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

JANUARY 7, 2004 VOLUME 3

LOCATION: CAMBRIDGE BAY PUBLIC HALL  
CAMBRIDGE BAY, NUNAVUT

NIRB FILE NO. 00MN059

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1 (COMMENCED AT 9:02 A.M.)

2 CHAIRPERSON: Good morning. Before we  
3 begin, Peter Paneak will give the opening prayer.  
4 Please stand up.

5 (OPENING PRAYER)

6 OPENING REMARKS AND INTRODUCTIONS:

7 CHAIRPERSON: Good morning, and welcome  
8 to the final hearing conference for the Jericho  
9 Diamond Project. I will just give another brief  
10 description of the application.

11 This is NIRB file number 00MN059, and the  
12 project being proposed by Tahera Corporation is for  
13 a diamond mine, the Jericho diamond mine located in  
14 the Jericho watershed at the north end of Contwoyto  
15 Lake, and the goal of the project is to extract the  
16 Jericho kimberlite reserves by way of open pit and  
17 underground mining. Full scale extraction is  
18 expected in 2005 with the mine to close and be  
19 reclaimed in 2013.

20 The mine will engage in continued exploration  
21 and the development of prospective kimberlite pipes  
22 in the area with the possibility of extending the  
23 operating life of the mine past the eight-year  
24 period currently projected.

25 The project, while utilizing some existing  
26 infrastructure, will require the construction of

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1 additional elements associated with mining and  
2 production.

3 I will now do a roll call, we have parties  
4 from Tahera Corporation, Kitikmeot Inuit  
5 Association, Nunavut Tunngavik Incorporated,  
6 government of Nunavut, Department of Fisheries and  
7 oceans? Health Canada? No Health Canada?  
8 Department of Indian and Northern Affairs,  
9 Environment Canada, Natural Resources Canada.  
10 Yellowknife Dene First Nations? Not here yet.  
11 Local hamlet council? Any elders and citizens,  
12 welcome.

13 On our agenda, we are now on number 12, and  
14 next to make their presentation is Environment  
15 Canada. You will have to get sworn in first.

16 MR. TILLEMEN: Please state your name for  
17 the record and spell your last name.

18 MS. WILSON: Anne Wilson, W-I-L-S-O-N.  
19 (ANNE WILSON SWORN)

20 MR. TILLEMEN: Thank you.

21 CHAIRPERSON: And may I remind you,  
22 before you turn to the next page, make sure the  
23 interpreters are ready. Thank you.

24 PRESENTATION BY ENVIRONMENT CANADA:

25 MS. WILSON: Good morning, Madam Chair  
26 and members of the Board. My name is Anne Wilson.

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1 I work with Environment Canada as a water  
2 pollution specialist, and I will be presenting

3 Environment Canada's advice to NIRB regarding the  
4 Jericho Diamond Project.

5 Environment Canada's concerns are focussed  
6 around our mandated areas of responsibility under  
7 the following legislation, the Department of the  
8 Environment Act, the Canadian Environmental  
9 Assessment Act, the Migratory Birds Convention Act  
10 and Migratory Birds Regulations, the Fisheries Act  
11 - pollution prevention provision, the Canada-wide  
12 standards for particulate matter and ozone and the  
13 Canadian Environmental Protection Act.

14 I will be presenting our concerns on behalf  
15 of Environment Canada reviewers from the Canadian  
16 Wildlife Service, the Meteorological Service of  
17 Canada, the Environmental Protection Branch and  
18 National Hydrology Research Institute. Reviewers  
19 have identified outstanding issues with migratory  
20 birds, aquatic quality, hydrology and climatology,  
21 air quality, spill prevention and hazardous  
22 materials management and cumulative effects  
23 assessment.

24 Our legislation is very specific with respect  
25 to protection of migratory birds. The Migratory  
26 Birds Convention Act and regulations state under

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1 Section 6(a) that no one shall destroy or disturb  
2 nests or eggs of migratory birds. Under section  
3 35.1 of regulations -- sorry about that. Section  
4 35.1 outlines that no person shall deposit or  
5 permit to be deposited oil, oil wastes or any other  
6 substance harmful to migratory birds in any waters  
7 or in any area frequented by migratory birds.

8 The Canadian Wildlife Service has identified  
9 three main areas of concern on the assessment for  
10 migratory birds, the first deals with baseline  
11 data. Because of poor data collection methodology  
12 on ground-nesting species and a lack of surveys,  
13 system surveys for waterfowl and water birds, we  
14 have low confidence in the impact predictions for  
15 migratory birds and feel that the cumulative  
16 effects cannot be predicted.

17 We recommend that the proponent conduct  
18 baseline surveys using acceptable methodology and  
19 that this information be used to quantitatively  
20 predict impacts with confidence intervals.

21 Environment Canada would like to have all  
22 proposed developments perform a minimum standard  
23 investigation to predict impacts on migratory  
24 birds.

25 The second issue pertains to mitigation. We  
26 don't have a commitment by the proponent to add a

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1 protocol to the wildlife management plan to avoid  
2 disturbing or destroying nests or eggs. We also  
3 don't have a commitment to ensure that the land

4 farm is inaccessible to migratory birds. As a  
5 consequence, the proponent would be in danger of  
6 contravening the sections I have just read of the  
7 Migratory Birds Convention Act which deal with  
8 protection of nests and eggs and prevention of bird  
9 oiling.

10 Environment Canada recommends that a protocol  
11 be put in the wildlife management plan to avoid  
12 disturbing or destroying nests and eggs during the  
13 entire life cycle of the mine. We also need to  
14 ensure the land farm is inaccessible to migratory  
15 birds, and that's based on an experience at Ekati  
16 mine of waterfowl are attracted to the open water  
17 and had landed in, were oiled and subsequently  
18 perished.

19 The third issue for migratory birds is around  
20 the monitoring plans. The Canadian Wildlife  
21 Service feels the proposed monitoring is not  
22 adequate for migratory birds. We will not be able  
23 to verify impact predictions. We would like to see  
24 migratory birds included in long-term monitoring  
25 programs. We would like the proponent to  
26 participate in regional monitoring programs, and I

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1 would like to stress that Environment Canada staff  
2 would be very happy to help with the design and  
3 methodology for such studies.

4 The next area I'll discuss is aquatic  
5 quality. My slides are going to jump around a  
6 little bit. I apologize for the order, but we have  
7 kept the same order as in our technical report, so  
8 they aren't necessarily in order of importance.

9 The first item is the spray irrigation  
10 treatment of waste water. Environment Canada is  
11 not opposed to the concept of land treatment for  
12 ammonia removal if designed appropriately and  
13 monitored carefully. However, we still have  
14 concerns with the potential effects of the proposed  
15 spray irrigation system.

16 The main concern is with the potential for  
17 erosion of surface soils and of permafrost. We are  
18 concerned with the ability to control and monitor  
19 the water draining from the site, and we feel that  
20 the sprayed water may flow between boulders and  
21 below the surface and paths that may vary from year  
22 to year, so it would be very difficult to put  
23 monitoring wells in the right places.

