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NUNAVUT IMPACT REVIEW BOARD
FINAL HEARING CONFERENCE FOR THE JERICO DIAMOND
PROJECT

JANUARY 6, 2004 VOLUME 2

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NIRB FILE NO. 00MN059

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1 (COMMENCED AT 9:10 A.M.)

2 OPENING REMARKS AND PRELIMINARY MATTERS:

3 CHAIRPERSON: Good morning, everybody.

4 Welcome to day two. Before we start, I'm going to

5 ask Peter Paneak to give the opening prayer.

6 (OPENING PRAYER)

7 Thank you, Peter. Good morning and welcome

8 to those who have just joined us and for those who

9 have just arrived. I understand the Yellowknife

10 Dene First Nation, one of them arrived, good

11 morning.

12 To the final -- welcome to the final hearing

13 conference for the Jericho Diamond Project. I will

14 just give a brief description of the application.

15 This is NIRB file number 00MN059. The project

16 being proposed by Tahera Corporation is for a

17 diamond mine, the Jericho diamond mine located in

18 the Jericho watershed at the north end of Contwoyto

19 Lake. The goal of the project is to extract the

20 Jericho kimberlite reserves by way of open pit and

21 underground mining, full scale extraction to be

22 expected in 2005 with the mine to close and be

23 reclaimed in 2013.

24 The mine will engage in continued exploration

25 and the development of prospective kimberlite pipes

26 in the area with the possibility of extending the

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1 operating life of the mine past the eight-year

2 period currently projected. The project, while
3 utilizing some exiting infrastructure, will require
4 the construction of additional elements associated
5 with mining and production.
6 I will now give a roll call. In attendance
7 in this hearing is the Tahera Corporation, the
8 Kitikmeot Inuit Association, Nunavut Tunngavik
9 Incorporated. Government of Nunavut, no?
10 Department of Fisheries and Oceans, Health Canada,
11 Department of Indian and Northern Affairs,
12 Environment Canada, Natural Resources Canada, the
13 Yellowknife Dene First Nations, local hamlet
14 council and citizens.
15 Elders, you are free to ask any questions or
16 make comments at any time. And before we start
17 with questions from KIA and other parties, Bill
18 Tilleman, you had some comments?
19 MR. TILLEMAN: Thank you, Madam Chair,
20 just a couple, and it was on the matter of filing
21 the exhibits. And I spoke with counsel for Tahera
22 just before the hearing today, and they will be
23 filing either later today or tomorrow certain
24 things that we discussed yesterday, CVs,
25 summarizing the charts or maps that are on the wall
26 and marking those through the court reporter as

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1 exhibits. And other information towards the end of
2 day that they were asked to provide, I understand
3 they will be doing that as soon as they can.
4 And so then the only other thing, Madam
5 Chair, that I have is that in the submissions
6 yesterday and the written material, we, the Board
7 had references made to the Ekati mine, the Diavik
8 mine and Snap Lake, and I wonder if, through the
9 Department of Indian and Northern Affairs, we could
10 get a couple of these final EISs and the Minister's
11 letter that would have been, then, the final
12 decision so that the Board can see on the record
13 what the Minister said and what the Board said
14 itself. I appreciate the Board is in the Mackenzie
15 Valley, but these are diamond mines as well, and so
16 having been referenced, it would be helpful,
17 subject to any objections to the parties to have
18 those filed.
19 And I haven't yet had a chance to talk to Mr.
20 Traynor, but they can address whether or not that's
21 an issue to get that up here, and if it is, then
22 the Board can deal with it at that time. That's it
23 from my perspective.
24 CHAIRPERSON: Do you want that now or
25 sometime today?
26 MR. TILLEMAN: Well, to some extent we

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1 have to give the parties a chance to call their
2 offices and so, you know, sometime today

3 Mr. Traynor can come up and let us know how he can
4 get a hold of those.
5 MR. TRAYNOR: Stephen Traynor, DIAND
6 Nunavut regional office. Can I just get
7 clarification from legal counsel, you said the
8 Minister's letter and final EISs? As you can well
9 appreciate, looking at the binders over there,
10 there are certainly probably a wealth of
11 information, and do you just want the final EIS,
12 all the supplemental information, or what do you
13 perceive as important?
14 MR. TILLEMAN: Thanks very much, Steve,
15 that's a good question, and it would be just the
16 final document without supporting appendices and
17 the Minister's letter, which would be the decision
18 stating we accept these recommendations or these we
19 don't accept.
20 MR. TRAYNOR: Stephen Traynor, again.
21 Just for further clarification, will it then be the
22 Board communicated with the NEVIRB to ask for their
23 final submission to the Minister? Because that
24 seems to be the missing link in the chain.
25 MR. TILLEMAN: My advice to the Board is
26 they don't communicate with anyone outside of the

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1 hearing room, so I don't know the full chronology
2 of the events in terms of what other correspondence
3 might be relevant. I just understand, first of
4 all, in terms of Ekati and Diavik, those are
5 already seven years old, so there shouldn't be any
6 missing links left. Snap Lake I don't know, but I
7 understand that has gone to the Minister and that
8 that was accepted, and so the minister's letter
9 would have come back. And so the most recent
10 correspondence we have from the Minister, who is a
11 decision maker, is what we would like.
12 MR. TRAYNOR: Okay. I will endeavour to
13 call the office today and see what we can do to get
14 that information for you.
15 MR. TILLEMAN: Okay. And then, Madam
16 Chair, and then we should get it marked accordingly
17 as an exhibit.
18 CHAIRPERSON: Okay. Thank you. And
19 everybody, when you come in each morning or in the
20 evening, please sign in before we start every day.
21 So if you haven't signed in, please do so with
22 Gladys.
23 Okay. Now, for our questions, I believe KIA
24 had some questions.
25 MR. DONIHEE: John Donihee for the
26 Kitikmeot Inuit Association. Madam Chair, we

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1 reviewed the materials last night, and we are
2 finished with questioning. Thank you.
3 CHAIRPERSON: Thank you. Any questions

4 from Health Canada? Anybody from Health Canada
5 come in? No. Environment Canada?
6 ENVIRONMENT CANADA QUESTIONS TAHERA CORPORATION:
7 MS. WILSON: Good morning. It is Anne
8 Wilson with Environment Canada.
9 I would like to apologize for not being here
10 yesterday. Some of my questions may have been
11 answered, but I might have missed it. And they are
12 to do mainly with the water quality presentations,
13 which I went through the materials last night and
14 this morning.
15 The water management now has Pond A
16 collecting water at the mine closure, this pond has
17 been referred to as an exfiltration pond. I'm just
18 a little confused there as to how this pond is
19 supposed to work, because the other thing I saw
20 referred to was a diffuser in Carat Lake, if you
21 can just clarify that for me?
22 MR. MISSAL: Greg Missal with Tahera
23 Corporation. Pardon me, Madam Chair, we are just
24 finding the appropriate responder for this.
25 Madam Chair, could I just ask the question to
26 be repeated? I didn't quite hear the start of

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1 that.
2 MS. WILSON: Anne Wilson, Environment
3 Canada. On page 7 of, I believe, it is Bruce Ott's
4 slides, the top slide states that there will be
5 exfiltration from Pond A if water meets aquatic
6 life guidelines. The next bullet then refers to
7 discharge through a diffuser to provide dilution.
8 My understanding is that Pond A is an impermeable
9 pond designed to collect and contain water. How
10 will that be an exfiltration pond? And then I have
11 got further points to the question, but we will
12 start with that.
13 MR. SCOTT: Cam Scott, SRK. The
14 decision of the movement of water during operations
15 will be one of water quality. It won't operate, in
16 my mind, what I will call exfiltration, it will be
17 an overflow, you will allow the water, if the water
18 is good enough, you will allow it to overflow
19 through a spillway notch of some sort because the
20 pond is essentially lined.
21 Q Anne Wilson. That confirms that it is not an
22 exfiltration pond, there is a loss point of control
23 for the water.
24 If a diffuser is used, will that be active
25 pumping, and how will that fit into the postclosure
26 walk-away situation?

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1 MR. McCREATH: Pete McCreath, Clearwater
2 Consultants. During operations, all water that's
3 collected in Pond A will be directed towards the
4 PKCA, as will the water that's collected in Ponds B

5 and C, so everything is being directed to the PKCA
6 for final release from that area towards Lake C3.
7 During the closure period, after the pit is
8 filled, then, again, depending on water quality,
9 the diffuser would be used as a contingency to
10 release water from the system. This is after the
11 water is now directed to the open pit, so as the
12 operational phase, everything directed to the PKCA.
13 The closure phase, water allowed to drain to the
14 pit.
15 Q Anne Wilson. To clarify, it would be active
16 pumping through a diffuser?
17 A At the moment, our concept is that it will be a
18 passive system.
19 Q My next question is for Rick Pattenden, I believe.
20 I'm wondering if you can clarify the extent of
21 sedimentation that can be expected in Carat Lake
22 during construction of the C1 diversion?
23 MR. PATTENDEN: Rick Pattenden, Mainstream
24 Aquatics. The quantity of sediments produced
25 during the initial in-filling of the diversion
26 hasn't been estimated. That would be a very

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1 difficult number to establish.
2 What Tahera has committed to is best
3 management practices to mitigate any potential
4 sediments that are produced during the initial
5 in-filling. If sediments are produced during
6 in-filling, the duration should be very brief as
7 the diversion channel establishes its flow regime.
8 Q Anne Wilson. Can you describe the mitigation
9 measures which might be used?
10 A Obviously depending -- Rick Pattenden, Mainstream.
11 Depending on the flow volumes, silt fences would be
12 the only appropriate measure. If the flow volumes
13 are too great, a containment of sediments wouldn't
14 be possible, but I have to stress that the amount
15 of sediments, not predicted, but thought to be
16 produced would be rather small. I would indicate,
17 if you need a bit more detail on the design of the
18 diversion channel, SRK could address that question.
19 Q Okay. Thank you. Anne Wilson again. Also for
20 Rick, it looks to me based on the -- yesterday's
21 presentation that the zooplankton and phytoplankton
22 will be monitored for taxonomy for the zooplankton
23 and biomass for phytoplankton, that would have been
24 one of our requests in our technical submission,
25 and this is new information?
26 A Rick Pattenden, Mainstream Aquatics. That's

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1 correct, Tahera has decided to include those
2 parameters.
3 Q Anne Wilson. My last question is to do with total
4 dissolved solids. I'm looking at the Mainstream
5 Aquatics report that was dated October 3rd and

6 gives some estimates of mine discharge
7 constituents. The postclosure levels of TDS are
8 expected to be very high, in the level of 1200
9 milligrams per litre. Post-mitigation
10 concentrations are approximately 35 milligrams per
11 litre. I couldn't find how they were to be
12 mitigated. What process will drop them to those
13 levels?
14 MR. OTT: Bruce Ott, AMEC. During
15 operation where the numbers that came back were
16 based on the dilution model, right, so we are
17 looking at around 1000 milligrams per litre
18 approximately from the PKCA, and then we are
19 looking at dilution.
20 Q Anne Wilson. If the postclosure flow is through
21 the pit, though, how does that change? Will it
22 still be the 1200 or you will still be relying on
23 dilution in Carat Lake?
24 A Bruce Ott in AMEC. The difference in the numbers
25 there, Anne, you realize, of course, these are
26 estimates based on bench scale tests and then

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1 scaled up.
2 To me, there is no difference using the
3 precision that we have between 1000 and 1200, and
4 essentially and what we are saying is that when the
5 water flows from the pit, we are not looking at
6 dilution. We are looking at dilution through Lake
7 C3 and into Carat Lake during operation. When the
8 pit -- when the water exfiltrates, it is just
9 coming straight from the pit, and so you would
10 expect -- what we are predicting, at any rate,
11 based on the information we have now from these
12 bench scale tests, is that the TDS will be at
13 approximately in that thousand milligrams per litre
14 range.
15 Q Anne Wilson again. Has Tahera done any predictions
16 of what buildup there will be in Carat Lake over
17 time following the contributions from the pit
18 postclosure?
19 A Bruce Ott, AMEC. No, we have not. The Board
20 should note that flowthrough, a normal flowthrough
21 through Carat Lake is that the water is exchanged
22 completely in about one year, so we wouldn't expect
23 a lot of buildup unless you have a series of low
24 flow years.
25 Q Anne Wilson. Just to confirm that there will be no
26 flow between the pit during under ice conditions

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1 postclosure?
2 A Bruce Ott, AMEC. That's correct. The flow from --
3 out from the pit would be relatively shallow. The
4 only way that one could have flow under ice would
5 be to have some sort of pipe coming from below the
6 ice level, which would be plus or minus two meters,

7 out through a channel at that depth into Carat Lake
8 and out some estimated 30 or 40 meters into the
9 lake itself.
10 MS. WILSON: Okay, that's all the
11 questions I have right now. There will be a few
12 more that come up in our intervention. Thank you.
13 CHAIRPERSON: Any questions from the
14 Yellowknife First Nation?
15 MR. BYERS: Thank you, Madam Chair.
16 Due to unforeseen circumstances, as you know, I was
17 not able to be here to hear the Tahera presentation
18 of yesterday. I am hoping there is not too much in
19 the way of new information that was given. As far
20 as any questions outstanding from the original EIS
21 and subsequent documents, those will be entailed in
22 our intervention.
23 But while I'm here, I would like to take this
24 opportunity, not as a consultant for the
25 Yellowknives Dene First Nation but as a director on
26 the Independent Environmental Monitoring Agency,

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1 those of you that don't know, the Independent
2 Environmental Monitoring Agency is a watchdog
3 agency set up by the environmental agreement for
4 the BHP Billiton diamond mine, and I would like to
5 update the Board and other interested parties on
6 some outdated information contained in the summary
7 document of Tahera, and that is that the IEMA, the
8 Independent Environmental Monitoring Agency, has
9 had no concerns about air quality from the BHP
10 Billiton mine. That information was correctly
11 stated from our 1999 --
12 MR. CAVANAGH: Madam Chair, on behalf of
13 DIAND we would object to this.
14 (OBJECTION)
15 CHAIRPERSON: Come to the microphone.
16 Thank you.
17 MR. CAVANAGH: Norm Cavanagh, legal
18 counsel for DIAND. We would object to this
19 presentation as it was not part of the
20 interventions identified at the beginning.
21 CHAIRPERSON: Bill Tilleman?
22 MR. TILLEMAN: I mean, they are both
23 right. I hate to say that, but we either hear it
24 now or we hear it later. So, Mr. Byers, I don't
25 know what to say.
26 Mr. Donihee, do you have a question before we

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1 decide?
2 MR. DONIHEE: John Donihee on behalf of
3 KIA. It seems to me we have heard new information
4 from the proponent, I don't see why DIAND would
5 object to some new information from the IEMA .
6 MR. TRAYNOR: Stephen Traynor, DIAND. It
7 is just we would like to respect the order of

8 positioning, and as it was that slot for the
9 Yellowknives Dene, it would then be appropriate to
10 cycle through, and once all the other individuals
11 that were here yesterday and people that made
12 claim, we would then ask if there is anybody else
13 available. That was really our objection to being
14 slotted in before anyone else had the appropriate
15 opportunities since they are a -- basically a new
16 person today.
17 MR. TILLEMAN: So I'm not sure where that
18 leaves the Board. Someone always wants to be last
19 for the reason that he just stated. Mr. Byers,
20 maybe -- and my advice, Madam Chair, to you is
21 that, you know, if they are strong objections to
22 hear his position now, than just wait and hear it
23 later, but he should have an opportunity to speak.
24 CHAIRPERSON: Yes, I would advise. Well,
25 we would like to hear from you. We are going to
26 ask from any citizen, like, what other questions

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1 you might have, what other comments you might have,
2 so go ahead, thank you.
3 MR. BYERS: Actually, I wasn't going to
4 present anything. All that I wanted to do now is
5 offer copies of our latest annual report to the
6 Board and to other interested members.
7 Unfortunately, those annual reports are in my bag
8 which didn't make it here, but by tomorrow or later
9 today I hope to have copies of the 2002-2003 annual
10 report of the Independent Environmental Monitoring
11 Agency, and that will give you any information on
12 air quality from the BHP site that anyone is
13 interested in, and that's all I had to say. Thank
14 you.
15 CHAIRPERSON: Bill?
16 MR. TILLEMAN: So then, Madam Chair, my
17 advice is just ask for any comments from the
18 parties if there are any objections to filing the
19 annual report as an exhibit, and if there aren't,
20 my advice is to file it when it comes in. When
21 there are, then my advice is we will make the
22 decision after the break.
23 CHAIRPERSON: Any objections?
24 MR. MISSAL: Madam Chair, Greg Missal
25 with Tahera. I would just like to ask Mr. Byers
26 when that material was available?

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1 MR. BYERS: This is a report that was
2 released only months ago, so I suspect Tahera
3 probably didn't have access to that report, and so
4 my sole reason for bringing this up, of course, is
5 to update those that were interested in that aspect
6 of the executive summary. And as I say, I will
7 have copies available for Tahera and the Board and
8 any other interested members. Thanks.

9 CHAIRPERSON: Greg?
10 MR. MISSAL: Greg Missal with Tahera. I
11 guess I would just like the Board to recognize that
12 that material wasn't available for the production
13 of the Tahera reports for this project, and
14 obviously publishing takes time to do, and we
15 recognize that, but that material wasn't available
16 for this document.
17 CHAIRPERSON: Bill?
18 MR. TILLEMAN: And in so seeing no other
19 objections, my advice is that we file, we don't
20 know what is in it, but it deals with monitoring of
21 the mine, and it might not be helpful, it may not,
22 and so we cut across those issues in the hearing
23 already and will continue to do so. So my advice
24 is that when it becomes available, the Board will
25 file it not having heard objections from any other
26 parties.

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1 CHAIRPERSON: Okay. Thank you. Any
2 questions from the Cambridge Bay hamlet council?
3 Any elders with any comments or questions?
4 Okay. We will carry on. Questions from the
5 Nunavut Impact Review Board Staff? Dionne?
6 BOARD STAFF QUESTIONS TAHERA CORPORATION:
7 MS. FILIATRAULT: Thank you, Madam Chair.
8 Just going through questions to Tahera in the
9 presentation done by Pete on water management, and
10 this deals with the ponds. And my question is will
11 the ponds act as a sink for metals and ammonia, and
12 will this material be treated as contaminated
13 material in the reclamation of the site?
14 MS. SEXSMITH: In the impact assessment we
15 did not -- sorry, my name is Kelly Sexsmith. In
16 the assessment, we did not consider the benefit of
17 ammonia and metals removal into the ponds or the
18 pond sediments. At the time of closure, it would
19 be very easy to sample the soil in those ponds and
20 to determine whether special handling would be
21 required to dispose of that material.
22 But the ponds, I understand, will be filled
23 in, and that material will be covered at closure.
24 Q Dionne. Sorry, Madam Chair, Dionne Filiatrault.
25 In the same report in the discussion of the
26 water balance, there were some discussions with

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1 respect to ice entrainment, and I just sort of
2 alluded to a question that was asked yesterday as
3 far as the impacts at closure, and is there any
4 concern with large ice lenses leading to frost
5 jacking in that system and thus affecting the cover
6 that's going to be placed on the PKCA? And with
7 that, if the materials that are in the PKCA are, as
8 you indicated yesterday, virtually benign, why is a
9 liner being proposed for the PKCA?

10 MR. SCOTT: Cam Scott, SRK. In
11 relation to the question of the liner, the liner is
12 not -- it is not a plastic HTPE impermeable barrier
13 liner, it is essentially a geotextile fabric, and
14 it is provided -- its intention is to provide
15 physical separation between the fine PK and the
16 cover material.
17 The cover material has -- the intention of
18 that is essentially to provide a potential growth
19 medium, it is nothing more than that. So while we
20 don't expect ice jacking to be a concern, in the
21 event there were depressions formed by melting of
22 ice of, perhaps, some formation of additional ice,
23 that is not a problem in the -- relative to the
24 closure concept.
25 CHAIRPERSON: Dionne, you have other
26 questions?

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1 MS. FILIATRAULT: Yes, Madam Chair, I
2 probably have a series of about 20 questions.
3 This is Dionne Filiatrault. In the water
4 quality assessment, when you were discussing the
5 various scenarios that were assessed, and this was
6 the presentation that was given by Bruce Ott, there
7 was a discussion that the potential of aquatic life
8 guidelines would be predicted to be met within 100
9 meters of the mouth of Stream C3, and why can't the
10 last point of control from the PKCA -- why can't
11 the fresh water aquatic life guidelines be met at
12 that point?
13 MR. OTT: Bruce Ott, AMEC. The numbers
14 that were provided for or that were developed from
15 -- for the PKCA discharge are, in my experience,
16 fairly normal for a mining operation. Madam Chair,
17 I'm not aware of any mining operation in Canada or,
18 for that matter, anywhere in the world where
19 receiving environment guidelines are expected to be
20 met at end of pipe.
21 Q Madam Chair, Dionne Filiatrault. In the closure
22 assessment with respect to the actual pit, is there
23 a concern with blast residues on the wall and any
24 ARD potential associated with the pit walls and the
25 water that is then going to be accumulated within
26 the pit?

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1 MS. SEXSMITH: Those are two separate
2 issues. This is Kelly Sexsmith.
3 The ammonia in the rock, there will be a
4 little bit left at the end of mining. Probably by
5 at the time the underground mining is completed
6 four years later, that will have been flushed into
7 the pit sumps and taken out of the system via the
8 PKCA.
9 We have 20 years where the pit is filled with
10 water, and during that time, the ammonia is

11 expected to be degraded to very low levels. So by
12 the time the 20-year period is over with, the pit
13 is ready to spill, ammonia should be at very low
14 levels.

15 There is very low potential in all the rock,
16 including the pit walls, for any acid rock drainage
17 potential, so I don't expect any acidity from that
18 process to be entering the pit postclosure.

19 Q Thank you, Mrs. Chair. This is with reference to
20 the land treatment of mine water, Andre's
21 presentation. I just wanted to know whether or not
22 the spray irrigation being proposed is in any way
23 similar to a snow flow process that was
24 investigated or tested in the north and whether or
25 not the presenter is even familiar with the actual
26 snow flow process?

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1 MR. SOBOLEWSKI Andre Sobolewski. I'm not
2 familiar with this snow flow process. It is worth
3 reminding the Board that the spray irrigation
4 system is a contingency that may not necessarily be
5 utilized.

6 Q Madam Chair, Dionne Filiatrault. In the aquatics
7 information that was presented by Rick Pattenden,
8 one of these statements was that sampling of lakes
9 was done in seasons spring, summer and fall between
10 1995 and 2000. I'm just wondering is does the lack
11 of winter sampling impact on results of the
12 assessment, for example, for dissolved oxygen? And
13 what data do you have for dissolved oxygen?

14 MR. PATTENDEN: Madam Chair, Rick
15 Pattenden, Mainstream Aquatics. Specific to your
16 question about dissolved oxygen, that was not
17 measured during the winter period but was measured
18 during the open-water period. The lack of
19 information of dissolved oxygen during the winter
20 period is not an issue for the impact assessment.
21 However, as far as being able to monitor mine
22 effects during operation, dissolved oxygen should
23 be measured, and Tahera has agreed to do that.

24 Q Madam Chair, thank you. Dionne Filiatrault. You
25 also made reference yesterday, and there was some
26 statements made by DFO in the discussion of the

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1 maximum depth and potential effects to fish, and I
2 believe your maximum depth was 8 meters, and DFO
3 had mentioned that the depth that they have used
4 historically is somewhere in the neighbourhood of
5 3.7 meters, and I am just wondering how would the
6 data potentially change if Tahera used 3.7, and can
7 you discuss possibly the discrepancy between those
8 two numbers?

9 A Rick Pattenden, Mainstream. That is a good
10 question. Simply put, the number used by DFO is
11 generic for the north. My value of eight meters

12 has been developed based on site-specific
13 investigations at Jericho and the Contwoyto Lake
14 area. So I feel my number of eight meters is more
15 appropriate for our region.
16 Having said that, whether the value used is
17 3.7 or 8 meters has no relevance to our impact
18 assessment. That number was never used as a
19 criteria for an impact, it was just, I feel, a
20 difference of professional opinion.
21 MR. TILLEMAN: It is Bill Tilleman. Sorry
22 to interrupt, but I have got to go back to the last
23 question that you answered, let me try to make sure
24 the Board heard your answer correctly, it was with
25 respect to dissolved oxygen. And did I hear you
26 say that dissolved oxygen is not an issue that is

0259

1 to be used by an impact assessment board?
2 MR. PATTENDEN: Rick Pattenden, Mainstream
3 Aquatics. No, I apologize for the confusion.
4 Dissolved oxygen during winter wasn't an issue that
5 had to be dealt with specifically for my component
6 of the impact assessment.
7 MR. TILLEMAN: Thank you.
8 MS. FILIATRAULT: Thank you, Madam Chair.
9 Dionne Filiatrault. This relates to the
10 postclosure and the use of the diffuser. There was
11 some discussion yesterday in the questions that
12 were regarding industry standards, and I'm just
13 wondering what industry standards exist for the use
14 of this type of diffuser?
15 MR. MISSAL: Madam Chair, Greg Missal.
16 I would just like a couple of minutes just to
17 discuss that question with our consultants.
18 CHAIRPERSON: Okay. Maybe we can get
19 back to this question. Do you have any other
20 questions, Bill or Dionne?
21 MS. FILIATRAULT: I mean, you can think about
22 it and maybe come back at a later time if that's
23 more convenient.
24 MR. MCCREATH: Pete McCreath, Clearwater
25 consultants. I am not aware of any specific
26 industry standards with regard to diffusers per se.

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1 The primary concept behind the design of a diffuser
2 is to allow mixing and dilution within a certain
3 area in the immediate vicinity of a diffuser such
4 that any parameters within the flow and the
5 diffuser are dispersed within that mixing zone to
6 acceptable levels.
7 Q I guess probably more to clarify that then is, you
8 know, what confidence is there in -- you talked
9 about a 7-meter radius mixing zone around this
10 diffuser and that there would be no impact. Well,
11 how do you monitor whether or not there is a
12 potential concern there, and what industry

13 standards are -- exist for the monitoring of that
14 water quality in the area of a diffuser in a mixing
15 zone?
16 A Pete McCreath, Clearwater Consultants. The design
17 of diffusers, there have been many diffusers
18 designed around the world both in lake environments
19 and in river environments. The design of a
20 site-specific diffuser depends on the site-specific
21 conditions, how much dilution must be accomplished
22 at each site.
23 In terms of monitoring, I would perhaps defer
24 that to Rick or Bruce.
25 MR. OTT: Bruce Ott, AMEC. We
26 haven't developed, at this point, a specific

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1 monitoring program for the -- if a diffuser ends up
2 being necessary, and that is something that we --
3 that Tahera would certainly need to develop in
4 conjunction with regulatory agencies should it
5 appear from monitoring of water from the pit and
6 the waste rock dumps during mining that it is
7 apparent that simple exfiltration across the tundra
8 would not adequately treat water to meet CCME
9 guidelines.
10 Q Thank you, Madam Chair. Dionne Filiatrault.
11 Questions relating to the air quality assessment.
12 You talked about not being able to collect certain
13 data as far as atmospheric stability classification
14 hourly data. Just to sort of give the Board an
15 overview, what would sort of be the basic cost to
16 set up an isolated climate or meteorological
17 station?
18 MR. HUMPHRIES: Bob Humphries, Levelton.
19 The basic cost of setting up a meteorological
20 station to provide the type of data that we would
21 need for doing dispersion modelling would not be
22 much more than what is currently done to, say,
23 monitor wind and temperature. The main thing is
24 that the anemometer has to be sensitive enough to
25 detect variations in wind direction, because one of
26 the ways we can calculate atmospheric stability is

0262

1 to look at the turbulent structure in the
2 atmosphere, and that's done by looking at the
3 variation or the standard deviation of the wind
4 direction.
5 So if you have the appropriate anemometer,
6 which is about \$800, in addition to what would
7 normally be there, plus your data logger has to be
8 such that it can calculate those numbers, so it has
9 to take samples at a fairly frequent basis and then
10 calculate the standard deviation. When we have
11 that, and typically on other projects we have
12 worked on where we are fortunate to, say, through
13 other ministry, weather sites, that type of

14 information, then we could do typical modelling
15 without having to resort to screening-type weather
16 data.
17 CHAIRPERSON: Bill?
18 MR. TILLEMAN: So simply we are looking
19 for the final cost numbers. So for this site given
20 the parameters you need studied, what would be the
21 cost of a monitoring station?
22 A For a stand-alone station from scratch, I would say
23 you are probably looking at no more than 20,
24 \$25,000. Part of the problem, and I'm not too
25 familiar with stations up in this area, the
26 stations that we have put in in remote areas

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1 usually have a little bit of sunshine available so
2 that you can use solar panels to charge batteries,
3 so power is the key concern.
4 If you are at an inhabited area, then of
5 course you would, perhaps, have power available.
6 If you do have power available, then the cost would
7 come down. So anywhere between 10 and \$20,000
8 could cover it.
9 CHAIRPERSON: Dionne?
10 MS. FILIATRAULT: Dionne Filiatrault. You
11 talked about emission sources and USAP AP-42
12 standard, and I'm just wondering is this AP
13 standard representative of Canada and Nunavut and
14 the Tahera mine site? And having done some
15 research, a lot of that deals with highways and
16 more centrally southerly located regions.
17 A Bob Humphries, Levelton. The USAP AP-42 emission
18 factors are designed for specific types of
19 processes and equipment. For example, if you have
20 a boiler that's burning diesel fuel, what they have
21 done is they have measured emissions from different
22 types of facilities and have put together tables
23 that indicate what kind of emissions for NOX, SO2,
24 carbon dioxide, et cetera.
25 So as far as the equipment type is concerned,
26 it would be applicable no matter where it is, and

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1 also to make sure that the type of fuel is
2 compatible with the fuels that were used in the
3 AP42. So those standards would be valid here as
4 well as anywhere else, provided the equipment is
5 similar.
6 CHAIRPERSON: Dionne?
7 MS. FILIATRAULT: In the conclusions that you
8 drew, I'm just wondering were maximum wind events
9 assessed in the overall assessment? And that's
10 sort of in putting, sort of, an upper threshold on
11 at what point if you had very high wind events,
12 would there then be an impact?
13 A Bob Humphries, Levelton. The maximum
14 concentrations of any particular pollutant, whether

15 it is nitrogen dioxide, sulfur dioxide or
16 particulate matter, is indeed dependant upon the
17 meteorological or the weather conditions. Using
18 this screening data set, every possible type of
19 weather condition was looked at.
20 The high values tended to occur under stable
21 atmospheric conditions. In other words, when the
22 atmospheric stability was set to stable or very
23 stable, that's when most of the higher occurrences
24 would occur. Then you look at the wind directions
25 that would occur at that time, and in the report we
26 give a best estimate as to what percentage of the

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1 time those might be expected to occur.
2 So that's basically how we came up with the
3 conclusions, was looking at the worst cases and
4 then trying to do a best estimate as to how
5 frequently they might happen.
6 Q Madam Chair, Dionne Filiatrault. In the discussion
7 on the monitoring commitments summary that Tahera
8 provided, you mentioned an annual geotechnical
9 assessment, and I am wondering at this point -- I
10 notice that fuel storage containment areas were not
11 incorporated in that annual geotechnical
12 inspections, and I'm wondering if it shouldn't also
13 incorporate all berms and associated retention-type
14 structures. And will Tahera commit to this
15 inspection requirement, and is Tahera proposing to
16 do the inspection in accordance with, where
17 applicable, the Canadian Dam Association guidelines
18 as a minimum?
19 MR. SCOTT: Cam Scott, SRK. As far as
20 the -- what was outlined in the slide yesterday
21 was geared to areas which require specialist input
22 on an annual or semi-annual basis. The issue of
23 berms or containment structures is more of an
24 ongoing day-to-day regular inspection by staff
25 onsite, and because they are very low structures,
26 can be appropriately evaluated by the appropriate

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1 staff onsite, so for that reason there was no need,
2 in our opinion, to include that as a specific item
3 as part of the overall geotechnical inspections.
4 MR. MISSAL: Madam Chair, Greg Missal.
5 I would just like to add in terms of the Canadian
6 dam inspections, it seems to us that that would be
7 typical protocol for a mine site like this, and so
8 we would adhere to that. And, of course, speaking
9 for Tahera, we would certainly have an
10 environmental staff in place that would do the
11 inspections on the tanks and the berms as Mr. Scott
12 said, on a -- basically on a daily basis.
13 MS. FILIATRAULT: Madam Chair, the following
14 questions relate to the abandonment and reclamation
15 information presented by Nuna Logistics. It

16 relates to the questions that were raised yesterday
17 as well, and DIAND's policy with respect to
18 third-party estimates. And if Tahera, in fact,
19 considers Nuna Logistic's estimate to be third
20 party, in our view -- well, I guess I'm -- I don't
21 know how to -- in the beginning of the presentation
22 when Mr. Missal introduced Nuna Logistics, they
23 introduced them as the preferred mining contractor
24 for the project.

