal responsibility
5 that comes with it. But I understand the intent. And why destroy it if it is of use to
6 someone.

7 I am interested in the why of number 7 of AEMP Recommendations. Why are
8 you interested in sampling there [the Narrows]? We sample water from there so
9 we understand what's coming from our competitor's property to protect our
10 interests, but why would you guys be interested in monitoring those fish?

11 **August Enzoe:** That is for the future because when they start working up there we want to
12 be able to test the fish. For the future.

13 **Gord Macdonald:** That's something we should be recommending to Dominion, not to
14 Diavik?

15 **Natasha Thorpe:** In LDS or LDG?

16 **August Enzoe:** Both sides, and in the narrows, because that is where the fish are going to
17 go through.

18 **Gord Macdonald:** In the narrows is a very unique fish habitat. It seems more of something to
19 understand the effects from J [pipe] then to help understand the effects from
20 closure or operations at Diavik. Not that it isn't a good idea, but we might not
21 want to do it if it seems to have other reasons.

22 Number nine is exactly what Ed was saying but being very specific, we should
23 seek the approval of the Panel before doing that. I think that is a nice
24 recommendation.

25 I am glad you picked up on 10. We think that is the most important for water
26 quality as well.

27 11 and I think 22 seem to be about building some sort of wetland treatment or
28 natural treatment particularly for the PKC to try and naturally clean the water. I
29 have never thought of mosses, it's a good one as well; moss is on our list of things
30 to research. I think it is one we need to bring forward. I wish I knew what the
31 industry filtering system was.

32 **Kathy Arden:** Leave it the way it is when you flood it. The land plants are going to die
33 but water plants are going to grow.

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1 **Gord Macdonald:** 24 seems to be the main question that we all have to get at. I think if we
2 put our minds to it we could design a fish habitat for any one or all of those fish
3 habitat types, maybe the bigger question is what habitat types do we want in there.
4 We had excluded spawning because we wanted to replace habitat that is in short
5 supply in LDG, which is rearing and feeding and resting.

6 I like 26, the importance of us walking that in the field before and after we've
7 created that habitat to see what the bottom of the lake looks like.

8 29 is an interesting one that we need to look at, and if you could be clear on this
9 recommendation. If we are using 2030, which is what we are saying right now for
10 when we think we will be done monitoring, whether there should be some sort of
11 trust fund for ongoing monitoring is what I understand you are saying.

12 30 is very appropriate. I am just trying to get money as we speak to do that. So we
13 have had a large group of scientists working on those test piles and it's done with
14 3 different Universities and they are interested in continuing the program and
15 instrumenting the main pile.

16 **Joanne Barnaby:** Can you give us an idea when you are looking at long term monitoring the
17 NCRP for stability of the frozen state. What kind of time frame do you have in
18 mind? For monitoring?

19 **Gord Macdonald:** Same as everything else, 2030. If things all go as planned it would be
20 2030. If not, it could be longer. It's hard because it depends what we see.

21 **Joanne Barnaby:** That gives us a framework.

22 **Gord Macdonald:** The scenarios we look at now are 100 years because it's hard enough for
23 100 years.

24 There is a key word in 33 I'm taking and that is 'safe', the key word for all. We
25 want it to be safe as well and we will have to demonstrate to you why we think it
26 is safe.

27 Thank you very much.

28 **Joanne Barnaby:** Any questions or comments from the Panel?

29 **August Enzo:** Do you agree with most for now?

30 **Gord Macdonald:** I don't think I disagree with anything. I agree to most. There are some
31 very solid recommendations in there and things that I have never even thought of,
32 like introducing bugs are a good one. And hearing that you view that healthy

Appendix D

Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 environment at a bug level is the same place where science goes, so that is very
2 useful.

3 **Joanne Barnaby:** Further thoughts. Everybody is good.

4 **Gord Macdonald:** Questions for Diavik number 1 is a really hard one. It can't get to that
5 point, we have to have monitoring and control systems in place way before
6 Kugluktuk. That's why we are monitoring on the island right now. The first test
7 is, is it acceptable in the water right next to LDG because once it gets there its too
8 late. I don't think we can even think of that. We have to have monitoring and
9 controls in place at the island. It just can't get to there, because it's too late once it
10 gets there. The most we could do once that happened would be to compensate,
11 financially compensate Kugluktuk, which is not going to solve anything. It might
12 help but it is not going to solve anything and it's certainly not where we want to
13 go.

14 **Bobby Algona:** We have always had this ongoing thought in there that what if all the
15 contaminants start to flow to Kugluktuk as well. We are not just looking at
16 Diavik, we are looking at the other mines as well. Even though they are all related
17 and are diamond mines, what if something else comes in. Where are we going to
18 move Kugluktuk if ever this was going to happen, how would we present this to
19 the community?

20 **Gord Macdonald:** Number 2 is what we have to do this year, making an inventory as to what
21 is actually down there. Nothing really in the pits, it's the underground. So making
22 an inventory of what is underground and what do we think has to come out and
23 what do we think we can leave in there. That is what we think would be the start
24 of the discussions with yourselves and with regulators; is our list okay so we can
25 start planning. We won't be the first ones who have done it. Dominion has
26 flooded an underground, they left stuff behind, don't know what it was but there
27 is some precedent, Snap Lake might be doing the same inventory right now.

28 Number 3 we do know how many streams and rivers flow into LDG and about
29 how much water comes with each of those but I can't tell you off the top of my
30 head. I can certainly get the information for you.

31 **Nancy Kadlun:** I am concerned about the rock pile here but once everything settles what
32 will happen then. The earth is very strong and can break man-made things no
33 matter how good and thick. We are worried about this from spring and rain, it's
34 still going to contaminate the areas.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Gord Macdonald:** That long term settlement and moving is a valid concern and we share
2 those concerns.

3 **Natasha Thorpe:** That's it in terms of questions for Diavik. Does anyone have any general
4 comments, thoughts, concerns? Gord do you have any more questions.

5 **Gord Macdonald:** Thank you again for your time and effort.

6 **Natasha Thorpe:** I am going to walk through the changes, then we are going to go on to
7 planning for 2016.

8 **Kathy Arden:** We had put in that one comment about testing fish in LDS and LDG. It might
9 serve as a warning bell for the other diamond mine. I don't know what the
10 communication is like between the two mines, but if they pulled a fish from there
11 that was slightly contaminated with something they could say to Dominion, we
12 have pulled this contaminated fish from the narrows and obviously the flow is
13 coming from J-pipe. So I was thinking of that as more of an alarm bell.

14 **Natasha Thorpe:** I forgot this last suggested change in number 27. There was a suggestion
15 to change the part in brackets so that it reads, break up the 1 km cliff on pit A418
16 with slopes to make it safe for caribou.

17 *Presentation – TK Panel Process: Next Steps (Appendix L)*

18 **Colleen English:** The next update for Diavik's closure plan is due at the end of 2016. That is
19 going to include a number of the suggestions from the last few Panel sessions so
20 we would like to have the time to include any changes that might come up in the
21 August session.

22 Diavik prefers to have the summer session in August so they have time to change
23 the closure plan if need be.

24 **Natasha Thorpe:** In April or May for the wildlife monitoring there would likely still be
25 snow and ice so wouldn't it be harder to have a look at the shoreline and or the
26 sewage treatment pile.

27 **Colleen English:** Yes, in April there would still be snow and ice but mid to end of May the
28 snow would be melting. So if we did it mid to late May. The sewage piles, the one
29 that is on top of the till pile is pretty exposed to wind so it doesn't get a tonne of
30 snow on it and there is always fresh stuff being added.

31 **Kathy Arden:** We had mentioned earlier for water testing to happen in May and June when
32 water runoff is at it's highest.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

- 1 **Colleen English:** Around May long weekend is probably the best to see the water flowing
2 and moving around the site. Freshet is usually the very start of June, end of May.
- 3 **Kathy Arden:** It's been very warm now so it's possible it may be early.
- 4 **Colleen English:** Yes, that is true. One of the reasons April was in there was because the
5 northern migration can be happening then. But it is touch and go, and it's a really
6 fast migration, as you well know, so it's really just the luck of the draw.
- 7 **Bobby Algona:** As an Elder out on the land for most of my life and my observations of
8 caribou, the way the caribou migrate either way they are coming. North it's
9 always the cows and calves that come first and the bulls always come later. It's
10 always the same way going south. The cows are always making a trail for the
11 bulls. Sometimes late March can be when the caribou come through. Working in
12 Ekati late fall there was no caribou coming through those areas this year. The
13 usual migration route comes through I am wondering if Diavik can keep the
14 communities posted on when the caribou are coming through the mine.
- 15 **Joanne Barnaby:** Any other comments regarding timing of the sessions and the location of
16 the sessions. Is there a preference for April, May or June. Do you prefer April,
17 May or June?
- 18 **Bobby Algona:** I like the idea of what Kathy said, May or June, when the water is flowing
19 at site. We are monitoring water a lot in our sessions so we want to look at the
20 water. I am in agreement for that.
- 21 **Joanne Barnaby:** So you would want that session at site then.
- 22 **August Enzo:** Plan a visit for after snow when everything is melting.
- 23 **Mary Louise Black:** I think this was for wildlife monitoring. I went to Ekati in June and there
24 were lots of caribou, so I think June.
- 25 **August Enzo:** Caribou is not like before, there would be a lot and in years coming now
26 you probably won't see caribou there. In the spring time you are lucky if seeing
27 them at Ekati.
- 28 **Louie Zoe:** I guess during the spring runoff is the time to go. Maybe early in spring as long as
29 the eggs are hatching and the leaves are turning up and maybe the end of June
30 when the leaves are coming out. The hunting season closes about that time.
- 31 **Joanne Barnaby:** We have had some consensus to look at June.
32 For the second session, August was suggested. Is that okay or not?