24 Effective monitoring must be conducted and  
25 should include thresholds from action if  
26 unacceptable conditions develop. And this is a key

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1 item here. Contingency planning not only for the  
2 spray irrigation treatment plan but for other  
3 treatment options must be identified. For example,  
4 Environment Canada supports the multi-cell design

5 initially proposed for the processed kimberlite  
6 containment area. We feel this may give better  
7 treatment and improve effluent quality.  
8 The supplemental information which was  
9 provided does refer to use of flocculation and  
10 makes reference to a plant being installed at the  
11 west dam, if necessary. Environment Canada seek as  
12 commitment from Tahera that this will be planned  
13 for and a readily available contingency if  
14 necessary. And although we keep hearing that spray  
15 irrigation is only a contingency, it is probably  
16 the best and only way to treat total dissolved  
17 solids and ammonia feasibly. I think that this  
18 option must be very carefully planned for.  
19 Environment Canada still has concerns with  
20 potential levels of ammonia in the waste water.  
21 Ammonia may be harmful to aquatic animals. Tahera  
22 proposes to reduce ammonia through natural  
23 breakdown and the addition of phosphorus, if  
24 necessary.  
25 With respect to natural breakdown, given the  
26 climate, the amount of ammonia likely produced, it

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1 is unlikely that natural degradation will reduce  
2 ammonia to the predicted levels. Adding phosphorus  
3 as an option may make more algae grow, and these  
4 would use up ammonia. However, the addition of  
5 phosphorus may cause problems with that as a  
6 regulated parameter. If you put too much  
7 phosphorus into the downstream waters, you increase  
8 the amount of algae and productivity and cause  
9 changes to the ecosystem. Phosphorus itself is not  
10 toxic but is generally regulated at mine sites  
11 because of the concerns with increasing  
12 productivity.  
13 We will also mention that the idea of adding  
14 phosphorus might just delay a problem. There is --  
15 it was suggested by Dr. Dave Schindler for the  
16 Culamak (phonetic) project that upon settling of  
17 the algae, decomposition will subsequently release  
18 ammonia again and phosphorus, and it will simply be  
19 a cycling problem. The proponent has relied on  
20 Culamak's experience in proposing this. It is  
21 quite a different setting. They are a much larger  
22 tailing system and do not have further inputs of  
23 ammonia now. So this is one that will have to be  
24 carefully thought about. Ammonia levels will have  
25 to be monitored and effective contingency plans  
26 developed.

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1 Processed water recycling hasn't really been  
2 raised here. Environment Canada is asking for best  
3 practices from industry. It -- we believe that the  
4 volume of water released from the processed  
5 kimberlite containment area each year could be

6 reduced by about 20 percent if recycling was  
7 implemented. Currently, Tahera proposes to release  
8 1 million cubic metres per year, so that would be a  
9 reduction of 200,000 cubic metres per year. That  
10 would also reduce the amount of initial dewatering  
11 needed from Long Lake.

12 Environment Canada recommends that a cost  
13 benefit analysis be done for implementing this  
14 recycling. This analysis should include  
15 environmental benefits of water recycling as well  
16 as management implications.

17 Okay. This is one of my key slides, it deals  
18 with water quality and nutrients prediction.  
19 Environment Canada feels that further information  
20 is still required on potential nutrient loadings,  
21 and that would be for nitrogen and phosphorus, for  
22 total dissolved solids and for predicted pH changes  
23 in order for us to fully assess effects on aquatic  
24 ecosystems; review these as a key omission in the  
25 final EIS and supplemental information because  
26 proper effects assessment and effective monitoring

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1 rely upon appropriate information and predictions.  
2 Estimates of phosphorus loadings should be provided  
3 to enable reviewers to identify the potential for  
4 changes in lakes and streams.

5 In various documents, Tahera has provided  
6 some concentrations. We don't have confidence in  
7 the predicted concentrations, and we don't have  
8 total amounts that would be released as loadings to  
9 the environment.

10 Phosphorus will come from the camp wastes as  
11 well as from the tailings waste water and any mine  
12 water. The sewage treatment plant is processed to  
13 produce effluent with one milligram per litre of  
14 phosphorus. This is optimistic. Diavik was not  
15 able to meet 2 milligrams per litre with a similar  
16 package. We don't know what forms of phosphorus  
17 are going to be in the effluent. The prediction  
18 for the processed kimberlite containment area  
19 supernatant is for 10 micrograms per litre or parts  
20 per billion, which seems extremely low. If this  
21 is, perhaps, only the dissolved form of phosphorus  
22 or phosphate, I think we need more information on  
23 the cycling and forms of phosphorus.

24 Tahera has stated that phosphorus will be  
25 completely retained in the tailings pond. This is  
26 based on research which is done for the Ekati mine.

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1 We don't know, however, whether the tailings and  
2 the conditions will be the same at the Jericho site  
3 as at Ekati. I would like to stress that the  
4 masters project that did that work was a lab  
5 exercise. We don't have measurements of in situ  
6 tailings concentrations, and it only involved

7 two-day testing. There were no long-term  
8 disproportion tests done. I apologize to the  
9 interpreters for the jargon.

10 I think we will have to be very careful with  
11 phosphorus.

12 The EIS did not completely predict changes in  
13 total dissolved solids and pH and subsequent  
14 changes to downstream lake ecosystems. And we do  
15 have quite a bit of concern with TDS, Table 15.1 of  
16 the baseline summary predicts chloride levels,  
17 which make up part of the total dissolved solids,  
18 of 510 milligrams per litre. The total predictions  
19 for total dissolved solids range from averages in  
20 the documentation, I'll specify, of 1200 to 1500  
21 milligrams per litre.

22 We have heard here evidence that they are  
23 predicting under a thousand milligrams per litre,  
24 so there is a fair bit of uncertainty with this,  
25 and it makes it very difficult to assess the  
26 effects downstream.

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1 The extent of changes based on TDS haven't  
2 been identified fully, and the supplemental  
3 information doesn't give a good idea of the  
4 composition of the ions making up the discharged  
5 TDS concentrations. Having that would help us know  
6 how concerned we are. If it is primarily chloride,  
7 as the one table seems to indicate, then that will  
8 give us more concern. If it is more calcium and  
9 less chloride, as some of the tables in Technical  
10 Memorandum I indicate, then we would not be as  
11 concerned. So these are things which need to be  
12 identified.

13 My next couple of slides deal with the  
14 baseline data collection, first one is on sediment.  
15 Sediment chemistry can affect other components of  
16 the aquatic ecosystem and have food chain effects.  
17 We feel that more information on sediment chemistry  
18 is needed. This should be collected before mine  
19 construction and operation like predisturbance.  
20 Sediments should be monitored throughout and beyond  
21 the life of the mine in order to detect  
22 project-related changes. Right now Tahera has only  
23 a partial baseline data set of sediment quality and  
24 identifying potential effects on the aquatic  
25 ecosystem.

26 Environment Canada recommends that they

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1 develop an effective monitoring program for  
2 sediment quality. They should identify the  
3 monitoring goals and methodology, identify  
4 appropriate monitoring sites and ensure sufficient  
5 sediment data are collected before development, and  
6 this can be addressed through the regulatory  
7 process.

8           With respect to benthic invertebrates,  
9 benthic invertebrates includes clams, worms, snails  
10 and other creatures that live on the lake bottom.  
11 They are important in the aquatic food chain and  
12 are good indicators of changes in water quality.  
13 Good baseline data are required to provide  
14 confidence and comparisons of invertebrate  
15 communities before and after development of the  
16 mine. However, the benthic invertebrate samples  
17 described in the EIS appear to have been taken from  
18 inconsistent depths, possibly inconsistent  
19 locations, and the time of year samples were  
20 collected has not been identified.

21           Environment Canada, therefore, has low  
22 confidence in the adequacy of these data to  
23 determine the effects of the line on invertebrate  
24 communities. Past sampling methods should be  
25 assessed to be sure the data are usable, and all  
26 data should be verified for comparability and

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1           compiled for use.

2           Tahera must determine how the effects should  
3 best be monitored and what statistical design will  
4 achieve good detection of potential impacts. And I  
5 would just like to add, for any monitoring  
6 programs, Environment Canada would be very happy to  
7 talk to the proponent as they are developed to  
8 provide any comments on them.

9           The next slide is on major ions again, and it  
10 arose in connection with the monitoring question in  
11 our technical report. Mine activities will change  
12 the chemistry of the waters receiving effluent, and  
13 it is likely that total dissolved solids will build  
14 up in Lake C3 over the life of the mine. This  
15 could be described as what we would see an increase  
16 in salinity from ions such as chloride, magnesium,  
17 calcium, sulfate and nitrate, for example. This  
18 will cause changes in the plant and animal  
19 communities due to changes in water chemistry.