25 In my mind, that entails that a lot of the
26 mobile equipment and whatnot that would be on the

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1 site would already be onsite, and that equipment
2 would then be used for the reclamation purposes at
3 closure. If it is a third-party estimate, none of
4 this equipment would be available on site. You
5 have to assume that Tahera is removed from the
6 picture and any of their contractors are removed
7 from the picture.

8 In the estimate that was provided from -- by
9 Nuna, they talk about southbound transport, but
10 shouldn't this estimate also include northbound
11 transport of any necessary equipment if, in fact,
12 you are going to assume that it is a third-party
13 estimate?

14 MR. SMITH: Court Smith, Nuna
15 Logistics. In fact, at the end of the open-pit
16 mining, we would expect to move most of our
17 equipment offsite, certainly the large trucks and
18 that sort of thing, which would be required for the
19 final reclamation.

20 The way that we see it progressing is Nuna
21 proposes to provide the camp and the shop and the
22 office facilities, that sort of thing. We would
23 hope to do the contract mining, then we would
24 demobilize the larger pieces of equipment. We
25 would leave the camp on a rental basis and the shop
26 for the underground contractor. We would need to

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1 move the equipment back in, the larger equipment.

2 There will be some site equipment that has
3 not been included in that estimate, but the larger
4 pieces are, in fact, included in our submission as
5 mobilization and demobilization.

6 MR. MISSAL: Madam Chair, I think it is
7 also worth adding to that, and it is probably
8 something that I should have added to my comments
9 yesterday, is that Nuna is the open-pit mining
10 contractor, potential open-pit mining contractor.
11 Nuna does not do underground mining, and so there
12 would have to be an underground mining contractor
13 which would have to be employed or contracted by
14 Tahera once we reach that stage.

15 MS. FILIATRAULT: My final questions relate
16 to the proposed schedule that is being proposed.

17 If you're suggesting that the procurement plant,
18 you are going to be, you know, if everything goes
19 as proposed, you will be doing that in July 2004,
20 and then construction is to be begin next year.
21 A lot of the construction is dependant upon
22 the winter road, being able to mobilize the site,
23 then actually constructing this site. So with the
24 schedule that you have, what construction on site
25 is dependant on winter conditions and, like, such
26 as issues associated with permafrost? And can that

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1 construction be achieved all within one winter
2 season, mobilizing the site, constructing the
3 systems that you need and then beginning operations
4 by the end of that same year?
5 MR. MISSAL: Madam Chair, in terms of
6 Ms. Filiatrault's question, obviously the schedule
7 stands, and it is a proposed schedule. We have to
8 come up with a proposed schedule. We feel if
9 things progress the way we hope they will in 2004,
10 that we will be there with that winter road. Now,
11 that being said, there is a lot of construction
12 that is dependant on winter conditions, and I'll
13 ask Court to add a few words to that. But, yes,
14 the construction can happen during that one year.
15 MR. SMITH: Court Smith, Nuna
16 Logistics. There are certain construction
17 functions that work better in the winter and some
18 that work better in the summer. The -- there are
19 times when what would work better in the winter,
20 can also be done in the summer and vice versa.
21 The biggest issue usually isn't so much
22 summer and winter, is the fact that you need
23 everything on day 1, and that's the struggle in the
24 north usually, is you find that you need to have
25 fuel, but you can't have fuel because you don't
26 have fuel tanks, so you have got to build something

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1 to put the fuel tanks in, but you need fuel to
2 build what you are going to put the fuel tanks in,
3 and it is a circular thing. And besides that, you
4 don't have the beds to put the people in who are
5 going to build this, so it is quite a challenge.
6 The challenge is usually in the first month,
7 whether it is winter or summer. Because of the
8 winter road, it almost always happens that it is
9 winter, which makes it a little bit more difficult.
10 But the schedule will require that winter
11 work be done immediately after arrival on the
12 winter road, and there are selected bits that you
13 do during that period, and then there is parts that
14 you really want to wait for summer to do. An
15 example would be putting up buildings. Putting up
16 buildings, it is way better to do it in the summer,
17 but unfortunately sometimes that happens in the

18 winter, and you just have to go with that.
19 In most circumstances, if you are trying to
20 deal with earthworks material that doesn't require
21 drilling and blasting, it is far better to wait
22 until summer because then you are not dealing with
23 frost and that sort of thing. So those are the
24 sorts of issues. In a schedule, usually a course
25 schedule is set up in the beginning, and then the
26 detail starts to get at it, and when the detail

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1 starts to get at it, you start to find out that you
2 needed a few more beds maybe, so your planning for
3 the camp is a little bit different. Or the
4 staging, you may delay things based on fuel
5 availability, room availability, you know, that can
6 drive your schedule as much as when you actually
7 intend to build it.
8 MS. FILIATRAULT: Thank you, Madam Chair,
9 that's the end of my questions.
10 CHAIRPERSON: Any questions from Bill?
11 MR. TILLEMAN: Well, only one that I
12 would, I guess, ask at this point, in terms of
13 helping the Board with its final report to whatever
14 Minister we need to report to, and it goes along
15 these lines: If you take as an example the
16 diffuser, what we have heard we thought was
17 required, now it is optional, we don't know, or
18 spray irrigation, it may or may not be necessary.
19 The Board -- I think the issue for the Board,
20 and perhaps Tahera can clarify this before the end
21 of the week is a simple one, we need to report to
22 the proper Minister whose department will then
23 issue these permits, whatever they might be, and so
24 that this board needs to know specifically what
25 approvals are required of the company at this time
26 so that we make sure that we report to the proper

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1 Minister for those approvals values.
2 A diffuser is something that, I mean, I have
3 to go back and check, but might require Fisheries
4 or Navigational Waters Protection Act Approvals, and if
5 that's the case, is sufficient information before
6 this Board and before the Fisheries people who are
7 here, Coast Guard, that this Board can be satisfied
8 that we have that information, and we can forward
9 it in the report.
10 Or on the other hand, are we being told that
11 don't worry about that, we will apply for that
12 later, and if that's the case, of course, then
13 Tahera would need to understand that they face a
14 subsequent application through NIRB for that
15 component, along with the laws that apply for the
16 filing of subsequent applications. In other words,
17 it may have to go through another environmental
18 assessment process.

19 So it is more requests through you, Madam
20 Chair, to Tahera that by the end of the week they
21 let us know specifically what the components of
22 this project are required for approval at this
23 time.
24 CHAIRPERSON: Greg Missal?
25 MR. MISSAL: Madam Chair, Greg Missal
26 with Tahera. I think I would like to point out to

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1 the Board that the components contained in the EIS
2 and the supplementary EIS are the components that
3 we are looking for for approval or recommendation
4 from your board. I don't believe there is any new
5 requirements that haven't been contained in the
6 information in those documents.
7 Hopefully the process this week in discussing
8 it with the Board and, of course, the parties that
9 are in attendance is to clarify any questions that
10 anyone has, and that's certainly what we are here
11 to try and achieve. But as I say, I believe that
12 the components that we are looking for your
13 recommendation are already contained in the
14 documents that have been provided to NIRB and to
15 your board.
16 I guess carrying on from that, there were a
17 number of questions that were put to us yesterday
18 which we have put some thought to overnight, and I
19 don't know if this is the appropriate time for us
20 to address those questions. I would ask your
21 advice on that.
22 CHAIRPERSON: Any other questions from
23 Bill?
24 MR. TILLEMAN: The Board, of course, is
25 going to three different venues this week, so to
26 some -- so I guess on a matter of procedure, it is

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1 important that all the parties know and the Board
2 accommodate as best as possible that fact that when
3 they get Kugluktuk, you will need to do, as the
4 proponent, another presentation, because they
5 haven't heard this yet. And similarly, when we get
6 to Gjoa Haven, a different presentation, maybe more
7 abbreviated, but still parties in attendance will
8 have the opportunity to ask questions of you again,
9 and the Staff and the Board would necessarily
10 reserve the right to do that, that also applied to
11 the audience.
12 And so I guess I am prepared to say, Madam
13 Chair, it is probably a good idea to have Tahera to
14 file whatever information, to give to us whatever
15 information you can now, then maybe take a short
16 break and have the Board come back which its
17 questions, which would wrap up Tahera's
18 presentation, pending any motions from parties in
19 the audience that might flow from your new

20 information today. Now, they may be able to ask
21 that in Kugluktuk, and they may be able to ask that
22 in Gjoa Haven, but they may not be there.

23 So my only concern, for the record, is to
24 make sure that the Board hear from all the parties
25 who have filed interventions, if you will, or who
26 are full-party participants in this hearing.

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1 It does raise, frankly, one thing that I
2 wanted to advise the Board on tomorrow, but maybe
3 we will do it now, and that is that the Board, if
4 it receives any additional information by the end
5 of the week, I would propose that the Board give
6 that to all of the parties by way of an immediate
7 communication.

8 Mr. Donihee previously had asked, and the
9 Board had agreed, that should that party or anybody
10 want an additional short period of time after the
11 hearing to file final comments on any information
12 that is tabled before this board by Friday, that
13 they have that right, and that seems an element of
14 fairness that's normally found within these hearing
15 parameters.

16 So to summarize, Madam Chair, I suggest that
17 this is a good time for Tahera to file or to give
18 to us whatever you are going to, Mr. Missal, and
19 then we can take a short break, come back and have
20 any questions that would flow from the audience and
21 the finally from the Board. Thank you.

22 CHAIRPERSON: Okay. If, Greg Missal, if
23 you have any final information, and then after the
24 break we do have some questions.

25 MR. MISSAL: Thank you very much, Madam
26 Chair. I guess I would just like to start off by

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1 saying that the items which we are about to comment
2 on are certainly not considered new items, they are
3 simply in response to questions that Mr. Tilleman
4 had put to us yesterday, so I don't believe they
5 should be interpreted as new information in any
6 way, and I would like to make sure the Board is
7 aware of that.

8 Obviously, we are going to have some of our
9 consultants address these issues, so I think I
10 would like to start off, I will just run --
11 basically run through the questions that we are
12 going to answer, and then I will ask the
13 appropriate consultant to speak to those.

14 I think we will start off with, first of all,
15 aquatics. There were basically two main questions
16 put to us yesterday by Mr. Tilleman, one of them
17 was related to baseline information with
18 predictions versus -- our impact predictions versus
19 monitoring predictions, and the other one was the
20 depth levels which DFO stated one number and

21 Mr. Pattenden stated another. That was partially
22 touched on in the DFO questioning, but perhaps if
23 there is anything else, Mr. Pattenden may add to
24 that, I would ask him to do that.
25 And, let's see. And I guess the question of
26 the diffuser as well, and Mr. Pattenden has some

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1 comments on the diffuser.
2 In addition to that, Mr. Ott's going to be
3 making some comments on the toxicity testing, the
4 chronic testing, and also on the question that
5 Mr. Tillemann had regarding ISO 14000 companies or
6 mines in Canada.
7 Kelly Sexsmith with SRK will comment as well
8 on some TDS information related to the Snap Lake
9 project.
10 And then Mr. Tillemann also asked the question
11 regarding some details on the -- or clarification
12 on monitoring through the IIBA, and I believe he
13 suggested that Tahera and KIA clarify how that
14 might work. And on that particular question, I
15 would like to suggest that we hear the
16 presentations today, listen to KIA's presentation
17 and the others, and we would be prepared to comment
18 on that further after we hear those presentations.
19 So with that, I would like to ask Rick to start off
20 with some of his comments.
21 MR. PATTENDEN: Madam Chair, Rick
22 Pattenden, Mainstream Aquatics. There were three
23 issues raised yesterday that I would like to
24 clarify. The first I will touch on is in regards
25 to the use of this water depth, I have spoke to it
26 briefly earlier this morning, DFO's use of 3.7

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1 meters and my preference for 8 meters as a general
2 prediction of whether you would find fish in a lake
3 or not.
4 The only thing I want to add to my initial
5 discussion this morning is that Mainstream Aquatics
6 sampled all potential fish-bearing lakes in the
7 Jericho study area, which include water bodies
8 ranging in depth from 2 to, I think, 27 meters, and
9 our general finding was that in water bodies less
10 than 7 or 8 meters of depth, there were no fish,
11 in water bodies that were around 8 meters deep, the
12 fish community was impoverished, very few species
13 and low fish numbers. And in water bodies of
14 greater depth, typical fish communities, good fish
15 numbers and five or six fish species. So that's
16 the only point I would like to clarify for that
17 question.
18 In regards to the diffuser pipe, the issue I
19 would like to address specifically pertains to
20 DFO's question, which was why use a causeway to
21 protect the water intake pipe and why not use the

22 causeway for the diffuser pipe? The issue was for
23 the water intake pipe, to use a causeway, I want to
24 protect it from ice scour, that was the most
25 economic and easy way to do it, and second and
26 probably more importantly, to ensure rapid access

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1 to the pipe in the event of a break.
2 And I say that because if a causeway was not
3 present, the proponent would have to apply for
4 authorizations from DFO to access the pipe, and
5 that takes from several days to several weeks. So
6 from a permitting perspective, it was better for
7 the proponent to have the causeway in place to
8 ensure rapid access to the intake pipe.
9 If we look at the diffuser pipe, the urgency
10 for access in the event of a break isn't there,
11 therefore, it was much simpler simply to put the
12 pipe below to ice scour zone for protection and not
13 worry about a causeway. So that's the rationale
14 for a causeway on the intake pipe and not for the
15 -- a diffuser pipe.
16 The third issue for clarification pertains to
17 the difference between monitoring data versus
18 baseline data in terms of its use for environmental
19 effects assessment. I would like to try and
20 clarify our position on that. I will start by
21 trying to define the use of monitoring data, use of
22 baseline data.
23 Appropriate monitoring data consists of a
24 quantitative estimate of a parameter that will
25 allow detection of change that may be caused by the
26 project. The estimate must have a certain level of

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1 statistical precision in order for the investigator
2 to be confident that the change that he or she may
3 see is real and not an artifact of natural
4 variation.
5 The contrast to monitoring data, appropriate
6 baseline data characterizes the aquatic biological
7 community in sufficient detail to allow prediction
8 of environmental impacts with confidence, two very
9 different things. I will give you some examples of
10 the differences.
11 First, in regards to monitoring, for example,
12 the blast zone assessment assumed that sculpin eggs
13 located outside the zone will not be impacted.
14 This was based on guidelines developed by DFO. If
15 you were to test this assumption during monitoring,
16 a monitoring program would be used to estimate the
17 number of sculpin eggs that are present and easily
18 adjacent to the blast zone each year, so it is a
19 nice accurate number.
20 These quantitative estimates would show
21 whether the number of sculpin eggs decreased or
22 remained stable over the time. So you need a nice

23 precise number to find out whether the blast zone
24 is actually affecting fish eggs or not.
25 If we go to examples for baseline data,
26 appropriate baseline data would be the information

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1 used, for example, again, for the assessment of the
2 mine site blast zone that I presented yesterday.
3 The baseline data that we collected described what
4 species used Carat Lake and Stream C1 and the
5 location of important fish habitats in the general
6 vicinity of the blast zone. Those weren't hard,
7 accurate numbers. As we know, there is fish there,
8 we know where they are spawning, but it is not a
9 hundred arctic char here.
10 The information allowed prediction of the
11 blast zone effects with very high confidence
12 without having an accurate number of fish numbers
13 -- an accurate estimate of fish numbers.
14 There was no need to use the monitoring data,
15 which is a precise estimate. I can give you
16 another example, it goes to the baseline data
17 collected for the Long Lake system. The data that
18 we collected, which was based on extensive
19 sampling, that slimy sculpin and burbot were
20 present in Long Lake. Therefore, we concluded that
21 the impact of the PKCA on the Long Lake fish
22 community was significant. The outcome of the
23 assessment would not have changed if we had a
24 precise estimate showing there were 100 or 200
25 sculpin.
26 In this situation, simply knowing what

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1 species were present was sufficient for the impact
2 assessment.
3 Finally, it is important to note two things,
4 first the types of baseline data used for the
5 Jericho Diamond Project assessment are very typical
6 of the information used to evaluate impacts on fish
7 by other projects, and examples include Ekati,
8 Diavik and Snap Lake.
9 Secondly, even if monitoring data were used
10 in place of baseline data, to complete the impact
11 assessment, the conclusions regarding the
12 significance of project impacts on fish wouldn't
13 have changed at all. That's all, Madam Chairman.
14 CHAIRPERSON: Bill?
15 MR. TILLEMAN: Well, clearly I have to -- let
16 me put it this way, the purpose, as we feel it in
17 terms of the Board's jurisdiction is that, again,
18 it is a planning board. It, as you have stated,
19 has to have the confidence in the assessment of the
20 impacts or the prediction of the impacts that it
21 can adequately say we believe this, if it is a
22 significant impact will be mitigated and we are
23 satisfied with that.

25 CHAIRPERSON: Shall we continue, please.
26 Before we begin, some information for guests, for

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1 people from out of town, lunch is available at
2 Arctic Lodge, and it is from 12 o'clock until 1
3 o'clock. You can also pick up lunch at the Quick
4 Stop at the Northern store, that's open all day.
5 But we will break for lunch at 12 o'clock until
6 1:30, that will give everybody time to walk there,
7 get their lunch. There might be a long lineup, so
8 lunch will be from 12 to 1:30.

9 Okay. Any other information, Bill, before we
10 begin?

11 MR. TILLEMAN: Thank you, Madam Chair. So
12 where we left before the break was Tahera had just
13 a little more information, and then I propose we
14 give the audience an opportunity, if they have any
15 questions arising from that and then finally the
16 Board, thank you.

17 CHAIRPERSON: Okay. Greg Missal?

18 MR. MISSAL: Thank you, Madam Chair. I
19 would like to very quickly move on to Bruce Ott and
20 a few of the areas that he is going to discuss.

21 MR. OTT: Thank you. Bruce Ott with
22 AMEC. I'm going to answer the ISO question first
23 because it is simplest.

24 I am aware that BHP Billiton's Ekati mine is
25 moving towards certification. I'm not quite sure
26 exactly where they are at with the certification

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1 process. I'm not aware of any other mines, as
2 such, that have ISO 14001 certification. I know a
3 number of mining companies have a policy with
4 respect to all or some of their operations with
5 respect to either certification under their ISO
6 14001 or use of the principles and procedures, as I
7 indicated yesterday. So at this point I can't
8 put -- throw any other light on the issue of ISO
9 14001.

10 With respect to Mr. Tilleman's question
11 concerning chronic toxicity, I took what
12 Mr. Tilleman was asking for to be reference to the
13 scenario predictions, and that information was
14 provided in Tables 1 through 3 in the supplemental
15 report memorandum on water quality assessment
16 during operation. And we have no new information
17 with respect to that other than a reevaluation of
18 ammonia, which I will get to in a minute.

19 Perhaps if Mr. Tilleman was looking for
20 something else, he could clarify that with us and
21 then we can address that question.

22 With respect to ammonia, DIAND's consultant
23 indicated that it appeared that we had misevaluated
24 or wrongly evaluated the data that was in the
25 tables, and as it turns out, that is the case, that

26 when we had evaluated ammonia with respect to the

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1 guidelines, we had equated total and unionized
2 ammonia.
3 Unionized ammonia vary -- concentrations in
4 water will vary with the temperature inversely, and
5 with a pH also inversely. And so if we relooked at
6 that using the same data, the same data in a new
7 reevaluation, and we have a memo with respect to
8 that which we can provide to the Board, essentially
9 the information is as I indicated to DIAND's
10 consultant, and that is that under normal
11 circumstances one -- with the dilution in Lake C3
12 and Carat Lake, one wouldn't expect a chronic
13 effects from ammonia.
14 I think that's everything that I have, Madam
15 Chair, other than the runs that were made with the
16 reruns for the dilution model, again, new data, the
17 data were rearranged somewhat as I indicated to
18 DIAND's consultant yesterday, and we are in the
19 process of pulling that information together,
20 including the model runs, and that data will be
21 provided to the Nunavut Impact Review Board as soon
22 as we can get that information to them.
23 MR. MISSAL: Thanks, Bruce. I now ask
24 Kelly Sexsmith to discuss the TDS question that
25 Mr. Tilleman had.
26 MS. SEXSMITH: Hi, this is Kelly Sexsmith.

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1 We would like to respond to Bill Tilleman's comment
2 asking us to consider adopting the TDS guidelines
3 and TDS monitoring requirements specified in the
4 Mackenzie Valley Environmental Impact Review
5 Board's decision for Snap Lake. That was your
6 question, I believe?
7 MR. TILLEMAN: It probably was, I just
8 have dissolved oxygen in my head. I have several
9 things -- actually, I probably do as a matter of
10 physiology, but it is a short way of saying, I'm
11 sorry, I wasn't listening to what you said, if you
12 can --
13 MS. SEXSMITH: Okay. We weren't entirely
14 sure what your question was, and so I just wanted
15 to clarify that your question was to ask us to
16 consider adopting the TDS guidelines and the TDS
17 monitoring requirements that were specified in the
18 Mackenzie Valley's decision for Snap Lake; is that
19 correct?
20 MR. TILLEMAN: Yes, that is correct, I
21 just looked at my notes.
22 MS. SEXSMITH: Okay. So what we would
23 like to say here is the source of TDS at Snap Lake
24 appears to be a deep groundwater source, and that
25 is comprised primarily of ion chloride. Chloride
26 is a main component of that water, and the concern

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1 at Snap Lake wasn't -- was that there was some
2 uncertainty in the quantity of that water that
3 could enter the lake. The limit that was satisfied
4 was based on the proponent's estimate of the
5 quantity of TDS that could build up in Snap Lake,
6 and it was not based on any toxicology data.

7 TDS in the Jericho rock is going to be due to
8 interaction with the minerals in the rock, and it
9 is made up of different ions than the salt water at
10 Snap Lake. So it is a very different situation
11 from Snap Lake, and it appears that the limits in
12 the Snap Lake decision are based on holding the
13 proponent's estimate to be accurate, basically
14 confirming that their estimate is accurate.

15 We believe that the discharge limits and
16 monitoring requirements for all parameters at
17 Jericho should be site specific and that the
18 details should be worked out at the licensing
19 stage, the water licensing stage.

20 CHAIRPERSON: Bill?

21 MR. TILLEMAN: Thank you. Madam Chair.
22 And so I guess my only question is that through the
23 Chair to Environment Canada or Fisheries, that they
24 might confirm in their direct presentation today or
25 tomorrow that there are sufficient differences or
26 not in those sites versus Jericho site that the

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1 approach taken by that board wouldn't still be
2 relevant for this Board.

3 And I will leave it at that for now, so thank
4 you very much, Ms. Sexsmith.

5 MR. MISSAL: Thank you very much. Just
6 a couple other quick points. Mr. Tilleman asked
7 some questions yesterday regarding environmental
8 management, and I just wanted to elaborate on that
9 a little bit and make the Board aware that
10 obviously Tahera is in the process of building a
11 team of people who are going to be providing these
12 functions for the company at the mine site, there
13 will be an environmental staff that will be on
14 site. Those environmental staff will be
15 responsible for carrying out the management plans
16 along with other senior management people at the
17 site, and these plans will be endorsed by senior
18 management, upper management of the company.

19 The other point I wanted to make that there
20 was some discussion earlier regarding NIRB
21 receiving documents regarding the Ekati project,
22 the Diavik project and Snap Lake. And from the
23 Tahera perspective, we don't have any issues with
24 those documents being submitted, however, we would
25 like the Board to realize that it is obviously a
26 completely different jurisdiction and completely

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1 different projects, and obviously we feel they
2 should be treated very differently. Thank you very
3 much, that end our comments.
4 CHAIRPERSON: Thank you, Mr. Missal. Any
5 questions from the audience? And the Board has
6 some questions. I will start off with Mr. Peter
7 Paneak. You will need your headsets.
8 BOARD QUESTIONS TAHERA CORPORATION:
9 MR. PANEAK: Thank you. I'm Peter, my
10 name is Peter Paneak. I am originally from Clyde
11 River. I have a question here in regards to Long
12 Lake, it is in relation to how are they going to be
13 handled or how are they going to be managed? I
14 don't want the fish to be damaged on the Long Lake
15 or the land or the environment. And the people eat
16 fish that comes from there. That is my first
17 question in related to Long Lake fish.
18 MR. PATTENDEN: Madam Chair, Rick
19 Pattenden, Mainstream Aquatics. In regards to
20 protecting the fish that are in Long Lake, as you
21 know, the Long Lake will be used for the PKCA, so
22 if the fish stay in the lake, they won't survive.
23 So Tahera has agreed to undertake a fish salvage
24 program. What that entails is that as the water is
25 drawn down, people will go in and collect the fish
26 that are gathering along the shore line, put them

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1 in large water containers and likely transport them
2 by helicopter to Lake C3. I have to stress that
3 the fish that are going to be collected are slimy
4 sculpin and very small burbot, and likely I don't
5 think many people would want to eat these types of
6 fish.
7 I have to say that we won't be able to save
8 all the fish, but there will be serious efforts to
9 collect as many as possible.
10 Q Thank you. And also I'm experienced in working in
11 reclamation in Nanisivic in the past, many years
12 ago, and also the fact that at that time when I
13 used to work for the company, I really had no say
14 but yet on the other hand, my understanding it is
15 very expensive, and also we were not always being
16 informed of what was happening, like, what is risky
17 to our health that was done back in 1950s.
18 In our region we knew the fact that -- but we
19 come a long ways now since the Nunavut creation.
20 We are entitled to have a say now, I really
21 appreciate the fact that on behalf of my
22 fellowship. And it is a good thing the fact that
23 it is -- the fact that we can consult with one
24 another. This is all I have to say. I may have
25 something else to say after, thank you.
26 MR. MISSAL: Thank you very much for

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1 those comments. I would like to start off by
2 saying that mine site safety is obviously going to
3 be a very high priority for us at the Jericho mine
4 site for all our workers, that's a top priority, as
5 it is with all other mining projects as well. And
6 you were correct in saying that mining has changed
7 a lot over the years, it is much different than it
8 was many years ago.

9 In terms of providing employees with
10 information, there will be every effort made to
11 keep every employee informed of any changes or
12 information updates at the mine site. If we have
13 any unilingual employees, they will be --
14 everything would be translated for them so that
15 they understood any changes that were happening.

16 Another item that we have made clear in the
17 EIS is that any signs at the mine site would be
18 also be in the different languages as well,
19 English, Inuktituk, Inuinaqtun so that that would
20 help any local employees as well at the mine site.

21 In terms of keeping the people informed, I
22 think there is a few different ways that we are
23 going to be able to do that, not only at the mine
24 site, but also at the community level, and that's
25 going to be part of our ongoing community
26 consultation processes with the communities in the

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1 region where community members are free to come to
2 scheduled meetings and ask questions of the
3 company, and also an opportunity for the company to
4 provide information to the community.

5 And last but certainly not least is certainly
6 is going to be the information provided through the
7 Inuit Impact Benefit Agreement with the Kitikmeot
8 Inuit Association who are going to be very closely
9 involved with what happens with this project. So I
10 think through all of those different methods, we
11 will certainly be able to keep your region informed
12 of the things that are happening at the Jericho
13 mine. Thank you.

14 CHAIRPERSON: Thank you. Mary Avalak?
15 MS. AVALAK: I'm Mary Avalak. I speak
16 in English, but I never went to school, but I'm
17 going to be speaking my mother tongue, my
18 Inuktituk.

19 The project that was being explained to us,
20 there are more employment coming out to Kugluktuk
21 and east of our communities, and there are people
22 who want to work from our communities even though
23 many of these people don't have -- they are not
24 educated, but when they learn, when they know
25 what's going on or what to do, they are capable of
26 working in the mines too. And these employment

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1 that's going to be provided to the local people,

2 there are some people that's employed from other
3 communities -- the majority of employment that's
4 coming out of other communities and maybe not too
5 many people getting the employment, getting the
6 opportunity of employment from our community, and
7 there is a lot of people are discouraged by this,
8 so if the mine is going to go ahead, I would like
9 to see the people being hired from our local
10 communities. Thank you.
11 CHAIRPERSON: Martha Akoluk? Albert.
12 MR. EHALOAK: Thank you. Would Lake C3,
13 Carat Lake, Jericho Lake and Jericho River be
14 affected if Long Lake is blocked off from natural
15 drainage from Contwoyto Lake, and what effects is
16 that going to have?
17 MR. MISSAL: Thank you. Just so we
18 understand the question, I believe it was if Lake
19 C3, Carat Lake and the Jericho River, will they be
20 affected by taking Long Lake out of the natural
21 system?
22 MR. OTT: We have provided
23 estimations of changes in flows in the final EIS
24 and some more information in the supplemental
25 reports. Basically, what we are looking at here to
26 put it in a summary figure, is approximately 1

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1 percent of the total drainage in the Jericho River
2 would be drawn off for mine processing purposes.
3 All the water that is collected in the
4 drainage and treated at the mine will end up
5 reporting back to Lake C3 if we have direct
6 discharge into Stream C3, and we will also, with
7 some delay, report back to Lake C3 if, say, spray
8 irrigation were being used. There is a small
9 amount of water that would be tied up in pore water
10 in the PKC, there is a small amount of water that
11 would be lost due to adhering to the coarse
12 kimberlite, some of which would freeze, some of
13 which would evaporate.
14 On balance, I don't have a percent figure for
15 those things. SRK may be able to provide an
16 estimate of pore water, but it is a very small
17 percentage of a system that renews itself on an
18 annual basis.
19 Just for clarification, Long Lake at present
20 does not drain towards Contwoyto Lake, it drains
21 into Lake C3 and the Jericho River system. The
22 Jericho River system flows north into Cathawichaga
23 (phonetic) Lake. The river flowing out of the
24 Cathawichaga Lake flows into the Burnside River
25 which -- whose headwaters is Contwoyto Lake, so
26 there is a connection, but it is fairly remote.