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

- 1 **Natasha Thorpe:** Also would you like it on site or in YK. So we will be there in May or
2 June but the suggestion is to have the next one in Yellowknife, but we'd like your
3 feedback. The discussion at that proposed session would be closure plan, the
4 updates that they are working on now and reviewing that before it goes for
5 licensing.
- 6 **Joanne Barnaby:** In terms of the stage of revision, I am wondering if delaying that August
7 to the fall might give us a disadvantage affecting any change to the plan.
- 8 **Colleen English:** The August date was suggest because it gives Diavik enough time to have
9 the report ready to share with you, but also take anything back that would come
10 from the Panel and still incorporate that before we would be submitting it in
11 December.
- 12 **Natasha Thorpe:** If we end up with the session in June, August might be a little close.
- 13 **Bobby Algona:** I am thinking about the youth. Some youth are going to school early
14 August so we may want to think about that.
15 In Kugluktuk some kids start in early August.
- 16 **Nancy Kadlun:** Taking youth out of school for a week is not a problem. I have my son
17 here who is in grade 10 and I talked to the principal. This makes them stronger,
18 even one little trip like this can help the youth for a long, long time. They feel
19 stronger and do more in school. You can still pull them out of school because
20 these trips make them stronger and help them want to stay in school.
- 21 **Natasha Thorpe:** That's a good point Nancy. Some of it Colleen might depend on what's
22 going on at the Diavik site as well, or as long as we are early we can book it.
- 23 **Colleen English:** Weekends, Travel Thursday and then come home on Monday. The best
24 time is still weekends at the mine site.
- 25 **Natasha Thorpe:** Do you want to be at the mine in August/September or in YK?
- 26 **August Enzo:** At site because you see the land. I look at it, if I see it with my eyes.
- 27 **Natasha Thorpe:** That's what we have heard all week, seeing with my own eyes. One last
28 question. We talked a lot about how we could have ensured more youth come out
29 to the camp, 1 youth from each group, and there was suppose to be an alternate in
30 case they got sick or something. In the end we only had 3 youth come and I am
31 thrilled we have 4 youth for this session. But planning into the future I am
32 wondering if the Panel would be open to the idea that we always try to have 5
33 youth, or the designated number of youth. So if, for example, one group's youth

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 aren't available at the last minute, then the youth from another group could come.
2 That we just keep moving down the list. It doesn't matter which group the youth
3 are from, it's more important to have the youth here. I am putting it out to the
4 Panel as a suggestion.

5 **August Enzoë:** It sounds good for the youth, they learn a lot from us to sitting with them
6 in the meetings like this. You should think about the future of your youth.
7 Depends on the money but we need to think of the youth.

8 **Natasha Thorpe:** To clarify, the youth right now are selected by your groups and for those
9 that weren't here Monday and Tuesday when we talked about the Aquatic Effects
10 Monitoring Program, there was a lot of discussion around the Elders getting
11 involved with your schools, trying to encourage as much participation as possible.

12 **Bobby Algona:** I've touched a little bit on this earlier, sometimes the schools ask me to
13 come and do a session at the school and as an Elder I certainly do. There are
14 going to be more white folk coming to these parts so learn the language so you
15 can be a part of it. I was pretty intimidated in the beginning. Everything my dad
16 taught out on the land made it really easy for me to teach my children out on the
17 land. If only I could get my health back I would be there. I am not going to go
18 there with my health the way it is. So with the youth, having the youth around our
19 Panel here is really nice to have.

20 **Joanne Barnaby:** I would encourage the youth that are here to tell your groups that sent you,
21 tell them how you feel about being here, if you want to continue participation
22 make sure that they hear that from you and they hear it from the Elders as well.

23 **Colleen English:** Just another logistical thing for when we hold meetings at the site, the
24 youth have to be 18 years or older.

25 **August Enzoë:** I want the youth to say something about how they feel right now.

26 **Lucas Enzoë:** I feel that I have been enlightened by my grandpa and the western science and the
27 importance. There are not a lot of people in the communities and some don't want
28 to be involved. Our Elders won't be here long enough to keep this going. So I
29 think it's important.

30 **Mary Louise Black:** I really enjoy doing all of this, I don't have a lot of knowledge or answers
31 or info or anything like that and I don't say much, but I am observing and I am
32 taking it all in. I like listening to Elders from all over. I am taking it in and I like
33 this kind of stuff, it's where I plan to be hopefully, environmental monitoring.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Janelle Nitsiza:** I am very grateful for the opportunity to be here. Learning about all this
2 stuff is interesting and taking in culture everywhere and coming together is really
3 amazing for me because we do have so many similarities and I think our duty as
4 youth is to train to be an Elder one day. That is something that my grandmother
5 engraved in me. One day you might be a grandma so what kind of stories are you
6 going to give your grandchildren, are you going to give them bad stories or give
7 them stories where you sat around the table and you learned from your Elders or
8 learned stories. When I make decisions in life I normally have my grandmother on
9 my shoulder saying are you doing the right thing or the bad thing.

10 I hang out with the young people and the Elders. Anytime I have gone to a
11 meeting I have told the youth what I learned so that one day they can, too. We are
12 Elders in training.

13 **Ethan Kadlun:** I feel pretty happy that I participated in this meeting because this is my
14 first meeting. I have learned a lot even if I didn't talk much. I listened to the
15 Elders talk a lot.

16 **Joanne Barnaby:** Before we break I just want to give you a chance to ask John McCullum
17 any questions. Do you want to make a few comments John?

18 **John McCullum:** First thank you very much for letting me sitting in on your meeting. I have
19 really enjoyed it so far and I can tell you our Board met just in the last few days.
20 Part of the reason I am here is they are asking what is happening with the Panel.
21 They really appreciate your work and the attempt that Diavik is making to hear
22 what this TK Panel says and incorporate it in to closure. Our job is to be a watch
23 dog and so the way the Board is looking at this is to see what kind of questions
24 are you answering , are they the right questions, what do you think about what
25 Diavik is doing with the information.

26 Great opportunity, great to meet you folks and to see your deliberations. Glad to
27 be here. We are talking about maybe next time that you guys meet, trying to
28 coordinate a Board meeting around the same time, so that maybe there is some
29 overlap where our Board can actually come and talk with you, and you with them.

30 **Joanne Barnaby:** Question or comments for John, messages to their Board.

31 **Nancy Kadlun:** Thank you for what you said. We are always willing to go if we are
32 invited because we learn a lot and we want to continue to have our air and water
33 clean for our future. No matter if its 100 years, there will always be people here.

34 **Joanne Barnaby:** Thank you, Nancy. Anyone else.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Joanne Barnaby:** People are ready for a break and then we will have a final round table for
2 your final comments for today.

3 *Break*

4 **Joanne Barnaby:** We would like to give you the opportunity to share anything that you wish
5 to and we have as usual your evaluation forms for you to fill out.

6 **August Enzo:** What have we been doing since that time I was sitting on this Panel, the
7 way it sounds like, is it is getting more input now in the last two years. We did all
8 the information what should be done for when the mine closes. It sounds really
9 good with how it will be done. What we are doing right now I hope the
10 government will tell us we did a good job. We did a good job and getting the
11 youth involved is really good.

12 **Mary Louise Black:** In the last three days I learned a lot, a lot of insight to what's happening, a
13 lot of things I wasn't aware of. I think its good you are taking our
14 recommendations and keeping us up to date.

15 **Louie Zoe:** The thing is its going to be very memorable in a way because a lot of the things
16 we have done over the year. I didn't participate in activities there are some
17 differences in the communities and I hope I will be able to participate in future
18 activities. None the less we have a lot of Elders in the community and I hope to
19 continue to participate but none the less I will encourage the Elders and the youth
20 to participate.

21 **Janelle Nitsiza:** I learned a lot in the last 3 days. I remember in 2013 when we went to
22 Diavik I think I made the recommendations to add the female Elders because
23 there had to be a balance male and female, they both play such important rolls. I
24 think that should go along with the youth, too. We can learn our rolls as men and
25 women from the Elders. I really do see, I feel like Diavik could be a model for
26 other diamond mines when it comes to closure because they are incorporating the
27 TK and the science side.

28 **Dora Migwi:** Yes its quite a learning experience for me, too because it's quite a cross cultural
29 experience. I do always listen to my Elders and respect them for that they are our
30 main leaders. Today the youth are looking at us as leaders now and the possibility
31 and we still carry the same notion of safety and preserving our land, despite losing
32 Elders every year we are still here to help you. It's always good to have the
33 majority of Elders, more ladies and more youth.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

- 1 **Mike Francis:** Thank you for everything everybody, we had a good meeting. The baking
2 it was good and we have people that come from a long ways, plane, truck
3 everything. God bless you guys, thank you.
- 4 **Ethan Kadlun:** As I said before I am happy to be here, I am happy to a participant of this
5 TK Panel, this is a great way of bringing Elders and youth together.
- 6 **Nancy Kadlun:** I am happy about being on the TK Panel, hearing Elders since I was young
7 child they were always saying without the water one day the earth will burn
8 because there will be no more water. There are so many people, some people,
9 some day before there were scientists before we had TV and news there was no
10 radio and they always said one day there will be no water left and we have to try
11 and protect it any way we can. I am so happy I am part of these meetings, it's
12 really helped me to come to these meetings.
- 13 **Bobby Algona:** The other day, when was it again, Janelle said it all for me and my people:
14 water is really precious, not so much the diamonds, water is more precious then
15 diamonds. No matter who it is, people are suffering all over the world because of
16 water. I touched a little on this in the past, we cannot go without our water and
17 our air; two most important ingredients, what we need the most. We cannot find
18 another way to make our water so we have to keep it as clean as we can. Climate
19 change is all around us. We can't get around whatever comes from that. We
20 cannot only depend on land based animals we have to depend on water animals as
21 well. For me my grandmothers stories were the most important, I traveled
22 everywhere with my dad on his trap line.
- 23 I asked my dad many thousands of questions and my father never turned me
24 away. Unlike some of the people I have heard before they said those things to me,
25 you're important, you're my future, it made me appreciate how I interact with my
26 family and be out on the land. Some of you might know I have an outpost camp
27 on Pellet Lake which I grew up on for many years. I couldn't just leave it out
28 there. I have been really blessed with the help of my Elders along the way.
- 29 I will use it in the future. I am going to be an Elder some day from my dad living
30 out on the land really helped me to learn. I could never be doing this without him
31 and their wonderful answers. I have come to learn a lot over the years through
32 generation to generation. I have become an Elder and I try to do the things my
33 father did for me and any questions my children pose to me I try to answer the
34 best that I can.
- 35 **Ed Jones:** I am happy with most of the recommendations to Diavik. I have learned a lot this
36 session and thank you for contributing their knowledge.

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Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Kathy Arden:**I have found it a real pleasure working with all of you the last few days and in
2 listening to everyone speaking it awakened old memories of me being a child
3 going out on the land with my parents, things I had forgotten about when you get
4 involved in the modern world. So to be asked to come sit on this Panel with you
5 and share our ideas and recommendations to close the mine that has scarred
6 mother earth is a pleasure to work with you to help in that healing process. Thank
7 you very much.

8 **Joanne Barnaby:** I wanted to tell you that it was a long week for some of you. It was a very
9 long week and I really appreciate your commitment, your energy and insights. I
10 am always amazed and this time in particular I was impressed the insights that
11 you shared and the ideas that you brought forward and the honesty that you
12 brought and your commitment to taking care of the land and your struggles to
13 understand the mining process and the closure process and the science that we
14 hear about and to come to terms with how you can bring your knowledge to this
15 and make a positive change. Your patience and willingness to ask questions is
16 fantastic. *Mahsi.*

17 **Kathy Arden:**I think on behalf of us we would like to thank our facilitators who have done a
18 beautiful job getting us through this session. A big thank you to Joanne Barnaby,
19 Natasha. I know you have worked late at night to put things together for us to
20 review the next day and I am sure you are as tired as we are. Thank you John for
21 coming.