20           What we have seen in other systems is a  
21 disappearance of some of the sensitive organisms.  
22 This alters the food base for fish.

23           Monitoring of water chemistry should be done  
24 often enough to identify seasonal and long-term  
25 changes in major ion concentrations, and I am very  
26 pleased that Tahera has agreed to add the

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1           zooplankton and phytoplankton monitoring to the  
2 program. That will help us very much with  
3 monitoring this.

4           And prior to mine operations, again, a  
5 program should be designed that is rigorous,  
6 statistically defensible and able to validate  
7 predictions made prior to mine development, and  
8 also to detect any effects that were not

9 anticipated.  
10 On the issue of major ions and total  
11 dissolved solids, yesterday Environment Canada and  
12 DFO were requested to confirm whether or not Snap  
13 Lake TDS approach would apply in this case. I  
14 think it would not, and there are several reasons  
15 for that. First off, they have a 350 milligram per  
16 litre whole lake limit. They are a headwater lake  
17 that has no other flow going into it. There is  
18 something like a seven year or eight-year residence  
19 time in the water. Snap is also doing a continuous  
20 discharge as opposed to a seasonal discharge seen  
21 for this mine. And the Snap project has a lot of  
22 groundwater flow which provides a source of fairly  
23 high TDS effluent.  
24 The other thing is that that level is  
25 predicted to be reached by year 18, so if such a  
26 limit was to be closed on Tahera, it would be much

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1 too high because first off, they won't have the  
2 time to ever reach that level in a lake, nor will  
3 there ever be the accumulation because of the flow  
4 through Lake C3 from the control lake.  
5 So I think there will have to be a different  
6 approach for Lake C3 and Carat Lake, and largely  
7 focus around monitoring and detection of effects  
8 with implementation possibly of spray irrigation,  
9 if necessary, as a mitigation measure. I think it  
10 would be very difficult to regulate in this case.  
11 Okay. That concludes the aquatic section.  
12 Now, I will move on to hydrology and climatology.  
13 Several concerns have been identified with  
14 how the climate and surface water data have been  
15 arrived at or used. For example, it was not clear  
16 what methods were used to derive site lake  
17 evaporation and evapotranspiration. We don't know  
18 what the consequences would be of a wet or extreme  
19 period on the project. What if it is not just the  
20 average conditions?  
21 In the supplemental report, EC found that the  
22 methods used to derive the individual mean annual  
23 and water budget components and extreme flood  
24 values are sound; however, the calculated mean  
25 water budget conditions did not add up. The  
26 hydrometric data that were presented in several

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1 figures showed a great deal of scatter. The points  
2 were widely placed on the graph.  
3 Linear regression was used to derive design  
4 flood estimates from these data. That may explain  
5 why the estimated mean annual water budget did not  
6 balance. To clarify such as this, EC recommends  
7 that Tahera derive confidence and intervals around  
8 each flood estimate in order to better understand  
9 the degree of uncertainty with using these data for

10 design purposes.

11 With respect to the processed kimberlite  
12 containment area capacity, Environment Canada  
13 recommended that Tahera inform regulators of the  
14 definite planned volume of tailings to be produced  
15 and show that the capacity was large enough for  
16 several wetter-than-normal years.

17 Technical Memorandum F defines the project's  
18 volume of processed kimberlite to be 760,000 cubic  
19 metres. Table F2 implies that in year three, there  
20 will only be approximately 122,000 cubic metres of  
21 space remaining in the processed kimberlite  
22 containment area prior to the first planned  
23 discharge. Given the uncertainty in the water  
24 budget estimates, this does not represent a  
25 conservative water management strategy. What if  
26 122,000 cubic metres of capacity is not enough to

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1 hold water from rain and snow plus mine water?

2 Flexibility must be designed into the  
3 strategy in case more inputs are received than  
4 predicted. More storage must be made available  
5 either through earlier controlled discharge or more  
6 constructed storage capacity. And if the planning  
7 is for earlier discharge, we should know how this  
8 will change the effects for effluent quality and  
9 impacts on the receiving environment. This is an  
10 issue that could be dealt with in the regulatory  
11 process.

12 The next slides will deal with air quality.  
13 So why are we concerned with air quality? Well,  
14 polluting up to a limit is not acceptable, and the  
15 best strategy to avoid future problems is to keep  
16 already clean areas clean. The proponent should  
17 apply pollution prevention and best management  
18 practices.

19 The Canada-wide standards are an important  
20 step toward the long-term goal of minimizing the  
21 risks that particulate matter and ozone pose to  
22 human health and the environment.

23 The slide on air quality modelling, I'll skip  
24 over the first points here. I have had some  
25 discussions with Bob briefly on the inputs to the  
26 model and come to understand that they had used the

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1 best inputs that were available for what they are  
2 hoping to achieve.

3 The key point that came out of the modelling  
4 was that there are potential exceedances in some of  
5 the air quality parameters, and that indicates to  
6 us that monitoring is definitely needed. The main  
7 issue will be how to site the monitoring  
8 instruments, and EC is available for discussion on  
9 how to best place those to get the information  
10 that's needed.

11           Okay. The monitoring program as originally  
12 proposed by Tahera was not adequate to measure the  
13 ambient air quality and potential impacts from the  
14 mine emissions. Environment Canada encourages  
15 Tahera to commit to consulting with stakeholders  
16 and redoing the air quality modelling with onsite  
17 meteorology before designing its air quality  
18 monitoring program.

19           Now, in light of yesterday's discussions with  
20 Tahera, I think the modelling would not be the key,  
21 going to good monitoring is what we need at this  
22 point. So Environment Canada recommends that the  
23 Board include provisions for effective air quality  
24 monitoring in the project certificate, in an  
25 environmental agreement or some other regulatory  
26 instrument.

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1           Another issue for maintaining air quality is  
2 the use of low sulfur fuels. We recommended that  
3 low sulfur fuels be used in all mine equipment.  
4 The response received from Tahera in the  
5 supplemental information stated that they would use  
6 the same grades of diesel fuel as Ekati and Diavik  
7 diamond mines. Environment Canada encourages all  
8 northern mines to use low sulfur diesel regardless  
9 of what others are doing.

10           The last item under air quality deals with  
11 greenhouse gas emissions. Environment Canada  
12 encourages the proponent to use the best available  
13 technology appropriate to the design of their  
14 facilities in order to minimize greenhouse gas  
15 emissions, combine heat and power systems, which  
16 recover heat from engines, can reduce fuel  
17 consumption necessary for space heatings of  
18 buildings and processed heat requirements, and  
19 thereby reduce greenhouse gas emissions, as well as  
20 reducing other emissions. And a really good  
21 example of this is at a Diavik diamond mine. We  
22 had a site tour, and I can't remember if they have  
23 four or five generators on site, but their combined  
24 heat and power system meant that they ran one less  
25 generator than they had designed for, so that saved  
26 them a lot in fuel and reduced emissions by either

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1           20 or 25 percent.

2           So Environment Canada recommends that the  
3 proponent consider such a system in order to  
4 maximize energy efficiency and reduce the emission  
5 of greenhouse gases. And I don't think that this  
6 has been considered yet.

7           Our next is spills and hazardous materials  
8 management. We had some issue with the proposed  
9 disposal of contaminated soils. Environment Canada  
10 would like to see detailed design work for the  
11 secured area designed for storage of contaminated

12 soils, probably also known as a land farm. The  
13 proponent has not demonstrated an appropriate level  
14 of awareness or understanding of all the issues  
15 regarding the disposal of contaminated soils.