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1 CHAIRPERSON: No other questions? We are
2 looking at page 4 of the aquatics information or

3 from the baseline studies. Would you have a bigger
4 map? Okay. There it looks like there is a river
5 on the right of the Jericho River, that would be
6 the Burnside River, right?
7 MR. PATTENDEN: Rick Pattenden, Mainstream.
8 I will have to take a look at my presentation just
9 to make sure I have the right water body you are
10 pointing to. Maybe you ask can just point it to me
11 right now.
12 CHAIRPERSON: Maybe you can come up?
13 Yes, we were questioning a bigger map to show,
14 okay, that's the Jericho River and where it flows
15 to, so we were concerned about the rivers going up
16 or fish moving downstream from the ocean going down
17 to Carat Lake.
18 This question will focus, or these questions
19 will focus mostly on Carat Lake. First, how
20 well -- okay, we heard about diluting a river or a
21 lake, how do you do that, and is it safe?
22 MR. OTT: I'm not quite -- Bruce Ott,
23 AMEC. I'm not quite sure I understand the
24 question. What we are envisaging is a small stream
25 of water with some contaminants from the mine
26 flowing into a larger body of water, i.e., Lake C3

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1 and then into Carat Lake, and through mixing
2 dilution to occur, so that the influence from the
3 mine discharge ends up disappearing or going back
4 to background through this mixing process in the
5 larger bodies of water.
6 Our assessment, as indicated briefly to the
7 Board yesterday, was that under extremely low-flow
8 conditions, some mitigation beyond what occurs by
9 having the water stored in the processed kimberlite
10 containment area may be required, and we discussed
11 the possibility of holding the water or spray
12 irrigation or perhaps use of a phosphate could be
13 explored, but that under average conditions, the
14 information that we have based our impact
15 assessment on is that fairly close to the discharge
16 point in Stream C3 that there wouldn't be chronic
17 effects. This is based on using CCME or
18 Environment Canada guidelines for safe levels of
19 these particular constituents of concern in the
20 receiving environment.
21 So I guess the bottom line rather than a
22 paragraph, is that, yes, we think it will be safe
23 and that, yes, the system will work.
24 Q So you were saying diluting or spray irrigation
25 from creeks and streams, that is flow to bigger
26 lakes?

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1 A Well, if one didn't discharge directly from the
2 PKCA, or what is now Long Lake, through Stream C3
3 into Lake C3 because of concerns about lack of

4 dilution when the flows are very low, one could use
5 spray irrigation or land treatment, which would
6 lower the constituents of concern and also delay
7 the length of -- also the water entering Lake C3, a
8 certain amount, some number of days.
9 Q And, earlier, a question was raised by Ms.
10 Filiatrault regarding diluting ammonia, how do you
11 clean or dilute ammonia? How is that done?
12 A Ammonia, unlike metals, will oxidize, so it is not
13 what is called a conservative compound. It will
14 slowly, or more rapidly, depending on the
15 situation, oxidize. As well, ammonia is not quite
16 so simple -- well, I guess nothing is simple in
17 life, but at any rate, ammonia has several forms,
18 and the unionized ammonia is the form that's either
19 acutely or chronically toxic to fish, it is not
20 total ammonia.
21 And ammonia would be diluted the same way as
22 any other substance would be. If you take dye and
23 you mix it in water and you have a strong solution
24 and then you pour that in your bathtub and you let
25 the water run out of the bathtub, it dilutes this
26 stuff through the mixing. Same with ammonia, same

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1 with metals, same with suspended solids, all these
2 things will mix and become less concentrated in
3 that manner.
4 Most things in the natural environment aren't
5 quite that simple because there are mechanisms in
6 the natural environment to tie these things up a
7 little bit, so you add that complexity into the
8 system, but at a physical level, you are simply
9 mixing a strong or highly concentrated or a high
10 concentration of something with a lot of water, a
11 lot of solute, and that lowers the concentration,
12 just mechanically lowers the concentration. So
13 ammonia works the same way as anything else in that
14 regard.
15 Q So when you mix the concentration and it flows back
16 to the lake, streams, it is safe for fish, plant
17 life?
18 A That's our conclusion, Madam Chair.
19 Q Okay. The stockpiles, will any of the stockpiles
20 be contaminated from underground minerals or from
21 surroundings since the stockpile is close? Well,
22 it looks like there is a stream from the pit down
23 to Carat Lake, and it looks like there is a stream
24 flowing down. Anything from that pit, any
25 contaminated chemicals from there, can they flow
26 down to the Lake?

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1 MS. SEXSMITH: This is Kelly Sexsmith.
2 During operations, all of the drainage and any
3 water that goes into the dump and then back out
4 on -- under the dump will be collected in a series

5 of collection ponds, and if the water quality is
6 not sufficient for discharge from that -- those
7 others, it will be pumped up to the PKCA, so none
8 of that water will get out into the environment.
9 After closure, all that water will be directed into
10 the open pit, and, again, if the water quality is
11 not sufficient for discharge right at the shore of
12 the lake, it will be discharged through this
13 diffuser that we have talked about so that it will
14 be mixed very quickly with the lake water to reach
15 acceptable levels within 7 meters of that diffuser
16 outfall.

17 Q I was looking at the map here, from the pit there
18 is the energy dissipation pond, and then from the
19 pond down to Carat Lake, so that's where any
20 chemicals will be treated before flowing down,
21 right?

22 MR. McCREATH: Madam Chair, the stream
23 that you see there is the premining stream that, in
24 fact, flows through the area of the pit. During
25 operations, there will be no direct connection
26 between the pit and that stream. The diversion

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1 labelled as C1 diverts that stream around the side
2 of the pit, and so the pit is also not holding any
3 water during operations, so there will be no flow
4 from the pit through that stream into Carat Lake.

5 Q And Tahera, are you comfortable with results from
6 the water study and the metal study? The results
7 that were given to you, you are comfortable with
8 those results?

9 MR. MISSAL: Just, Madam Chair, Greg
10 Missal with Tahera, just a point of clarification,
11 are you asking if Tahera is comfortable with the
12 numbers provided by our consultant?

13 Q Yes, I am.

14 A In that case, yes, we are.

15 Q And then if I may ask from the Board asking Health
16 Canada, are the assessments safe or the results
17 good for people and for fish? If I can get an
18 answer from that from Health Canada, and they are
19 not in.

20 Okay. One last question. A question to your
21 ground engineer, the pit, we see that it has got
22 benches or it builds up going down, is that safe
23 for the workers, will it -- we are thinking of
24 maybe like a landslide or a sand slide; is that
25 going to be safe?

26 MR. SCOTT: Cam Scott, SRK. The

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1 preliminary pit designs have been based on a
2 variety of drill holes in the collection of
3 geotechnical data which provide inputs into the
4 analyses associated with pit wall stability.

5 Those analyses, the design that has been

6 presented reflects appropriate safety factors or
7 design against the sorts of problems that you have
8 mentioned. And, of course, this is always an
9 ongoing process. So as part of detailed
10 engineering and as part of the development of the
11 open pit during the course of the early stages of
12 development, additional data is collected.
13 But the short answer to your question is,
14 yes, we are comfortable with the pit slopes and so
15 on as they are at the present time.
16 Q So it is safe from noise and from ground movement?
17 A In terms of risk to worker safety, no, there is
18 nothing that we would perceive to be an issue at
19 this time.
20 Q We were thinking of the people working right in the
21 middle of the pit, like if there is some erosion or
22 some -- like, with all the big machinery?
23 A Inevitably, -- let me phrase this. Often the
24 spring freshet is a period of time when you have
25 inflow of water over the sides from snow melt and
26 so on, and the possibility of small material

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1 falling on the sides, rocks rolling, what we call
2 raveling, that's a possibility that exists,
3 probably more likely from the upper portions of the
4 pit where we have sediment, but essentially there
5 will be rip rap, coarser rock placed again those
6 upper portions, the fine sediments, the natural
7 sediments. So, again, we don't anticipate any
8 undue concerns. These are the sorts of issues one
9 always deals with in terms of worker safety for all
10 open pits.
11 MR. MISSAL: Madam Chair, if I could
12 just add to that as well that the Jericho project,
13 like any mining project, will be subject to
14 Workers' Compensation Board requirements and
15 regular inspections, and we will have to meet the
16 requirements of WCB, so that also helps to ensure
17 that the workers have a safe environment.
18 CHAIRPERSON: Okay. Thank you.
19 Bill, did you have a question?
20 MR. TILLEMANN: I really hate to be
21 involved when the Board is asking questions, but
22 Cam had just -- I'm referring to his geotechnical
23 monitoring commitment summary, and I notice that
24 the pit itself is not listed as one of those
25 elements you would be monitoring, so in light of
26 her question, would that commitment be made?

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1 MR. MISSAL: Greg Missal with Tahera.
2 Absolutely, Bill, absolutely that will be part of
3 monitoring. It is a necessary component of what we
4 need to accomplish.
5 CHAIRPERSON: Okay. Thank you. These
6 are -- one more question. You were talking about

7 displacing nests in the surrounding area, to
8 displace a nest, and I understand that in the fall
9 they come back to one certain area every year. Is
10 that safe? Is that okay to do? Thank you.
11 MR. HUBERT: Thank you, it is Ben
12 Hubert. We believe that with raptors, we know of
13 at least 22 sites, different sites in the project
14 area that have been occupied by breeding raptors
15 between 1995 and 2002. A maximum 11 sites have
16 been occupied in any one year, so there are empty
17 territories or suitable sites that haven't been
18 used, and I think if raptors are displaced by
19 disturbance near the mine site, there are -- there
20 is vacant real estate for them to move to.
21 It is not quite that simple with the nests --
22 the nesting habitat that will be covered by the
23 dumps and site development. And, in fact, that
24 habitat will be covered over in winter, and the
25 small birds and ptarmigan that would have nested
26 there will have to move to a new territory, and

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1 that is habitat, 220 hectares of breeding habitat
2 that is lost to small migratory birds.
3 CHAIRPERSON: Thank you. That's all the
4 questions from the Board for now.
5 We will move on to the presentation by other
6 parties, and we will be beginning with KIA -- NTI,
7 Nunavut Tunngavik Incorporated, and note that it is
8 11:30, and we will be breaking for lunch at 12
9 o'clock. NTI?
10 MR. TILLEMANN: Madam Chair?
11 CHAIRPERSON: Go ahead.
12 MR. TILLEMANN: Please state your name for
13 the record and spell your last name.
14 MR. LOPATKA: Stefan Lopatka,
15 L-O-P-A-T-K-A.
16 (STEFAN LOPATKA SWORN)
17 MR. TILLEMANN: Please state your name for
18 the record and spell your last name.
19 MR. HAKONGAK: George Hakongak,
20 H-A-K-O-N-G-A-K.
21 (GEORGE HAKONGAK SWORN)
22 MR. TILLEMANN: Thank you.
23 PRESENTATION BY NTI:
24 MR. LOPATKA: Good morning, ladies and
25 gentlemen, Madam Chairperson, Board members of the
26 Nunavut Impact Review Board, Tahera Corporation and

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1 other agencies that are involved in the hearing.
2 On behalf of James Intuluk, first
3 vice-president of NTI, I would like to take this
4 opportunity to introduce the Nunavut Tunngavik
5 Incorporated panel that will be making the
6 presentation over the next couple of days.
7 My name is Stefan Lopatka, I'm the senior

8 advisor, environment, water and marine management.
9 And next to me is George Hakongak, environmental
10 coordinator, who will be doing the presentation on
11 our behalf.
12 NTI is the main Inuit organization that
13 represents all Inuit in Nunavut on land claim
14 issues, their interests and concerns that relate to
15 Nunavut. More specifically, the mandate of the
16 first vice-president in his portfolio is the
17 department of lands and resources with NTI.
18 NTI and the Kitikmeot Inuit Association over
19 the last several months have cooperated on the
20 review process of the final environmental impact
21 statement submitted by Tahera for the Jericho
22 project. In doing this review, our joint mandate
23 was to ensure that the EIS was complete and fully
24 addresses the issues and concerns that were
25 identified in previous submissions to the Board.
26 NTI is in support of this project moving

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1 forward as we see it as a benefit to the Inuit of
2 the Kitikmeot and the rest of Nunavut.
3 In conclusion, I encourage the proponent, the
4 other intervenors to pay attention to the issues
5 and concerns raised by NTI, and the importance of
6 the environmental, economic and social impacts of
7 this project on the Inuit of Nunavut.
8 Thank you, Madam Chair, for giving me the
9 opportunity to say these few words on behalf of Mr.
10 Intuluk. And I would now like to introduce George
11 Hakongak, the environmental coordinator for NTI
12 lands and resource department in Cambridge Bay, who
13 will be doing our detailed presentation.
14 MR. HAKONGAK: Thank you, Stefan. Thank
15 you, Madam Chair, and Board members and also the
16 audience.
17 My name is George Hakongak. I work for
18 Nunavut Tunngavik, I'm the environmental
19 coordinator. First of all, NTI would like to thank
20 -- on behalf of NTI I would like to thank this
21 opportunity for us to -- take this opportunity.
22 To begin, Nunavut Tunngavik would like to
23 thank the Nunavut Impact Review Board for the
24 opportunity to participate in the final hearing
25 addressing the Jericho Diamond Project of Tahera
26 Corporation, Nunavut Tunngavuk Corporation and

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1 Inuit Kitikmeot Corporation.
2 The comments provided stem from the review of
3 the Jericho project Final Environmental Impact
4 Statement issued by Tahera Corporation on January
5 2003, Tahera Corporation responded to information
6 requested by May 2003 and the Jericho project,
7 project in final Environmental Impact Statement,
8 supplemental report October 2003, Rescan

9 Environmental. Also had access to the original
10 guidelines issued by the NIRB and the Jericho EIS
11 April 2000, and the decision of the postponement
12 and the contained guidelines August 2003.
13 The review carried out by Rescan is focused
14 on evaluating the information submitted by Tahera
15 to determine the completeness and the effectiveness
16 of the proposed measures to ensure responsible
17 environmental stewardship. NTI has not focussed
18 further on the socioeconomic issues as we feel that
19 these issues are best addressed through the Inuit
20 Impact Benefit Agreement negotiated by the
21 Kitikmeot Inuit Association and Tahera Corporation.
22 NTI submitted a significant number of
23 recommendations concerning the final Environmental
24 Impact Statement. Tahera has responded to some of
25 these in the supplemental documentation.
26 In reviewing the supplemental report, Rescan

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1 has identified a series of outstanding issues that
2 we recommended and addressed through terms and
3 conditions by the NIRB in granting the project
4 certificate.
5 All of the comments raised by Rescan should
6 be incorporated; however, in this final submission
7 we will focus on those issues we feel are most
8 critical. NTI strongly recommends that the
9 following issues be addressed through terms and
10 conditions of a project certificate.
11 Critical issues: The issues and concerns
12 identified by NTI's review fall into two
13 categories: bullet one, first bullet, those that
14 need to be addressed and resolved prior to the
15 commencement of construction, (mine design issues);
16 B, those that need to be addressed and monitored
17 during the operation of the mine for effective
18 environmental and socioeconomic stewardship. The
19 proponent will need to establish effective
20 mitigation measures in consultation with Inuit in
21 the project area.
22 Mine design issues: In the first category,
23 the major issue identified relates to the design
24 and construction of the dams and dikes -- design
25 and construction of the dams and dikes that are
26 part of the processed kimberlite containment area,

0311

1 PKCA in the Long Lake drainage system. These
2 issues are critical to the long-term stability of
3 the structures during and after operation. These
4 include permafrost characterization at the exit of
5 Long Lake, identification of potential stream
6 talik, installation of liner in the west dam
7 redesign, a need for the divider dike of the PKCA
8 to aid in progressive reclamation, reconfiguration
9 of the PKCA to prevent water retention behind the

10 dam, aiding in the long-term stability of the dams.
11 CHAIRPERSON: We can't hear. Proceed.
12 MR. HAKONGAK: Detailed recommendations on
13 these issues and other issues related to design are
14 provided in the report by Rescan Environmental
15 titled, "Technical Review of Supplemental
16 Information for the Jericho Project Final
17 Environmental Impact Statement," the Rescan report
18 which is being filed by -- with NIRB for public
19 record.

20 Monitoring program: Issues identified in the
21 category of monitoring cover broadly all stages of
22 mine construction, operation, reclamation and post
23 reclamation and include all aspects of the
24 ecosystemic and socioeconomic impacts of the
25 project. Details of the monitoring requirements
26 identified in the NTI review are contained in the

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1 Rescan report. Some of the major monitoring issues
2 can be grouped into the following categories:

3 Air quality monitoring program includes --
4 including the Canada-wide standards that will be
5 adopted during the life of the project, assessing
6 lichens for metal concentrations, particularly with
7 regard to the number of sampling sites and the
8 number of animal tissue samples;

9 Water quality monitoring through an effective
10 water management system, particularly as it relates
11 to the rate of internal loading of any or all
12 constituents, phosphorus that will enter the PKCA,
13 nitrate concentration to meet the new CCME nitrate
14 guideline, water quality monitoring station
15 placement;

16 Fisheries data analysis to follow the
17 Canadian Metal Mining environmental effects
18 monitoring protocol;

19 Wildlife monitoring programs, particularly
20 cooperative work with the stakeholders to increase
21 the scope and scientific value; spray irrigation
22 impact and effectiveness monitoring, particularly
23 commitment to a series of monitoring measures;
24 collect soils and water samples from areas heavily
25 affected by irrigation; monitor the concentrations
26 of light ions, for example, Ca, Mg, Na, K:

0313

1 Determine porosity and cation, exchanged capacity
2 of the soil; incorporate weather conditions in
3 operation of the irrigation system; use of
4 archaeologist holding a valid Nunavut
5 archaeologist's permit prior to the initiation of
6 any construction activity.

7 Details of these and other monitoring issues
8 are documented in the Rescan report.

9 Additional requirements. The proponent, in
10 its final EIS submission and supplementary

11 documents, has requested from the various
12 regulators clarification of the monitoring
13 variables and directives required. NTI strongly
14 recommends that all the regulators implicated in
15 this project define their requirements for
16 effective monitoring, and that NIRB include these
17 as part of their recommended terms and conditions
18 for project certificate in its decision for the
19 Minister.

20 In addition, the proponent has committed to
21 various undertakings with regard to project design,
22 impacts monitoring and mitigation issues raised
23 previously by Inuit organizations and others.

24 NTI would encourage the proponent to
25 demonstrate its good corporate citizenship and
26 environmental stewardship by living up to these

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1 commitments.

2 In conclusion, in closing, NTI is in support
3 of the processed Jericho Diamond Project. NTI is
4 encouraged by the progress made in the development
5 of the final environmental impact statement and
6 requests that NIRB incorporate NTI's issues as well
7 as monitoring variables and directives defined by
8 other regulators into the terms and conditions for
9 a project certificate. In addition, NTI encourages
10 the proponent to operate and undertake its
11 stewardship role within the letter and spirit of
12 the Nunavut Land Claims Agreement.

13 Once again, thank you for providing NTI an
14 opportunity to participate in review of the Jericho
15 Diamond Project. We look forward to hearing of
16 NIRB's decisions on this matter and proceeding with
17 the issuance of a positive project certificate for
18 the Jericho Diamond Project in a timely manner.

19 That's all I have for this presentation.
20 Thank you.

21 CHAIRPERSON: It is now five minutes to
22 12 o'clock. Why don't we break for lunch now, and
23 we will get back to questions or presentation from
24 parties, and we will start with KIA at 1:30, thank
25 you.

26 (RECESSED AT 11:56 A.M.)

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1 (RECONVENED AT 1:30 P.M.)

2 CHAIRPERSON: Hello, again, can we get
3 started? And if you haven't signed in at the
4 front, please do so. And just a reminder to
5 parties, we have read your summaries, so we are
6 asking that you keep it down to 30 minutes.

7 Before we begin with questions for NTI for
8 Tahera, Bill, you have got a question?

9 MR. TILLEMAN: Thank you, Madam Chair. So
10 where we are in the process is that NTI should
11 probably come back up to the table again because

12 people have questions for them, first Tahera, and
13 then anyone in the audience, the Staff and the
14 Board.
15 But for Tahera, as they are coming up, Madam
16 Chair, if I might just start by asking a question
17 that came up earlier today and yesterday, and that
18 would be on what permits would be required for this
19 project to proceed that would interest the Board
20 and the Minister? One those issues that came up, I
21 think, yesterday and today, again, was the question
22 of the approval to use the winter road from the
23 Lupin site to the Jericho site. And if the
24 answer -- so I guess, essentially, what does Tahera
25 need to do?
26 Maybe a simple answer is to enter into a

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1 joint venture agreement with someone; maybe a more
2 difficult answer would be, well, the water boards
3 have jurisdiction over water, and ice is water, so
4 if part of the construction of the road included
5 flooding of the ice or a deposit of waste into
6 water, which is ice, then that might be a Water
7 Board issue.
8 So simply it appears to the Board that the
9 question still remains, how is that, albeit a small
10 chunk of the approval for access ingress and egress
11 to the Jericho site, how will that be dealt with?
12 So not expecting an answer to that now, Mr. Missal,
13 but it was a question that the Board still had that
14 was arising. So if you might, through your
15 counsel, think that one through and then get back
16 to the Board later.
17 MR. MISSAL: Madam Chair, Greg Missal
18 with Tahera. We will put some more consideration
19 to that and provide a response to the Board,
20 thanks.
21 CHAIRPERSON: Thank you. Okay. Does
22 Tahera have questions for NTI?
23 MR. MISSAL: Thank you, Madam Chair.
24 Greg Missal with Tahera. At this time we are not
25 going to have any specific questions for NTI on
26 their presentation; however, I would like to make a

0317

1 couple of comments related to it.
2 We believe that a lot of the content of the
3 NTI presentation was very highly technical, and
4 obviously those technical issues are going to be
5 handled during the design phase and the permitting
6 phase of approvals for the project. And then in
7 terms of the monitoring, we would like to -- what
8 we would like to do, is we would like to listen to
9 the comments that were received from the
10 intervenors and their presentations today, come up
11 with a general idea of what the intervenors are
12 saying, and we would be providing our comments to

13 the Board in our closing statements.
14 However, that being said, there may be other
15 questions that we do have during the course or
16 following the presentations this afternoon.
17 CHAIRPERSON: Bill? Any questions from
18 the parties, from the audience for NTI? Any
19 questions from the elders? Okay. How about any
20 questions from Nunavut Impact Review Board Staff?
21 MR. TILLEMANN: Thank you, Madam Chair.
22 What we are trying to, as a staff, try to assess is
23 how much information will be coming in the closing
24 comments on the proponent, and how much of that
25 might the other parties wish to know so that they
26 can ask questions about it. And closing comments

0318

1 are always procedurally required as a matter of due
2 process. But trying to get as much information out
3 on the table as early in the hearing as possible
4 through a direct submission is really the preferred
5 route so that anyone who has questions on it can
6 ask questions now.
7 So having said that, if Tahera is waiving off
8 questions of NTI, and if no one in the audience has
9 questions of NTI, then the Staff, there is two
10 things we can do, one is we can assume that the
11 evidence sits as it stands, not cross-examined, and
12 whatever inferences are drawn from that, are drawn
13 from that, or else with the objective of the Board
14 putting together a report that has terms and
15 conditions that mean something, that are specific
16 enough that regulators can eventually do something
17 with them, that would then require the Staff to
18 take probably a few minutes, just collect our
19 thoughts and maybe put some questions to NTI in a
20 way that would be helpful for the Board, Madam
21 Chair.
22 So that's where my thought was when you just
23 asked me a question a moment ago. So if you could
24 just maybe give me a few seconds, and I would have
25 some advice for you. I hate to --
26 CHAIRPERSON: Tahera, no questions for

0319

1 NTI?
2 MR. MISSAL: Just, Madam Chair, Greg
3 Missal with Tahera. I would just like a couple
4 minutes to conference with counsel.
5 CHAIRPERSON: Why don't we start in ten
6 minutes. Okay? That will give both -- okay. Ten
7 minutes.
8 (RECESSED AT 1:38 P.M.)
9 (RECONVENED AT 1:48 P.M.)
10 CHAIRPERSON: Shall we continue? Bill or
11 Tahera, who wants to go first?
12 MR. TILLEMANN: Thank you, Madam Chair. So
13 where we left it was the examination of NTI on

14 their presentation, and in that presentation they
15 raised what they called critical issues, some mine
16 design issues, some monitoring and so on. And so
17 that it might help the Board and perhaps the rest
18 of the parties to understand, you know, some of the
19 concerns of the Staff, maybe we might lead out,
20 Madam Chair, with a few questions if that is okay
21 with NTI, first of all? Is that okay with them?
22 They are nodding yes that it is okay, and so why
23 don't we start at them, and if it is okay with
24 Tahera, Mr. Missal?
25 MR. MISSAL: Absolutely, thank you.
26 MR. TILLEMAN: No objections from the

0320

1 audience then. Why don't we do that, so we will
2 now begin as a Staff.
3 BOARD STAFF QUESTIONS NTI:
4 MS. FILIATRAULT: Thank you, Madam Chair.
5 Dionne Filiatrault. Just going through the notes
6 that you had provided for your submission, and we
7 are not talking about the big Rescan submission,
8 but the cover letter and your speaking notes, some
9 of the critical issues that were raised were the
10 mine design issues, there is a list of five points
11 dealing with permafrost, characterization, the exit
12 of Long Lake, the identification of a potential
13 stream talik, installation of a liner at the west
14 dam and the needs for a divider dike at PKCA and
15 reconfiguration.
16 So these are all design issues. I guess my
17 question at this point is is that understanding the
18 process that the final design will not be likely
19 forthcoming until the regulatory process begins,
20 can these issues be deferred to the regulatory
21 process?
22 MR. LOPATKA: As we mentioned in our
23 submission, these are issues that we have raised
24 that we believe can be addressed prior to
25 construction.
26 Q So I am taking that as a yes?

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1 A Yes.
2 MS. FILIATRAULT: I guess, Madam Chair, at
3 this point I would just like to emphasize that by
4 deferring these to the regulatory process and
5 posing that question, I'm not making a statement on
6 the validity or whether it should be done or
7 shouldn't be done at this point. They can be
8 debated at the regulatory process.
9 On what I will call issue 21 on your air
10 quality, when you are referring to the
11 Canadian-wide standards, I believe in the
12 submission that Tahera made yesterday under the air
13 quality, they did refer to doing a particular
14 matter 2.5 assessment, so I'm wondering if at this

15 point that issue is resolved. And you mentioned
16 that the air quality monitoring program in your
17 written submission incorporates a data base, so I
18 guess the question to you is is the issue resolved?
19 And a subsequent question to Tahera would be in the
20 collection of this type of air quality data, is a
21 database automatically going to be collected
22 anyway?
23 MR. LOPATKA: From our point of view, the
24 issue 21 which we addressed the PM2.5 which Tahera
25 has already said that they would comply with.
26 Q In the assessment of the lichens and the metal

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1 concentrations, I'm not sure that this is actually
2 in the -- I'm not sure whose mandate it is for
3 monitoring of this type of material. And in the
4 assessment of air quality, can you tell me who
5 would -- who regulates that type of collection of
6 data?
7 A I don't know if it is specifically a regulatory
8 aspect, but it is one method of monitoring that has
9 been recommended by our consultant in terms of
10 determining air quality effects.
11 MR. TILLEMEN: And so your issue simply is
12 you want someone to monitor with respect to through
13 lichens, through the instrument of a lichen for
14 metal concentration, and you want a monitoring
15 condition attached for that assessment, correct?
16 MR. LOPATKA: If it is deemed as an
17 appropriate method of monitoring, and from the
18 information we have, it has been shown to be so. I
19 believe it is used at Ekati. Then, you know, we
20 would see that this is a way that we could ensure
21 that correct monitoring is carried out.
22 MS. FILIATRAULT: A lot of the water
23 management and water quality monitoring conditions
24 that you have listed, again, it comes down to do
25 the specifics of this information, are they
26 required at this point for impact assessment, or

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1 can they be deferred for specific monitoring
2 requirements that might be imposed in the water
3 license. Can we defer that to the water licensing
4 regulatory phase?
5 A I think the entire issue of water quality obviously
6 will be addressed within the water license, and
7 that is probably the appropriate place. We wanted
8 to raise it here as an impact and that it should be
9 addressed or it should be brought forward and dealt
10 with within the regulatory process that can be
11 deferred to the water licensing aspect of it.
12 MR. TILLEMEN: And I think -- it is Bill
13 Tillemann. I think clearly the point is it will be
14 addressed at that stage, but is there anything
15 specifically that you would like the Impact Review

16 Board to attach as a condition at this stage of the
17 hearing process, and not only for NTI, but also for
18 the other parties and governments that are
19 listening, is there anything -- because the issue
20 is very simple, either if this -- assuming all the
21 parties would agree that this project should go
22 ahead, that's half of the test, that's the go, no
23 go determination, and so if that's correct, then
24 this board has to go one step further, according to
25 the land claim, it has to attach terms and
26 conditions that reflect the primary objectives of

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1 the land claim, which are to protect the ecosystem
2 of this area for these people and for other
3 residents of Canada.
4 And so is it enough to say that this project
5 should go ahead, everyone is satisfied because
6 everything will be dealt with later, knowing that
7 this board has to attach terms and conditions. And
8 through the Chairperson to the proponent and all of
9 you, we need help on that. To be very candid, we
10 need your help and advice in structuring or
11 deconstructing in terms and conditions that have
12 been proposed. So we are here now to do that, and
13 any help you can give us very specifically on this
14 issue at this time, for the rest of the week, I
15 should say, but still at this time would be
16 helpful.
17 A In our view, part of the role of NIRB beyond the
18 project certificate will be the monitoring phase.
19 At this point in time it is not clear exactly where
20 the jurisdictional boundaries will be between the
21 Water Board's monitoring and the NIRB monitoring.
22 We address these issues as necessary monitoring
23 issues that can be addressed by the Water Board,
24 but if it is beyond their jurisdiction then to be
25 included in terms and conditions that NIRB puts
26 forward and NIRB will be monitoring for.