22 **Natasha Thorpe:** I think Joanne said everything I was going to say. I want to echo my
23 appreciation. Thank you for making the journey, the 3 and 5 days that you were
24 here. The idea of this continuity and back and forth between youth and Elders and
25 TK and science and as we continue in this TK Panel; we continue to respect one
26 another, respect the land, the process and your passion and your stories are at the
27 core of that. I think that the fact that we see such continuity in the faces around
28 the table, honestly in an Indigenous setting as well as a non-Aboriginal setting, for
29 this many years to have so many of the same faces is really, really exciting and it
30 makes it much easier for this Panel to be effective because you've got the history.

31 I am also grateful that we have more women on the Panel now and I really hope
32 that you are here and there is that continuity with you as well. I think we have a
33 wonderful strong group. Likewise with the youth, you bring something to the
34 table here that is really magical and a passion from the others.

Appendix D

Diavik Diamond Mines TK Panel Session #8 – Water Monitoring & Fish Habitat

1 **Lucas Enzoë:** My reflection for the last 3 days shows me how all these things are very important
2 in all that we do. I am grateful that I took the time to participate and come to the
3 TK Panel. I didn't think that I would enjoy it but I did and it feels good to be here.

4 **Natasha Thorpe:** It's hard to compete with all the things in your life.

5 **Colleen English:** I just want to say thank you to all who have been here all week. I really
6 appreciate your patience and I was saying to Gord earlier today I feel like when I
7 talk to this Panel, I feel like you know more about the site then some people that
8 work there.

9 I think that the new additions are great. Thank you to everyone and I look forward
10 to our next session.

11 **Berna Martin:** I would just like to thank every one of you until we meet in the New Year,
12 thinking about your wellness, of your health and happiness and everyone have a
13 good Christmas Holiday.

14 **James Rabesca:** I have been involved for many years and of course the Dene nation and the
15 reason why they built it and as well as I did interpreter. I have been with them
16 since day one so but now I am not involved in politics so I just interpret and I
17 think I worked well and I enjoyed it. Thank you.

18 **August Enzoë:** Closing prayer

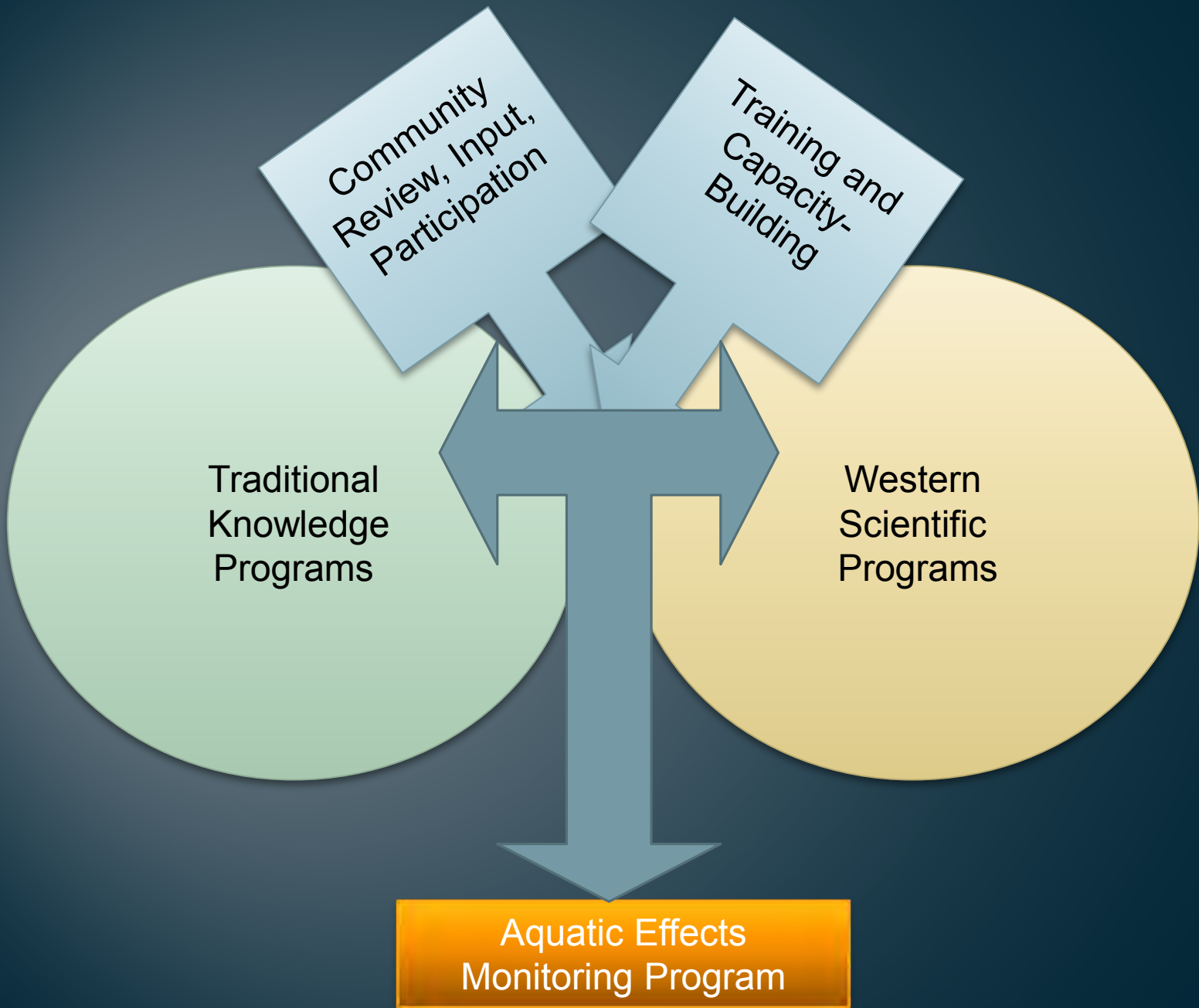
Appendix E

Post Camp Presentation

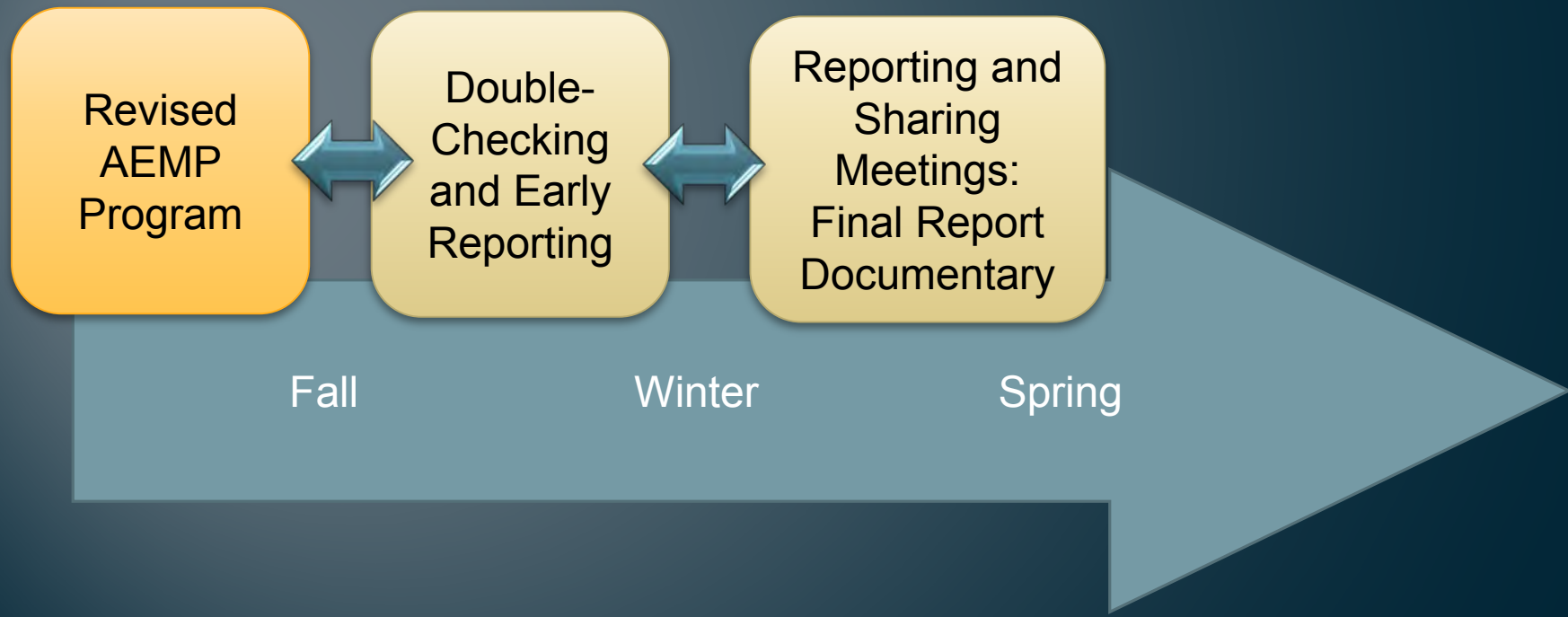


Diavik Diamond Mine Aquatic Effects Monitoring Program: Report Update (2015)

November, 2015



Outcomes of 2015 AEMP





Report Over-view



Introduction
Approach and Methods
Observations, Learnings,
Outcomes
Recommendations



Observations...



Fish



Water



Fish Palatability Study Questions

- 1) this fish tastes excellent for eating and looks better than fish we usually catch;
- 2) this fish tastes good for eating and looks similar to fish we usually catch;
- 3) this fish tastes okay for eating but does not look as good as fish we usually catch;
- 4) this fish does not look good for eating and looks much worse than fish we usually catch; and
- 5) we would not eat this fish.