16 One of the issues was prevention of migratory  
17 birds accessing the land farm fluids. We did get a  
18 schematic and description of the proposed land farm  
19 in the AMEC September 2003 supplemental information  
20 from the proponent; however, there were no  
21 discussion of issues that are pretty much specific  
22 to the north, such as freezing. Land farms have to  
23 be turned and aerated; however, there are problems  
24 with getting equipment on it before it thaws and  
25 what to do with the larger rock materials. If you  
26 have spills that aren't on soils but are on gravel

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1 or waste rock, what do you do with that? These low  
2 rate of remediation is an issue in our climate. It  
3 is extremely slow. And the big one is, of course,  
4 ensuring that birds are deterred from landing  
5 there.

6 The proponent must be aware of industry best  
7 practices in regards to land farming of  
8 contaminated soils and the limitations of this  
9 method.

10 We would also like to flag the storage of  
11 ammonium nitrate. I ask that best practices for  
12 the industry be used. Currently, it is proposed to  
13 be stored on a pad which is upgraded to have a  
14 perimeter berm. This doesn't represent the best  
15 practice for the industry. Other operating mines  
16 have most of their ammonium nitrates stored within  
17 buildings. Where it is stored outside, it is  
18 wherein bermed and lined storage areas where it is  
19 well covered and regularly monitored. Although the  
20 storage location option proposed by Tahera may  
21 represent a low-risk scenario, it is not a no-risk  
22 condition.

23 My last section is to do with cumulative  
24 effects assessments. The proponent did not collect  
25 the appropriate quantity and quality of baseline  
26 data for us to adequately determine the potential

0496

1 effects of the project on a number of the  
2 identified valued ecosystem components. Many  
3 aspects of the proposed monitoring program were  
4 considered inadequate to ensure the ongoing  
5 protection of VECs, valued ecosystem components,  
6 despite a concerted effort by the proponent's  
7 consultant to put together a comprehensive addendum  
8 on cumulative effects, this issue remains  
9 outstanding.

10 The cumulative effects predictions for  
11 migratory birds, for example, simply cannot be  
12 relied upon due to the fact that the basic

13 requirements for baseline data collection were not  
14 met. Without adequate baseline data, it is  
15 difficult to reach valid conclusions.

16 I'll just conclude with our general  
17 recommendations to the Board. Environment Canada  
18 recommends that the Board include provisions for  
19 effective migratory bird monitoring in the project  
20 certificate and environmental agreement or other  
21 regulatory instrument.

22 Environment Canada recommends that the Board  
23 include provisions for broad and effective aquatic  
24 quality monitoring as identified by the various  
25 reviewing agencies in the project certificate and  
26 environmental agreement or other regulatory

0497

1 instrument. And just a comment on the aquatic  
2 monitoring, I do feel that that has come a long  
3 ways, and we are very pleased with what Tahera is  
4 proposing at this point.

5 Environment Canada recommends that the Board  
6 include provisions for effective air quality  
7 monitoring in the project certificate, an  
8 environmental agreement or other regulatory  
9 instrument.

10 Environment Canada recommends that the Board  
11 direct the proponent to investigate and commit to  
12 the use of best practices for the diamond mining  
13 industry as they have been developed and are  
14 evolving at operating mines such as Ekati and  
15 Diavik and are proposed for Snap Lake.

16 Environment Canada recommends that the Board  
17 set and direct Tahera to meet acceptable standards  
18 for baseline data collection in order to provide  
19 the public, reviewing agencies and the Board with  
20 confidence in impact predictions and the ability to  
21 adequately assess the effects of the project during  
22 the operating period and beyond the life of the  
23 mine.

24 Environment Canada recommends that the Board  
25 direct the proponent to demonstrate a strong  
26 commitment to environmental monitoring and adaptive

0498

1 management throughout the life of the project and  
2 beyond.

3 And just -- I would like to add that  
4 Environment Canada will be submitting more specific  
5 closing comments in the forms of suggested terms  
6 and conditions. I would like to take the  
7 information from these sessions back to my team of  
8 expert reviewers to put this together.

9 That concludes my presentation. So I would  
10 be happy to answer any questions if I can.

11 CHAIRPERSON: Questions from Tahera  
12 Corporation?

13 MR. MISSAL: Madam Chair, Greg Missal.

14 With your permission I would just like a few  
15 minutes to organize ourselves for our questions.  
16 CHAIRPERSON: Okay. Shall we take a  
17 ten-minute break. Ten minutes okay? Ten minutes.  
18 (RECESSED AT 9:43 A.M.)  
19 (RECONVENED AT 10:00 A.M.)  
20 CHAIRPERSON: Shall we get started,  
21 please?  
22 Just for the information for those parties  
23 making presentations, a request for the local  
24 public; when you are using big words, maybe try to  
25 cut it down or explain what it means so the  
26 interpreters can translate what zooplankton and all

0499

1 those other words mean. Thank you.  
2 Questions from Tahera Corporation?  
3 TAHERA CORPORATION QUESTIONS ENVIRONMENT CANADA:  
4 MR. MISSAL: Thank you very much, Madam  
5 Chair.  
6 I would like to start off, we will try and  
7 follow along in the sequence of Anne's  
8 presentation, but we may have to jump around a  
9 little bit, I apologize for that. But I would like  
10 to start off with Ben Hubert and some comments  
11 about the migratory bird section.  
12 MR. HUBERT: Thank you, Greg, Madam  
13 Chair.  
14 First of all, I would -- I should say that  
15 prior to Anne's arrival here, I did address what  
16 came back as comments from Environment Canada  
17 regarding the database and methods, but for the  
18 benefit of the Board and the public, but I will go  
19 over that again.  
20 In preparing or -- yes, in preparing the  
21 supplemental over the summer, I did consult with  
22 Vanessa Charwood and Jim Pine at Canadian Wildlife  
23 Service in Yellowknife and found them helpful and  
24 constructive. The advance of the season was such,  
25 however, that it was very difficult to act on their  
26 recommendations, which, by the way, prescribe a

0500

1 level of rigor that is considerably greater than  
2 anything suggested in the guidelines for the  
3 project. These are relatively recent  
4 recommendations that are coming from the Canadian  
5 Wildlife Service, and I will be commenting on -- I  
6 will be commenting on their effect in a minute.  
7 With respect to the specifics of the wildlife  
8 migratory birds -- or the Migratory Birds Act and  
9 regs, construction will be in winter, interactions  
10 with bird nesting habitat, therefore, will be in  
11 winter, and so eggs in nests are not at risk.  
12 Similarly, operations during mine life are  
13 contained to the development footprint of the  
14 project, and so, again, eggs in nests and nestlings

15 should not be at risk.

16 With respect to the wildlife management plan,  
17 it will address the items of concern raised, and,  
18 specifically, the spill contingency plan should  
19 work to ensure that oil spills are detected long  
20 before there is any accumulation of oil in  
21 waterfowl habitat, for example. The relationship  
22 of the tank farm to waterfowl habitat is such that  
23 the detection will occur long before there is any  
24 oil contamination of Carat Lake, for example.

25 The wildlife management plan will include the  
26 operations and surveillance of a land farm or the

0501

1 equivalent where the storage and management of  
2 hazardous waste occurs on the site.

3 Now, I would like to go to the issue of  
4 monitoring and pick up on the business of what  
5 would be monitored. I acknowledged in my comments  
6 yesterday, Anne, that we did not conduct -- well, I  
7 will back up one step. The baseline studies in  
8 advance of the EIS were conducted on site by  
9 several different principal investigators under the  
10 management of several different project managers,  
11 and so our challenge was to assemble the available  
12 baseline data in a manner that reflected the  
13 concerns and the interactions of the project as it  
14 was described with the environment, in this case,  
15 migratory birds.