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1 Q Thank you, Mr. Lopatka. And one of the catch 22s
2 in that phrase is that the water legislation
3 actually has a clause in it, it might be 82, but it
4 is in that area that actually allows the Water
5 Board to pick someone who does the monitoring, and
6 guess who is on that list? NIRB and the proponent
7 and/or the Crown.
8 And so to the extent that -- and as you have
9 pointed out, the land claim allows -- once a
10 project certificate is issued, then one of the
11 responsibilities of NIRB is a project-specific,
12 site-specific monitoring function. So that, again,
13 places the land claim in a separate category as
14 compared with other legislation, it has that role.
15 And so to the extent that the Board can understand
16 what they are supposed to be looking for and what

17 they should tell the Minister to satisfy him or her
18 that this is a good project that should be approved
19 is what we need now. The more, the better is what
20 we are asking for.
21 So with that in mind, are you still satisfied
22 that we transfer any monitoring issues under bullet
23 number 2 on your page 3 of your written, filed
24 submission, that we transfer those to the Water
25 Board process?
26 A I think that would be appropriate because these are

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1 -- these would fall under the jurisdiction of the
2 Water Board.
3 MR. TILLEMAN: Okay.
4 CHAIRPERSON: Dionne?
5 MS. FILIATRAULT: Thank you, Madam Chair.
6 Dionne Filiatrault. You make the statement that
7 the Fisheries data analysis is to follow the
8 Canadian Metal Mining effluent monitoring
9 protocols, and realizing that this is not a metal
10 mine, I am just wondering what your justification
11 is for requesting that.
12 A I can't give you a direct answer to that at this
13 time. I will check with our Rescan report to get
14 clarification on it. I believe it was because
15 these were what was available for fish monitoring,
16 as I don't think there are guidelines available for
17 diamond mines at this time, but I will look into
18 that further.
19 MR. TILLEMAN: And thank you. The next
20 bullet then deals with wildlife monitoring, and
21 while there is a holistic environment including
22 water, one would think that wildlife monitoring
23 conditions should be dealt with right now and that
24 we should hear as much as we can. To that extent,
25 I am stilling hoping for, once the Chairperson asks
26 for a roll call each day, that the GN might show up

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1 and that they might help us on this.
2 CHAIRPERSON: Excuse me. The translating
3 is not coming through again, Inuinaqtun.
4 Okay. Go ahead, Bill, sorry.
5 MR. TILLEMAN: And so I am still hoping
6 that the GN would be here soon so that they can
7 help explain what role it may have to play in
8 wildlife monitoring. And as you mentioned,
9 particularly cooperative work with other
10 stakeholders. Well, if you are the proponent, they
11 can monitor, and it should. Governments also have
12 that responsibility, and they should, and so we
13 hope we get some information from them.
14 Now, to you for NTI, is there anything
15 specific besides what you have listed here that you
16 would like to see in a project certificate on
17 wildlife monitoring programs?

18 A What we were mostly focussing on in this aspect was
19 what was discussed yesterday, a broader monitoring
20 program for wildlife that has been potentially
21 proposed but has not been proved. We would like to
22 see that Tahera, if that was a program that was
23 developed similar to the WKSS program, would
24 consider it, as they said yesterday, look at it and
25 partake if it fits with their objectives.
26 CHAIRPERSON: Dionne or Bill, any other

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1 questions, comments?
2 MR. TILLEMANN: Okay. Thank you. And so
3 on the last bullet on that page, if I could just
4 skip over the spray irrigation which we have heard
5 a lot about, and it appears to be a mitigation
6 measure, and the Board would like to know and ask
7 for information on how that would be assessed and
8 when. I think the answer from the proponent is
9 now, and so if that's the case, then the Board
10 needs to know the condition and to ensure that the
11 impacts are assessed in a time when you have enough
12 information to make a good decision. This was my
13 exchange with Rick.
14 So you go beyond the crystal ball as a
15 general rule. Well, you clearly have to be beyond
16 that, but you don't need to have all the data, but
17 you need to be right in the middle somewhere.
18 On the -- so if I can jump just for a moment
19 to the last bullet, you have suggested that the
20 archaeologist hold a valid archaeological permit in
21 Nunavut, and that seems pretty straightforward. I
22 mean, it seems almost redundant, doesn't it?
23 A We assume that it does, but we just wanted to
24 ensure that it was professionals working in Nunavut
25 have to be registered within Nunavut.
26 MR. TILLEMANN: Thank you.

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1 MS. FILIATRAULT: Thank you, Madam Chair.
2 Dionne. So I guess the only other unresolved issue
3 here relates to the spray irrigation, and given
4 that we are hearing that it is a contingency
5 measure, that it is not even 100 percent sure that
6 this is going to be required, in all likelihood, if
7 something like that were to proceed, if it were not
8 already in a water license, it would require some
9 form of a water license approval, amendment or
10 whatnot. So can the issues and details and
11 assessment of the validity of doing something like
12 that be deferred to the water licensing regulatory
13 phase?
14 A Again, looking at the spray irrigation, there is
15 some confusion as to whether it would fall under
16 the jurisdiction of the Water Board. If it does
17 fall under the Water Board, because it is
18 predominantly a land issue, or at least part of it,

19 as long as it falls under the jurisdiction of the
20 Water Board, then it would be fine to defer that to
21 the licensing.
22 MR. TILLEMAN: She is not qualified to
23 give a legal opinion, and I am smart enough that I
24 won't on that issue.
25 A That's why we brought it up here because we were
26 unclear as to whether it would fall under a Water

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1 Board issue. We were identifying larger issues.
2 MR. TILLEMAN: Madam Chair, there appears
3 to be precedent that spray irrigation has been
4 regulated under the water license. Clearly it is
5 water, and I think what Mr. Donihee brought up
6 though that it may have an impact and clearly would
7 have an impact on vegetation, that's quite logical.
8 And to that extent, that has a corresponding direct
9 effect on wildlife. We understand your point, and
10 we will do the best we can with your information.
11 MR. LOPATKA: Thank you.
12 MR. TILLEMAN: Madam Chair, those are our
13 questions, and maybe if they could wait just to see
14 if NTI has any questions.
15 CHAIRPERSON: Tahera?
16 TAHERA CORPORATION QUESTIONS NTI:
17 MR. MISSAL Madam Chair, we do have one
18 question, please.
19 MR. SOBOLEWSKI Andre Sobolewski. It is
20 more of a clarification that I would like to make.
21 The focus in looking at spray irrigation with
22 regards to this process was to make sure that
23 something can be designed that, (a) will achieve
24 the treatment performance that is sought in terms
25 of protecting the aquatic environment, and (b) that
26 it will not compromise in any way the integrity of

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1 the ecosystem, meaning the land on which the water
2 would be applied.
3 Everything about the design and the
4 monitoring program that was suggested relates to
5 these two questions, and these two questions are
6 the test, if you will, for whether to include or
7 exclude a consideration. Far more specific
8 information will be necessary, might have been
9 required but falls outside of the concern about
10 these two questions, will the ecosystem integrity
11 be maintained. Will treatment performance be
12 satisfactory for the needs?
13 So while additional information may be and,
14 in fact, will be necessary, it will not be insofar
15 as this process is concerned, and that has been the
16 limit of what was been provided.
17 A lot of the questions that have been raised
18 in the Rescan report and critique, if you like,
19 went far beyond that particular mandate and were

20 very detailed specifications or questions that I
21 think may need to be addressed but are not a
22 germane thing to this process.
23 CHAIRPERSON: Okay. Thank you. NTI?
24 MR. LOPATKA: No.
25 CHAIRPERSON: Any questions from the
26 elders or from the public for NTI?

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1 RESIDENTS QUESTION NTI:
2 MR. KULIKTANA: My name is Sam Kuliktana.
3 I have a question with NTI under water quality
4 monitoring about page 3 about nitrate concentration
5 to meet CCME nitrate guideline. And obviously I'm
6 a former employee from Lupin mine, and obviously
7 they don't use any -- they don't allow any nitrate
8 in any mines for to use nitrate, because I just
9 want to get clarified on that nitrate
10 concentration. Can you explain it?
11 MR. LOPATKA: Possibly we can defer to
12 some of the Rescan experts to explain that, or to
13 Tahera.
14 MR. MISSAL: Sorry, Madam Chair, was
15 that a question to Tahera or to NTI?
16 MR. LOPATKA: It was to NTI.
17 MR. KULIKTANA: To NTI.
18 MR. LOPATKA: I don't have the specifics
19 of that answer.
20 CHAIRPERSON: Can you speak into the mic,
21 please?
22 MR. LOPATKA: Sorry. I don't have the
23 specifics of that answer potentially in terms of
24 the actual process and where nitrates comes in.
25 Some of the consultants that Tahera has can explain
26 that.

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1 MR. KULIKTANA: I just wanted to get more
2 familiar with that question, with that concern.
3 Thank you, Madam Chair.
4 CHAIRPERSON: Will NTI be deferring this
5 question to Tahera?
6 MR. LOPATKA: Yes.
7 MR. MISSAL: Madam Chair, I suppose I
8 think Bruce is willing to comment on it, but just
9 so it is understood, it is a question to NTI, and
10 we are just helping out.
11 MR. LOPATKA: Thank you.
12 CHAIRPERSON: Thank you.
13 MR. OTT: The issue of nitrate arises
14 in mining principally from the methods that are
15 used for breaking a rock or blasting. The most
16 common blasting agent is a combination of ammonium
17 nitrate, which is essentially a fertilizer and
18 diesel oil, which is typically mixed downhole in a
19 drill hole, and then you use an accelerant, a
20 blasting cap, and that's used to blow the rock, and

21 it is a favorite amongst miners because it is
22 relatively inexpensive.
23 If a farmer can afford ammonium nitrate as a
24 fertilizer, a miner can probably afford the stuff
25 to blow up the rock.
26 One of the side effects of that, and it is

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1 much less so in underground mining because less
2 explosives are used than in an open pit, is that
3 you end up generating several nitrogen compounds,
4 three principal ones, two of which are an issue
5 because one is relatively transitory, that's
6 ammonia, which we have been talking about quite a
7 bit through these hearings, and nitrate which --
8 the difference between those two is, essentially is
9 that the nitrate is a more oxidized form, has more
10 oxygen associated with it than ammonia does.
11 The recent -- ammonia -- sorry, I should back
12 up. Ammonia, we are fairly comfortable with the
13 limits that have been set, they have been around
14 for a while, and we had some more discussion this
15 morning with respect to ammonia.
16 As far as a nitrate is concerned, the older
17 federal guideline was aimed at not generating
18 nuisance algae, i.e., fairly high levels.
19 Environment Canada now bases that on potential
20 toxicity to sensitive life stages in fish. And I
21 haven't seen their document, but I understand the
22 limit that they are proposing in their guidelines
23 is 15 milligrams per litre in the water. We are
24 suggesting from our analysis that there won't be
25 any problem in reaching that level at the discharge
26 point in the PKCA at the Jericho project.

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1 Now, I'm sorry, that was still a fairly
2 technically complex explanation, but I, myself,
3 can't give you a simpler explanation of where the
4 nitrogen comes from. In summary, it comes from the
5 use of explosives.
6 CHAIRPERSON: Any questions from the
7 Board?
8 BOARD QUESTIONS NTI:
9 MR. PANEAK: The only thing that I am
10 looking at is that I don't wish that any types of
11 contaminants go into Long Lake because I am sure
12 that caribou are going to be going or passing
13 through there.
14 CHAIRPERSON: Is that your question to
15 NTI? I think it is best if you could ask questions
16 directly to NTI that they were -- about what they
17 were just discussing that relate to their
18 discussions or to their report.
19 Do we have an answer for his question?
20 MR. MISSAL: Madam Chair, Greg Missal
21 with Tahera. I think Peter's question, I think,

22 was similar to a question that he asked to us
23 earlier this morning, and if that's the case, I
24 think we answered Peter's question then. But
25 perhaps he could confirm that.
26 MR. PANEAK: I was asking about fencing,

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1 fencing around the Long Lake area, because I don't
2 wish to see caribou go to the lake to go drink
3 water at that lake, so I would like to see some
4 type of fencing put around that tailings pond.
5 MR. HUBERT: Thank you. It is Ben
6 Hubert. The concern over drinking water from -- at
7 mine sites has been expressed by many people,
8 particularly Aboriginal people in remote areas, and
9 it is a logical and sensible concern.
10 The information I put up yesterday showed
11 that caribou will be passing through the project
12 area in spring on migration to the calving grounds.
13 At that time the land is still frozen and snow
14 covered, and so the opportunity for drinking water
15 at Long Lake, I think, is very small.
16 The next season that caribou will be passing
17 through or may be in the project area is in July
18 and early August, and our observations have been
19 and the telemetry data from satellites show that
20 the animals are in the project area a very short
21 period of time, and so again, I think the
22 opportunity for taking in water from Long Lake is
23 very low.
24 Furthermore, the water quality in Long Lake
25 would meet the standards that would be applied in a
26 livestock feeding or carrying operation, and so to

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1 the extent that provides a level of safety or
2 comfort, I think it is relevant. But I think the
3 overriding mitigation here is that the caribou will
4 be in the area a very, very short period of time,
5 and so the opportunity for significant risk is very
6 low.
7 And to address that low risk with fences, I
8 think introduces the risk of caribou getting inside
9 of the fence and becoming a problem to themselves
10 and to the project, but I think we have to be
11 vigilant, and we have to be careful, that if fences
12 or some form of barrier like deflectors are
13 required, the project needs to be prepared to take
14 that action. Thank you.
15 CHAIRPERSON: Thank you. Any other
16 questions from the Board? For NTI? Peter?
17 MR. PANEAK: It is a known fact, the
18 fact that caribou cannot pass through any kind of
19 barrier that is placed that is foreign to them,
20 even if you put a little line or a piece of rope
21 through their regular routines or path, it is --
22 they can --

23 CHAIRPERSON: Any more questions? Thank
24 you we learn something every day.
25 MR. TILLEMANN: Thank you, Madam Chair. I
26 was just kind of waiting for the last part of the

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1 sentence for the translation for the answer, and so
2 if it is possible, Madam Chair, to have the answer
3 from Mr. Paneak read back to us through the
4 translators, because what I heard was that caribou
5 will approach a barrier and then they will do what?
6 And I didn't hear the last part of it, so either if
7 the translator could help us or if Peter could
8 explain that point one more time. It just seems to
9 me an important point.
10 MR. PANEAK: Can you hear me well now?
11 Yes, in regards to what I was saying, the caribous
12 are very sensitive to anything foreign that's in
13 their way, in their path. Like, if there is
14 anything that is in their route, like the path,
15 like if there is a piece of rope, a piece of wood
16 that is -- it is anything that is foreign to them
17 in their path, they always escape from the
18 traditional path. Their regular route is when they
19 are moving. Like, if I was to place any kind of
20 fence, caribou will not come back, and it would
21 affect their habitat, they will not come back.
22 They would be scared to come back. I hope you
23 understand better now.
24 MR. TILLEMANN: Thank you.
25 CHAIRPERSON: Also gathering good
26 traditional knowledge.

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1 Any other questions for NTI? Elders, do you
2 have any questions to NTI?
3 CHAIRPERSON: No other questions. Thank
4 you, NTI.
5 And now presentation by the Kitikmeot Inuit
6 Association. Please remember we did read your
7 summary, so please keep it to 30 minutes, thank
8 you.
9 Before you begin, Bill you have got some --
10 you have your swearing in?
11 MR. TILLEMANN: Thank you, Madam Chair. I
12 will swear in their witnesses now, and also remind
13 them if they have a presentation in PowerPoint or
14 any other form we don't have, if they could see
15 that it is filed with us as soon as possible.
16 Please state your name for the record and
17 spell your last name.
18 MR. KANIAK: Jack Kaniak, K-A-N-I-A-K.
19 (JACK KANIAK SWORN)
20 MR. TILLEMANN: State your name for the
21 record and spell your last name.
22 MR. EVALIK: Charlie Evalik,
23 E-V-A-L-I-K.

24 (CHARLIE EVALIK SWORN)
25 MR. TILLEMEN: State your name for the
26 record and spell your last name.

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1 MR. CLARK: Geoffrey Clark, C-L-A-R-K.
2 (GEOFFREY CLARK SWORN)
3 CHAIRPERSON: And, again, legal counsel,
4 you are okay.
5 PRESENTATION BY KITIKMEOT INUIT ASSOCIATION:
6 MR. DONIHEE: No one ever asks a lawyer
7 to swear.
8 Thank you, Madam Chair. My name is Donihee,
9 John Donihee. I am counsel to the Kitikmeot Inuit
10 Association. Last name spelled D-O-N-I-H-E-E.
11 It is my pleasure to introduce our panel to
12 the Board, and I will have just one or two
13 introductory comments as well. But, firstly, to my
14 immediate right, Mr. Charlie Evalik, who is the
15 president of the Kitikmeot Inuit Association, to my
16 immediate left, Mr. Jack Kaniak, who is the lands
17 manager for Kitikmeot Inuit Association, and to my
18 far right, Mr. Geoffrey Clark, who is the
19 environmental screener for the KIA.
20 As Mr. Lopatka indicated to the Board when he
21 made the introduction to his presentation, KIA and
22 NTI pooled their resources in order to complete a
23 technical assessment or review of the EIS that was
24 filed by Tahera Corporation, and consequently the
25 Rescan report which was filed in this proceeding
26 actually is a filing on behalf of both KIA and NTI.

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1 And as a result of that, Madam Chair, there is a
2 little bit of overlap between some of the things we
3 may be saying to you. We will minimize that in the
4 interests of getting through to the end of this
5 proceeding, but I hope you will give us a little
6 bit of leeway that way.
7 Although we shared the work or shared our
8 efforts with Rescan, the actual presentations of
9 the two organizations were prepared separately, and
10 there is a little bit of overlap. With that being
11 said, I will turn the proceeding or the
12 presentation over to Mr. Evalik. We have a
13 PowerPoint presentation, and there were a limited
14 number of the slide decks from the PowerPoint
15 presentation placed at the side of the room when we
16 came in.
17 CHAIRPERSON: Okay. And your information
18 will come from KIA, not from Rescan, but the KIA
19 concerns?
20 MR. DONIHEE: You are going to hear the
21 KIA position, Madam Chair.
22 CHAIRPERSON: Thank you. Go ahead.
23 MR. EVALIK: Thank you, Madam Chair. We
24 will be presenting the KIA position on the evidence

25 that has been provided by Tahera in their
26 submission of the final EIS, and we will go that

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1 way.

2 Madam Chairperson and members of the Nunavut
3 Impact Review Board, it is my pleasure to lead a
4 presentation to NIRB outlining the Kitikmeot Inuit
5 Association's position on Tahera's proposed Jericho
6 project.

7 My name is Charlie Evalik. I am president of
8 the Kitikmeot Inuit Association. I will start off
9 the presentation made by the KIA panel. Today I
10 have, as John Donihee indicated, Mr. Jack Kaniak,
11 our lands manager, and Mr. Geoffrey Clark, our
12 environmental screener, and John Donihee is our
13 legal counsel.

14 Kitikmeot Inuit Association, KIA, has
15 reviewed the Tahera Corporations final Jericho
16 Diamond Project Environmental Impact Statement,
17 EIS, and Tahera's supplemental report and
18 supporting documents. Based on this review, the
19 KIA is pleased to outline its position on this
20 proposed project for the Nunavut Impact Review
21 Board.

22 I will present a broad overview of KIA's role
23 and its position with respect to the Jericho
24 project. Mr. Clark will then present a more
25 detailed submission outlining those environmental
26 and other matters which KIA believes NIRB should

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1 consider in making its decision on this project
2 proposal. We expect to take about 20 minutes for
3 our presentation. Afterwards, the KIA panel will
4 be available for questions.

5 KIA's role in the Jericho project: The
6 Jericho Diamond Project represents important
7 economic opportunity for the Kitikmeot region and
8 for Nunavut. KIA has actively promoted mining
9 development in Nunavut and the Kitikmeot region in
10 the interest of all the Inuit. KIA supports
11 appropriate mining development in the Kitikmeot
12 because it has important responsibilities to
13 Kitikmeot Inuit. To balance economic development
14 with environmental protection to protect the land,
15 wildlife and Inuit lifestyles.

16 KIA has played an active role in these NIRB
17 and Nunavut Water Board proceedings. As a result
18 of our review of the evidence filed by Tahera to
19 date, KIA will be urging NIRB to recommend to the
20 Minister a find that additional environmental
21 protection measures be included in the NIRB
22 certificate, regulatory permits and licenses
23 granted for this project.

24 KIA also manages and regulates activities on
25 the Inuit-owned lands, IOL, and it is a designated

26 Inuit organization for the purpose of Article 20,

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1 Inuit water rights on these lands.

2 KIA is a surface landowner of Inuit-owned
3 lands, parcel CO-05, which is within the immediate
4 footprint of the proposed Jericho diamond mines.
5 The proposed diamond mine is located about half on
6 Inuit-owned lands, parcel CO-05, and half on Crown
7 land.

8 The Jericho mine and KIA's environmental
9 concerns: The Jericho diamond mine will have the
10 following structures on Inuit-owned land parcel
11 CO-05. First bullet, coarse tailings stockpile;
12 second bullet, waste dumps 1 and 2; third bullet,
13 overburdened stockpile; forth bullet, ammonium
14 nitrate storage; fifth bullet, explosive magazines;
15 sixth bullet, sediment collection pond; seventh
16 bullet, all-weather road from the mine site to
17 Contwoyto Lake; and lastly, buildings such as
18 explosive truck wash and offices. Plus about
19 one-half of the mine infrastructure and storage
20 areas are located on surface Inuit-owned lands.

21 Consequently, KIA may impose additional
22 environmental protection requirements on Tahera's
23 use of Inuit-owned lands on their water on
24 Inuit-owned lands, through surface leases and other
25 land-tenure instruments.

26 In May of this year, KIA reviewed Tahera's

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1 final EIS and identified 18 significant concerns
2 that we suggested to NIRB had to be addressed
3 before any approvals could be granted to Tahera.
4 KIA also identified 18 moderate concerns which we
5 suggested had to be addressed before any approvals
6 could be granted, and a number of lower
7 significance issues which we suggest should be
8 considered in order to improve the EIS and Tahera's
9 environmental protection plans.

10 KIA has now reviewed Tahera's supplementary
11 information and with, our expert assistance, has
12 reviewed the 51 issues from our May review. This
13 includes 17 of the significant issues, 17 of the
14 moderate issues and 17 other issues that were
15 originally identified in KIA's May submission and
16 the Rescan Environmental Services Limited report.

17 The 17 other issues relate primarily to
18 fisheries and wildlife concerns. The Kitikmeot
19 Inuit have guaranteed harvesting rights on Nunavut
20 settlement area and are primary users of the land.
21 As such, KIA's particular interest and concern is
22 the protection of these resources and the
23 lifestyles they support.

24 Overall, it is KIA's position that Tahera has
25 responded adequately to 34 of the 51 issues
26 reviewed. Tahera's new work satisfactorily

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1 addressed most of the high and moderate issues of
2 significance raised by KIA in May of 2003. In
3 particular, the company responded to 29 of 34 high
4 and moderate priority issues originally identified.
5 Nevertheless, after KIA's review of the response to
6 these 51 issues, there are still outstanding
7 concerns with respect to mine design and
8 environmental mitigation and monitoring proposals
9 made by Tahera.

10 The KIA has identified five significant
11 outstanding concerns with the design of the Jericho
12 mine. These issues are addressed in Section 3 of
13 our written submission of NIRB and will be
14 addressed in greater detail by Mr. Clark under
15 KIA's behalf. Mr. Clark will present two
16 recommendations related to environmental mitigation
17 and 11 recommendations related to environmental
18 monitoring to present to NIRB on KIA's behalf.

19 The Jericho mine and socioeconomic benefits:
20 The largest proportion of residents of the
21 Kitikmeot are Inuit, and almost all of them are
22 beneficiaries of Nunavut Land Claims Agreement.
23 Because of that, Jericho diamond mine is a major
24 development project, and because it is being built
25 at least partly on Inuit-owned land, KIA and Tahera
26 have negotiated an Inuit Impact Benefit Agreement

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1 (IIBA) as required by Article 26 of the Nunavut
2 Land Claims Agreement. KIA and Tahera achieved an
3 agreement in principle under the IIBA in December
4 2003. Final legal and technical review will
5 follow, and the IIBA will be signed in Nunavut
6 sometime early this year. This IIBA also includes
7 a commitment by Tahera to pay compensation to KIA
8 for the effects of the project on Inuit water
9 rights under Article 20 of the Nunavut Land Claims
10 Agreement.

11 Inuit Impact Benefit Agreement will ensure
12 that jobs, training and employee support programs
13 are made available to Inuit. It sets Tahera's
14 commitment to 60 percent employment by year five of
15 the project into a binding agreement. Inuit Impact
16 Benefit Agreement also provides a preference for
17 contracting opportunities for Inuit firms and
18 individuals.

19 Finally, the Inuit Impact Benefit Agreement
20 provides for cash payments to KIA on behalf of the
21 Kitikmeot Inuit in order to fund programs intended
22 to protect Inuit heritage and culture.

23 Based on the commitments made by Tahera in
24 the Inuit Impact Benefit Agreement, KIA is advising
25 NIRB that socioeconomic concerns raised by KIA have
26 been mitigated and any other socioeconomic issues

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1 that related to -- for the Kitikmeot residents in
2 general should be addressed by government of
3 Nunavut, and we are just dealing -- this IIBA is
4 just dealing with the Inuit rights under Article
5 26.

6 The IIBA will be made public, and I am
7 considering to release to NIRB portions of the
8 agreement with those schedules that I perceived to
9 be confidential just to KIA as well as to Tahera,
10 that should be kept in confidence, and the other
11 portions of the agreement I could release to NIRB
12 for their -- for part of their NIRB hearings as per
13 our evidence that an agreement has been reached
14 with Tahera, and that is an agreement between us
15 and Tahera has reached, and I am prepared to
16 release a portion of the IIBA that has been
17 reached.

18 Jericho mine in the environmental protection,
19 I will now ask Geoff Clark, KIA's environmental
20 screener, to present the details of KIA's position
21 on environmental management of the Jericho project.
22 Mr. Geoff Clark, with your permission, I will ask
23 Geoff Clark to make presentation.

24 CHAIRPERSON: Yes. Before he goes ahead,
25 in regards to the IIBA agreement, Bill, can you --
26 MR. TILLEMANN: Thank you, Madam Chair.

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1 The Board would like to receive the agreement and
2 would respect -- understands the nature of IIBAs
3 and would respect the confidentiality portions of
4 that. So Tahera, of course, is a signatory, KIA
5 is, and I would expect that what was offered is
6 reasonable and would have no objections from the
7 audience. And in any event, we haven't heard from
8 Tahera on that, but it certainly does cover
9 socioeconomic issues in some way and to that extent
10 would be helpful that the Board could pass along
11 whatever mitigation, as you said, has already taken
12 place.

13 So within the framework of IIBAs, and I
14 understand a little bit about that, that would be
15 helpful to the Board, but let's -- we haven't heard
16 from Tahera yet, and Mr. Donihee has something to
17 say also, Madam Chair. So why don't we hear from
18 them and the conditions upon which they can or
19 cannot make that available to the Board.

20 MR. DONIHEE: Madam Chair, just to be --

21 CHAIRPERSON: Mr. Donihee?

22 MR. DONIHEE: Thank you, John Donihee.

23 Mr. Evalik's offer is to make available to the
24 Board the IIBA less the -- there are three
25 schedules which are confidential, and so we would
26 file everything except for Schedules J, K and L.

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1 And we did discuss this with Tahera before we made
2 the offer, but of course it might be useful if
3 Mr. Missal just confirm that it is all right with
4 the company, and if so, then we will undertake to
5 file it first thing tomorrow morning.
6 CHAIRPERSON: Mr. Missal?
7 MR. MISSAL: Madam Chair, Mr. Donihee is
8 correct. We did discuss this issue, and Tahera
9 Corporation is fully prepared to release that
10 document with the exception of the three schedules.
11 Thank you.
12 CHAIRPERSON: Okay. Thank you. Go
13 ahead, Mr. Clark.
14 MR. CLARK: Thank you, Madam
15 Chairperson. I will now take over the
16 environmental section of the presentation. And I
17 will discuss issues related to the mine design,
18 environmental mitigation and environmental
19 monitoring, which are issues to the KIA.
20 In the mine design, the KIA has identified
21 five issues that have not been addressed to our
22 satisfaction as it relates to the design of the
23 mine, and these issues are identified below with
24 KIA's recommendation to NIRB. The first and second
25 issue relate to the design of the dam, which is
26 known as the west dam, that is used to create the

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1 processed kimberlite containment area or the
2 tailings impoundment at Long Lake.
3 After KIA criticized the initial location of
4 the west dam in Long Lake, Tahera moved the west
5 dam further downstream onto land, and KIA supports
6 this decision. However, after reviewing this
7 proposal, we have some concerns related to this
8 change in location. And the first issue is that
9 the new location of the west dam will cross a
10 stream, and it is unknown if ground below the
11 stream contains unfrozen areas. So the KIA
12 recommends to NIRB that additional permafrost
13 drilling be completed to assure that there is no
14 stream talik or unfrozen ground beneath the stream.
15 This would be to assure that seepage does not occur
16 beneath the dam.
17 The second issue is that in this newly
18 proposed location is that not enough bedrock
19 drilling information is completed to prove that the
20 bedrock underneath the west dam isn't cracked or
21 fractured in any way. This should also -- this
22 could also cause the dam to leak, and so the KIA
23 recommends to NIRB that the north abutment of the
24 west dam requires more drilling information before
25 the structure is designed and built.
26 The third issue that relates to the design of

0352

1 this dam is the liner that is used in the west dam.

2 The liner is used to prevent seepage through the
3 dam and allow the dam to freeze. KIA supports
4 Tahera's proposal to use a liner, but KIA
5 recommends that it should be placed along with an
6 anchor trench along the -- through the middle of
7 the dam, along the dam centre line.

8 The design proposed by Tahera is to place a
9 liner on or within the upstream face of the dam,
10 and we believe that water at the face of the dam
11 may melt the ground around the anchor trench of
12 this liner and cause water to leak underneath the
13 dam.

14 KIA originally criticized the design of the
15 divider dikes used within the processed kimberlite
16 containment area and asked that the divider dikes
17 be redesigned, and Tahera in response, decided to
18 eliminate the divider dikes entirely rather than to
19 modify the design.