Recommendations from 2015



Appendix F

Closure Overview Presentation

Diavik Diamond Mines

Diavik Closure Planning Overview
TK/IQ Panel – December 2015



Closure Planning

Content

Closure Plan – How we got here

Water and Fish – the focus for TK Panel Session 8

1998 Pre-feasibility



400 0 4

Closure Goals

- Land and water that is physically and chemically stable and safe for people, wildlife and aquatic life
- Land and water that allows for traditional use
- Final landscape guided by Traditional Knowledge
- Final landscape guided by pre-development conditions
- Final landscape that is neutral to wildlife – being neither a significant attractant nor deterrent relative to pre-development conditions
- Maximize northern business opportunities during operations and closure
- Develop northern capacities during operations and closure for the benefit of the north, post-closure
- Final site conditions that do not require a continuous presence of mine staff

Overview of Closure Plan by Area



North Country Rock Pile



PKC



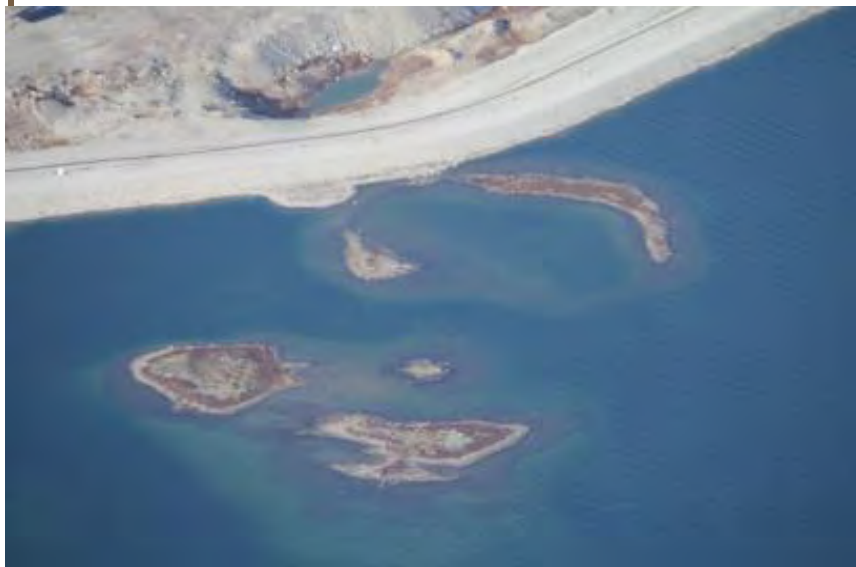
North Inlet



Infrastructure



Open Pits & Underground



Fish Habitat Design & Water Quality



Appendix G

Response to Session #7 Recommendations Presentation

Diavik Diamond Mines

**Diavik Response to TK Panel Session 7 Recommendations
TK/IQ Panel – December 2015**



Response to Session 7 – Plants & Re-vegetation

Supported

- Further discussion on caribou deterrent methods & tools for animals approach East Island (7.3, 7.8)
- Caribou/wildlife ramp across the rock pile with smooth boulders at the bottom (7.5)
- Protecting natural vegetation left on the mine site, except where beneficial for wildlife safety (7.1)
- Study vegetation north and east of the island (7.2)
- Test plants for toxicity (7.4)
- Slopes on side of the road similar to test pile (7.9)
- Use nature's quote to guide plant selection (7.11)
- Vegetation map produced by Panel to be used for further discussions with communities and Panel (7.15)
- Use old maps of migration routes to determine best travel corridors (7.16)
- Rock pile slopes similar to test piles (7.9)
- Literature review on TK of plants for LDG region (7.13)
- TK Panel informally share results with elders in their community (7.19)
- 1 female and 1 male on Panel; youth participation (7.20, 7.21)
- Sharing results of the Panel with government and other industries (7.22)

Response to Session 7 – Plants & Re-vegetation

Modify

- Fine crush rock, similar to the airstrip, on passage and road ways (7.6, 7.9)
 - Positive feedback from Panel on rock on the side of the test pile; suggest this is the appropriate material to use
- Create a barrier between the (NC) rock pile and the PKC (7.7)
 - Natural rock dump may not be good enough to prevent caribou movement between the two areas; need to investigate options how best to do this
- Womens session on vegetation (7.17)
 - Preference is to incorporate women into every program/meeting, along with men and youth, and using break out sessions to share information, rather than holding women-specific programs
- TK Panel to meet 2 times per year (7.18)
 - Committed to the Panel; number not as important as having the right information to share and the right topics/timing to apply to the closure plan

Response to Session 7 – Plants & Re-vegetation

Unsupported

- Use tundra mats to re-vegetate areas (7.10)
 - Requires access to an area planned to be disturbed (to take "tundra mats") while at the same time having areas available that require re-vegetation.
- Not using treated human sewage as fertilizer (7.12)
 - Diavik is interested in using treated human sewage waste as fertilizer for the first couple of years of reclamation, given that it is available on site and considered safe to use from a health perspective.

Appendix H

TK Panel Water Quality Presentation

Diavik Diamond Mines

**Post-Closure Water Management and Quality Monitoring
TK Panel Discussion – December 2015**



Post-closure Water Management and Quality Monitoring

Content

What does Diavik do now to monitor water quality?

- AEMP & SNP Overview
-

What will the different areas of site look like at closure?

- Drainage patterns and holding areas
 - What does Diavik plan to monitor?
-

Key Questions for the Panel

What do we do now? AEMP



What do we do now? SNP



2014 SNP Station Locations

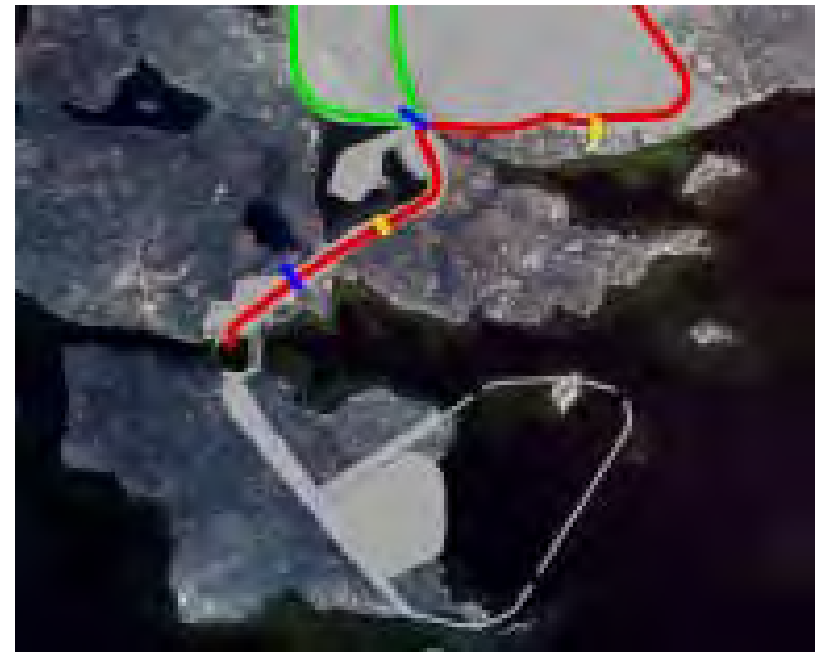
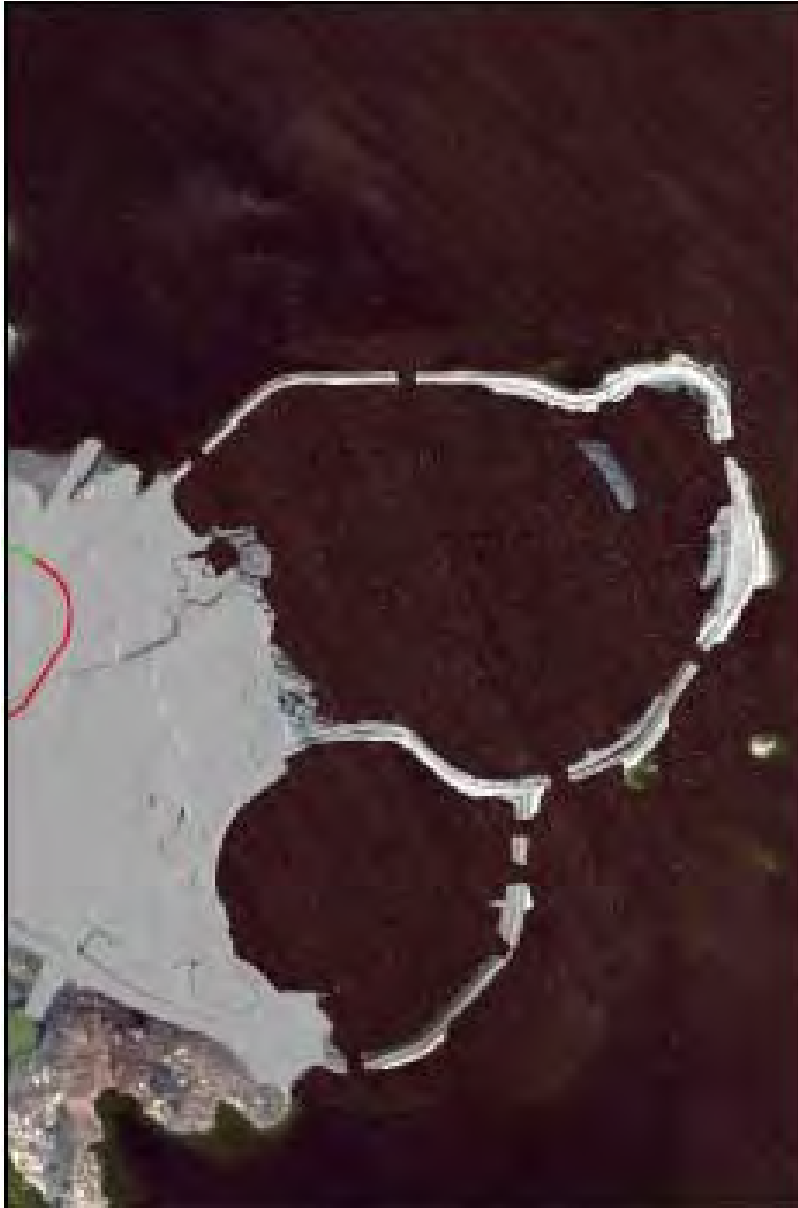
- Surface Runoff Stations
- PKC Wells
- Active Groundwater Station
- Biweekly from Underground
- 6 day_Monthly Effluent
- Monthly Diffuser
- Collection Ponds
- Annual Treated Sewage
- Quarterly PKC