16 On the subject of waterfowl, on the basis of  
17 an accumulation of incidental and anecdotal  
18 observations over the entire project area, it was  
19 very soon apparent that waterfowl are very uncommon  
20 in the project area. And this has not been  
21 challenged by any of the observations provided by  
22 CWS They have not said, but you should have seen  
23 this and this is where you should have seen it.  
24 Furthermore, the observations of the distribution  
25 of waterfowl in the Jericho area is entirely  
26 consistent with the distribution of waterfowl in

0502

1 the mid-northern latitudes throughout the tundra of  
2 that -- those latitudes. Also, the species that we  
3 do observe in low numbers are species with a very  
4 broad geographical distribution.

5 And so when you are dealing with that  
6 situation, it is very, very difficult to get a data  
7 set that reflects change, let alone change in  
8 response to something of a relatively short  
9 duration.

10 And so I come back to the conclusion that we  
11 are not missing anything in our observations of  
12 waterfowl, and we are not dealing with anything in  
13 the greater environmental scheme of things that is  
14 ecologically significant, especially significant to  
15 the populations of the species that are present in

16 low numbers in the project area. And so while I  
17 think it is a reasonable request to include  
18 migratory birds, and to some extent, waterfowl in  
19 the monitoring plan, I think the level of effort  
20 expected should be commensurate with the level of  
21 risk to the population.  
22 And that's the context in which I believe the  
23 project should be expected to be viewed by, in this  
24 case, the Canadian Wildlife Service. But overall,  
25 the bottom line is I think there is no risk of  
26 contravention to the act with the consequent

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1 complications that that may bring, that the  
2 wildlife management plan will reflect the concern  
3 of the agency and that we should explore cost  
4 effective and biologically effective monitoring  
5 schemes.  
6 CHAIRPERSON: Excuse me. Before Tahera  
7 asks more questions to Environment Canada, can I  
8 please ask, we do have a tight schedule for today,  
9 and we are also doing this again in Kugluktuk and  
10 Gjoa Haven. If when asking your questions, ask  
11 your questions and do not make long statements.  
12 Thank you.  
13 MS. WILSON: Madam Chair, may I ask for  
14 clarification from Tahera on this?  
15 I think that further discussions would be  
16 very useful between Tahera and the Canadian  
17 Wildlife Service. Certainly, I don't agree that  
18 there is no risk of contravention of the Migratory  
19 Birds Act, but it was definitely mitigable, and  
20 this can be addressed probably best through a  
21 proactive effort, and maybe we can leave it that  
22 that.  
23 It was Anne Wilson speaking for the record.  
24 CHAIRPERSON: Thank you.  
25 MR. MISSAL: Madam Chair, I would now  
26 like to ask Andre Sobolewski to come to the mic to

0504

1 address a spray irrigation question.  
2 MR. SOBOLEWSKI: Andre Sobolewski.  
3 A number of concerns were expressed by  
4 Environment Canada in the presentation, I would  
5 like to address them specifically.  
6 A concern was expressed about potential for  
7 erosion of soil and permafrost. This was  
8 considered in the design of the spray irrigation  
9 system. Specifically for erosion, there is  
10 standards that are used in the design of these  
11 types of systems as to how much water can be  
12 applied in a period of time. One criterion has  
13 been used, which is used in the design of these  
14 systems, is that less than 5 cubic metres per  
15 metre-squared per day should be applied, that's  
16 equivalent to 5000 metres in a metre-squared inside

17 of a day.

18 The application rate that is going proposed  
19 is 0.24 cubic metres per-metre squared per day, or  
20 240 litres, which is substantially less than the  
21 maximum, and therefore, provides a margin of  
22 safety. However, these are guidelines that there  
23 may be special circumstances in the arctic to be  
24 considered, and that is being considered. For  
25 example, the soils are thinner and there is concern  
26 about permafrost. There is also, more importantly,

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1 a concern of thin soils. If there is any breakage  
2 or disruption of the soil, there is much more  
3 potential for erosion, and that could occur from  
4 caribou that walk through the area and leave  
5 tracks. Caribou tracks are easy to identify, and  
6 we can site the spray irrigation area such that we  
7 avoid these areas. It is a good measure to avoid  
8 erosion, it is also a good measure to avoid  
9 channeling of water, and it enhances the  
10 effectiveness of the treatment system.

11 I have walked the sites, and I know that  
12 there is some areas to be avoided because of  
13 caribou tracks, and I know there are some areas  
14 which are good because they are not there.

15 The ability to control and monitor flow has  
16 been expressed as a concern. When we were doing  
17 the field trial, we were worried about that, but we  
18 found that through practice that that could be done  
19 quite easily, and my feeling, therefore, is that as  
20 we apply the system, that's something that should  
21 be easily worked out.

22 The contingency plans have been provided,  
23 they were presented in the supplemental. There was  
24 an additional supplemental for backup measure that  
25 has been presented, and I think that should address  
26 that concern that was expressed by Environment

0506

1 Canada.

2 MS. WILSON: Anne Wilson. Can you  
3 refresh my memory as to where those contingencies  
4 are? I could only find one paragraph in one of the  
5 supplemental documents that referenced the  
6 flocculent for other contingencies for treatment.

7 MR. SOBOLEWSKI: There was a separate  
8 memorandum presented as a supplemental that  
9 considered the option of removing ammonia inside  
10 the PKCA, the processed kimberlite containment  
11 area, and that was proposed as a backup measure  
12 should spray irrigation not prove to be suitable.

13 MS. WILSON: Anne Wilson. In my  
14 presentation, I did identify concerns with the idea  
15 of using natural degradation or phosphate addition  
16 and had hoped for further information on treatment  
17 options for particularly metals.

18 MR. MISSAL: Madam Chair, Anne, we will  
19 have a look at it perhaps and point that out to  
20 you, that section, okay? Thanks very much, Andre.  
21 I would like to move on to Kelly Sexsmith who  
22 has some questions and comments on the waste water  
23 treatment slides.  
24 MS. SEXSMITH: This is Kelly Sexsmith.  
25 In answer to your -- the last part of your  
26 question there, Technical Memorandum J of the SRK

0507

1 supplemental reports does have some further  
2 information on natural degradation of ammonia, and  
3 the work is developed to a preliminary conceptual  
4 level because that was a contingency on a  
5 contingency for treatment. There is details  
6 provided in that report about the performance of  
7 the column natural degradation and enhanced  
8 degradation programs, and there is about a year and  
9 a half worth of monitoring data showing significant  
10 reductions of ammonia in those systems, and all the  
11 details of that work are in the Technical  
12 Memorandum J of the report. So further detail is  
13 there.

14 And I agree with Environment Canada that  
15 further work would be needed if that was to be the  
16 primary treatment system for the project.

17 The concerns that Environment Canada raised  
18 regarding phosphorus addition are valid. It would  
19 be extremely important to monitor phosphorus very  
20 carefully through that system to make sure that you  
21 weren't adding too much phosphorus and in having  
22 phosphorus have the ability to leave the system.  
23 But the monitoring programs that would go along  
24 with that would be carefully developed in  
25 conjunction with stakeholders. And we believe that  
26 it could be made to work.

0508

1 MS. WILSON: A question, Anne Wilson.  
2 In such a scenario where that was tried, would it  
3 be -- would consideration be given to having a  
4 two-cell system within Long Lake so that it could  
5 be isolated or contained in an upstream cell?

6 MR. SCOTT: Cam Scott, SRK. Just for  
7 clarification on the original concepts in relation  
8 to the two-cell system, the two-cell system was  
9 never intended to operate as a single cell  
10 upstream, and then ultimately at year four, for  
11 instance, shifting to the lower cell downstream.  
12 That scenario would be somewhat analogous to the  
13 system at Ekati.

14 The system was based on an alternating  
15 arrangement so that the upstream cell, the waters  
16 and the solids in the upstream cell were always  
17 marginally higher than in the lower cell, but it  
18 was an annual -- a series of switching back and

19 forth. So I think the potential benefits that  
20 Environment Canada has expressed, and I believe  
21 DFO, are perhaps overstated because of the way you  
22 could practically operate that system given its  
23 size.