20 KIA recommends that a divider dike with a
21 modified design is used in the processed kimberlite
22 containment area as it will aid with progressive
23 reclamation of the processed kimberlite containment
24 area. As well, the west dam should be designed and
25 tailings managed within the dam in a manner that
26 prevents water from collecting behind the dam after

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1 the mine is closed. And KIA recommends that
2 allowing the tailings to form an earth embankment
3 against the upstream side of the west dam, as well
4 as creating a spillway that is created by blasting
5 a path through bedrock, and this will ensure that
6 annual inspections are not required in perpetuity
7 to assure that the dam maintains its integrity.

8 In order to aid reclamation planning, KIA
9 recommends to NIRB and the company, or to NIRB that
10 the company provides a description of the tailings
11 geometry after closure. As well, Tahera should
12 provide a description within the area of the
13 processed kimberlite containment area, what areas
14 will be underlined with tailings slimes, those
15 areas of very fine tailings with water.

16 The company should also consider the results
17 of the Ekati mine revegetation research that is
18 ongoing, and it is ongoing over all parts of the
19 mine, not just the processed kimberlite containment
20 area, before deciding to cap the processed
21 kimberlite containment area and also before
22 deciding what to do with their final reclamation
23 plans.

24 We have two mitigation issues that remain a
25 matter of concern, and the first is the diversion
26 of channels -- diversion of Stream C1, which is a

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1 diversion created to protect or prevent the stream
2 from draining into the open pit, is that the KIA

3 recommends that Stream C1 should be considered an
4 unmitigated loss of fish habitat, and thus the fish
5 habitat must be compensated for within the
6 Department of Fisheries and Ocean's compensation
7 rules. Tahera has not dealt with this issue and
8 appears to be waiting for negotiations with the
9 Department of Fisheries and Oceans, and hasn't
10 dealt with it at least to this point. And,
11 secondly, Tahera should provide more detailed plans
12 for revegetating the mine after closure.

13 KIA beneficiaries are the primary users of
14 the land in this region, and assurance that the
15 most up-to-date reclamation and revegetation
16 approaches will be used, are needed to ensure that
17 this mine site minimizes effects on wildlife after
18 closure.

19 The KIA also has identified 11 monitoring
20 issues that NIRB should consider when preparing its
21 list of directives. The first one that we have
22 listed here has been resolved, Tahera has committed
23 to installing a PM2.5 air monitoring station which
24 monitors the finest particular matter in the air
25 and is a Canada wide standard, or will be adopted
26 soon.

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1 Issues related to water quality are the
2 Tahera's predicted model suggests that the increase
3 of any and all constituents in the Carat Lake
4 watershed will be less than 1 percent per year as a
5 result of their discharges. Regular monitoring of
6 water quality throughout the water management
7 system throughout the mine's operating life is
8 essential to assure that the increase of any or all
9 constituents remains at less than 1 percent per
10 year.

11 Also, too much phosphorus that enters lakes
12 can cause excessive plant growth and may kill fish.
13 Water quality monitoring should ensure that
14 phosphorus that will enter the processed kimberlite
15 containment area from treated sewage effluent will
16 be largely absorbed by processed kimberlite and
17 will not flow through in sufficient quantities to
18 Lake C3 and Carat Lake to initiate eutrophication,
19 which is a phenomenon that is initiated by
20 excessive amounts of phosphorus and nitrogen.

21 Continuing with water quality, this relates
22 to the ammonia issue that was discussed earlier
23 with NTI, is that too much nitrate entering the
24 water could be toxic to fish eggs and young fish.
25 Nitrate is a breakdown product of ammonia, as we
26 just learned. Nitrate concentrations must also be

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1 regularly monitored to ensure that the new nitrate
2 guidelines developed by the Canadian Council of the
3 Ministries of Environment is exceeded in Lake C3 or

4 Carat Lake.
5 Another issue that has been resolved within
6 the Tahera presentation is that a water quality
7 monitoring station should be placed on the Jericho
8 River downstream of Jericho Lake. And this water
9 -- this monitoring station we would like to see
10 within the parcel of Inuit-owned land that is
11 downstream of Jericho Lake to assure that there are
12 no effects on water quality on that parcel of
13 Inuit-owned land. In the future, if there were
14 deemed to be impacts in that area, then we would
15 initiate our Article 20 rights in that area. But
16 having a water monitoring -- quality monitoring
17 station is very useful to us, and we are glad that
18 Tahera has agreed to that.
19 Another point is that the company proposes to
20 use a single lake that will not be affected by the
21 mine to be used to compare effects of the mine on
22 lakes that are downstream from the mine, so in a
23 sense a control lake, a lake that is an unaffected
24 by the mining operation.
25 KIA would like to see a second unaffected
26 lake used as a control lake in addition to the

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1 first one to compare the effects of the lakes
2 downstream from the mine, and this should be
3 established to avoid problems that may arise if the
4 first control site is found to be unsuitable for
5 any reason. This has been found to be a problem at
6 the Ekati mine, for example, where lakes that were
7 established as controlled sites have had to be
8 taken out of the monitoring program because they
9 were found to be influenced by the mine.
10 On to fisheries issues, we believe that
11 Tahera should follow the Canadian Metal Mining
12 environmental effects monitoring protocol as a
13 guide when sampling fish and analyzing fisheries
14 data. This is a protocol used as a standard
15 protocol for monitoring fish in terms of their
16 growth, their length, toxicology, and while it is a
17 metal mine protocol, it doesn't exclude it from use
18 in diamond mining. It has already been alluded to
19 by the company that the information that they have
20 collected is not good enough for monitoring, and
21 part of that, part of the issue is that the data
22 that they collected on fisheries was not consistent
23 with this protocol or there wasn't enough
24 information collected in this regard, so that's why
25 we would like to see this protocol used.
26 In terms of vegetation and wildlife, Tahera

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1 should follow Ekati's example when sampling and
2 assessing lichens for metal concentrations,
3 particularly with regard to the number of sampling
4 sites and the number of animal tissue samples

5 taken. We have also said, similar to NTI, that
6 Tahera should work cooperatively with other
7 stakeholders to increase the scope and scientific
8 value that's wildlife monitoring programs, and that
9 there was a general lack of specificity in the
10 wildlife monitoring programs in the final EIS and
11 supplemental information.

12 We still believe that, and that we would also
13 go so far as to ask NIRB within their project
14 certificate to request that the government of
15 Nunavut to be involved in developing these wildlife
16 monitoring protocol. If -- we don't know what GN's
17 position is on this since they are not here, and
18 someone needs to monitor this, and if we can't get
19 people to cooperate to do it, we will request that
20 someone does it.

21 In terms of spray irrigation, Tahera should
22 commit itself -- we know that this is a
23 contingency, but if the contingency arises, and we
24 have to prepare for contingencies at this point,
25 that Tahera should commit itself to a series of
26 monitoring measures associated with spray

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1 irrigation which would include collecting soils and
2 water samples from areas heavily affected by
3 irrigation, to monitor the concentration of major
4 ions such as calcium, magnesium, sodium and
5 phosphorus or potassium, sorry, and also to
6 determine the porosity and cation change capacity
7 of the soils. Cation exchange capacity is the
8 ability of the soil to absorb nutrients. And also
9 to incorporate weather conditions in the operation
10 of the irrigation system.

11 Also with this project we would ask that
12 additional archaeological investigations be
13 conducted by a qualified archaeologist holding a
14 valid Nunavut archaeologist permit prior to the
15 initiation of any construction activity.

16 It is imperative from KIA's perspective that
17 NIRB hold Tahera accountable for the various
18 environmental commitments made throughout the final
19 EIS and supplemental information documents. A list
20 of these commitments should be compiled, and they
21 should be incorporated into the NIRB certificate in
22 a manner which ensures that they are carried out.

23 This is a slide for which we devote, or a
24 topic which we devote only one slide to, but we
25 could discuss this longer if we wish, but we have a
26 limited amount of time. In several instances in

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1 the supplemental information Tahera has not
2 responded to the issues raised by KIA or else
3 deferred to the response to KIA by saying that only
4 the -- the details of the environmental monitoring
5 plans will be confirmed after negotiation with

6 regulatory agencies are complete.
7 Of the 51 issues that we assessed in the
8 supplemental information, in the original EIS, we
9 assessed well over 100 issues, but we assessed
10 only -- we reviewed only 51 in the supplemental
11 information. We found that 10 fisheries and
12 wildlife concerns were ignored or deferred to
13 discussions with regulatory agencies. These issues
14 relate to how Tahera will monitor wildlife and
15 fisheries during and after the project. This
16 approach adopted by Tahera is an important concern
17 to the KIA.
18 The problem is that the KIA has little
19 influence on the outcome of the negotiations
20 between the proponent and the regulatory agencies.
21 And as we know, Kitikmeot Inuit are primary users
22 of the fisheries and wildlife resource, and they
23 have special provision in the Nunavut Land Claims
24 Agreement related to Inuit harvesting and wildlife
25 compensation. And the KIA cannot guarantee that
26 these regulatory agencies who place a strong focus

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1 on conservation of fish and wildlife as the KIA
2 would like.
3 The public hearings into the final EIS and
4 directives issued by NIRB are the KIA's ways the
5 KIA ensures that environmental issues are dealt
6 with, and NIRB should deal comprehensively with all
7 issues raised in this proceeding. Environmental
8 concerns should not be deferred to the regulatory
9 process until NIRB decides whether they may
10 constitute a significant environmental impact, and
11 if so, make mitigation recommendations.
12 Government agencies have -- some government
13 agencies have a regulatory jurisdiction over some
14 aspects of the environment, for example, DFO has
15 some jurisdiction over fisheries, Environment
16 Canada has some jurisdiction over water quality.
17 But KIA's position is that in terms of terrestrial
18 wildlife in particular, there was no one really
19 standing up for or representing the concerns
20 related to wildlife or permitting that is going to
21 happen afterwards, and so this potentially could
22 slip through the cracks.
23 And so it is KIA's position that it is for
24 NIRB to deal with, that these wildlife issues
25 cannot be allowed to fall between the jurisdictions
26 of other agencies which don't have authority over

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1 wildlife or don't have enough authority, and so we
2 respectfully ask NIRB to make sure that these
3 issues are dealt with and not lost.
4 I will now turn it over to Mr. Evalik to
5 summarize our presentation.
6 MR. EVALIK: Thank you, Geoff. In

7 conclusion, KIA's position on the Jericho project.
8 KIA has identified several environmental concerns
9 and recommendations for addressing them. We ask
10 that NIRB consider including these recommendations
11 in its report in the Minister.

12 Subject to NIRB's consideration of the
13 environmental issues raised by the KIA, we are
14 pleased to advise that KIA supports the Jericho
15 project in principle.

16 KIA will provide unqualified support for the
17 Tahera project once we sign our Inuit Impact
18 Benefit Agreement and once we have the opportunity
19 to review the NIRB report from these hearings. In
20 our view, the Jericho project will provide
21 significant benefits for the Kitikmeot region.
22 Once environmental issues are resolved, KIA will
23 look forward to working in partnership with the
24 Tahera Corporation as it develop Nunavut's first
25 diamond mine.

26 Thanks very much. Merci beaucoup. I thought

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1 I would do that.

2 MR. DONIHEE: Madam Chair, our panel is
3 now available for questioning.

4 CHAIRPERSON: Bill?

5 MR. TILLEMAN: We simply suggest maybe
6 that we will file this submission as Exhibit number
7 1. Mr. Donihee is nodding that that is not a
8 problem. I realize that a lot of this is contained
9 in their summary, and I was following both parts of
10 their submission, but if that's okay with Mr.
11 Donihee, no objections, then we will mark that as
12 Exhibit number 1. But perhaps subject to the
13 Board's preference, it might be a good time to take
14 a break, but you are the boss.

15 CHAIRPERSON: Okay. I understand we
16 break at 4 o'clock and we reconvene tonight at 7,
17 so we will -- after a ten-minute break, we will get
18 questions from Tahera, from other parties, then the
19 Staff and NIRB, and then we will continue with
20 other parties tonight. But we will take a
21 ten-minute break.

22 (RECESSED AT 3:03 P.M.)

23 (RECONVENED AT 3:25 P.M.)

24 CHAIRPERSON: Shall we continue? Okay.
25 If we can -- if Tahera has any questions for KIA,
26 you can ask your questions now, Mr. Missal.

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1 TAHERA CORPORATION QUESTIONS KIA:

2 MR. MISSAL: Thank you very much, Madam
3 Chair. We do have a number of questions that we
4 would like to cover off based on the KIA
5 presentation, we would like to begin those
6 questions with some of the mine design items, and I
7 would ask Cam Scott at SRK to lead us on that

8 topic.
9 MR. SCOTT: Thanks, Greg. Came Scott,
10 SRK. Just touching on some comments on the mine
11 design, specifically on the slide entitled "Design
12 of the West Dam," item 1, more permafrost drilling
13 and, 2, more bedrock drilling are required in the
14 new dam location, I would submit that that decision
15 is one of professional judgment. It is our opinion
16 now that we have sufficient drilling in relation to
17 the permafrost drilling aspects, and that in
18 relation to the bedrock, since our containment is
19 based on frozen ground, that really that is
20 something that could be evaluated as an issue of
21 depth of excavation during the course of the
22 preparation of the abutments.
23 The next slide, the liner in the west dam is
24 used to prevent seepage through the dam and allow
25 the dam to freeze. Specifically speaking, it is
26 extended to provide -- the liner provides a

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1 belt-and-suspenders approach. We have a frozen
2 core, and the liner is an additional element of
3 seepage containment. It does not, in fact, allow
4 the dam to freeze. The construction of the dam
5 would be undertaken in winter, and therefore, the
6 liner really does not provide an element of frost,
7 to allow the frost development in the dam.
8 The next bullet in relation to the details of
9 the configuration of the liner, that is perhaps
10 something that would be evaluated during the course
11 of final design. We fully acknowledge that there
12 are optimizations that can be achieved going from
13 the preliminary design, utilizing the same design
14 concepts, but, in fact, optimizing that design, and
15 this is probably one of those areas.
16 The next bullet in reference to the liner on
17 the upstream side of the dam may cause water to
18 leak, it sort of follows on the heels of the
19 previous two comments that the core will be frozen
20 and that there will be design optimizations quite
21 conceivably.
22 On the next page there is reference to
23 divider dikes, and specifically the reason that the
24 divider dike was pulled away from the -- there is a
25 divider dike illustrated in the design information
26 in the FEIS. It was removed in relation to

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1 comments that were provided on that document, and
2 relative to the October submissions it does not
3 appear primarily because of the water management
4 issues. Given that a lot more water will be
5 reporting to the PKCA, it is felt that it is very
6 difficult to meet those objectives of cycling
7 deposition between the cells in the same way that
8 we had originally conceived. As I say, because of

9 the addition amount of water.
10 So in terms of progressive reclamation of the
11 tailings area, we think that benefit is
12 significantly overstated, and we really don't think
13 that reclamation of the tailings area is going to
14 be possible until approximately the end of the mine
15 life. We don't think that early reclamation of
16 that area will be possible, whereas, of course, at
17 the mine waste dumps and stockpiles, that will be
18 something that can be implemented.
19 MR. TILLEMAN: Sorry, Madam Chair.
20 CHAIRPERSON: Bill?
21 MR. TILLEMAN: Sorry to interrupt. Mr.
22 Clark at some point has to answer a question, and I
23 am not sure that I could have caught that. That
24 was basically a rebuttal statement. So I guess
25 what we are doing now is we have an opportunity to
26 have KIA answer questions that you may have of

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1 them. So I don't know if that was kind of a
2 preamble to a question, and I hated to interrupt,
3 but at some point we need to stop and say okay, Mr.
4 Clark, how do you respond to this question?
5 Because that's where we are right now.
6 MR. CLARK: Can I interject?
7 CHAIRPERSON: Are you asking all the
8 questions all together and then they will answer
9 all the questions you are asking?
10 MR. SCOTT: Right now I am only
11 covering off issues on design, the mine design, and
12 then there would be an opportunity to --
13 CHAIRPERSON: KIA?
14 MR. DONIHEE: Thank you, Madam Chair.
15 John Donihee. We are certainly open to hearing
16 what Mr. Scott has to say, you know. I understand
17 he is simply providing a little bit of explanation
18 about the points that we have raised, and I
19 consider that to be helpful. And in anticipation,
20 I guess, of our attempt to make some response to
21 what he is saying, I am simply pointing out that we
22 have no professional engineers at the table and
23 that the issues that we have raised were drawn from
24 the review done by Rescan, so, I mean, we will do
25 the best we can to respond, but what we are
26 probably largely dealing with here is differences

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1 of opinion among professional engineers, one half
2 of whom are not here, and we felt these matters
3 were important, we wanted to raise them.
4 We are happy to hear, and we are informed by
5 whatever Tahera will say in response, but there may
6 not be a resolution possible this afternoon for the
7 Board in the way of an answer from us.
8 CHAIRPERSON: What the Board was doing
9 was hearing all his questions and then writing

10 down, as well, the concerns you have and the
11 questions you have to KIA and then hoping to hear
12 that we get the answers all in sequence from KIA.
13 MR. SCOTT: Cam Scott, SRK. Madam
14 Chair, I guess the essence of these issues can
15 perhaps be consolidated into a single question, and
16 specifically that is can the issues identified by
17 KIA be deferred to the next stage of the regulatory
18 process?
19 MR. DONIHEE: John Donihee. I believe
20 the answer to the question is yes. You know, our
21 concern is that some of these design questions, you
22 know, whether you go one way or the other with the
23 design has environmental implications, and to the
24 extent that things get deferred to the next stage
25 in this process, those implications are not
26 analyzed, and the environmental effects are not

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1 tested in front of the Impact Review Board, so
2 that's the dilemma.
3 We don't -- you know, we are not anxious to
4 defer them away from NIRB because we want to try to
5 assist NIRB to make the environmental impact
6 assessment determinations that it is required to.
7 At the same time, you know, we are -- we probably
8 don't really have the expertise to enter into a
9 detailed discussion of these things here, so with
10 some reluctance, I guess my answer is -- or our
11 answer is yes.
12 CHAIRPERSON: Mr. Scott?
13 MR. SCOTT: Madam Chair, Cam Scott
14 again. I would suggest that -- I realize that the
15 other half of the engineering team isn't here, I
16 would suggest, it is my opinion that these issues
17 are of a detailed nature and do not materially
18 influence the impacts that we are definitely here
19 to address as part of this hearing.
20 CHAIRPERSON: Greg Missal?
21 MR. MISSAL: Madam Chair, I think in
22 general on this topic we have put a lot of time and
23 effort and money in to coming up with the plan that
24 we have processed, and I think we feel that we have
25 done it in a way that is going to result in a good,
26 solid project being built. Of course, everyone

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1 does have a different opinion on some of these
2 things, but we feel that we have put the effort
3 into developing a plan that is a good plan, that
4 has good engineering backing behind it, and
5 obviously our consultants are willing to stand up
6 to that.
7 CHAIRPERSON: Okay. It would also be
8 helpful to the Board, to the panel if we can have
9 present the engineers so we can hear the questions,
10 the answers, and it is too bad they are not here.

11 Any other questions from Tahera?
12 MR. MISSAL: Yes, Madam Chair. I would
13 like to continue with moving down to Rick Pattenden
14 with questions and comments on aquatics.
15 MR. PATTENDEN: Madam Chair, Rick
16 Pattenden, Mainstream Aquatics. My first question
17 is in regards to the recommendation by KIA to
18 follow the metal mine effluent monitoring program
19 protocols as a basis for Tahera's program at
20 Jericho.
21 My first question to a KIA representative
22 would be are they suggesting that we follow the
23 protocols as a guideline to develop our own
24 program, or that we follow all requirements
25 specified in the metal mines sampling protocols?
26 MR. CLARK: This is Geoff Clark. KIA's

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1 response to that is that we feel Tahera should
2 follow those standards insofar as those parts of
3 the protocol makes sense for use with the diamond
4 mine. There are -- there may be some particular
5 protocols that were developed specifically for,
6 say, concentrations of arsenic or mercury or those
7 elements that may be not as useful or present in a
8 diamond mine, however, many of the protocol in
9 general can be applied and is useful to this Tahera
10 project, the Jericho project.
11 Q Madam Chair, Rick Pattenden, Mainstream Aquatics.
12 I agree with that response, and I can say that the
13 monitoring program proposed for Jericho follows the
14 general guidelines described in the metal mine
15 monitoring protocol guide. We are using a sampling
16 design and sampling effort recommendations in that
17 document as a guide for our work. The only
18 difference is we are using site-specific components
19 to monitor.
20 For example, I have recommended to Tahera
21 that they certainly look at metal concentrations in
22 fish tissues but they not look at, for example,
23 fish growth rate, which is a recommended component
24 to monitor. So if KIA is comfortable with that
25 approach, then we are in agreement.
26 A This is Geoff Clark. Fish growth rates in general

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1 were not well documented in the final EIS
2 submission; or at least amongst the years there was
3 variation of measurements, length and weight put
4 into regression analyses, and I'm not a fish growth
5 weight expert, but I know how it is done. It seems
6 to be a relatively standard type of fish monitoring
7 that is done. So at this point, we are not saying
8 that we don't want to see fish growth rate not
9 used, but we would -- but what we want is the --
10 like the guidelines to be followed or the protocol
11 to be followed in a manner that makes sense for

12 this -- for a diamond mine.
13 Q Just to clarify, Rick Pattenden, Mainstream
14 Aquatics. The issue of growth weight which is
15 recommended by the metal mine sampling protocols
16 and also the definition of good monitoring data
17 versus good baseline data, this is an example of a
18 requirement for good monitoring data. If we had
19 accepted or if Tahera agrees to monitor fish growth
20 rate, for example, in Carat Lake following the
21 metal mine sampling protocols, they recommend that
22 you require a sample of 20 fish as a minimum to
23 measure fish growth or fish age.
24 For Carat Lake, for example, we would need 20
25 male lake trout and 20 female lake trout, that's 40
26 fish. But lake trout in Carat Lake are alternate

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1 year spawners, so their growth rate at a particular
2 age depends if they spawn that year or not, so we
3 would need 20 immature -- or 20 fish that didn't
4 spawn that year and 20 fish that did, so that means
5 we need 80 fish. But the growth rate of lake trout
6 in Carat Lakes depends on whether they are immature
7 and mature, so now you need 20 immature fish and 20
8 mature fish. Now that means we have to kill 120
9 lake trout to get good monitoring data with a
10 certain level of precision.
11 The monitoring program recommends we use at
12 least two species, so we would choose round white
13 fish, that means we have to kill 240 fish. As you
14 are aware, when you are sampling in a lake with
15 kill nets, you can't sink the nets in and collect
16 120 or 240 fish you need, you are going to kill a
17 lot of other fish to get your sample. So here we
18 have a very large number of fish that we have to
19 kill to meet the metal mine sampling protocols. I
20 have recommended to Tahera that that really isn't
21 appropriate and we use other indicators other than
22 fish age or fish growth at age.
23 A You know, certainly this protocol, again, can be
24 adapted to pick an age class of fish, pick a
25 species of particular concern, for example, to
26 Inuit and develop just for example for growth

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1 rates, a set of protocol that makes sense for Carat
2 Lake, and that's an example of following the
3 protocol and adapting it to a manner that makes
4 sense in this situation.
5 Another thing that could be done is that the
6 sampling periods can be adjusted so that 240 fish
7 aren't collected every year, it could be -- you
8 know, we realize that fish, we don't want to
9 increase fish mortality in this lake if we don't
10 have to. There are ways to work around this to
11 still get good data on fish growth, just as one
12 example.

13 So I understand Mr. Pattenden's concern, but
14 we can still get good information from Carat Lake
15 on fish by using sensible -- sensible means and
16 adapting them to the situation.
17 Q Madam Chair, Rick Pattenden, Mainstream Aquatics.
18 My only response would be, based on my experience
19 on Carat Lake, is that if you try to measure fish
20 growth over time, sampling once every three years,
21 whatever, at the end of it you likely would have a
22 change in the fish community population in Carat
23 Lake, and you wouldn't know whether that change was
24 caused by killing fish with our gill nets or
25 whether it was the mine.
26 Again, I stress that if you are going to

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1 monitor in a fact, you have to do it properly and
2 get the right sample sizes, but you have to pick a
3 component, in this case fish growth, that fits the
4 site-specific conditions, and my professional
5 opinion for this particular situation is fish
6 growth is not an appropriate component.
7 Having said that, I feel that we can look at
8 the metal mine sampling protocols and use it as a
9 basis for the program, but again, we would have to
10 pick which components we want to look at or use.
11 CHAIRPERSON: The elder on the front, can
12 somebody fix -- adjust the mic for him, please?
13 MR. KOIHOK: Thank you, Madam Chair. I
14 want to say a little bit about this topic. This
15 gathering, public hearing, is a huge event, heavy
16 issues, they have to be looked at very carefully,
17 not haphazardly. I want to thank those involved.
18 We have to be very careful about how we present and
19 say things. With that regard, I express my
20 gratitude. What I want to say is the public, the
21 public hearing, this final public hearing is a
22 major event because it will encounter the project
23 which is of great dimension, I guess. They do
24 things and talk about things that is foreign to us,
25 a lot of strange concepts.
26 We talk about wildlife with regard to elders,

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1 Aboriginal people, it will all be affected,
2 impacted in one way or another, this is a big
3 concern. Rules and regs need to be developed,
4 mining companies, the industry and the items we are
5 discussing. The dams, lakes usually are not need
6 to be dammed and diked. It is the use of
7 explosives and that type of material that needs to
8 be dammed.
9 It is hard to express sometimes and to try
10 and explain and simplify or -- when you first hear
11 about these things, it is heavy topics. We must
12 take the time to consider everything carefully.
13 And we as Aboriginal people, the elders, would like

14 to say to those, the Board, they know the land and
15 the elders.

16 Everything is being regulated. When you
17 speak about these things, you as well, you gather
18 about this mining project. So I am thankful that,
19 you know, we talk about these things. It is your
20 job, you are -- it is your responsibility, so take
21 the due consideration and careful consideration.

22 And I want to say in our -- the lands of the
23 Aboriginal people, we talk about the fish when
24 certain lands or lakes are being constantly used,
25 the fish can encounter difficulty, they either get
26 too thin or they don't grow as fast, it is like

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1 that, we know that, I know that.

2 I have visited other projects sites and to
3 other lands, and the caribou that we have lived on,
4 the Inuit have lived on, we use it since when?
5 Since time began caribou was our staple and the
6 fish and the animals, that was our mainstay on the
7 land, that's what we depended on. The land is our
8 foundation. Fish are harder to predict, and, you
9 know, if a stream or a lake is affected, fish in
10 five years or ten years, I mean, they may get
11 smaller and not grow as much.

12 When only one lake is being used or impacted,
13 the fish will get smaller or not get fat and
14 increase in size, that's what you are talking
15 about, and same with the water. We have to work on
16 this very carefully, you the Board, your employees,
17 your -- you all have responsibility for our lands
18 in one way or another.

19 Sometimes we don't find out about meetings
20 that are going to happen, but, you know, when I
21 found out about this one, I came forward. Thank
22 you.

23 CHAIRPERSON: We would like to hear from
24 as many elders as we can when we visit the
25 communities. We would like to hear as much
26 traditional knowledge as we can, because it is

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1 going to be helpful to our decision making.

2 I want to tell you, tell the public now that
3 we are going to continue our hearings tonight, so
4 all elders in this community are welcome, is that
5 understood? Thank you.

6 Any other questions from Tahera?

7 MR. PATTENDEN: Madam Chair, Rick
8 Pattenden, Mainstream Aquatics. Points for
9 clarification, in the KIA submission Section 3, and
10 they have several bulleted items identified as
11 omissions. The first bullet identifies issues 51
12 and 54. I would like speak directly to issue 51,
13 whether the arctic char in Carat Lake are
14 landlocked and how this may affect this population

15 of fish.
16 During my presentation yesterday, I made it
17 clear that arctic char in Carat Lake are
18 landlocked, and that was incorporated in our
19 impacts assessment. I apologize if that led to any
20 confusion with the KIA reviewers.
21 Issue 70, there was a question why fish are
22 not proposed for sampling in Lake C3 during
23 monitoring. They, in fact, will be sampled in Lake
24 C3.
25 Point 72, or issue 72, sorry, question, why
26 fisheries monitoring program would be discontinued

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1 if three years of data showed no effects? It is my
2 understanding that Tahera has decided to continue
3 monitoring well past three years, they will monitor
4 during the duration of the mine operation.
5 The final issue, number 52, KIA correctly
6 indicated or the KIA reviewer correctly indicated
7 that we deferred addressing that the Stream C1
8 diversion is not an effective mitigation for fish
9 habitat, and until negotiations with DFO are
10 completed, because compensation, fish habitat
11 compensation is a requirement for DFO under Section
12 35 of the Fisheries Act, that is the organization
13 we have to discuss the issue with, and that is the
14 reason why it wasn't discussed or a reply wasn't
15 submitted to the KIA. That's all my points, Madam.
16 CHAIRPERSON: Greg Missal.
17 MR. MISSAL: Thank you, Madam Chair. I
18 would like to make one short point, and then we
19 will move on to the monitoring section and address
20 the 11 points that were made, and I apologize, but
21 we will have to shift the mic down around the table
22 just depending on everyone's area of expertise.
23 But before we do that, I would just like to make a
24 comment on the environmental mitigation slide that
25 was up saying that Tahera should provide more
26 detailed plans for revegetating the mine.