Diavik Diamond Mines

What will it look like at closure? Mine Site



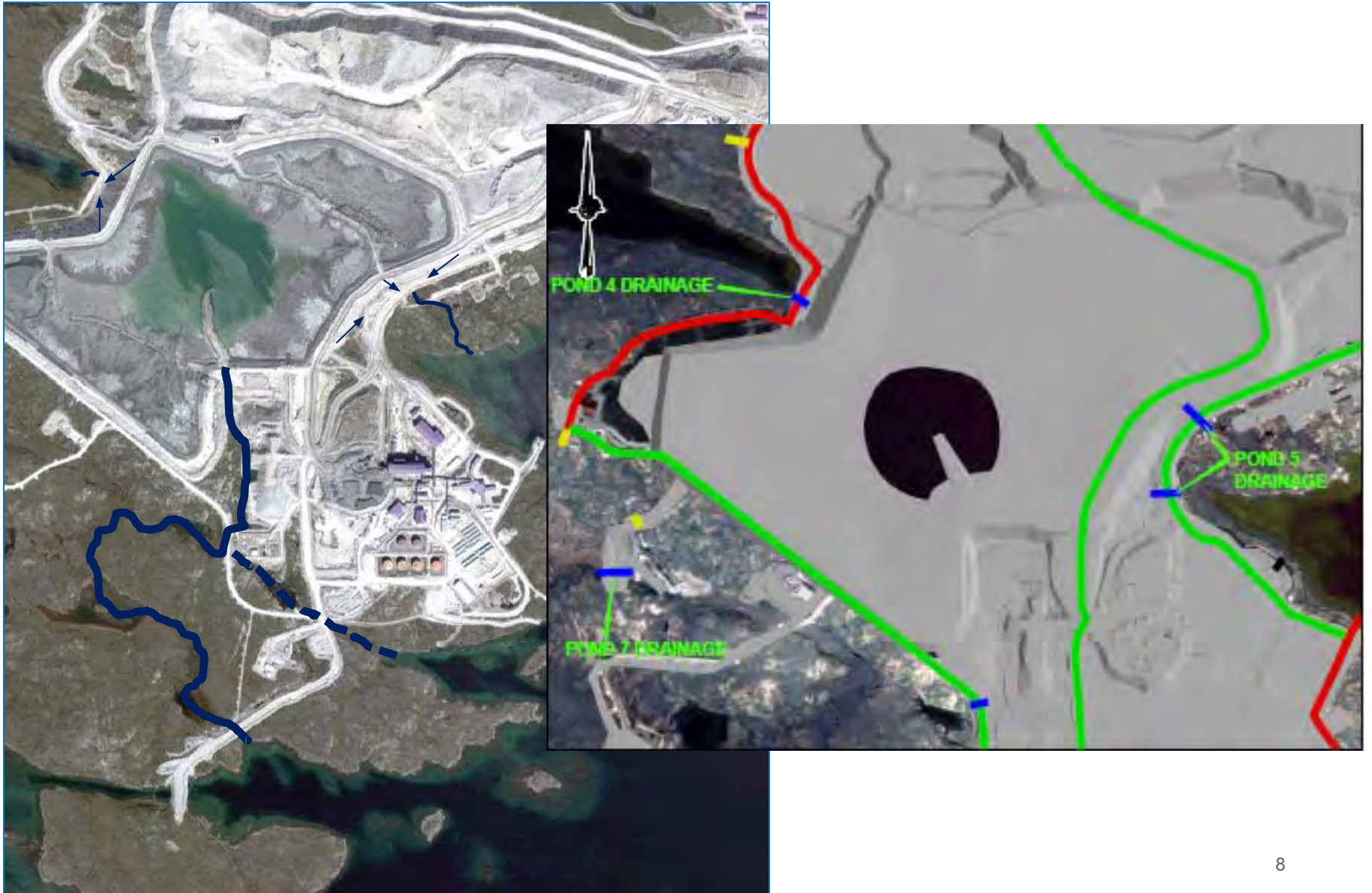
What will it look like at closure?



What will it look like at closure? NCRP



What will it look like at closure? PKC



What will it look like at closure? North Inlet



Closure WQ – Requested Input from TK Panel

1. What areas would you want to sample, and why? (e.g. migration routes, caribou crossings, ponds, etc.)
2. Would you want to do any type of TK monitoring of WQ on the island?
3. Are there features that would help clean/heal water draining from the land?

Appendix I

TK Panel Fish Habitat Presentation

Diavik Diamond Mines

**Open Pit Closure - Fish Habitat & Shoreline Construction
TK Panel Discussion – December 2015**



Open Pit Closure and Fish Habitat Construction

Content

What do the open pits look like now?

- A154 & A418
-

What did the open pits look like before?

- A154 & A418
-

What will the open pits look like at closure?

Reef Building – what does it look like so far?

Key Questions for the Panel

A154 & A418 – What do they look like now?



A154 & A418 – What did they used to look like?



A154 & A418 – What did they used to look like?



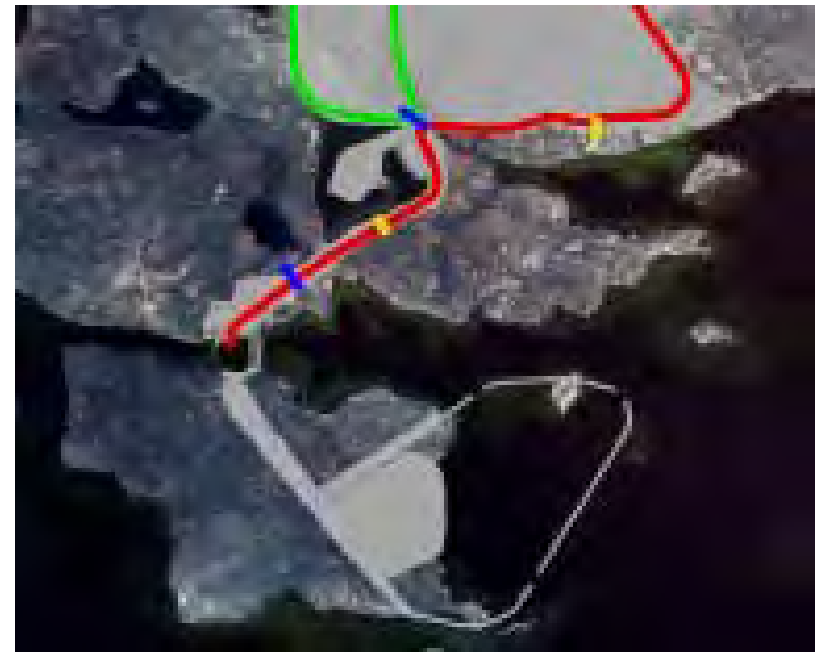
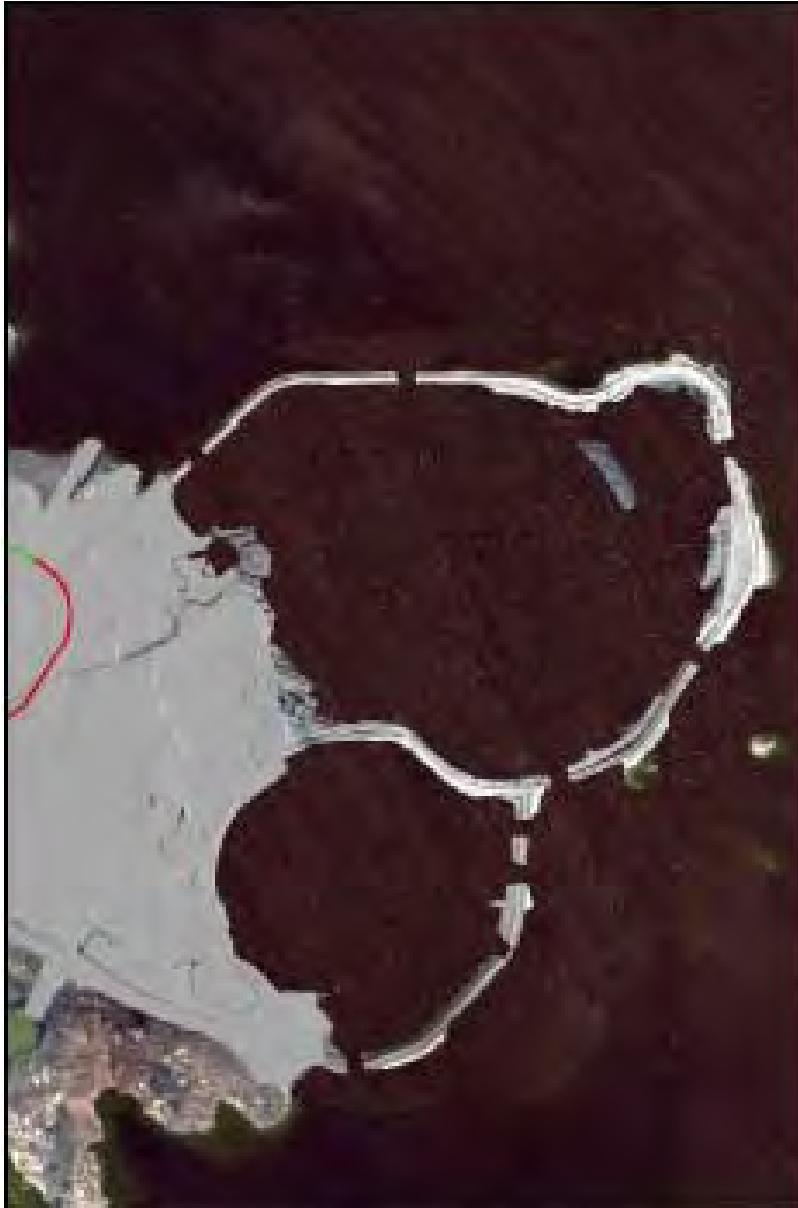
A154 & A418 – What did they used to look like?



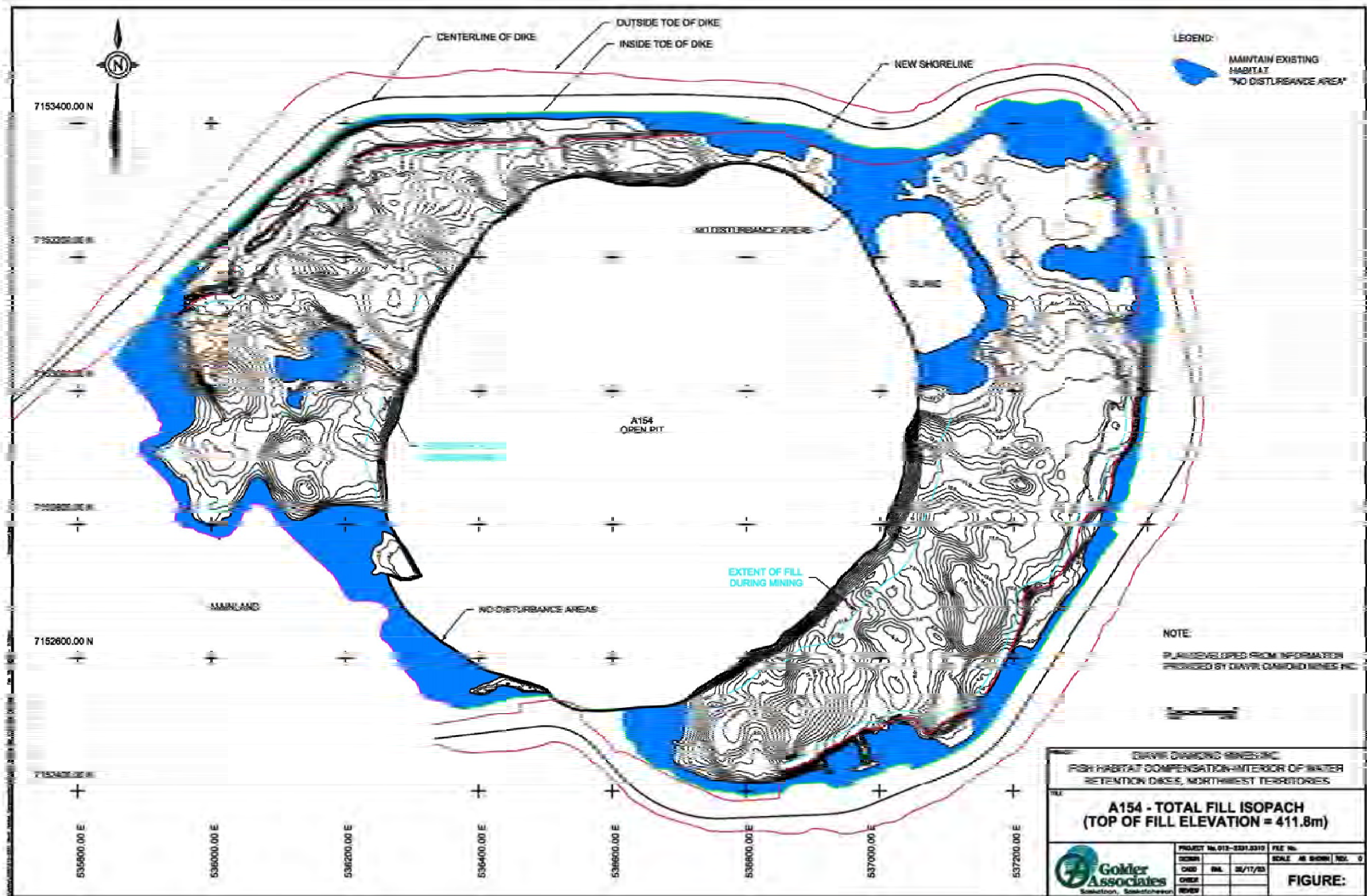
A154 & A418 – What did they used to look like?