24 MS. WILSON: Okay.

25 MS. SEXSMITH: It is Kelly Sexsmith. I  
26 think the other thing that I would like to talk

0509

1 about were some of the concerns that Anne raised  
2 regarding the water quality and nutrient  
3 predictions.

4 The first bullet on one of the slides  
5 indicated that further information was still  
6 required on nutrient loadings and total dissolved  
7 solids predictions and pH changes to fully affect  
8 -- assess the effects on aquatic ecosystems. The  
9 current assessment of -- focussed the presentation  
10 of the work that we have done on concentrations,  
11 but loadings are easy to calculate and take out of  
12 the model that we have right now. And any further  
13 details that Environment Canada or any of the other  
14 stakeholders would like regarding nutrient or  
15 metals or TDS loadings from the system could be  
16 easily taken out of the existing work that we have  
17 done.

18 MS. WILSON: Anne Wilson, Environment  
19 Canada. Of course the next step to that is looking  
20 at not only the loadings, but the likely effects of  
21 those loadings, and would that be possible to get?

22 MS. SEXSMITH: The effects of TDS loadings  
23 are a new and emerging field in toxicology, and  
24 there is very little specific data from regulators  
25 or guidance on specific levels that are actually of  
26 a concern.

0510

1 I understand that the Ekati diamond mine has  
2 been looking at the aquatic effects of TDS levels  
3 in some of their discharges, and to date, effects  
4 have not been observed, but they are dealing with  
5 different levels of concentration and potentially  
6 different bionic compositions of that TDS. So I am  
7 sure that as Ekati continues their studies, more  
8 data on this will be available, and safe threshold  
9 levels will be developing, and I'm sure Tahera will  
10 continue to work and learn from the experience of  
11 other mines in that area.

12 MS. WILSON: Anne Wilson, Environment  
13 Canada. What I have in mind is more of an -- a map  
14 which shows the extent of changes on TDS which you  
15 would expect to see in Lake C3, ideas of a loadings  
16 of metals, because those do -- some of them do  
17 accumulate within systems and phosphorus loadings  
18 so that -- because that does recycle within lakes,  
19 that would give us an idea of eutrophication or

20 changes in the lakes over time.  
21 MS. SEXSMITH: The build up of any  
22 constituent going out into Lake C3 and into Carat  
23 Lake can be looked at through the existing dilution  
24 model work we have. To date, we have only run a  
25 one-year simulation.  
26 The reason we haven't run multi-year

0511

1 simulations is that the total flux through the lake  
2 is about -- I think Peter is going to talk about  
3 this in a minute, so I won't use specific numbers,  
4 but it is several times higher than the volume of  
5 the lake, so we don't expect significant buildup  
6 under normal years of flow.  
7 MS. WILSON: Anne Wilson. Can I suggest  
8 for this issue that it be something that be carried  
9 forward through the regulatory process whereby once  
10 hard data are collected, this model can be  
11 calibrated and taken forward to future years? That  
12 would give a heads-up of any problems which may be  
13 developing.  
14 MS. SEXSMITH: I think we can easily work  
15 with Environment Canada to provide them the  
16 information we need through the regulatory stage.  
17 There is one other point that was raised  
18 regarding phosphorus in the system, and the  
19 question of whether phosphorus would be retained in  
20 the processed kimberlite containment area, and the  
21 Environment Canada submission said that there was  
22 heavy reliance on one laboratory study which shows  
23 removal of phosphorus in kimberlite tailings from  
24 the Ekati diamond mine.  
25 That is an important study because it is the  
26 most similar type of material that a study like

0512

1 that has been done on, and it showed absolute level  
2 of removal, and that's what we have put in our  
3 submission to date. However, phosphorus is a very  
4 well characterized geochemical behaviour, and  
5 textbooks and literature on phosphorus that's  
6 available to any scientific person can -- also  
7 supports the fact that phosphorus is very immobile  
8 in environments where there is calcium and other  
9 ions in the water there to bind with it and to turn  
10 it into a solid form, into a mineral which settles  
11 or absorbs onto the solids that are in the PKCA, so  
12 the test work is consistent with geochemical  
13 processes that are consistent with having the  
14 phosphorus stay in that system.  
15 The other thing that we looked at was the  
16 Ekati monitoring data for the Long Lake tailing  
17 system, and that system is a different system. It  
18 is a much larger lake system, and it is more dilute  
19 than what we will have in Long Lake. But  
20 nonetheless, phosphorus entering the system from

21 the sewage that they put into it is not detected at  
22 the first dike or the first SMP monitoring point in  
23 that system, it is below the analytical detection  
24 limits and below presumably levels of concern, so  
25 that's what I wanted to say.  
26 MS. WILSON: Anne Wilson, Environment

0513

1 Canada. I agree that phosphorus is very particle  
2 reactive. The way to address this may be through  
3 the TSS, total suspended solids, levels that are in  
4 the water license, because that would be the  
5 primary way for it to get into the environment.  
6 MR. MISSAL: Madam Chair, I would now  
7 like to ask Peter McCreath to comment, please.  
8 MR. McCREATH: Thanks, Greg, Madam Chair.  
9 I would like to address a few issues  
10 specifically related to water, water quantity as  
11 opposed to water quality. Several issues were  
12 raised in the Environment Canada presentation. The  
13 first relates to the recycling of processed water.  
14 As mentioned by Environment Canada, we are at the  
15 moment not planning on recycling water from the  
16 PKCA, and correctly point out that if reclaim was  
17 instituted, that the total volume of release would  
18 be less during the course of a year.  
19 This has been a very deliberate assumption at  
20 this time, conservative with regards to storage  
21 requirements within the PKCA. It has been my  
22 experience in more than 100 mining projects that  
23 100 percent reclaim is not feasible, typically 80  
24 percent, 85 percent may be realized. At the end of  
25 the day, this is a final design issue which we will  
26 be addressing so that we can satisfy ourselves on

0514

1 the feasibility of reclaim in the winter months and  
2 the actual proportion of reclaim that may be  
3 possible. At the moment, it is a conservative  
4 assumption with regards to storage.  
5 Second comment briefly with regards, as Kelly  
6 mentioned, Lake C1, for information the -- on an  
7 average basis, the inflow volume to the lake is in  
8 the order of 30 million cubic metres, C3, I'm  
9 sorry, Lake C3. 30 million cubic metres per year  
10 of inflow. The lake volume is in the order of 5  
11 million cubic metres, so it is approximately a 5 to  
12 1 ratio on an annual basis. Releases to the lake  
13 will average in the order of half a million cubic  
14 metres per year. Just to put the volumes in  
15 context for you.  
16 MS. WILSON: Anne Wilson, Environment  
17 Canada. I was under the impression that it was a  
18 million cubic metres per year to be released, that  
19 was the number we were given Tuesday.  
20 MR. McCREATH: The million cubic metres  
21 per year is a -- what we are calling a worst-case

22 scenario. It is the volume that would be released,  
23 would have to be released in years three, four and  
24 five on the basis of accumulating all the water  
25 from all the site components over the first two  
26 years. So it would be the worst release volume,

0515

1 but, yes, one million is the maximum volume that we  
2 are looking at. On an average basis, it is about  
3 half a million.

4 If I can move to the hydrology and  
5 climatology section now. Environment Canada  
6 identified some concerns about the data, and  
7 specifically raised a question about what methods  
8 were used to derive site lake evaporation and  
9 evapotranspiration. I would refer Environment  
10 Canada to Memo C, specifically Section 2.6 of the  
11 supplemental information where we explained that  
12 the site estimates were based in large part on a  
13 well-accepted evaporation and evapotranspiration  
14 model developed by Environment Canada. This model  
15 was supplemented by comparisons with site data and  
16 data collected at Lupin.

17 Another bullet was raised with regards to the  
18 water balance or, as Environment Canada refers to  
19 it, the water budget components. As a point of  
20 clarification, I would like to ask Environment  
21 Canada what they mean when they say that "the mean  
22 water budget conditions do not add up."