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1 I realize that a couple of the KIA
2 representatives were at a disadvantage with not
3 being here yesterday, so I would just like to
4 reiterate what we said yesterday, that Tahera has
5 taken as much information as is available for
6 revegetation purposes in this area. We have
7 discussed this fact with Ekati, BHP at the Ekati
8 mine and taken all the information that they have
9 available on that, and obviously will try or we'll
10 keep up to date on any new developments that are
11 available for revegetation purposes.
12 But it is generally accepted that
13 revegetation is a very difficult item to address at
14 a mine such as Jericho, and that is what BHP is
15 finding at Ekati as well. But nonetheless, we will

16 keep up to date with what new information is
17 available for revegetation purposes.
18 Moving on to the environmental monitoring
19 section that KIA presented, I would just like to go
20 through those points 1 through 11. The first
21 point, which was acknowledged by KIA, has been
22 resolved. The second point I would ask Kelly
23 Sexsmith of SRK to address that, and I believe she
24 is also addressing points 3 and 4.
25 MS. SEXSMITH: Hi, this is Kelly Sexsmith.
26 I would like to clarify number 2 of the

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1 environmental monitoring points that Mr. Clark
2 raised. The slide presentation, and this is page 6
3 of the hard copy of the presentation that was at
4 the front there, and the first slide in at point
5 number 2 was worded as being "regular monitoring of
6 water quality to ensure the increase of all
7 constituents released into the water is less than 1
8 percent per year."
9 And I would like to clarify that that seems
10 to be slightly different than what is the wording
11 that is in the Rescan report which is saying that
12 they would like to see monitoring to ensure that
13 the rate of internal loading or buildup of
14 contaminants from recirculation of the water
15 through the mine, out to Carat Lake and back in via
16 the water intake is less than a 1 percent increase,
17 which is what we anticipate based on the flow
18 through Carat Lake and the amount of water that we
19 are withdrawing for the use of water at the mine.
20 So that is an important distinction, and I
21 think the wording in the Rescan report is fine, but
22 the wording on the slide is slightly different than
23 that, and it means something else.
24 MR. CLARK: This is Geoff Clark. I
25 would like to respond to that. I realize that the
26 wording was somewhat different in the Rescan

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1 report, and I phrased my presentation in a way so
2 that I felt it could be understood by as many
3 people as possible and stay away from jargon and so
4 on like internal loading. So your point is taken,
5 but what is meant in the Rescan report is what I --
6 what KIA means. We were just trying to put it in a
7 way that was a little more user friendly for
8 everyone who is listening here.
9 Q So as long as the wording in the Rescan report is
10 adopted in any written material, I think that would
11 be fine.
12 The second point was number 3 of the
13 environmental monitoring points that Mr. Clark
14 raised. And the point was that phosphorus entering
15 the tailings containment area should be monitored
16 to ensure that it does not flow through to Lake C3

17 and Carat Lake, and I would like to just point out
18 that the monitoring programs that we have already
19 proposed will include sampling and testing of
20 phosphorus into and out of the PKCA so that we can
21 evaluate whether the phosphorus is indeed staying
22 in the facility and not going out into those lakes.
23 A KIA is aware of that, and we wanted to put that on
24 the record, make sure it was in the NIRB
25 certificate.
26 Q Sorry, the fourth point that nitrate concentrations

0383

1 must be regularly monitored in Lake C3 and Carat
2 Lake are, again, testing proposals for monitoring,
3 including nitrate monitoring in those lakes.
4 A This is Geoff Clark, and my response would be the
5 same, we want this on record to make sure that it
6 is in the NIRB certificate that nitrate is
7 monitored and that it is using the CCME standards.
8 MR. MISSAL: Just for clarification,
9 Madam Chair, is Mr. Clark saying that they want it
10 in a NIRB certificate or it is going to happen in
11 the licensing phase?
12 CHAIRPERSON: Bill or Dionne?
13 MR. DONIHEE: John Donihee. I think our
14 point is simply that we wanted to be -- we want
15 this commitment achieved, and we want it achieved
16 in an enforceable way one way or another. So,
17 again, you know, we are back to Mr. Tilleman's
18 catch 22, you know, we are parties to the Water
19 Board proceeding as well, but I suggest simply that
20 we will be looking to find this in one place or the
21 other, and I guess that's all we can say for the
22 moment.
23 CHAIRPERSON: Any other questions?
24 MR. MISSAL: I will just carry on
25 through that list, Madam Chair. Point number 5
26 that was raised regarding the monitoring station on

0384

1 Jericho Lake, and KIA acknowledged that that one
2 has been agreed to by Tahera.
3 Point number 6, I would ask Bruce Ott to
4 comment on that, please.
5 MR. OTT: Bruce Ott, AMEC. I would
6 like clarification from KIA in that in supplemental
7 information Tahera has agreed to a second control
8 lake, and so that wasn't made clear by Mr. Clark in
9 his presentation. Perhaps he could clarify what he
10 was getting at?
11 MR. CLARK: This is Geoff Clark. My
12 response would be similar to previous responses, to
13 assure that this is on the record and that -- at
14 the hearing, and that there is an enforceable
15 commitment with either NIRB or, I suppose, the
16 Nunavut Water Board that there is a second control
17 lake established at the Jericho mine site.

18 CHAIRPERSON: I'm sorry, what be
19 established?
20 MR. CLARK: A second control lake, an
21 unaffected -- a second unaffected lake to compare
22 change at Carat and Lake C3.
23 MR. MISSAL: Greg Missal at Tahera
24 Corporation. Yes, just to clarify that one step
25 further, and I apologize, that Tahera has agreed to
26 incorporate a second control lake.

0385

1 And I would ask Dr. Ott to comment on the
2 lichens question on point 8.
3 MR. OTT: Bruce Ott, AMEC. Another
4 point of clarification, I think there is some
5 difference between what's in the Rescan
6 recommendation and what Mr. Clark presented to us.
7 The Rescan recommendation indicates that we
8 should follow the protocol that's set for lichen
9 monitoring by Ekati, to me that means use that as a
10 guideline. What I heard Mr. Clark say, and perhaps
11 I didn't hear it correctly, was that we should
12 sample lichens at the same frequency and intensity
13 as Ekati mine. I think the record should show that
14 Ekati mine is 25 times the size of this proposed
15 project, and so I seek clarification as to what Mr.
16 Clark's intent was.
17 MR. CLARK: This is Geoff Clark. Our
18 intent, based on the advice that we received, is
19 that we should be advisable that KIA requests that
20 the Ekati sampling protocol for sampling metals and
21 lichen be followed. Metals and lichen, the
22 absorption is -- it is hard to say if it is an
23 issue that is affected by scale of a mine. It may
24 be affected if a mine is 25 times larger, it might
25 be 25 times the area, don't know, but there still
26 needs to be an adequate sampling study done to

0386

1 determine if vegetation or if metal is being taken
2 up by vegetation.
3 MR. OTT: Bruce Ott, AMEC. I think
4 we are dealing with semantics here and nicety of
5 language. I understand from what Mr. Clark said
6 that we should follow Ekati's experimental design,
7 and we have no problem with that.
8 MR. MISSAL: Moving on to point number 9
9 which was regarding working -- Tahera working
10 cooperatively with other stakeholders to increase
11 the scope and scientific value of wildlife
12 monitoring, and once again, just for reiteration,
13 we did comment on that yesterday following that we
14 are certainly more than interested in participating
15 in cooperative monitoring that goes on.
16 However, it has to -- Tahera would have to
17 see how the programs are designed so that we are
18 sure that it satisfies our requirements, and we

19 would want to see that as part of, sort of, the
20 first step to make sure the program is a solid
21 program and meets our requirements. But we are
22 certainly conceptually willing to participate in
23 any programs that come about.
24 For the 10th point, I would like to call on
25 Andre Sobolewski to ask that question.
26 MR. SOBOLEWSKI: Andre Sobolewski. A

0387

1 comment was made in the presentation about spray
2 irrigation and the monitoring of spray irrigation.
3 Those comments were identical, essentially, with
4 those of the earlier presentation about what kind
5 of parameters to monitor, soil porosity, cation
6 exchange and these things. I made some comments
7 about that topic in the earlier presentation, and I
8 would simply repeat myself because the same
9 comments apply, it is the same points that are made
10 in this presentation. The only thing I would like
11 to add, sorry, did I confuse you? You had a look
12 of confusion, Madam Chairman.
13 CHAIRPERSON: No. Go ahead.
14 MR. SOBOLEWSKI: Okay. The only thing I
15 want to add is that in being here at this meeting
16 and also hearing the Board and hearing the elders
17 that are speaking, I sense there is some concern
18 about the issues that are brought up, and they
19 affect me, and they affect the kinds of things that
20 I am doing, and I wish that I could talk about it
21 all in a way that was simple and easy for everybody
22 to understand because -- but that's difficult.
23 I know that when I talk about cation
24 exchange, capacity and things like that, it
25 requires a lot of scientific understanding, and I
26 wish I could take the time to explain all of that

0388

1 so that everybody could always understand every
2 part of it.
3 To me, the thing that is important when I
4 look at these questions and I look at whether this
5 spray irrigation would work or not, I start asking
6 just simple, simple questions. If I make this
7 work, is this going to produce good water? And if
8 I get this to work, will it cause problems on the
9 land, or can I keep the land good?
10 These are the questions that I start with,
11 and these are the questions I am trying to answer.
12 But the only way that I know how to answer is then
13 to look at those technical issues and start dealing
14 with the science behind it, and that's what I have
15 tried to do in the work that I have done in the
16 supplemental information, that's additional
17 information I have put forward, but always trying
18 to answer these questions.
19 And I am sorry that it is presented in the

20 way that's difficult to understand, it is highly
21 technical, but fundamentally, these are the things
22 I try to answer. And I think that in the
23 presentation that was made and in the information
24 presented, that we can be confident that these
25 things would come out well. Thank you.
26 MR. MISSAL: Madam Chair, just the very

0389

1 last point, and that's point number 11 on
2 environmental monitoring, and that's related to --
3 I guess, point 11 stating that additional
4 archaeological investigation must be required.
5 Just for clarification for the Board's purposes,
6 extensive archaeological work has been completed at
7 the Jericho site, and that report is part of the
8 final environmental impact statement, and it was
9 completed by qualified archaeologists doing that
10 work. So I just wanted to bring that to your
11 attention.

12 CHAIRPERSON: Okay. Those were all the
13 questions, comments from Tahera.

14 Well, it is 10 minutes past 4, we are meeting
15 again tonight or we are reconvening tonight at 7
16 o'clock, and we will gather questions from the
17 elders, from other parties, and the public and the
18 Board, let's say at 7 o'clock.

19 We will close for supper, thank you.

20 (RECESSED AT 4:12 P.M.)

21 (RECONVENED AT 7:02 P.M.)

22 CHAIRPERSON: Good evening. Shall we
23 start? We have got a long evening. Before we
24 start, presenters, when you do screen
25 presentations, please slow down for the
26 interpreters. When you think you are done with

0390

1 page 1, they are just halfway, so before you go to
2 the next page, make sure that the translators are
3 finished when you are making your presentation on
4 the screen. And slow down when you are talking so
5 the translators and our stenographer can keep up.

6 And Tahera has a short presentation they
7 would like to make to you for those of you that
8 missed their presentation on Monday. After their
9 presentation, we will continue with questions to
10 KIA.

11 And before we start, we have got a door
12 prize.

13 (DISCUSSION OFF THE RECORD)

14 CHAIRPERSON: Tahera, go ahead and make
15 your presentation.

16 PRESENTATION BY TAHERA CORPORATION:

17 MR. MISSAL: Thank you very much, Madam
18 Chair. I think because this is a community
19 presentation this evening. With the permission of
20 the Chair, I will address the crowd standing up

21 this evening. It has been a long day of sitting,
22 so I think it is good to stand for a little while.
23 What I am going to do this evening and in
24 this presentation is just go through a brief
25 description of the Jericho project and talk a
26 little bit about why we are here today at these

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1 hearings, as well as a little bit of information
2 regarding some of the environmental information
3 which we have collected over the years.
4 This is just a very brief slide about Tahera
5 Corporation, who we are. Tahera is a publicly
6 traded company on the Toronto Stock Exchange. We
7 have a very large number of shareholders who invest
8 in our company, which allows us to do work, our
9 exploration and development work as well as being
10 here today, so obviously we have a very large group
11 of people who have a very large vested interest in
12 the outcome of these meetings this week.
13 Tahera has been involved in diamond
14 exploration in Nunavut even before it was Nunavut,
15 since the early 1990s. And we have had quite a
16 number of successes in our exploration work with
17 discovery of kimberlite pipes on our properties.
18 The most significant discovery that we have made,
19 though, is the Jericho kimberlite, which is the
20 project proposal that we are discussing at these
21 meetings this week, and is the kimberlite pipe
22 which is -- which makes up the mine plan for the
23 Jericho Diamond Project.
24 CHAIRPERSON: Greg, can you hold one
25 second? He is just putting on his earphones.
26 Thank you.

0392

1 MR. MISSAL: Just to give you a little
2 bit of an idea on what our intentions are for this
3 project, Tahera will develop the Jericho Diamond
4 Project for the purposes of extracting commercially
5 saleable diamonds. It will be developed -- this
6 will be the company's first mining project;
7 however, we are developing it with the aid and the
8 experience of experienced mine builders such as
9 Nuna Logistics, SRK Engineering and DRA, who are a
10 South African company who will be providing the
11 diamond processing plant for us.
12 We will utilize local labour and services
13 where possible for this project. We have reached
14 an agreement in principle for an Inuit Impact
15 Benefit Agreement with the Kitikmeot Inuit
16 Association. And our intention is to develop the
17 Jericho project with minimal impact to the
18 environment.
19 This slide just gives you a little bit of an
20 idea where we are located, which is in the Slave
21 geological province in northern Canada. This

22 geological province is home to all of the major
23 diamond discoveries in Canada to date. And, of
24 course, it is also home to the Diavik and Ekati
25 mines.
26 This regional map shows you the location of

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1 Jericho, which is in the centre of the map. We are
2 located approximately 200 kilometres southwest of
3 Bathurst Inlet or 220 kilometres southeast of
4 Kugluktuk. As well, we are about 30 kilometres
5 north of the Lupin mine site.

6 In terms of the Jericho project and what we
7 are proposing, it will have an eight-year mine
8 life. 300,000 tonnes of kimberlite will be
9 processed each year. The kimberlite has an average
10 diamond grade of 1.2 carats per tonne. There will
11 be in excess of 3 million carats of diamonds
12 recovered. We will do that by open-pit mining for
13 a four-year period, two years of underground
14 mining, and also processing of that material will
15 take place over the full eight years.

16 In terms of the project and where it has come
17 from, the property was acquired and staked in the
18 early 1990s. Jericho was discovered in 1995, which
19 subsequently was also when the initial baseline
20 studies began.

21 A bulk sample of 10,000 tonnes of kimberlite
22 was removed from Jericho in 1996. As a result of
23 processing that 10,000 tonnes, we recovered 10,533
24 carats of diamonds from that sample.

25 Ongoing delineation was done on Jericho
26 after that, before we moved into the prefeasibility

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1 study in 1999. The feasibility study was completed
2 in 2000. A draft EIS was completed and prehearings
3 with NIRB were conducted in 2001. And in January
4 of 2003, the final EIS was submitted.

5 In terms of the EIS, in case there is anyone
6 new in the audience, we have brought a copy of it,
7 and it is at the table here on the right-hand side.
8 It is a very large document which was submitted in
9 January. It was basically written -- or the draft,
10 it was based on the draft EIS which was based on
11 NIRB guidelines and comments received from NIRB's
12 consultants as a result of a conformity analysis.
13 Additional consideration to the EIS was given in
14 regard to CEAA requirements.

15 And we had additional information requests
16 received in April and May of 2003, and as a result
17 of that, we prepared a supplemental information
18 document, which is also up here, another very large
19 document which took a lot of time and effort to put
20 together.

21 In terms of the site itself, what you see on
22 this map here is what exists at Jericho today. We

23 have a one-kilometre long airstrip, we have a
24 relatively small exploration camp. There is a
25 road, an all-season road network that exists there
26 to the total of about three and a half kilometres,

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1 and there is also a portal area which is right at
2 the bottom of the map, and that's the area where
3 the kimberlite is located and where the bulk sample
4 was taken.

5 This is a picture of the exploration camp
6 and also a picture of the portal area where the
7 kimberlite was extracted for the bulk sample. And
8 this picture shows a site -- a mine site plan which
9 we are proposing. I am just going to find a
10 pointer here so I can go through the main areas.
11 I'm not familiar with this one, so I don't know how
12 it works. Thank you.

13 As you can see here, the pit is located right
14 here in this area, that's the Jericho kimberlite.
15 The piles that you see here are waste rock piles at
16 the top and on the side here which will -- that is
17 the waste rock that will be removed while we are
18 building and developing the pit. We have a low
19 grade kimberlite stockpile, there is a coarse
20 processed kimberlite tailings stockpile.

21 CHAIRPERSON: Greg, before you continue,
22 can we maybe ask the elders to move a little closer
23 so they can see? Thank you.

24 MR. MISSAL: This is a picture of what
25 the mine site is going to look like generally once
26 it is built. In the middle of the picture is where

0396

1 the open pit is going to be created where the
2 kimberlite ore is going to be mined, and that's the
3 rock that the diamonds will be extracted from.

4 We are going to do four years of open-pit
5 mining to develop that pit, and then after that, we
6 will do two years of underground mining.

7 Beside the open pit there is a number of rock
8 piles that are going to be built, and that rock is
9 going to be some of the waste rock from the
10 open-pit development. As well, those rock piles
11 will also contain ore which we are going to be
12 putting into the processing plant, which is where
13 we will remove the diamonds, and the processing
14 plant is located right here.

15 This is a little cartoon or animation, if you
16 will, of how this site is going to be built and
17 what it will look like and how we are going to
18 reclaim it. What you are seeing here is what
19 exists there today, the airstrip, the exploration
20 camp and then the portal area, which is where the
21 kimberlite is located. This is the kimberlite or
22 the rock that we are going to be mining and where
23 the open pit is going to be built.

24 This brings us around to the southwest of the
25 project and looking at the facilities that will be
26 there once the mine is constructed. We will have

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1 accommodations, the processing plant, the fuel tank
2 farm, and these will be some of the areas where the
3 various rock piles or kimberlite ore piles are
4 going to be built. In order to do all of this, we
5 will require the use of a lot of heavy equipment,
6 which also requires a lot of employees to run that
7 heavy equipment.

8 This is what the open pit is going to look
9 like as we build it. In the first year, it won't
10 be a very big hole, but as we develop it, we will
11 continue to go down into the ground to a depth of
12 approximately 175 meters.

13 Once we get to the bottom of this -- of
14 building this pit is when we will start our
15 underground mining. This is what the kimberlite
16 roughly looks like or resembles from an underground
17 perspective. The green area is the portion of the
18 kimberlite that we are most interested in mining,
19 it is the highest grade kimberlite or portion of
20 the Jericho kimberlite that is here. That spiral
21 shows how we are going to get down and do the
22 underground mining.

23 And that's the picture of the site as it will
24 exist. Of course, after we are finished mining is
25 when we move into the reclamation work. The rock
26 piles will be removed, except the waste rock piles,

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1 they will be permanent. The open pit will be
2 allowed to fill with water. The exploration camp
3 that's there today would be removed, and the
4 airstrip would perhaps stay there if there was some
5 interest, and any discussions we would have with
6 any authorities, if there was a wish to keep that
7 there, we would keep the airstrip at that site.

8 So that gives you a good idea of what this
9 project is going to look like. It is a cartoon or
10 an animation, but it gives you a very good snapshot
11 of what we are talking about here, and it is a lot
12 easier to understand than some of the information
13 in those very large volumes.

14 With developing this project, there is going
15 to be benefits to the region, to the Kitikmeot
16 region. The most obvious benefit will be in the
17 form of jobs; however, there will be other areas as
18 well with training and contracts and, of course, an
19 Inuit Impact Benefit Agreement which Tahera has now
20 reached an agreement in principle on with the
21 Kitikmeot Inuit Association. And such things as
22 jobs and training and contracts are all part of
23 what makes up that Inuit Impact Benefit Agreement.
24 And in addition to those items, there is strong

25 benefits in the agreement for community wellness.
26 Sorry about that, I'm not sure what my

0399

1 computer is doing.
2 In terms of some of our commitments for this
3 project, we have committed to reaching, to trying
4 to achieve a goal of having 60 percent Inuit
5 employment at our site within five years. We don't
6 believe that we can reach it any earlier than that
7 because, of course, there is training that's going
8 to be required and skills that are going to have to
9 be learned by people before we can reach that
10 number, but that is a number that we are certainly
11 striving to meet.
12 We will encourage contractors to meet the
13 same Inuit employment standards. And we will
14 transport our Inuit employees directly from their
15 home communities to the mine site.
16 As I mentioned, we have reached an agreement
17 in principle with the Kitikmeot Inuit Association.
18 That agreement in principle was reached in December
19 of 2003, about a month ago now. The agreement in
20 principle has been approved by the KIA board of
21 directors, and KIA will be presenting the IIBA to
22 the Kitikmeot communities.
23 I mentioned that I would touch briefly on
24 some of the environmental baseline work that we
25 have done, and we have been collecting that
26 information since 1995. This is one of the many

0400

1 studies that's been done, the person on the left is
2 actually Barb Adjun from Kugluktuk.
3 There is a lot of information on this slide,
4 but it gives you an idea of the depth of baseline
5 information that we have collected over the years.
6 The baseline information that we have collected
7 includes such things as water quality, meteorology,
8 snow studies, hydrology, heritage studies,
9 fisheries, a lot of geotechnical work, permafrost,
10 and the list goes on and on.
11 This is another one of the studies that we
12 did in the spring, along with doing the
13 environmental baseline work, and a very important
14 part of that is collecting traditional knowledge,
15 and we have been fortunate enough to have two
16 elders' visits to the Jericho site. This one was
17 in 1999. Having the elders' visits allows the
18 elders to see firsthand what the site looks like.
19 It provide the elders an opportunity to discuss any
20 concerns they might have, it brings elders together
21 from different communities, it provides an
22 opportunity for elders to view any archaeological
23 or heritage resources work. And at the 1999 visit,
24 they actually got to see an archaeological dig, so
25 that was a very good trip for them to attend.

26 Also along with that, Tahera has made a

0401

1 fairly long commitment over the years to ongoing
2 community consultation work. Most of that work has
3 been focussed on the communities Kugluktuk,
4 Cambridge bay and Gjoa Haven. However, we have
5 also been to Bathurst Inlet and Bay Chimo on a
6 number of occasions. Each time we hold a community
7 consultation or a community meeting, we have found
8 that inevitably you go away from that meeting with
9 learning something more about Inuit cultures and
10 Inuit values, and I think that's one of the most
11 important parts, along with informing the community
12 and allowing the communities to ask any questions
13 they might want to make. But it is valuable,
14 valuable information that we have collected over a
15 number of years.

16 The traditional knowledge that we have
17 collected is reflected in how we have proposed this
18 project. It has influenced the mine site
19 development. The infrastructure was altered due to
20 caribou migration routes, the management plans
21 reflect the significance on wildlife by the Inuit.
22 These are such things as giving right-of-way on the
23 roads, special diversions to minimize impacts of
24 migration and proposing monitoring committees to
25 ensure traditional knowledge is adhered to.

26 There is many vehicles in which a company

0402

1 like Tahera can collect traditional knowledge. One
2 of them is the Kitikmeot Traditional Knowledge
3 Study which is being worked on by the Kitikmeot
4 Inuit Association and has also had involvement from
5 industry. Ongoing community meetings. I mentioned
6 the Inuit Impact Benefit Agreement, we have an
7 implementation committee that's attached to the
8 Inuit Impact Benefit Agreement, which will help us
9 also collect traditional knowledge, and, of course,
10 any information gained by work done by other mining
11 companies.

12 Heritage studies is also an important
13 component of our work. We have done extensive
14 heritage studies work at the site. Just a brief
15 summary up on the board there, but there was one
16 artifact that was discovered and excavated in 1999.
17 Once a Nunavut archaeological museum, if you will,
18 is established, that artifact would be on hand at
19 that location.

20 With the meetings this week, we have had a
21 number of very important topics that we have been
22 discussing today and yesterday here in our meetings
23 and in our presentations to the Board, and these
24 are some of the topics that we have done covering,
25 and it is also the people who make up the rest of
26 the Tahera team that you see up here with me

0403

1 tonight.
2 There is a very wide range of studies. I
3 will just run through them very quickly. There is
4 geotechnical work, water quality, general water
5 issues, vegetation and discharge, water treatment
6 and land treatment, aquatic studies, air quality,
7 wildlife, reclamation work, socioeconomic. And
8 another Tahera personnel who is with me tonight is
9 Andrew Gottwald is here, and we have also got our
10 legal counsel here with us, Letha MacLachlan.
11 The slide you see up here now is a proposed
12 schedule for this project, and this schedule is
13 very important to us because there is a lot of
14 timing issues that we need to meet in order to
15 ensure that we build this project as efficiently as
16 possible.
17 As you can see here, the final EIS submitted
18 in January, the final hearings I have as December
19 here, I forgot to fix that still, should be January
20 of '04. We are hopeful that we can get a NIRB
21 decision later this month or perhaps early in
22 February. We are also anticipating that we can get
23 an approval from the Minister for Indian and
24 Northern Affairs in perhaps a 60-day period.
25 Following that, we will move into the permitting
26 phase with land and water. And by the summer of

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1 2004, that's when we would need to start ordering
2 some of our equipment and supplies to begin the
3 construction work in 2005.
4 We will be utilizing the winter road from
5 Yellowknife which runs north to the Ekati and
6 Diavik and Lupin mine sites. And in order to use
7 that winter road, we have to have all of our
8 equipment and fuel and supplies sitting in
9 Yellowknife by January a year from now probably,
10 and they need to be ready to go on that winter road
11 as soon as it is open. That is a very important
12 date for us and a very important period of time to
13 get that equipment up that winter road.
14 If we are able to achieve that, we can
15 complete construction at the Jericho site in one
16 year, within the 2005 calendar year. We could do
17 some test processing late in that year, and we
18 would be into full scale diamond production in
19 early 2006.
20 This is -- these are diamonds from the
21 Jericho kimberlite, they have obviously been cut
22 and polished. The diamond that you see at the top
23 is a 2.2 carat round cut diamond that's internally
24 flawless, a beautiful diamond, and that diamond was
25 the one that was given by Tahera to the people of
26 Nunavut to be placed in the territorial mace which

0405

1 sits in the territorial legislative building in
2 Iqaluit.
3 The territorial mace is made up of minerals
4 and materials from Nunavut, so we felt it was very
5 appropriate that one of the very first cut and
6 polished diamonds from Nunavut also be placed in
7 that mace.
8 That brings to the end my presentation, I
9 hope that gives you a better understanding of what
10 we are proposing for the Jericho project. We
11 are -- I believe we are open for questions, so if
12 you do have any, please feel free to come up and
13 ask any questions you would like. Thank you very
14 much.
15 CHAIRPERSON: Any questions from the
16 elders? Okay. Maybe not now.
17 I believe we were still with KIA. KIA,
18 Tahera already asked their questions. Now if we
19 can ask if GN -- before we start, Bill, you have
20 something to say?
21 MR. TILLEMAN: Thank you, Madam Chair.
22 With the presentation we just got, I think that was
23 slightly different than that one we had yesterday,
24 so through their counsel, maybe if tomorrow you
25 could file this one also, and we will label this
26 one the community presentation for Cambridge Bay,

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1 and we can also label the one from yesterday too.
2 We will mark those tomorrow would probably be good
3 enough.
4 And the IIBA was referenced again in Mr.
5 Missal's presentation, and I understand from KIA
6 that that will be tabled by the KIA tomorrow, and
7 we will have some copies for the Board, and we will
8 mark their exhibits tomorrow. Thank you.
9 CHAIRPERSON: Okay. KIA, if you can come
10 forward? Would anybody from GN have any questions?
11 Are they in Cambridge Bay now?
12 MR. MacISAAC: I'm with GN.
13 CHAIRPERSON: Do you have any questions?
14 MR. MacISAAC: Not at this time.
15 CHAIRPERSON: Any questions from DFO to
16 KIA? Any questions from Health Canada? Any
17 questions from Department of Indian and Northern
18 Affairs? Steve Traynor?
19 DIAND QUESTIONS KIA:
20 MR. TRAYNOR: Stephen Traynor, DIAND in
21 Iqaluit. Okay. This question is more in terms of
22 the -- to KIA in terms of the overall environmental
23 management and enforcement capacity, and as most
24 industries is aware, there is a spills line in the
25 spills agreement which most federal organizations
26 and some territorial Aboriginal are a part of, and

0407

1 I guess my question for KIA is currently we know
2 that they are not part of the spills agreement, but
3 will they be considered -- considering becoming
4 members of that spills agreement and that whole
5 process of coordination between enforcement
6 agencies?
7 MR. EVALIK: In response to the spills
8 agreement participation, I am not aware of the
9 request from the parties that KIA be party to it,
10 so we would like to take a look at it and see if we
11 could respond to DIAND then.
12 CHAIRPERSON: Mr. Traynor?
13 MR. TRAYNOR: Stephen Traynor, DIAND
14 Iqaluit. We would certainly be happy to pass that
15 on to you. We have had discussions with NTI, and
16 they are certainly aware of it, and hopefully they
17 can help brief you also on that process.
18 MR. EVALIK: KIA doesn't have the
19 request of the agreement. We would certainly be
20 enlightened by NTI as well as from DIAND if need
21 be, thanks.
22 CHAIRPERSON: Okay. Any questions from
23 Environment Canada? No? Natural Resources Canada?
24 MR. DYKE: No questions, Madam Chair.
25 CHAIRPERSON: The Yellowknife Dene First
26 Nations?