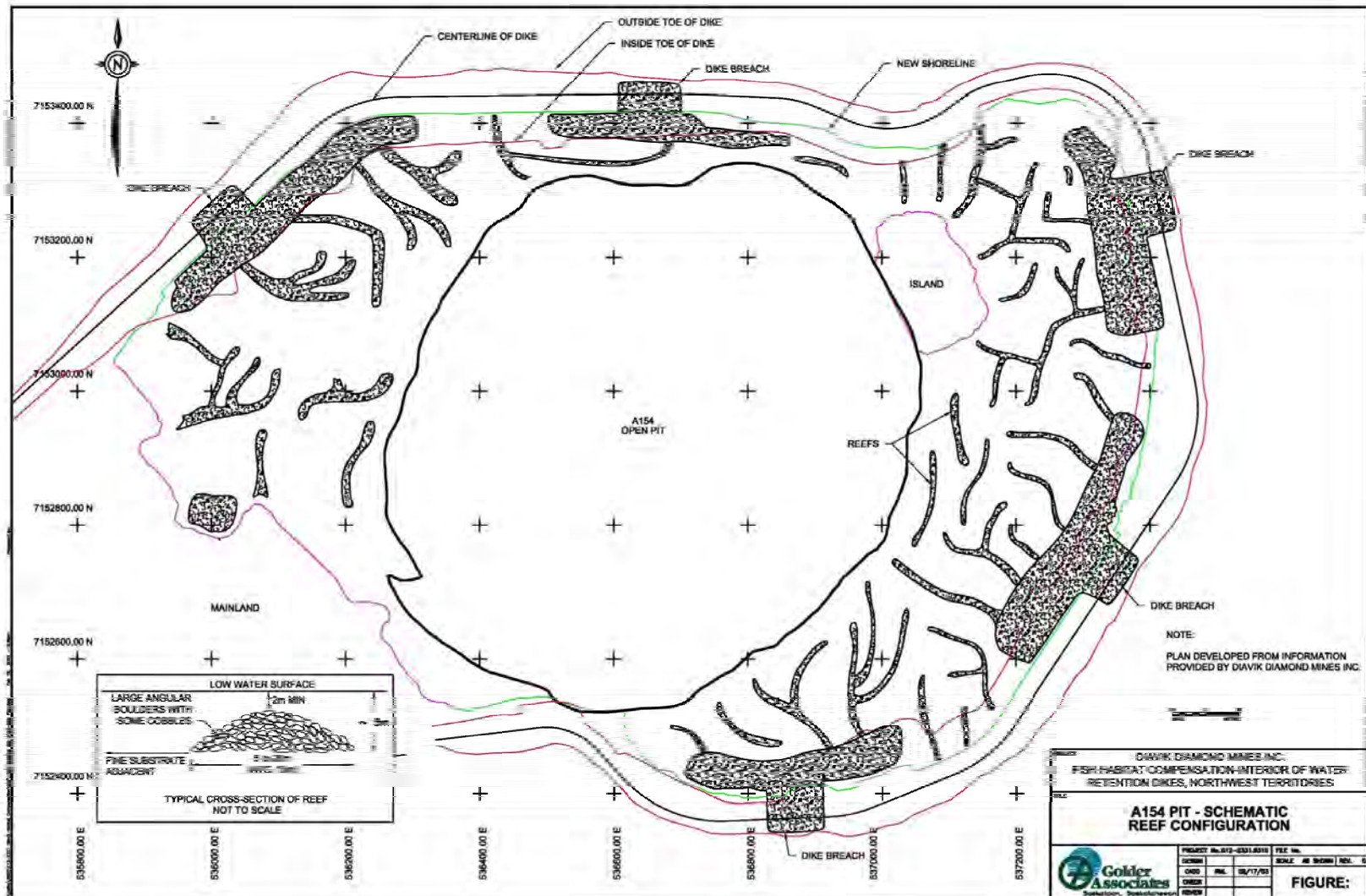
What will the open pits look like at closure?