23 MS. WILSON: Anne Wilson, Environment  
24 Canada. I'm not a hydrologist, so these have come  
25 from our hydrologist, and I will just read you what  
26 he gave me. Assuming that over time the change in

0516

1 storage area -- in storage over an area will equal  
2 zero, mean annual runoff should equal mean annual  
3 precipitation minus mean annual evapotranspiration.  
4 Tahera has calculated mean annual runoff as 220  
5 millimeters, however this isn't equal to  
6 precipitation minus evapotranspiration, which is  
7 given as 110 millimeters. I hope that makes sense  
8 to you, I can't explain it much further.

9 MR. McCREATH: It does make sense to me,  
10 and rather than taking up the Board's time with  
11 detailed technical discussions of hydrology,  
12 suffice it to say that those statements are  
13 correct; however, the application of those  
14 statements to the specific subcomponents within the  
15 site area are not correct. We have made allowances  
16 for differing rates of evaporative losses depending  
17 on the subareas within the site, and these are  
18 allowed for within the overall site water balance  
19 model.

20 I would be prepared to discuss details of  
21 this with the Environment Canada hydrologist at  
22 your convenience.

23 MS. WILSON: Anne Wilson, Environment  
24 Canada. That would make the most sense, thanks.  
25 MR. McCREATH: Madam Chair, there was a  
26 question raised about scatter in some of the data,

0517

1 and certainly stream flow data. Regional stream  
2 flow data does exhibit a significant amount of  
3 variability and scatter. This is addressed in the  
4 design process by the use of suitably conservative  
5 parameters, including the use of appropriate free  
6 boards to allow for uncertainty in the estimates.  
7 So, again, it is an item that's addressed in the  
8 final design phase.  
9 CHAIRPERSON: One question, what is  
10 scatter? Scatter?  
11 MR. McCREATH: Scatter, if one can  
12 collect, for example, measurements of stream flow  
13 in smaller streams and in bigger streams, if one  
14 plots those on a graph, if the points follow nicely  
15 on a straight line, then there would be no scatter,  
16 but if they move -- the straight line, in fact, the  
17 points are on different sides of it, that is  
18 scatter. The trends are indicated by the data, but  
19 you can't just put a straight line between  
20 individual points.  
21 CHAIRPERSON: Thank you. Go ahead.  
22 MR. McCREATH: As another point of  
23 clarification, Environment Canada suggested that  
24 there should be sufficient storage capacity within  
25 the PKCA for several wetter-than-normal years. I  
26 would like to ask Environment Canada what criteria

0518

1 they are suggesting with the phrase "several  
2 wetter-than-normal." This is not a design criteria  
3 with which I am familiar.  
4 MS. WILSON: Anne Wilson, Environment  
5 Canada. I don't have a number to give you. If we  
6 said go to the 1 in 200 maximum precipitation, that  
7 would be too extreme. I think if you are using  
8 average, that may be -- the concern is coming in  
9 where that might not be enough capacity. This  
10 would be something our hydrologist could give you  
11 better guidance on. And our concern is to ensure  
12 the designs are adequate in the event of more rain  
13 than expected.  
14 MR. McCREATH: Pete McCreath, Clearwater  
15 consultants. Perhaps there is two issues here that  
16 are being confused, one is the issue of storage  
17 whereby we are proposing that we will be storing,  
18 containing within the PKCA for the first two years.  
19 After that point, there will be a spillway. The  
20 spillway is designed to release excess water and  
21 protect the dams from overtopping or failure. This  
22 is consistent with good engineering practice  
23 worldwide, of course, and the spillway would be

24 designed for an event much more extreme than a  
25 200-year event. In fact, it is designed for a,  
26 what is referred to as a probable maximum

0519

1 precipitation.  
2 MS. WILSON: Anne Wilson. That would  
3 address the concerns, because it is an issue of  
4 effects of release as well as integrity of the  
5 system.  
6 MR. McCREATH: Just briefly from a storage  
7 perspective, we have also made -- there are a  
8 number of conservative assumptions that are built  
9 into the development of the total volume of storage  
10 required. There are a number of items here which  
11 -- Letha, I would ask your guidance if it is worth  
12 reading these into the record at this time or if we  
13 can provide them separately.  
14 With the indulgence of the Chair, Madam  
15 Chair, I have six bullets here with regards to the  
16 conservative nature of the storage, in other words,  
17 the level of additional confidence that we have in  
18 the storage requirements of the PKCA that I would  
19 like to read into the record.  
20 CHAIRPERSON: Go ahead.  
21 MR. McCREATH: Thank you. The first item  
22 is that we are providing a 100 percent storage for  
23 runoff from all of the site components, the waste  
24 dumps, the storage areas, the plant site and the  
25 pit, for the first two years of operation without  
26 any release from the property.

0520

1 Items 2, there are no releases formally made  
2 from the PKCA for the first two years; however,  
3 there will be water removed from the system for  
4 things such as spray irrigation trials, the  
5 quantity of water would be determined by the needs  
6 of the trials.  
7 Item 3, the storage includes runoff,  
8 potential runoff from the area to be occupied by  
9 waste dump number 2. At the moment waste dump  
10 number 2 is probably not required until the year  
11 three or possibly year four and may not be required  
12 at all.  
13 Item 4, as mentioned previously, we have  
14 assumed that there will be zero reclaim from the  
15 PKCA to the plant site. Any reclaim amount would  
16 reduce storage requirements.  
17 Item 5, we have conservatively assumed that  
18 there will be no loss of water to the wetting of  
19 the rock particle materials within the waste dumps  
20 during the first two years. My experience has been  
21 that this can amount to a significant volume of  
22 water, and, in fact, some waste dumps don't  
23 experience any runoff for some time because of the  
24 absorption of water to the rock particles.

25                   And the final item is that in the first two  
26                   years -- sorry, in years three, four and five, we

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1                   have artificially, at this time, limited the annual  
2                   release volume to 1 million cubic metres per year  
3                   depending on water quality and the results of  
4                   further dilution modelling. Additional volumes of  
5                   water could be released and water could be released  
6                   earlier than year three.

7                   Thank you, Madam Chair.

8                   MS. WILSON:                   Anne Wilson, Environment  
9                   Canada. That was helpful. I am a little bit  
10                  confused about the timing of release. During  
11                  Fisheries' presentation yesterday, it was stated  
12                  that there would be releases from the PKCA during  
13                  years 1 and 2, and that was stated so that flows  
14                  would be maintained downstream, now I am hearing  
15                  that there is not going to be.

16                  MR. McCREATH:                If I could clarify. Pete  
17                  McCreath, Clearwater Consultants.

18                  There will be no planned releases from the  
19                  PKCA during years one and two. Water will be  
20                  released from the settling pond downstream of the  
21                  PKCA. This is clean water and would report  
22                  naturally to Stream C3 in any case.

23                  MS. WILSON:                   Thank you.

24                  MR. McCREATH:                Thank you, Madam Chair.

25                  MR. MISSAL:                   Cam Scott, please? No?

26                  You are okay?

0522

1                   Madam Chair, just a couple of very quick  
2                   points, and then we will be completed. During the  
3                   Environment Canada presentation, they had suggested  
4                   and encouraged Tahera to work cooperatively with  
5                   them to develop monitoring strategies, and I would  
6                   like to confirm that Tahera is certainly willing to  
7                   do that.

8                   In regards to greenhouse gases, the comment  
9                   was made that combined heat and power systems would  
10                  not be utilized. In fact, combined heat and power  
11                  systems will be utilized in the processing plant.  
12                  That information is contained in the Environmental  
13                  Impact Statement.

14                  And, finally, I would just like to call on  
15                  Tahera's legal counsel for final comments.

16                  MS. MacLACHLAN:                Thank you, Madam  
17                  Chair. I would like to just ask a couple of  
18                  questions.