0408

1 MR. BYERS: No questions.
2 CHAIRPERSON: Any questions from the
3 hamlet of Cambridge Bay? Any questions from the
4 elders? If not, thank you very much. Questions
5 from NIRB Staff?
6 BOARD STAFF QUESTIONS KIA:
7 MS. MOGHAL: I have a question for KIA.
8 In reference to the presentation you gave this
9 afternoon, we would like to request documentation
10 from Ekati to provide evidence for the sampling and
11 assessing of lichens for metal concentrations at
12 the Ekati mine and also to provide evidence for the
13 need of a second control lake to compare effects at
14 lakes downstream from the mine, so if you could
15 provide those two pieces of documentation.
16 MR. DONIHEE: John Donihee for KIA. With
17 respect to the lichen sampling arrangements, we
18 will definitely do it. We are willing to do the
19 second for you as well, but I understand Tahera has
20 already agreed to establish the second site, and so
21 I just wonder what purpose that additional
22 information might serve given that the company is
23 already going to do -- set up a second sampling
24 site?
25 MR. TILLEMAN: I suspect that Tahera and
26 KIA probably have a good understanding of the

0409

1 second site. And I think the Board understands

2 conceptually what that would be, which would be a
3 second lake that would be a clean, unaffected
4 control lake, but it might be helpful just to see
5 what reference and what agreement was made in Ekati
6 so that we make sure we are not missing anything,
7 and that would be the only issue that NIRB Staff
8 may have.
9 MR. MISSAL: Madam Chair, just to
10 reiterate our comments earlier this afternoon that
11 the -- Tahera's agreeing to provide a second
12 control lake was provided in the supplemental
13 information document.
14 CHAIRPERSON: Any other questions?
15 Dionne?
16 MS. FILIATRAULT: Thank you, Madam Chair.
17 Dionne. KIA also has a role as a regulator under
18 the further land use permits and land lease. Are
19 there any monitoring requirements in the land use
20 plan or land lease that would be issued to Tahera,
21 and what types of monitoring requirements does KIA
22 put in those -- in that document?
23 MR. KANIAK: Jack Kaniak with the KIA.
24 Thank you, Madam Chair. In answer to your --
25 Dionne's question there, at present, the
26 exploration agreement -- not the exploration

0410

1 agreement, but the exploration licenses do have
2 terms and conditions of access rights. And the
3 monitoring programs that you are after, we do not
4 have those as per se, but we do have inspection
5 requirements annually on those sites, so that's our
6 monitoring program with KIA at the present.
7 In terms of leases, we may have -- we may
8 require this to be in place on -- that depends on
9 the -- what the, I guess, NIRB process comes up
10 with monitoring programs. Thank you.
11 CHAIRPERSON: Dionne?
12 MS. FILIATRAULT: Thank you, Madam Chair. So
13 I guess what you are saying is you have monitoring
14 but it is more from an enforcement and an
15 inspection role, correct?
16 MR. EVALIK: That is correct. And the
17 KIA's intention as well is to -- for other resource
18 in the near future in terms of monitoring of mine
19 development that's happening in Kitikmeot.
20 Q Thank you. I guess has KIA ever considered
21 wildlife monitoring as a component of a land use
22 permit or a land lease and putting terms and
23 conditions in a land use permit to that effect?
24 A I think under the lease terms KIA could do it, but
25 we never did it before. It could be part of lease
26 arrangements that we could have in the mining

0411

1 development in Kitikmeot. And in terms of wildlife
2 monitoring, it is -- might be another jurisdiction

3 that's government of Nunavut that might have that
4 responsibility, but we would be involved in terms
5 of monitoring on behalf of Kitikmeot Inuit.
6 CHAIRPERSON: Dionne? Do you have
7 another question?
8 MS. FILIATRAULT: No, Madam Chairman, that's
9 it at this point.
10 CHAIRPERSON: Any other questions? Any
11 questions from the Board? Thank you.
12 Next presentation will be coming, is GN, do
13 you have a presentation?
14 Let's give a door prize first.
15 (DISCUSSION OFF THE RECORD)
16 CHAIRPERSON: Okay. GN?
17 MR. MacISAAC: Thank you, Madam Chairman.
18 My name is Bernie MacIsaac. I am the manager of
19 minerals and petroleum resources for the Department
20 of Sustainable Development for the government of
21 Nunavut located in Iqaluit.
22 I have to apologize for our tardiness, but
23 due to illness and a death in the family, our
24 contingent is not as large as what we had planned
25 and our schedule got fouled up because of it.
26 So I would like to beg the Board's indulgence

0412

1 to defer our intervention until tomorrow, if that
2 is possible?
3 CHAIRPERSON: No problem.
4 MR. MacISAAC: Great. Thank you, Madam.
5 CHAIRPERSON: Department of Fisheries and
6 Oceans? Go ahead, Bill.
7 MR. TILLEMAN: Please state your name for
8 the record and spell your last name.
9 MS. CRITCH: Stephanie Critch,
10 C-R-I-T-C-H.
11 (STEPHANIE CRITCH SWORN)
12 MR. TILLEMAN: State your name for the
13 record and spell your last name.
14 MS. DAHL: Julie Dahl, D-A-H-L.
15 (JULIE DAHL SWORN)
16 MS. CRITCH: Good evening, Madam Chair
17 and members of the Board. Is it on?
18 CHAIRPERSON: I thought you were talking
19 about the mic and I said yeah, sorry about that.
20 You are ready?
21 PRESENTATION BY DEPARTMENT OF FISHERIES AND OCEANS:
22 MS. CRITCH: Good evening, Madam Chair
23 and members of the Board. My name is Stephanie
24 Critch, and I am a fish habitat biologist with
25 Fisheries and Oceans in Iqaluit.
26 I am part of the team that reviewed Tahera's

0413

1 Environmental Impact Statement on behalf of
2 Fisheries and Oceans Canada.
3 MS. DAHL: Madam Chair, Review Board,

4 my name is Julie Dahl. I am also with the
5 Department of Fisheries and Oceans. I'm the area
6 chief for the western arctic area based out of
7 Yellowknife.

8 My role in the Jericho review has been to
9 assist in the environmental assessment process as
10 well as assist during the technical review of the
11 project.

12 On behalf of DFO, I would like to thank the
13 Board for this opportunity to participate in the
14 Jericho hearings. Through this process we hope to
15 achieve an open and rigorous review of the project
16 and the related issues and to move toward
17 resolution of those issues.

18 I would like to remind the Board about the
19 earlier submissions that the department had made,
20 and that many of the details of our intervention
21 are contained in there, and I won't be repeating a
22 lot of the detailed information during my
23 presentation today. But I intend to give an
24 overview on issues and where we may have moved
25 forward and what perhaps still needs to be
26 addressed.

0414

1 My presentation will generally cover briefly
2 DFO's mandate. I will discuss the project
3 components that have some sort of concern or had a
4 concern for us. In the description of those
5 project components, it will include an
6 identification of the issues, a discussion of any
7 issue resolution that may have resulted from
8 further consideration of the information, analysis,
9 discussion and commitments for project design that
10 have partially or completely resolved an issue at
11 least from DFO's perspective, and where
12 appropriate, we will talk about the issues, the
13 outstanding components of those concerns that might
14 still be outstanding. And then I will give a brief
15 summary at the end.

16 Briefly, DFO's mandate quite simply is to
17 protect fish and fish habitat pursuant to the
18 Fisheries Act. We are guided by the guiding
19 principle of no net loss, which is contained within
20 our habitat management policy. This is where we
21 strive to offset losses in habitat with gains in
22 habitat to ensure the long-term protection of
23 subsistence in commercial and recreational
24 fisheries resources potential.

25 We work directly with stakeholders, and we
26 provide technical comments to all stakeholders and

0415

1 gather information from the public as well to use
2 in our determinations.

3 The project has many components, and we have
4 identified eight of those project components for

5 which there were identified issues on from DFO's
6 perspective, and I will go through each one of
7 these in turn.

8 The issue of road construction, during --
9 through our interventions and submissions we had
10 identified two main issues with respect to road
11 construction, the first being the potential for
12 altered surface drainage on the mine site to cause
13 impediments to fish passage, to cause erosion of
14 sediment into water bodies and to disrupt surface
15 recharge of water bodies.

16 Generally, thermostreams are quite prevalent
17 throughout the arctic, and they have an incredible
18 capacity to support fish. These drainages supply
19 critical recharge to lakes, and often interfering
20 with the flow of these seemingly small innocent
21 streams can result in water management issues,
22 undesirable flooding, erosions and occasional road
23 washouts, and we have seen evidence of these at
24 other mine -- at other diamond mine sites. So
25 where possible, natural drainage patterns should be
26 maintained to avoid these undesirable impacts.

0416

1 The second issue associated with road
2 construction was with the destruction of fish
3 habitat due to construction of the winter road
4 access ramp on Contwoyto Lake. So through a number
5 of means, we have achieved some issue resolution in
6 some of these respects.

7 With respect to fish passage, Tahera has
8 assessed surface drainages for potential use by
9 fish, and one stream crossing, the larger stream
10 crossing on Stream C2 may require more attention to
11 the culvert design or to the crossing design. And
12 the culvert design will consider facilitating fish
13 passage, if necessary. We are not saying that it
14 is definitely needed at this point, but if it is
15 needed, then Tahera has committed to looking at
16 that possibility.

17 We have also been told that the ramp on
18 Contwoyto Lake is no longer needed, so that, again,
19 resolves the issue that we had with impacts there.

20 With respect to road construction, there are
21 some things that we may consider as outstanding
22 parts of the issue, not outstanding as in
23 wonderful, outstanding as in yet to be resolved.
24 Altered surface flow and impeded surface flow and
25 potential for erosion to water bodies, it is still
26 -- still is something that could happen on the

0417

1 site, and Tahera has agreed to submit further
2 information related to those surface drainage
3 patterns, and we recognize the need for design
4 considerations and monitoring and, of course,
5 contingencies during operation.

6 CHAIRPERSON: Before you go to the next
7 slide, just wait until the translators are
8 finished. Maybe just check with them before you --
9 and they will give you a nod. Okay.
10 MS. DAHL: The next project component
11 for which we had identified issues was the Carat
12 Lake causeway. The causeway, because of it is --
13 because construction of the causeway will cause
14 unavoidable -- will cause avoidable direct and
15 indirect impacts to fish habitat in Carat Lake, the
16 direct impacts is the physical footprint of the
17 causeway being placed in the lake. As well, there
18 are the indirect impacts of the potential for
19 altered near-shore currents that could change the
20 characteristics of the habitat adjacent to the
21 causeway, particularly feeding and spawning habitat
22 that would change sedimentation rates and flow
23 rates in those areas.
24 With respect to the causeway, there is also
25 the issue of how to include the indirect impacts in
26 habitat accounting and ultimately decide on

0418

1 appropriate compensation for these, sort of,
2 indirect impacts.
3 We have, with respect to this, achieved some
4 movement towards resolution, and I think we are
5 actually probably going to be even closer after
6 tonight. Tahera has agreed to consider the option
7 of burying the pipe, and the concern that they had
8 raised was that if they buried the pipe, any
9 requirement for emergency repairs would require an
10 application to DFO for authorization to do those
11 repairs, and they were concerned about the delays
12 in obtaining such an authorization. DFO, in turn,
13 is committing that we could ensure that not only
14 the installation, but any emergency repairs that
15 may be needed could be included as conditions in
16 the initial authorization such that no further
17 application would be required, therefore, no
18 delays, which would remove the key concern that
19 Tahera had for using a buried pipe versus a
20 causeway.
21 With respect to the causeway, we would say
22 that there still are some outstanding issues, the
23 main one being that the ultimate intake design has
24 not been decided on yet, and that if it is a
25 causeway, it has the direct impacts which would
26 have to be dealt with, but as well, that issue

0419

1 still remains on how do you quantify, how do you
2 measure and compensate for the indirect impacts
3 that could result due to the changed altered water
4 currents as a result of the causeway being there.
5 So there still is a causeway versus buried pipe
6 design decision that has to be made.

7 The use of explosives, this was another
8 project component for which some issues had been
9 identified. It was identified that there could be
10 negative impacts due to blasting in the open pit on
11 fish located in Stream C1, in Lake C1 and in Carat
12 Lake. Or at least in those portions of those water
13 bodies closest to the pit. These negative impacts
14 would result from exceedance of DFO guidelines, and
15 therefore, the need to require a Fisheries Act
16 Section 32 authorization.

17 Section 32 authorization is one that is
18 required for -- it is specifically for the killing
19 of fish by means other than fishing. It is
20 commonly referred to as a blasting authorization,
21 but it is not really called -- it is not really
22 that, but that's the common name because that's the
23 most common condition under which this
24 authorization is issued.

25 Now, the negative impacts associated with
26 blasting come from two -- come for two reasons, one

0420

1 is what's called the peak particle velocity, and
2 that's essentially vibration caused by the blast.
3 The concern here is for eggs, the eggs are
4 sensitive to the vibration and can be killed. The
5 guideline value that DFO states right now is 13
6 millimeters per second. This is not a no-effect
7 level, it is a value that 50 percent of the exposed
8 eggs could be expected to be impacted.

9 The second component of the concern related
10 to use of explosives, is what's referred to as the
11 instantaneous pressure change, and that's the
12 shockwave as a result of the blast, and this is the
13 component of the blast that we are concerned with
14 when we think of adult fish or juvenile fish, but
15 nonegg fish because it is the shock wave that
16 affects the internal organs, especially the swim
17 bladder. DFO's published guideline for that is 100
18 kiloPascals.

19 Operationally, we have been using 50
20 kiloPascals as a safer operating level, and there
21 is quite a long explanation as to why the 100 kPa
22 is not considered to be very conservative or
23 protective, and I don't think we have time here to
24 go into that long explanation of that. It has to
25 do with the sampling equipment that was used 20
26 some-odd years ago when the value was first

0421

1 established.

2 Issue resolution, we have determined or we
3 have heard from Tahera that the instantaneous
4 pressure change, that was the part of the blast
5 that was of concern for free-swimming fish for the
6 near shore of Carat Lake and Lake C1 is likely to
7 be low -- likely to be below the level of concern

8 for free-swimming fish. And Tahera has agreed to
9 analyze the blast zone to determine how the zone
10 may vary with pit depth. This is consistent with
11 what we have asked Diavik to do as well,
12 understanding that as the pit gets deeper and the
13 blast gets further and further away from the water,
14 the blast zone or how far out that shockwave goes
15 gets smaller and smaller, so this would give us
16 some idea of a measure of the temporal impact.

17 There may be still some outstanding issue
18 with respect to the use of explosives, and that is
19 related to the peak particle velocity, because as
20 Tahera showed us, it may exceed guidelines for
21 impacts on eggs in the near-shore area of Carat
22 Lake and in Stream C1. As well, overpressure may
23 exceed the 50 kPa operational threshold for impacts
24 on free-swimming fish in Stream C1. And one issue
25 would be the need to consider blasting management
26 if we moved forward on a Fisheries Act Section 32

0422

1 authorization.
2 We saw in the earlier presentation the extent
3 of the blast zone, and it was clarified that the
4 identified char spawning area was about 30 to 40
5 meters offshore. I guess a more precise
6 delineation of the blast zone relative to the
7 identified or potential spawning habitat would be
8 required, a scale of -- the scale of the maps that
9 we saw, a 30 to 40 meter movement of that spawning
10 still could mean that it is within the zone where
11 it could be potentially impacted. So more precise
12 mapping of that would be required to ensure that
13 that spawning area is outside of the zone of
14 impact.

15 With respect to the Stream C1 diversion,
16 there were a number of issues that had been
17 identified. First of all, DFO had acknowledged
18 that the stream diversion plans were inadequate.
19 The diversion plans called for a stream channel
20 approximately 116 meters shorter than the natural
21 channel that's there with a lack of stream features
22 such as any sort of meandering in the channel,
23 braiding, widening, any sort of variability in the
24 channel that you would expect in a natural stream.
25 Because of the shorter channel and the fact that it
26 would just be essentially a straight rock-lined

0423

1 diversion, we would expect that the water
2 velocities would be increased. It could result in
3 lower benthic production in the section of the
4 stream channel, and it could affect the
5 contribution of the food to the lower natural stream
6 section. And because of this, the change of the
7 centre section of the stream, it has implications
8 for the function of the lower natural stream.

9 There are also concerns with the nature of
10 the diversion channel and its location requiring
11 excavation in potentially ice-rich soils and a
12 potential for erosion and sedimentation into Stream
13 C1. We are well aware of what issues can arise
14 when excavation occurs in permafrost, and it -- we
15 definitely would like to see that managed and
16 mitigated.

17 There are also concerns with how this new
18 stream would function after -- during operations,
19 but also at the end when the mine closes because
20 the catchment or that area of the land that
21 collects the water and feeds the stream would be
22 changed and would now have a large portion of it
23 covered with an open pit. So there were concerns
24 for how this new stream would function with respect
25 to changes in the catchment surface flow.

26 The diversion design also called for a

0424

1 dissipation pond that we saw as a migration
2 barrier, and in the lower portion of the stream
3 there was a berm that was constructed in 1995 that
4 appeared to be impeding fish movement.

5 With respect to issue resolution, the -- for
6 the diverse plants, Tahera has agreed to
7 investigate naturalization of the diversion.

8 To address erosion, we have heard that the
9 diversion will be designed to prevent erosion and
10 channel degradation, and Tahera has agreed to
11 submit the diversion plans to DFO. As well, the
12 structural stability of the diversion and sediment
13 production will be monitored in the channel.

14 With respect to postclosure function, the
15 effect of the water management plan or the site
16 water management plan on the flow in Stream C1 will
17 be evaluated, and the postclosure flow
18 characteristics will be modelled to ensure that
19 productive capacity can be maintained.

20 We have also heard that the design engineers
21 have determined that the diversion could be
22 operated without the dissipation pond. I think we
23 need to caution here that we don't want to be too
24 hasty in removing the dissipation pond completely.
25 We had a concern with it not allowing fish passage
26 at low water levels, and so a design -- and the

0425

1 design and/or the need of a dissipation pond should
2 still be considered.

3 The reason I say this is because we have a
4 concern with sedimentation in the stream, and the
5 dissipation pond may actually serve as a mitigation
6 for controlling sedimentation, so I think that we
7 still want to consider the concept of the
8 dissipation pond and what it might be able to do
9 for the channel. Also, the berm across the bottom

10 end of Stream C1, Tahera has agreed to remove that.
11 With respect to the Stream C1 diversion,
12 there are still some outstanding issues. We still
13 see that we need the confirmation of an adequate
14 diversion design, one that meets all of the
15 concerns that we raised and that functions
16 properly.
17 Based on our experience with northern mines,
18 confirmation of the ground conditions along the
19 diversion route and contingencies for encountering
20 ice riched tills are required. And based on the
21 water flow and water recharge modelling, a plan
22 would be required to address the postclosure flow
23 scenarios for the diversion to ensure that stream
24 function is maintained.
25 On to the processed kimberlite containment
26 area, the identified issues for this component of

0426

1 the project included lack of fish salvage details,
2 a concern for the potential for erosion and
3 sedimentation in the outlet stream, Stream C3 and
4 into Lake C3 due to increased flow rates from the
5 PKCA, the obvious loss of fish habitat in Long
6 Lake, and the disrupted flow in Stream C3 resulting
7 to impacts to the rearing habitat identified in the
8 lower 300 meters of that stream.
9 The current plan calls for no discharge from
10 Long Lake for the first two years that it is being
11 used as the processed kimberlite containment
12 facility followed by an increase in flows during
13 the open water period by about 50 percent over
14 natural conditions. It is expected that with
15 the -- with the loss of the Long Lake retention,
16 that there will be greater freshet flows for
17 shorter periods of time and likely drier dries, so
18 it will result in a change in flow scenario.
19 For issue resolution, Tahera has -- we have
20 discussed with them our fish salvage program, and
21 that protocol has been provided to them, and it is
22 expected that the fish salvage program will take
23 place as per DFO's protocol, and in all likelihood,
24 it would be a requirement of an authorization as it
25 has been for other diamond mines.
26 What to do with the fish is still a little

0427

1 bit of a question, it is not always prudent to
2 release the fish downstream. In some cases we have
3 done that, in other cases, the fish have been
4 collected and given to communities.
5 The PKCA discharge flow can be because it is
6 a controlled structure, the flow from that can be
7 controlled and adjusted to avoid erosion in Stream
8 C3. And we have heard that the potential for
9 stream erosion will be monitored as well.
10 The issue of habitat loss in Long Lake is

11 addressed through accounting for those losses and
12 determining and implementing the necessary and
13 required compensation for that habitat impact.
14 Outstanding issues with respect to the PKCA,
15 that although the area of rearing habitat in the
16 lower 300 meters of Stream C3 was included in the
17 habitat accounting, there still is a need to
18 determine the potential for managing that water
19 decomp that I discussed earlier to try to match the
20 hydrograph and minimize those physical impacts to
21 the stream function.
22 I guess that we would like to see a
23 consideration of discharge from the settling pond
24 and/or from the west end of cell 2 into Stream C3
25 for those first two years when Tahera is
26 anticipating no discharge at all. We would like to

0428

1 see consideration of the water quality in the
2 settling pond and in the west end of cell 2 being
3 of suitable quality to allow it to be discharged.
4 We understand that they had planned to retain
5 water for two years to allow for water quality
6 determination, and I think this could still be done
7 and it is a good idea. But the settling pond would
8 not receive any input, and so you would expect the
9 water to be clean enough to discharge.
10 I guess this brings up one issue that was
11 discussed earlier, and that's the internal dike in
12 the PKCA, and I'm not clear whether it is in the
13 plan or out of the plan right now. I guess we
14 would like to have it considered as a component of
15 the PKCA that should possibly stay.
16 There is an advantage to having the PKCA
17 function as a two-cell system. We have seen that
18 in other systems where an internal filter dike and
19 increased retention certainly helps in improving
20 water quality, so I would ask that it be considered
21 as part of the PKCA, and that plans for operating
22 it as a two-cell system be considered.
23 With respect to water quality, I'm going to
24 break with the pattern a little bit here, I'm not
25 going to talk about resolution and outstanding, I'm
26 just going to have the one identified issue slide

0429

1 here.
2 With respect to water quality, one of the
3 identified issues is that the impacts of cadmium in
4 the effluent discharge have not been adequately
5 assessed. The information was provided following
6 the filing of the final EIS, and it -- it was
7 identified as a contaminant of concern, and the
8 predicted cadmium concentrations may adversely
9 affect zooplankton, and benthos may ultimately
10 affect fish.
11 The treatment options that have been

12 considered: Treatment options for effluent quality
13 appear limited. There has been some discussion of
14 spray irrigation, and I guess I was somewhat
15 surprised to hear that there hadn't been a
16 consideration of previous snow fluent process that
17 had been used in the north, and I would -- I guess
18 the hope is that the land treatment project that's
19 being considered by Ekati will be looked at as well
20 for this.

21 Their proposal was a little bit different.
22 They are planning an atomization program where they
23 plan on spraying the water as a very, very fine
24 droplets. This helps to increase the surface area
25 of the water and helps in eliminating ammonia more
26 readily than large water droplets in a spray.

0430

1 There was also discussion of in situ
2 phosphate addition to increase algal production to
3 help take care of the ammonia and metals. That may
4 have to be looked at further, because the increased
5 turbidity and the water quality, or the compromised
6 water quality in the PKCA may not favour algal
7 growth, so that would have to be considered before
8 that was looked at as an option.

9 Flocculation has been considered as a way to
10 sediment particulates and the associated
11 particulate metals, and a diffuser was also talked
12 about, but a diffuser results in dilution, and
13 dilution is not treatment. We have heard frequent
14 references to dilution being used as a solution for
15 effluent quality. There also has to be a need --
16 there also is a need to consider total loadings as
17 well, and dilution should definitely be a last
18 resort.

19 Regardless of the mitigation that is applied,
20 metal concentration should be monitored in the
21 effluent, the receiving waters and the biota.

22 One other point that we wanted to add here is
23 that there is a substantial time lag between the
24 time that mining will cease and the time that the
25 pit will be ready for passive discharge either over
26 land or via the diffuser into the lake. The 20

0431

1 years or so that it is required -- that is required
2 for it to fill is seen as a passive opportunity for
3 treatment in situ. I guess our concern is that
4 with mining operations completing at approximately
5 year nine and no decision regarding what's going to
6 happen to the water in the pit until year 20, I'm
7 curious to know where the company will be and what
8 state the site will be at at that point, whether it
9 would even be possible to get in at that site at
10 that time to determine where the water should go.

11 It is just a suggestion here that perhaps the
12 time lag between when the pit is ready to discharge

13 perhaps could be shortened to closer to the time
14 when Tahera is still at the lake and actively
15 reclaiming the site. This could be facilitated
16 through active pumping from a nearby lake, provided
17 adequate modeling is conducted to ensure that there
18 will be no impacts to the source water body for
19 that.

20 With respect to water quality, the issue of
21 TDS has also been brought up a couple of times, and
22 I thought that it might be useful to mention that
23 here. The TDS concentrations predicted for Snap
24 Lake -- sorry, not for Snap Lake, whoa, for Jericho
25 are -- seem to be quite high. And it is -- they
26 could be of concern to biota in the lake. We

0432

1 haven't looked in great detail at this relative to
2 Snap Lake, we haven't done that comparison, but DFO
3 did raise concerns with the level that had been
4 proposed for Snap Lake as well. We had raised
5 concerns that even at that level, there may be
6 implications for the aquatic community, so we were
7 not convinced that those were levels that should be
8 adhered to.

9 I think it is important to remind the Board
10 that the recommendations that were accepted, the
11 recommendations by -- made by the Mackenzie Valley
12 Environmental Impact Review Board were accepted,
13 but the water license conditions also have yet to
14 be accepted by the Minister, and it is -- it could
15 be that those water license conditions will be more
16 stringent than what appeared in the Board report.

17 It may be premature to call the value in the
18 Review Board's report an industry standard. We
19 need to consider what -- the water license limits
20 that will be set and the results of monitoring,
21 then consider site-specific constituents of the TDS
22 and the receiving environment before we are ready
23 to establish what could be called an industry
24 standard.

25 With respect to the aquatic effects
26 monitoring. We had identified two main issues, one

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1 dealt with the limited monitoring components
2 proposed, we had talked about adding zooplankton
3 and phytoplankton monitoring, winter dissolved
4 oxygen, a sedentary fish species and possible
5 metallothionein, which is a liver enzyme that is
6 elevated when fish are exposed to metals.

7 The second issue was that of the adequacy of
8 baseline data to support the monitoring program,
9 and we had some discussion about this already, and
10 it was reported that the data required for impact
11 prediction is less rigorous than the data that's
12 required for the quantification for change, and I
13 can agree with this, but my question would then be,

14 when does Tahera expect to gather sufficient data
15 to provide for this detection and the
16 quantification of change they say that's in the
17 monitoring program?

18 I believe they are proposing to use the 1999
19 data and to add 2004 data, but with only two years
20 of data, how do you determine natural variability
21 from that upon which to base your monitoring
22 results?

23 There was also a lack of winter baseline
24 data, appeared to be inconsistent sampling times
25 and locations among lakes, so determining natural
26 variability appears that it would be extremely

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1 difficult.

2 With respect to issue resolution and the
3 portions of these issues that may be still
4 outstanding, we have heard that phytoplankton,
5 zooplankton and winter-dissolved oxygen will be
6 included in the AEMP. DFO raised concerns that
7 perhaps the time to detect changes in lake trout or
8 white fish may be slow, and with the project being
9 perhaps only eight or nine years, we suggested a
10 more sedentary species, one that may stay more
11 local to where the discharge is, perhaps sculpin,
12 and we had suggested metallothionein as an
13 indicator of metal stress. And as well, Tahera had
14 stated that they would have two years of
15 predevelopment monitoring data, this may be
16 inadequate, and we are suggesting that 2005 be
17 considered as well. This may give three years,
18 which still may not be totally adequate, but it may
19 be better than two.

20 With respect to the compensation plans, the
21 issues that were identified, first of all, as I had
22 mentioned earlier, the Stream C1 diversion was not
23 considered to be impacting fish habitat, therefore,
24 it was not included in the list of project
25 components that required compensation. Another
26 issue was in identifying options for minimizing

0435

1 impacts, and another was looking at compensation
2 options, and our thought that they hadn't been
3 fully developed, and the other issue had to do with
4 sedimentation.

5 For issue resolution, we are definitely
6 working toward diversion designed and operated to
7 achieve no net loss of fish habitat productivity
8 throughout the entire stream. There has been
9 consideration of burying the intake pipe, and the
10 ramp on Contwoyto has been removed.

11 Tahera has agreed to reevaluate the
12 compensation plans, to provide additional
13 documentation, and to investigate alternative
14 compensation measures. And Tahera has also agreed

15 to abide by best management practices to minimize
16 introduction of sediments.
17 What are the outstanding issues with respect
18 to the compensation planning? We see that there
19 seems to be an inherent conflict between achieving
20 naturalization in the diversion and maintaining
21 stability or control in that diversion, and we
22 recognize that as an issue. If you want to control
23 a structure, the best way to do is it to have it
24 straight, short, rock lined, as simple as possible.
25 This does not lend itself to a natural stream, and
26 we recognize that conflict in the two -- the two

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1 end points there.
2 Also, for lake habitat compensation, there
3 may be a consideration of rehabilitation of the pit
4 into a lake, but this would have to be reconciled
5 with postclosure water management plans.
6 Now, the idea of rehabilitating the pit lake
7 was only briefly considered. DFO's opinion is that
8 this may offer some local lake habitat
9 compensation; however, we have no empirical data
10 existing to support an in-pit lake. We are merely
11 recognizing that finding opportunities to achieve
12 whole lake compensation is difficult, and if there
13 is an opportunity to achieve compensation in a
14 refilled pit, that it is something that we would be
15 willing to consider.
16 Just to address a concern that had been
17 raised earlier by the KIA, they had mentioned a
18 concern that the fisheries' concerns or the fish
19 habitat concerns were negotiated between DFO and
20 Tahera. And KIA was concerned that they had no
21 influence over the outcome of these negotiations.
22 There is a process that is being developed by
23 DFO currently in the western arctic area, which is
24 essentially the Northwest Territories, that with
25 the intention of applying this throughout the
26 north, and that is a process of consultation on the

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1 draft authorization. We have done this so far for
2 the BHP expansion project, for the Diavik project,
3 and we are also intending to do it for De Beer Snap
4 Lake project whereby we draft the authorization and
5 circulate it to Aboriginal groups and other
6 interested parties for -- to give them an
7 opportunity to comment on the draft. We give them
8 a comment period, then we consider all comments and
9 incorporate the comments into the final
10 authorization where appropriate. So we are hoping
11 by doing this, we are giving people an opportunity
12 to comment and influence how the habitat
13 compensation is carried out.
14 In summary, we would like to recognize
15 Tahera's efforts and their commitment to design a

16 project with minimal environmental impact. We
17 acknowledge and appreciate their willingness to
18 work with DFO to address our concerns through
19 positive improvements in the project design.
20 We do see that there is some room for
21 improvement in terms of lessening the physical
22 impacts on fish habitat, remember those areas that
23 I had mentioned. We see that the compensation plan
24 details need to be developed for impacts of fish
25 habitat that are unavoidable and acceptable and to
26 ensure that no net loss of productive capacity fish

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1 habitat is achieved.
2 We also see that there is room for
3 improvement of water quality leaving the site, and
4 I would say perhaps our position is a little bit
5 stronger than that, that we feel that there is a
6 need to fully explore the options for water
7 management and for mitigating contaminant levels in
8 the mine water discharge. The goal is to lessen
9 the impacts on the receiving environment.
10 So as I say, this includes exploring
11 treatment options and fully characterizing the
12 impacts in the receiving environment. And as we
13 had mentioned, there is also a need for adequate
14 baseline data to ensure that monitoring can provide
15 for early detection and management of adverse
16 change. Thank you. CHAIRPERSON:
17 Thank you. Before we -- or DFO hears questions
18 from Tahera, we will take a ten-minute break and do
19 another door prize.
20 (RECESSED AT 8:40 P.M.)
21 (RECONVENED AT 9:00 P.M.)
22 CHAIRPERSON: And before we begin the
23 questions, I would like to welcome the deputy mayor
24 for the hamlet of Cambridge Bay, Brenda Janke, is
25 she still here? And hamlet councillor Ilik Tulumak
26 (phonetic). And before we break for the evening,

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1 if you have any questions, you may ask questions
2 later tonight.
3 And before we begin with questions, Tahera,
4 for the elders' benefits, can you please explain
5 what PKCA and the other abbreviations mean, like
6 the C1, C3. And when we are all explaining this,
7 they don't know what those terminology, like, if
8 you can just explain in very briefly? Thank you.
9 MR. MISSAL: Madam speaker, it is Greg
10 Missal with Tahera Corporation. First of all, I
11 would like to apologize to the elders for the use
12 of so many acronyms. It seems like we all use too
13 many acronyms anymore.
14 But the PKCA that we talk about stands for
15 processed kimberlite containment area, and the
16 processed kimberlite containment area is the area

17 at the mine site where we will be locating the fine
18 wet portion of the processed kimberlite. Some of
19 the other names that we use for the site such as C1
20 and C3, those are simply names given to particular
21 streams or small lakes located near or on the mine
22 site. So they just take the place of names for
23 those streams and lakes, and that's how we have
24 numbered those.
25 CHAIRPERSON: Thank you, and any
26 presenter, when you are going to ask a question,

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1 maybe just in brief mention what it means when you
2 come across those acronyms. Thank you.
3 Questions to DFO from Tahera?
4 TAHERA CORPORATION QUESTIONS DFO:
5 MR. PATTENDEN: Madam Chair, Rick
6 Pattenden, Mainstream Aquatics. First, I would
7 like to thank the DFO for their constructive
8 comments, they obviously know what they are talking
9 about.
10 My first comment is for -- in reference to
11 the causeway and DFO's request that if the causeway
12 is to be used, that Tahera include the indirect
13 impacts of the causeway in the compensation
14 calculations, and I believe that Tahera would agree
15 to do that.
16 The second comment is in regards to DFO's
17 request for better delineation of the suspected
18 arctic char spawning area in front of Stream C1 in
19 Carat Lake. Again, that information is available,
20 and we can provide that to DFO.
21 In regards to the C1 -- Stream C1 diversion,
22 I would like some clarification of DFO in regards
23 to the use of dissipation pond. The objective of
24 the diversion channel is to minimize a production
25 of sediments, so use of the dissipation pond as a
26 sediment collection area isn't really envisioned,

0441

1 it was designed originally to dissipate stream
2 energy. Is the position of DFO that the
3 dissipation pond can be used for sediment
4 containment, or is their position that they would
5 like to see the dissipation pond used as fish
6 habitat?
7 MS. DAHL: Julie Dahl, Fisheries and
8 Oceans. In some earlier documentation, we noted
9 reference to a need to periodically clean sediment
10 out of the dissipation pond, so we recognized that
11 Tahera recognized that the dissipation pond may
12 serve as a collection for sediment, and so I guess
13 that's where it is used as a sedimentation pond
14 came into the discussion.
15 The dissipation pond was a concern to us
16 because, first of all, it was located such that
17 there was a 90-degree angle between the diversion

18 entering the natural stream and wasn't a very
19 natural system, and during low-flow conditions,
20 Tahera agreed that it would not allow fish passage,
21 so it was seen as an impediment and perhaps an
22 undesirable component of the project. By removing
23 the dissipation pond, you can achieve a more
24 natural stream with no impediments to this fish
25 passage.
26 The reason why the idea of the dissipation

0442

1 pond is still sort of out there in the fringe is
2 that we recognize, and I think it was yesterday
3 that I looked more closely at the diagram showing
4 the location of the diversion, it shows 150 meters
5 of it going through rock area and then 250 meters
6 of it going through soil area. And I guess I am
7 pretty nervous when I think of excavating in ice
8 rich soils in the experience that I have had with
9 what can happen, and also understanding that ice
10 rich soils may be encountered and it could release
11 sediments, also understanding that regardless of
12 the level of care that is taken, there will be
13 sediments during the initial flushing, so then you
14 look to how you mitigate those sediments.