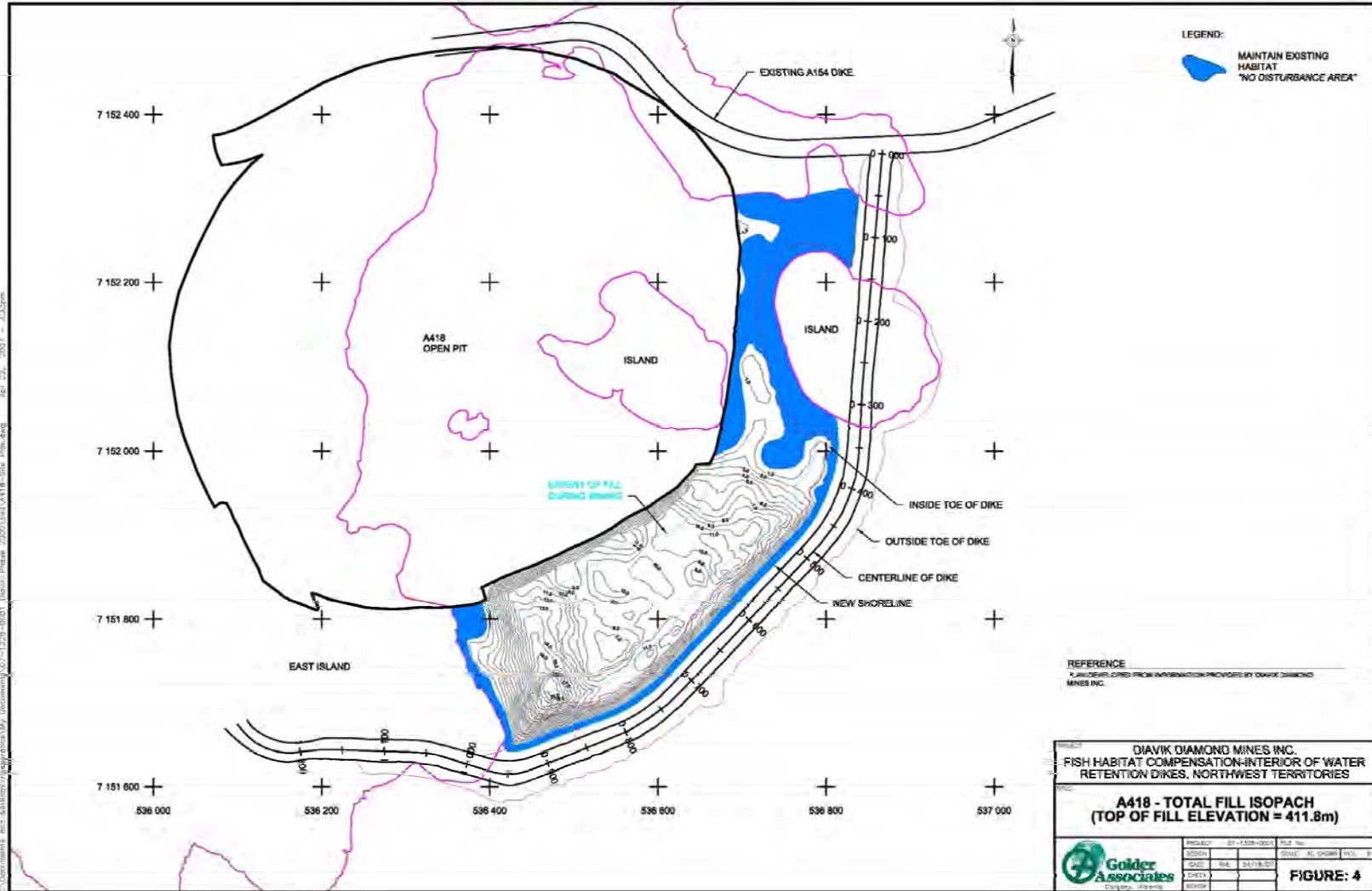
A154 Design



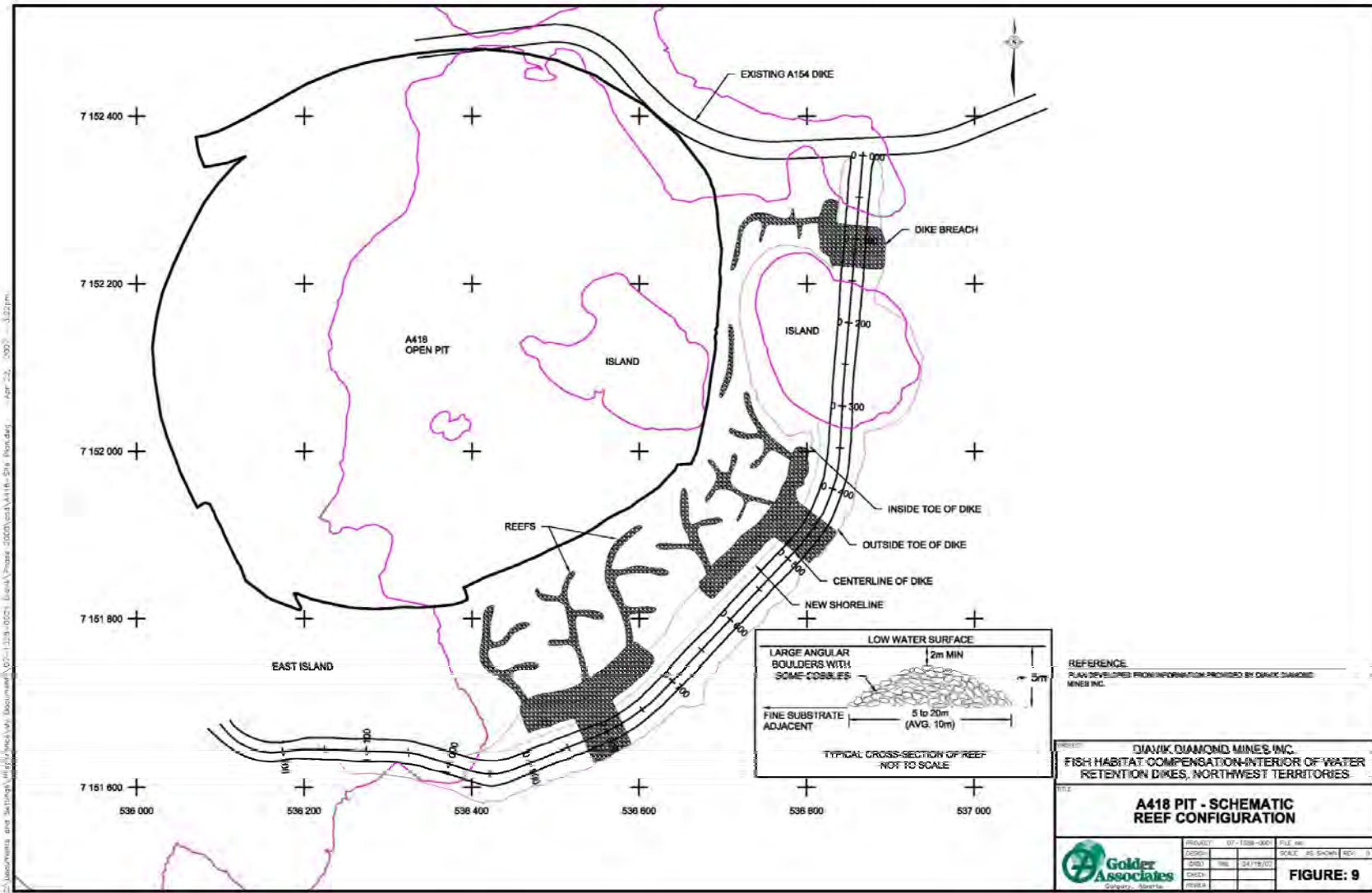
A154 Design



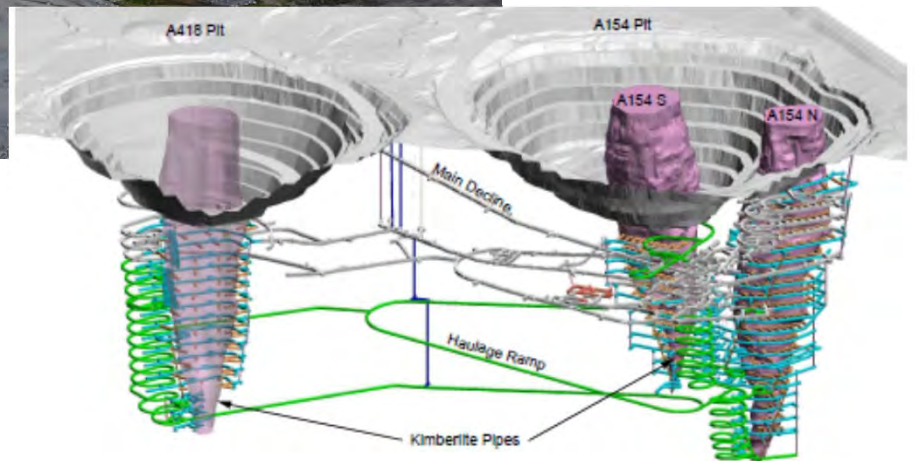
A418 Design



A418 Design



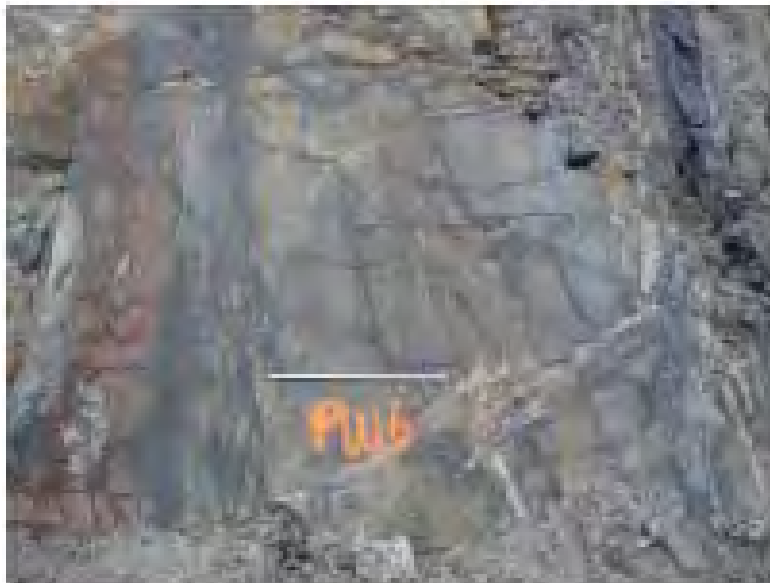
What will be underneath the water?



Pit Wall Washing

Results suggest that for all scenarios, Lac de Gras water quality dominates the overall pit water quality

Dry (pre-rinse)



Wet (post-rinse)



Where?



Building a reef base



Questions for the Panel

Reefs:

- What are the best shapes for shoals?
- How close/far from land are they ideally located?
- What size of rocks are they made of?
- How big are they?
- Are/how are reefs connected?
- How deep should they be?

Shoreline:

- What should it look like?
- Safe access for wildlife?

Appendix J

Fisheries and Oceans Canada Presentation



Artificial Reefs as Offsetting in the North

Julie Marentette

Fisheries and Oceans Canada

TK Panel Meeting, December 3, 2015

Image credit J. Fitzsimons



Outline

- DFO – Fisheries Protection Program
 - Mandate, legislation, policy
- Offsetting Measures
- Artificial Reefs
 - Use in the South and North
 - Characteristics
 - Monitoring
- Examples from the North
- Questions at the end



DFO's Fisheries Protection Program - Mandate

The **mandate** of the Fisheries Protection Program is to maintain the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries.





Legislation and Policy

- ***Fisheries Act***
 - Section 35
 - Prohibits *serious harm to fish*
 - Allows for Authorization of impacts with conditions, including *offsetting*
- ***Species at Risk Act***
- **Fisheries Protection Policy Statement** (2013)
 - Guidance on implementing the fisheries protection provisions of *Fisheries Act*
- **Fisheries Productivity Investment Policy: A Proponent's Guide to Offsetting** (2013)
 - Guidance on measures to offset *serious harm to fish*



Offsetting Measures

- Projects designed to counterbalance unavoidable *serious harm to fish*
- Goal: maintain or improve the productivity of the commercial, recreational and Aboriginal fishery.
- Can take a variety of forms.
- An enforceable condition of Authorization.



Artificial Reefs

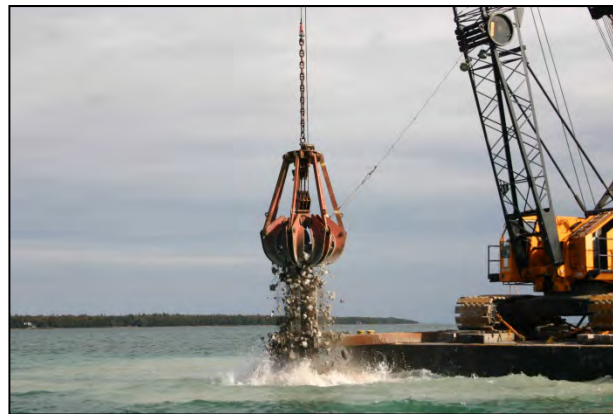
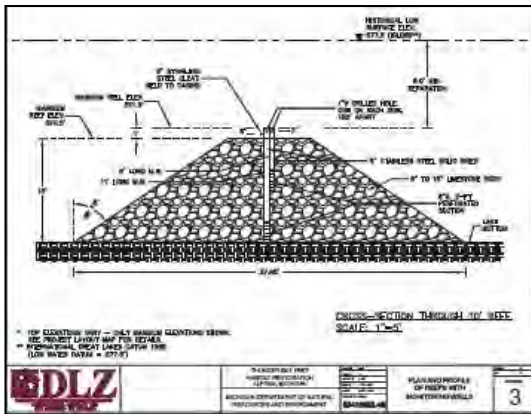
Built-up areas of coarse substrate

Oak Creek Power Plant (Lake Michigan) – image credit Chris Houghton



Artificial Reefs in the South

Used in Laurentian Great Lakes since 1980's
Lake Trout, Whitefish (spawning habitat is limited)



Thunder Bay, Michigan, USA (Lake Huron)
<http://www.uvm.edu/rsenr/thunderbay/index.html>



Artificial Reef Use in the North

Reefs have been used for offsetting for impacts to fish habitat in freshwater lakes and the marine environment.



Snap Lake, Jericho, Doris North: Reefs range in size from 100 m² to >1000 m²
Also approved for Diavik, Gahcho Kué and Meadowbank (post-closure)



Desireable Characteristics of Reefs

- Clean, non acid-generating rock
 - Rocks tend to be more similar in size than natural reefs
- Stable, no slumping
- Lots of gaps
 - Shelter for eggs and young fish





Characteristics of Spawning Reefs

- Deeper than ice (generally >2 m)
 - Fall spawners
- Cobbles and boulders, no fine substrate
 - Lake Trout
 - Whitefish/Cisco can also use smaller gravel/sand
- Some wind-wave action
 - slope

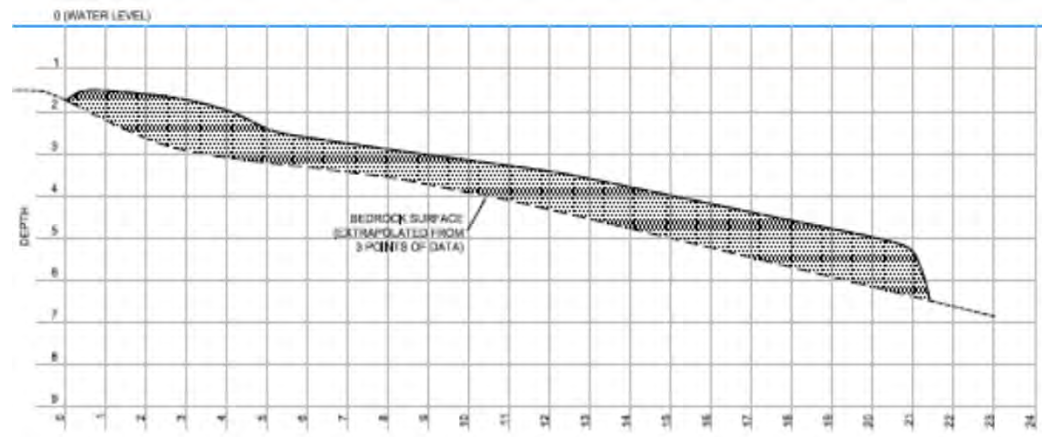
Fitzsimons 1996



Monitoring Reefs

- Verify it is stable
- Compare it to natural reference areas
 - Substrate, depth profile, size, arrangement?

Engineering Plan for Artificial Reef (profile)





When Monitoring for Fish Use

- SPAWNING

- Spawning Adults
 - But are they just passing by?
- Egg abundance
- Water temp/ice depth

- REARING

- Juvenile abundance
- Other fish
- Benthic invertebrates

- Compare to reference areas



Smokorowski et al. 2015



Example 1

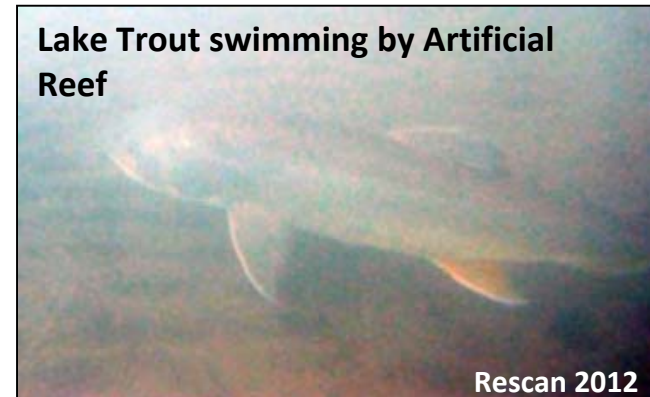
- Snap Lake, 2001
- 100 m²
- Goal: Lake Trout/Whitefish spawning
- DFO Science (Fitzsimons et. al 2012)
 - 30% of reef used by Lake Trout
 - >100 eggs/m²
 - No eggs on reference reefs
 - 2 and 6 years post-construction





Example 2

- Windy Lake, 2011
- Six Shoals (621—1040 m²)
- Goal: Lake Trout rearing/
foraging
- Years 1 2, 3, 5 post-construction
- Physically stable, but few fish
observed nearby
 - Including natural reference shoals
- Similar # of invertebrates to
reference shoals by year 2





Example 3

- Lac de Gras
- Dike exteriors
- DFO Science (Fitzsimons 2013)
 - No eggs retrieved from dikes or nearby reference habitat
 - Loss of 'artificial eggs' from egg nets → very strong currents





Summary

- Artificial reefs can be successful offsetting measures (depends on the project)
- Goal of the reef (spawning, rearing, foraging) determines how it is built and monitored
- Need to consider what natural reefs/shoals are like in the area (and where fish like to go)



Thank you!

Questions and comments?

Image credit J. Fitzsimons

Appendix K

TK Panel #8 Recommendations Presented to DDMI

Traditional Knowledge Panel

Session 8

DRAFT Presentation to DDMI

December 4, 2015

Observations and Comments:

Fish

- Fish can hear and feel what you are doing on the ice (e.g. skidoos, walking on ice)
- Fish need shorelines that provide a source of oxygen
- Pressure ridges and open water attract fish during the winter; making holes on ice can mimic pressure ridges (as an oxygen source); consider this when constructing the reef

Observations and Comments: Water

- Bugs in the water are an indicator of health
- Important to monitor water continually even after closure
- Moon cycles affect water flow and currents
- If animals won't drink from the pits after they are filled, this is an indicator of a problem
- You can use a fish line as an indicator of current and watch how it changes; it is important to understand currents in LdG and LdS

Observations and Comments:

AEMP

- Use Diavik and TK Panel as a model for TK / WS collaboration in monitoring
- Explore model of “Watchers of the Land” from LKDFN for future monitoring and learning opportunities from Aurora College, ENR – GC initiative, BEAHR, etc.
- Youth need to be trained in monitoring starting today.

Observations and Comments:

Reefs or Shoals

- Minnows prefer gravel over fine, sandy material and they won't go into deep areas
- Currents are a key determining factor in spawning site selection and successful spawning
- Fish lay eggs in shallow areas
- We need to be clear on what makes a good habitat for spawning, rearing, resting and feeding
- Currents can shift around reefs
- Snow and ice will accumulate on top of reefs; ice is not as thick as in middle of lake (due to insulation)

Observations and Comments: Shorelines

- Cliffs on shoreline in Pit A418 are a concern for caribou and other animals, especially when being chased
- Shoreline around Pit A154 looks okay with the current vegetation
- Shifting ice can alter shorelines

Observations and Comments:

General

- Mice, ground squirrels, and ermine help to clean land and water
- Water quality *and* quantity are both important issues
- Visiting disturbed sites (e.g. camp at Pellatt Lake) would be a good way to see natural regeneration
- Dust is a concern and should be monitored in the land, water and air

Observations and Comments: General

- Water is more precious than diamonds
- Warmer winters lead to more pressure ridges
- Practice energy efficiency today (*Note: Added after review of workshop notes, January, 2015*)

AEMP TK Study Recommendations

1. Maintain current camp site until at least 2018
2. Consider options to donate camp facilities to people traveling to LdG after the mine closes
3. In future programs, document why certain fish are rejected by elders
4. Water testing should be done by tasting fresh water and by boiling the water, letting it set overnight and drinking it the following day (observe scum and clarity)

AEMP TK Study Recommendations

5. Set fish nets on both sides of the island
6. Ensure two elders and two youth from each group attend future camps and meetings
7. Sample fish and water from the Narrows (In both LdG and LdS)
8. Consider additional water sampling locations from different areas

On Island Recommendations

9. Do not breach dikes until the TK Panel is satisfied with the water quality through visual inspection and reviewing results from scientific analysis
10. Focus water quality monitoring on the NCRP
11. Monitor and filter two streams from the east and west sides of the PKC by Mother Nature through mosses, bogs; moss should be placed throughout channel. In the short term, install industry filtering system. Monitor this water quality.
12. Monitor fish spawning areas closely, especially in the SE part of island (i.e. area just south of the pits)
13. Monitor and test water in pits and around East Island regularly

On Island Recommendations

14. Regularly stock on-island pond water with bugs to improve water quality
15. Test water scientifically and not by tasting
16. Regularly measure heavy metals all around island
17. Monitor water in late May and early June as these are critical times (i.e. melt)
18. Regularly measure water quality in all bays, drainage and run-off
19. Annually check for algae growth around shorelines as too much can be an indicator that there is less oxygen for the fish

On Island Recommendations

20. Leave the land between the pits and the dikes as it is for natural regrowth when flooding
21. Leave dikes as they are (i.e. do not modify the slope or current construction)

Reefs Recommendations

- 22. Vary depths of built reefs
- 23. Don't build or minimize building reefs on previous lake bottom areas inside dike area (i.e. protect undisturbed and naturally vegetated areas)
- 24. Ensure good fish habitat for rearing, feeding and resting on reefs inside dike
- 25. Stock water in open pits with bugs to improve water quality

Shoreline Recommendations

26. Provide opportunity for the TK Panel to view the present shoreline when snow-free to consider further recommendations (in spring)
27. Break-up the 1 km cliff on pit A418 with slopes (to make it safe for caribou)
28. Leave current roads into the pits (e.g. A154)

General Recommendations

29. Explore long term monitoring options including how to coordinate and administer an ongoing post-2030 program that continues to integrate TK and science, involves both elders and youth trained in science (consider funding, and if some of the bond can be used)
30. Ensure long term scientific monitoring of NCRP to determine if it remains frozen and stable
31. Continue to provide TK Panel with teaching and communication 'tools' (i.e. videos, books, photos), to share progress and findings on closure planning with communities

General Recommendations

32. Plan for climate change hundreds of years into the future
33. Re-seed land and use dirt and *safe* sewage to facilitate re-growth

Questions for Diavik

- What if contaminated water flows downstream to Kugluktuk? – DDMI has to have controls and monitoring on the Island; too late if it were to get to Kugluktuk
- What will be left behind from operations underground or in the pits? – DDMI presently making an inventory of what has to come out versus what we can leave behind; starting planning and discussions with regulators
- How many streams and rivers flow into LDG? – DDMI will report this back to the TK Panel

Questions addressed by Diavik

- What do you mean by “bad” water? – Ground water is saltier than lake water
- Will the pit walls be washed? – No, tests have shown that it won’t make a difference
- How long will it take to fill pits? - Approx. 6 mos.
- Will filling the pits change the water level of LdG? - By 1 to 2 cm
- How deep and wide will dike breaches be? – Approx. 30 m wide and 2-3 m below low water depth

Questions addressed by Diavik

- What are the chemicals in the sewage? -
DDMI will report this back to the TK Panel

Appendix L

TK Panel Process Presentation

Diavik Diamond Mines

TK Panel Session #8 – next steps

December 2015



TK Panel Topics & Schedule Suggestions

Session	Original Plan (2013)	Completed & Revised Plan
6	PKC	PKC
7	Re-vegetation	Re-vegetation
8	Review of Closure Landscape	Fish Habitat Design & Water Quality
9	Post-closure monitoring: Wildlife & Water	Post-closure Wildlife Monitoring (Apr/May 2016 - site)
10	Fish Habitat Design Reviews	Closure Plan Update & Landscape Overview (Aug 2016 - Yk)

The next update for Diavik's closure plan is due at the end of 2016

Appendix M

TK Panel Session #8 Evaluation Summary

2015 Diavik TK Panel, Session 8: Evaluation Form Summary

Question	Very Good	Good	Neither Good nor Poor	Poor	Very Poor	Total Responses	Comments
How would you rate the session for working and communicating together?	11	3	0	0	0	14	
How would you rate the session for mutual respect among participants?	11	3	0	0	0	14	
How would you rate the recording of TK during the session?	10	2	1	0	1	14	Translations
How would you rate the facilitation of the session?	10	2	1	0	0	13	1 unanswered
How would you rate the outcomes and findings of the session?	10	4	0	0	0	14	
How would you rate the venue and food for the session?	10	1	2	0	0	13	1 missed
How would you rate the logistics for the session (e.g. hotel, travel, honoraria)	10	2	1	0	0	13	1 missed
Overall, how would you rate the session?	11	2	0	0	0	13	1 missed

Question	Too long/ many	Enough	Too short/few	Total Responses	Comments
How would you rate the opportunities for you to share your knowledge and experiences?	3	11	0	14	
How would you rate the amount of time to discuss the topics during the session?	1	9	3	13	1 missed

What were the strengths of the session? What did you enjoy most about the session?

- *The feedback*
- *All the feedback and understandable info*
- *Everything good*
- *Very informative*
- *Everything was clear and not rushed; happy with the outcome*
- *Listening to the Elders; some of them had pretty awesome stories*
- *Enjoyed the group discussions, interacting with youth/Elders opinions; Elders hold stories from the past, youth bring with them modern information*
- *Meeting good friends from all over the North*
- *Being positive and making connections with other people from different communities*
- *Coming to solutions for problems*
- *Traditional Knowledge*
- *You all do a fine job*
- *Always repeating questions and giving time to go over issues until we were clear on our answers*

How could the session be improved?

- *More youth representation and involvement*
- *Having more youth participants*
- *On site next time*
- *Have more of these types of sessions on TK*
- *Providing more information to the mines*
- *More space for meeting*
- *More meetings with Diavik*
- *Lunch at the meeting*