15 It is very difficult to put a silk curtain
16 across the mouth of a flowing stream and expect
17 that it contain sediments. We have seen that, we
18 have seen it fail, so the only other option is at
19 some point in the stream channel to incorporate a
20 larger opening, a settling area that would slow
21 down velocities and allow sediment to drop out.

22 This is where the concept of the dissipation
23 pond or the concept of the pond on the stream could
24 serve as that mitigation to prevent sediment from
25 entering the lower portion of the stream that has
26 been identified as the quality habitat portion of

0443

1 the stream and on into Carat Lake.

2 I still think it is an area that we need to
3 discuss to see whether or not there is a need for
4 and the ability to incorporate a pond into the
5 stream design to attempt to mitigate sediment that
6 could come down from the construction of the
7 channel.

8 MR. PATTENDEN: Madam Chair, in your
9 presentation, I believe, at DFO, you made reference
10 to your experience with Ekati's panter (phonetic)
11 channel and your concern with ice rich soils and
12 the potential for erosion. I think it would be
13 appropriate for SRK to comment on the proposed
14 Stream C1 diversion configuration and what the
15 differences are between the proposed diversion for
16 Jericho and the general characteristics of a panted
17 channel in terms of the size and the depth.

18 MR. SCOTT: Cam Scott, SRK. Just

19 speaking in the context of the Ekati diversion
20 which was an obviously a much longer diversion, the
21 details of which I am not -- are not fresh in my
22 mind, I believe it was in the order of ten
23 kilometres. Of how long? Or three kilometres.
24 Depths up to about 14 meters, much wider, much more
25 substantial channel, and going down through
26 permafrost over its entire length, and yes, that

0444

1 there is problems that occurred through exposing
2 it, exposing permafrost, and I believe there was
3 uncertainty as to the nature as to why that
4 sediment reported to that channel.

5 In any event, the point is that that's a much
6 deeper channel that goes through permafrost. The
7 difference with this channel is it is a much
8 shallower channel, and I think can be designed, the
9 typical design section that appeared in the FEIS is
10 -- indicates it is in the order of a meter or a
11 meter and a half deep. So in other words, it is
12 likely that they -- the depth of channel will
13 remain in the active layer or the zone where there
14 should be no ice because there is no longer
15 permafrost in the fact that it is freezing -- no
16 longer ice-rich soil because it is freezing and
17 thawing essentially each year.

18 In terms of the descriptions of the channel,
19 it is easy enough to widen the channel and reduce
20 the depth, so, again, I think that is something
21 that could be addressed as part of final design.
22 And through the elimination of the dissipation
23 pond, as part of final design, one can smooth out
24 that channel so it meets more naturally with the
25 existing remnant of Stream C1. Now, I think those
26 are things that can be addressed as part of

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1 detailed design.

2 MR. PATTENDEN: Madam Chair --

3 MR. SCOTT: Cam Scott, SRK. Just to
4 finish off and reiterate the things that we talked
5 about yesterday in terms of the selection of rip
6 rap that is as practically free of additional
7 sediment as possible but still acknowledging your
8 comment that it is right that there will be
9 sediment generated regardless of what one does is a
10 part of the further flush through that channel.

11 MR. PATTENDEN: Rick Pattenden, Mainstream
12 Aquatics. Going on to your concerns regarding the
13 PKCA, processed kimberlite containment area, and
14 your request for maintaining flow during years one
15 and two, just an indication that flows from the
16 settling pond will be released into Stream C3
17 during years one and two, so there will be some
18 water discharge.

19 Going on to your concerns about water

20 quality, your first comment is in regards to the
21 potential impacts of cadmium in Carat Lake at the
22 predicted concentrations and your request that that
23 impact be investigated in more detail and
24 mitigation be attempted. I would like to, sort of,
25 defer Mr. Bruce Ott to comment on that.
26 MR. OTT: Bruise Ott, AMEC. Madam

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1 Chair, I think we need a two-part response to that,
2 and I will let Kelly Sexsmith talk about the source
3 concentration and how it was arrived at. The CCME
4 guideline is .017 micrograms per litre, that's
5 approximately .017 parts per billion. I don't know
6 of any practical treatment that would bring cadmium
7 down of those sorts of levels other than
8 eliminating discharge altogether.
9 MS. SEXSMITH: Kelly Sexsmith. Another
10 issue that we wanted to point out with the cadmium
11 predictions is that the cadmium predictions for the
12 source concentrations were based on detection
13 limits in the lab testing data that were very --
14 the values that were measured in the lab were all
15 very close to or below detection limits, which
16 means that when you scale them up, you have a
17 potential for overestimating concentrations in the
18 source concentrations.
19 And despite the fact that the source
20 concentrations are probably conservatively high,
21 the concentrations in the receiving environment
22 were only marginally above the CCME guidelines.
23 MS. DAHL: Madam Chair, could I just
24 ask for clarification on what marginally was? Can
25 you refresh my memory on what the approximate
26 average value was?

0447

1 MS. SEXSMITH: Bruce, could you cover this
2 question?
3 MR. OTT: We provided that
4 information, just for the record, in our subsequent
5 submission on the water quality effects. With your
6 indulgence, Madam Chair, I can pull the tables out
7 and quote the numbers for DFO. I remember they
8 generalized information that I provided in the
9 slides, but I don't have the numbers directly in my
10 head, so if -- with your permission, I will take a
11 couple of minutes and find that, and perhaps we can
12 move on and come back to that issue?
13 CHAIRPERSON: Okay. Other questions?
14 MR. PATTENDEN: Rick Pattenden, Mainstream
15 Aquatics. In your water quality assessment or
16 issues under the water quality heading, you asked
17 that alternative treatment options be considered in
18 more detail, that's correct? I would like Mr.
19 Andre Sobolewski to comment on that.
20 MR. SOBOLEWSKI: Andre Sobolewski. Madam

21 Chair, 5614411, can you remember that, please?
22 CHAIRPERSON: Now I am confused.
23 MR. SOBOLEWSKI: I was -- sorry. I was a
24 member of the design team at Ekati for the design
25 of the water treatment system for the misery pit
26 where treatment for ammonia was considered. At the

0448

1 time, I recommend that a spray irrigation system,
2 in fact, be adopted. Other members of the project
3 team were favoring atomization, which is one of the
4 alternatives that you recommended be evaluated.
5 I am very familiar with the pros and cons of
6 spray irrigation, of atomization, as well as other
7 forms of treatment. In light of this, my
8 recommendation for Tahera was that the advantages
9 of a spray irrigation system, particularly from the
10 operation of the spray irrigation system, far
11 outweigh those of atomization, even though both
12 systems will produce good quality water if properly
13 operated. So for these reasons in particular, I
14 put all of my attention to spray irrigation
15 treatment. Far more can be said about it, but I
16 will limit my comments to that.
17 MR. PATTENDEN: Rick Pattenden, Mainstream
18 Aquatics. The final point regarding total
19 dissolved solid, TDS, and your water quality
20 concern, I would like Kelly Sexsmith to comment on
21 the TDS issue for the Jericho project and make a
22 general comparison to Snap Lake.
23 MS. SEXSMITH: In your presentation you
24 mentioned that you weren't sure how the TDS levels
25 in the receiving environment -- predicted for the
26 receiving environment at Jericho compared to the

0449

1 levels predicted at Snap Lake, so I thought it
2 would be helpful to clarify that, if that's all
3 right.
4 The discharge concentrations at Jericho
5 during operations are predicted to be slightly less
6 than 1000 milligrams per litre with the 6 to 1
7 dilution. Under the worst-case ten-year low-flow
8 dilution factor that we have in the receiving
9 environment, we would reduce those concentrations
10 by six times, so something under 200 milligrams per
11 litre in the receiving environment.
12 Snap Lake's predictions were for
13 concentrations on the record of 350 milligrams per
14 litre. And the form of that TDS was primarily as
15 chloride, and the chloride was identified as the
16 potentially toxic component in that water at those
17 levels.
18 MR. MISSAL: Madam Chair, I think that
19 summarizes our questions for DFO at this time.
20 Bruce, have you located that chart? Okay. So we
21 have located that, and perhaps we can draw DFO's

22 attention to that at some time a little later when
23 we finish up tonight.
24 CHAIRPERSON: Bill?
25 MR. TILLEMAN: Well, the best time would
26 be to do it now, if you can do it now. If Bruce is

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1 ready to do it, then why don't we go ahead.
2 CHAIRPERSON: Are you ready?
3 MR. OTT: If I just show it to DFO,
4 it doesn't get read into the record, does it? It
5 is already in the record.
6 MR. TILLEMAN: So perhaps, Madam Chair, it
7 is Bill. If you could maybe have Dr. Ott just read
8 that into the record, give us some reference points
9 and so on, and then if it -- you will have a chance
10 to broach it again tomorrow or else Thursday or
11 Friday. So at least give it a reference point, and
12 they can think about it and then they can respond
13 to any of the comments that you have made.
14 MR. OTT: Madam Chair, thank you.
15 That sounds like a good solution. The reference
16 tables are Tables 1 through 4 in the supplemental
17 information that was provided under water quality
18 assessment for the discharge from the PKCA, and
19 those tables have the numbers that are predicting
20 for cadmium based on the source concentration that
21 was provided in the dilution from the Princeton
22 Oceanographic Dilution Model.
23 We looked at worst case low flows, and we --
24 as I indicated the other day, and we have looked at
25 average flows, and we looked at maximum predicted
26 concentration of elements of concern and average

0451

1 concentration of elements of concern, and if it is
2 your pleasure to stop there, I will. If you would
3 prefer me to just read out all of the numbers, I
4 can do that as well.
5 MR. MISSAL: Madam Chair, just in
6 conclusion, Tahera would like to acknowledge DFO's
7 cooperation in working through to resolve a number
8 of the issues which you saw in their presentation
9 today, it has been much appreciated.
10 CHAIRPERSON: Any questions from the
11 elders to DFO? Any questions from NTI? Any
12 questions from KIA?
13 KIA QUESTIONS DFO:
14 MR. DONIHEE: John Donihee for the
15 Kitikmeot Inuit Association. I would like to
16 commend DFO, first of all, for their commitment to
17 working -- continuing their work directly with the
18 stakeholders in this process. KIA, of course, is
19 one of the major stakeholders, and I am
20 particularly interested in the way that the fish
21 habitat compensation plan is evolving, and also in
22 the effects that have been predicted with respect

23 to fish and fish populations at the -- as a result
24 of the project.

25 To set this up, I suppose, Ms. Dahl, I will
26 just sort of indicate a couple of things that I

0452

1 consider to be facts that have been put onto the
2 record over the last day or so, and perhaps if you
3 disagree, you can advise me.

4 But, first of all, it seems to me that DFO's
5 intervention is based on your department's
6 conclusion that the project will have impacts on
7 fish, fish populations and fish habitat in the
8 project area, and I take it that as well, although
9 I don't know the full list of them, but it is clear
10 from your presentation that DFO will be issuing
11 regulatory authorizations for this project, and as
12 well, that you are in the process of negotiating a
13 fish habitat compensation policy which is
14 consistent with your no-net-loss -- sorry, I call
15 that a policy, plan, which is consistent with your
16 no-net-loss policy.

17 So my first question for you, assuming that
18 you are still with me, is that what is DFO's
19 position about the involvement of private
20 landowners during the course of negotiations for
21 fish habitat compensation plans?

22 MS. DAHL: July Dahl, DFO. Could you
23 clarify for me who you refer to as private
24 landowner?

25 Q KIA.

26 A Okay. Now, could you repeat your question for me?

0453

1 Q Well, let me try this way. It appears that some of
2 the facilities which are going to be located on
3 Inuit-owned lands are going to have impacts on fish
4 habitat; do you agree with that?

5 A Yes.

6 Q Okay. And you are, then, going to include those
7 areas in the compensation planning that you are
8 doing for -- under your no-net-loss policy, isn't
9 that true?

10 A That would be the intent if it is decided that
11 those impacts are acceptable compensatable, and
12 will be subject to an authorization.

13 Q I'll take that as a yes.

14 My concern is as follows, if there is going
15 to be fish habitat lost on KIA lands, and you are
16 going to have the company do certain things to
17 offset those losses, it may also be that some of
18 the offsetting activities could involve activities
19 on Inuit-owned land, this is private land. And I
20 guess what I am trying to understand here is what
21 is DFO's intention with respect to the involvement
22 of the landowner in these circumstances?

23 A July Dahl, DFO. I had hoped that I had explained a

24 bit in the description of how we had hoped to
25 handle the draft authorization in terms of
26 involving any interested party, including, in this

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1 case, the KIA, in what the conditions of that
2 authorization could be, should be, and that sort of
3 thing, to make sure that their concerns were met in
4 terms of those impacts covered by the
5 authorization, the conditions applied and exactly
6 what would or could be done for compensation works.

7 And our hope would be to involve them, if
8 they so choose to be involved, in commenting on,
9 well, the types of impacts that are being subject
10 to the authorization and any works that are done
11 for compensation.

12 Q All right. Thank you. The other aspect of my
13 concern relates to the possible effects on fish and
14 fish populations, and I take it we won't argue that
15 Inuit have Article 5 rights to harvest fish in
16 these areas. And I guess my concern is as follows:
17 Before any authorizations of any kind are granted
18 by DFO which would allow the company to undertake
19 activities which could adversely affect harvesting
20 rights, there is a legal obligation for DFO to
21 consult with the rights holders, and I guess what I
22 am suggesting -- what I want to ask you is what
23 DFO's plan is in terms of involving Inuit in
24 consultation with respect to these kinds of
25 effects.

26 A Julie Dahl, Fisheries and Oceans. Before I answer

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1 that, I just want to back up for a moment to one of
2 the initial statements that you put forward as one
3 of the, I think you called them facts, that you had
4 collected, and you had stated that one of the facts
5 was that the project will have impacts on fish,
6 fish populations and fish habitat.

7 Right now, DFO has determined that the
8 project and the project components, as proposed,
9 will have impacts on fish habitat. I don't recall
10 making the conclusion that it will have impacts on
11 fish populations, and we did raise a concern that
12 there might be impacts on fish and other aquatic
13 biota. So given that, how do we intend on
14 including the KIA in our consultation obligations?

15 We haven't -- we don't have a clearly defined
16 consultation process, that is something that I have
17 been hoping for for some time. We do recognize our
18 obligations, we do recognize our need, and we
19 certainly will strive to make sure that we meet the
20 needs of the KIA. If they feel that they have some
21 of their rights that could be infringed, we
22 certainly will hear it, want to hear it and will
23 have to accommodate as necessary.

24 Q Thank you very much. I would just say in

25 conclusion, perhaps, that on both the habitat
26 compensation issue and on this last issue that we

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1 would be happy to talk to you at your earliest
2 convenience.
3 CHAIRPERSON: Any questions from GN?
4 Department of Indian and Northern Affairs? Any
5 questions from Health Canada? Environment Canada?
6 Natural Resources Canada?
7 MR. DYKE: No questions.
8 CHAIRPERSON: Any questions from the
9 Yellowknife Dene First Nations?
10 MR. BYERS: No questions.
11 CHAIRPERSON: Any questions from the
12 hamlet council Cambridge Bay? Any questions from
13 the elders? Any questions from Staff? Can you
14 come up to the microphone, please? Grab your
15 earphones.
16 ELDERS' COMMENTS:
17 MR. KILAODLUK: Thank you, Madam Chair.
18 Earlier on when we -- when they were opening the
19 meeting they mentioned about training opportunities
20 for the employment. Right now the younger
21 generation, when they go out on training, they
22 take it very shortly, you know, it is not like long
23 ago when we used to take some training long ago, it
24 used to take about a year.
25 But right now they take about one or two
26 weeks, but so right now when they are taking some

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1 kind of courses, like heavy equipment operator's
2 courses, they take about two to three months. And
3 whenever there is enough training and they go out
4 only for two weeks and they are not going to
5 complete their training courses in a matter of two
6 weeks, but if you could send them out or put them
7 on training for at least three months, this would
8 be more beneficial to the younger people.
9 Long ago, I took a training in heavy
10 equipment operator's course, it took me about less
11 than a month to complete my course. Right now I am
12 not working anymore.
13 I am very happy to hear the discussions going
14 on in this room and people making effort to try and
15 train other people. And I commend all of you for
16 your efforts. And we want to see our younger
17 generation get some good training for our jobs.
18 CHAIRPERSON: Any other questions or
19 comments from the elders?
20 PUBLIC QUESTIONS DFO:
21 MR. TOLGONAK: Thank you, Madam Chair. Kane
22 Tolgonak, general population.
23 As you can see this evening as compared to
24 the other days, we have more elders and general
25 population here this evening. There is a lot

26 acronyms and lots of terminology being used that

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1 are not being picked up. You put some people to
2 sleep on occasions.

3 But my questions to DFO, Department of
4 Fisheries and Oceans, that's what DFO stands for.
5 When you talk about no net loss and compensation,
6 I'm sure some of us would like to know what you
7 mean by that. It is government terminology and
8 people like myself, I do know what it is all about
9 in dealing with you in the past, but other people
10 in the community certainly would like to know who
11 does the compensation go to? Does it go back to
12 DFO, does it go to the landowners? Does that
13 no-net-loss program, what kind of a program is it
14 and how does it work? What kind of restrictions
15 are there and whatnot?

16 I think, in summary, if we could understand
17 that part of it, at least we would know if there is
18 any habitat loss in any of the projects at any time
19 when there is discussions of that, and we would
20 understand a bit more. Thank you. Thank you,
21 Madam Chair.

22 CHAIRPERSON: DFO?

23 MS. DAHL: Julie Dahl, Department of
24 Fisheries and Oceans, I won't say DFO. What does
25 compensation mean? This is -- it is a very good
26 question, and this is an issue that has come up

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1 many, many times and we have -- I guess I will say
2 that it is unfortunate that DFO uses the word
3 "compensation" when referring to offsetting losses
4 to fish habitat because in the communities and for
5 Aboriginal communities, compensation has a very
6 different and a very distinct meaning, and it is
7 not the same meaning that the Department of
8 Fisheries and Oceans attaches to the term
9 "compensation."

10 When we speak of compensation, what we are
11 referring to is if a project or a project component
12 is going to impact on or destroy or somehow remove
13 fish habitat, we require the proponent that is
14 causing that damage to fish habitat to develop
15 habitat somewhere else or to enhance habitat
16 somewhere else to offset those losses, and the word
17 we use is to compensate those losses.

18 So who does the compensation go to? It goes
19 to the fish, and DFO does not receive the
20 compensation, the landowners do receive the
21 compensation indirectly. Because what the goal of
22 compensation is when we talk about fish habitat
23 compensation is to ensure that at the end of the
24 day that we have somehow achieved the same level of
25 production or the potential for production of that
26 area that was there before the impact occurred.

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1 So if you impact some habitat over here, then
2 you would attempt to enhance or develop new habitat
3 over there such that to the fish, they still have
4 the same opportunities for production so that the
5 resource users still have the opportunity for the
6 fish harvest.

7 So we don't talk about money exchange, it is
8 the habitat works are offset by -- the habitat
9 impacts are offset by habitat works. And often you
10 see -- you hear dollar figures because companies
11 and proponents work in dollar figures. They have
12 to take the works they do and put it into dollar
13 figures so they can include it in their budgets and
14 include it in their contracting. But for us, we
15 are not looking at it from a dollar perspective, we
16 are looking at what has to be done to account for
17 those habitat impacts.

18 CHAIRPERSON: Thank you. Any questions
19 from the staff? Dionne?

20 BOARD STAFF QUESTIONS DFO:

21 MS. FILIATRAULT: Thank you, Madam Chair.
22 Just actually a couple points of clarification.
23 When you were talking about your aquatic effects
24 monitoring, you were talking about how to set
25 standards, and you were talking -- you were
26 referring to another project in that even though

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1 the environmental impact decision had been
2 accepted, the license limits had not been set, and
3 you went through sort of a flow or a reasoning
4 behind how the standards should be set, and I just
5 -- I couldn't scribble fast enough, so I am just
6 wondering if you can walk through that thinking
7 again?

8 MS. DAHL: Certainly. It is Julie
9 Dahl, Department of Fisheries and Oceans.

10 I believe you are referring to my discussion
11 of the total dissolved solids or the TDS
12 discussion. My comment was in reference to an
13 earlier comment that perhaps the value that had
14 been discussed for the De Beers Snap Lake project
15 could be viewed as an industry standard since it
16 was a value that had been recommended by the
17 Mackenzie Valley Environmental Impact Review Board.
18 I was merely cautioning that that value, although
19 it does appear in the Review Board's report, there
20 is another step, and that is the development of the
21 terms and conditions of the water license.

22 The water license, they may choose to set a
23 more stringent value than that whole lake average
24 of 350 milligrams per litre. And not also will --
25 not only will they set a limit, it may be 350, it
26 may be more stringent, but they will also have

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1 monitoring requirements on that, so I was trying to
2 -- if I can find my notes here, I was trying to
3 describe that perhaps it may be premature to use
4 that 350 milligram per litre value in the Review
5 Board's report as an industry standard because we
6 have to look at the water license value, the
7 monitoring results. Then we have to consider
8 site-specific constituents of the total dissolved
9 solids, which we hear now that there is a
10 fundamental difference in the constituents of the
11 total dissolved solids between Snap Lake and the
12 Jericho project, then we have to look at the
13 receiving environment and take all of that in
14 consideration when establishing an industry
15 standard.

16 CHAIRPERSON: Dionne?

17 MS. FILIATRAULT: Thank you, Madam Chair.
18 Dionne.

19 The other issue of clarification that was
20 referenced in your compensation plan, and, again,
21 it was just going by so quickly, but were you
22 saying that you -- that there is a consideration to
23 consider the actual pit infilling as an area of
24 compensation?

25 A Julie Dahl, Fisheries and Oceans. What I had
26 discussed was that the mined out pit will

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1 eventually fill up with water, and there is an
2 opportunity to consider how, at the end of the day,
3 that filled pit with water may function as a lake.
4 And the -- sorry, I just completely lost my train
5 of thought. Perhaps you could restate that
6 question for me and my brain will come back online.

7 Sorry, you had -- okay. My trustee sidekick
8 has taken notes. Let me see here. Clarification
9 of pit infilling. I was referring to water
10 infilling, not filling up with waste rock, unless
11 of course Tahera wants to move the waste rock and
12 fill the pit back up. No? Okay.

13 So do you still have a question in there?

14 Q Yes, Mrs. Chair. Dionne. Is this going -- like,
15 you alluded to the fact that it would actually be
16 considered as a positive in the infilling of a pit
17 and that it would be considered as potentially an
18 enhancement component that really isn't discussed
19 in the -- as one of the enhancements in the EIS by
20 Tahera; is that correct?

21 A Julie Dahl, Fisheries and Oceans. Yes, the
22 refilling of the mined out pit with water and have
23 it function as a lake again was not considered as a
24 compensation measure to offset, for example, the
25 loss of Long Lake, it wasn't considered.

26 I had mentioned it as something that we have

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1 talked about with other proponents as something we
2 may want to consider, because especially for some
3 other projects where you have multiple pits that
4 will all eventually fill up with water, and fish
5 may find their way into them. There may be
6 opportunity with respect to the Jericho project to
7 look at the possibility at the end of the day for
8 having suitable water quality that perhaps this
9 could be looked at as eventually another lake.
10 Q The last issue of clarification relates, again, to
11 the infilling of the lake. Did you also suggest at
12 one point that they could use another water source
13 to speed up the filling of the pit?
14 A July Dahl, Fisheries and Oceans. I did suggest
15 that, but I also added a very strong caution that
16 you cannot just start pumping water from another
17 lake without fully assessing the impacts of that.
18 But because the pit is located relatively close to
19 Carat Lake, and Carat Lake is a fairly large lake
20 relative to the pit, you could calculate how much
21 water you could take on an annual basis from that
22 lake without having any measurable change in the
23 water level of Carat Lake. And you may, through
24 that calculation, determine that you could take a
25 sufficient volume each year to make a notable
26 difference in the time it takes or a notable

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1 reduction in the time it takes to refill that pit,
2 if that was desirable.
3 If it was desirable to accelerate the filling
4 of the pit so that, as I had suggested, you could
5 make sure that the decision on what to do with the
6 pit water can be made when Tahera is still doing
7 their mine closure. If that's desirable, perhaps
8 looking at augmenting the filling, perhaps that
9 could be considered, but again, strong cautions on
10 doing something like that.
11 MS. FILIATRAULT: That's all my questions,
12 Madam Chair.
13 CHAIRPERSON: Any other questions from
14 Staff?
15 MR. TILLEMAN: It would simply -- I'm
16 sorry. It would simply be that we make sure that
17 we have all the documents that you referred to that
18 we didn't otherwise have. For example, earlier
19 today you referred to, I think it was a DFO
20 guideline on blasting, the impacts of blasting on
21 fisheries, and so if you could -- there might have
22 been two. But in any event, if you made a
23 reference to it, you did make a reference to a
24 guideline. I remembered one, Dionne remembered
25 another one. So if you do have those, if you could
26 find a way, before the end of week, to get them

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1 filed with us.

2 Also, you sent a letter to the Board, and we
3 do have a letter, we now have a good copy. But for
4 the rest of the audience, they may or may not be
5 aware of a letter that you had sent regarding
6 discussions you had had with Tahera, and so we will
7 make a copy available, Madam Chair. We should do
8 that for the audience here so that they know what
9 you are talking about when you say item one, issue
10 1 resolved or partially resolved, issue 2 resolved
11 and so on. So we will just simply have that made
12 available for anyone who wants to see it.
13 MS. DAHL: Madam Chair, just to
14 clarify, the numbers in that letter do not
15 correspond to the number of issues that I -- the
16 order of issues that I presented nor any numbering,
17 there is no correlation between the two.
18 MR. TILLEMAN: Okay. And so the third
19 item is this presentation, if you could arrange in
20 the next day to have a copy filed with us today, so
21 if you would make -- so we at least need to mark
22 that, so maybe tomorrow if you can come back on the
23 record at some point and let us know, and we will
24 have them marked as exhibits.
25 Okay. Thank you. Thank you, Madam Chair.
26 And I don't think the Staff has any other

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1 questions.
2 CHAIRPERSON: Who was a new question?
3 MR. TILLEMAN: We are done.
4 CHAIRPERSON: You are done?
5 MR. TILLEMAN: Yes.
6 CHAIRPERSON: Okay. Any questions for
7 the Board? Tahera?
8 MR. MISSAL: Madam Chairman, thank you.
9 Greg Missal with Tahera Corporation. One point
10 worth clarifying that's related to the KIA
11 comments, it is Tahera's understanding, and
12 according to site maps that we have provided in the
13 final EIS, and based on the boundary that lies
14 between KIA lands and Crown lands, that there is
15 the potential impacts to fish or fish habitat do
16 not occur on KIA lands, so we would certainly be
17 more than willing to point that out to clarify that
18 with DFO, but that is certainly our belief.
19 CHAIRPERSON: Bill?
20 MR. TILLEMAN: So since, Madam Chair, it
21 is almost 10 o'clock, it might be a good time for a
22 break, and then tomorrow morning we could ask DFO
23 if they wanted to make any comments at that point
24 in response to what Mr. Missal had just said.
25 If they needed time, it is close to a
26 convenient time to call it a day, subject to what

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1 you want to do, Madam.
2 CHAIRPERSON: You will be prepared

3 tomorrow morning to answer?
4 MS. DAHL: Julie Dahl, DFO. I could
5 make a quick comment now that if Tahera could
6 provide that map, and we would appreciate speaking
7 with KIA about that map to ensure that we all have
8 agreement as to where the boundaries lie, and we
9 could probably resolve that among Tahera, DFO and
10 KIA.
11 CHAIRPERSON: Okay. Thank you. Okay.
12 Time now being 10, 8 minutes before 10 o'clock, why
13 don't we call it a day. And we have got three more
14 door prizes

(ADJOURNED AT 9:53 P.M.)

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2 _____
3 I, Tara Lutz, Court Reporter, hereby
4 certify that I attended the above Hearing and took
5 faithful and accurate shorthand notes and the
6 foregoing is a true and accurate transcript of my
7 shorthand notes to the best of my skill and
8 ability.

8 Dated at the City of Calgary, Province of
9 Alberta, this 17th day of January 2004.

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22 _____
23 Tara Lutz
24 Court Reporter
25
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