19                  In your presentation, Anne, you said that  
20                  Environment Canada was responsible for the Canadian  
21                  Environmental Assessment Act, and I would just like  
22                  to know what the department's understanding is of  
23                  its obligations under that act, and I have a number  
24                  of ancillary questions, and if you can't answer  
25                  that now, perhaps you could respond a little later

26 and perhaps in conjunction with the other federal

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1 departments. But I am assuming that there are  
2 obligations on Environment Canada for -- that must  
3 be fulfilled under that act, and I would like to  
4 know how -- what steps the department has taken to  
5 date to fulfill those obligations, how they plan  
6 to -- you plan to coordinate or align fulfillment  
7 of those obligations with the NIRB process and  
8 under other environmental assessment processes  
9 required and regulatory processes required under  
10 the Nunavut land claim legislation. What do you  
11 plan to do in the future to fulfill those  
12 obligations, what steps and what time lines you  
13 anticipate for fulfilling those obligations? And I  
14 can appreciate that you may need a few minutes to  
15 pull that together, perhaps, by the expression on  
16 your face.

17 MS. WILSON: Anne Wilson, Environment  
18 Canada. This is a question that is not  
19 straightforward to answer. We would be best to  
20 have a discussion as a sidebar to this involving  
21 the other departments. Environment Canada would  
22 not be a regulatory authority in this case and  
23 would not have a lead role.

24 It is our understanding that CEAA applies to  
25 projects in Nunavut with respect to our federal  
26 involvement, so it is a good issue that you have

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1 raised, but I think that that discussion should  
2 occur separately to this, perhaps.

3 Q Thank you. I will be asking -- I will put INAC on  
4 notice that those questions will be coming to them  
5 a little later. Again, the second question that I  
6 asked was that you mentioned earlier that you would  
7 like to confer with your colleagues after having  
8 heard the presentations from other parties to this  
9 process prior to finalizing recommendations from  
10 Environment Canada. Do you anticipate that those  
11 recommendations will be finalized prior to the  
12 close of these proceedings on Friday?

13 A Anne Wilson, Environment Canada. Unfortunately the  
14 CWS folks were not available for these hearings,  
15 nor the hydrologist, so I imagine they will be out  
16 early next week as opposed to before the end of  
17 these hearings, but they will be provided to NIRB  
18 in a timely fashion.

19 Q And may I ask if those recommendations are with  
20 respect to the regulatory phase as opposed to the  
21 environmental impact phase?

22 A Anne Wilson, Environment Canada. They will reflect  
23 the content of our presentation with -- we are  
24 trying to give constructive suggestions to NIRB for  
25 their report, and so we will cross both the  
26 environmental assessments phase and the regulatory

0525

1 process.  
2 MR. MISSAL: Madam Chair, we are pretty  
3 much complete, I think, but it is -- I think the  
4 comments that Environment Canada made regarding  
5 comments coming in after the close of the hearings,  
6 it is most helpful for Tahera that, of course, all  
7 comments are received by the end or by the close of  
8 this week, and we would certainly appreciate if any  
9 comments could be received by the end of this week  
10 rather than later.  
11 CHAIRPERSON: Bill?  
12 MR. TILLEMAN: And, in fact, I think it  
13 needs to be clear to all of the parties, I didn't  
14 mean -- I didn't see Mr. Donihee stand up, but  
15 notwithstanding, it needs to be clear to all the  
16 parties that when the Board closes its record, the  
17 record is closed and the hearing is closed. And  
18 the Board is reporting regarding the appropriate  
19 next step. It finds its direction in the land  
20 claims agreement, and it has been -- that's been  
21 set out in several letters of the Board.  
22 So when the hearing closes, it is done. Now,  
23 that is subject to whether or not by the end of  
24 this week we hear requests to allow parties to have  
25 a few days, a week or so on to make final comments,  
26 and if those requests do come in, then the Board

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1 would entertain them and give an answer, but when  
2 the hearing record closes, it is closed.  
3 And any agreements or sidebars or anything  
4 that happens is just not helpful to the Board at  
5 all because the only way the Board can have that  
6 information and use it is if it hears it when the  
7 mics are turned on, so that's the way that it is  
8 going to end.  
9 CHAIRPERSON: Thank you. Any questions  
10 from the elders?  
11 MR. TILLEMAN: Madam Chair, counsel for  
12 KIA just had a question, so we --  
13 CHAIRPERSON: KIA?  
14 MR. DONIHEE: Thank you, Madam Chair,  
15 John Donihee for Kitikmeot Inuit Association.  
16 I just want to reinforce this issue about the  
17 prospective sidebar discussion about the  
18 application of CEAA. As many of the parties will  
19 know, the view expressed by Environment Canada is  
20 not necessary shared by Inuit, and if there is  
21 something filed with respect to the relationship  
22 between this proceeding and the requirements of the  
23 Canadian Environmental Assessment Act, we would  
24 like it filed on the record, and we would like the  
25 opportunity to respond to it.  
26 CHAIRPERSON: Okay. I was going to ask

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1 NTI if they have any questions. KIA, GN, but DIAND  
2 go ahead.  
3 MR. TRAYNOR: Stephen Traynor, DIAND. I  
4 was just going to ask for a matter of clarification  
5 from the KIA legal counsel. I am not sure I  
6 completely understand what their issue was there  
7 and what they were really requesting.  
8 MR. DONIHEE: John Donihee. I would  
9 simply -- if there is something discussed between  
10 the proponent, Tahera, and Environment Canada with  
11 respect to the application of the Canadian  
12 Environmental Assessment Act and the relationship  
13 between any decisions made in this proceeding and  
14 the requirements of that act, we would simply like  
15 that filed on the record so that we can see it and  
16 have an opportunity to respond if we deem that to  
17 be appropriate.  
18 CHAIRPERSON: Okay. Any questions from  
19 NTI to Environment Canada?  
20 MR. LOPATKA: Stefan Lopatka, NTI. We  
21 have no questions for Environment Canada. But in  
22 regard to the CEAA issue, we concur with KIA that  
23 anything that is discussed between Environment  
24 Canada and Tahera should be put on public record.  
25 NTI has made opinions on CEAA application in  
26 Nunavut, and we would want to review that and make

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1 comments. Thank you.  
2 CHAIRPERSON: Thank you. Any questions  
3 from KIA?  
4 MR. DONIHEE: None, Madam Chair.  
5 CHAIRPERSON: Any questions from GN?  
6 MR. MacISAAC: No questions.  
7 CHAIRPERSON: Indian and Northern  
8 Affairs? Department of Fisheries and Oceans?  
9 DFO QUESTIONS ENVIRONMENT CANADA:  
10 MS. DAHL: It is Julie Dahl from the  
11 Department of Fisheries and Oceans. I just had two  
12 brief questions, combination question,  
13 clarification for Anne.  
14 Anne, in your presentation, you had talked  
15 about spray irrigation probably being the only  
16 effective way to treat for TDS and ammonia. Would  
17 you agree that there may be other treatment options  
18 available, perhaps pH adjustment or aeration, that  
19 may also be effective for treating ammonia?  
20 MS. WILSON: Anne Wilson, Environment  
21 Canada. I think it will be up to Tahera to  
22 investigate such options. They have not appeared  
23 to be feasible for larger scale application for  
24 ammonia treatment on the scale that Tahera is  
25 proposing. Such options could also be feasible.  
26 Q Thank you. In your discussion of total dissolved

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1 solids, you had stated that total dissolved solids  
2 will change the water chemistry, will cause changes  
3 in the aquatic community, and Environment Canada  
4 has suggested monitoring to identify changes in TDS  
5 concentrations and monitoring to test predictions.  
6 Does Environment Canada also recommend action on  
7 the basis of that monitoring in terms of  
8 application of mitigation or contingencies?  
9 A Anne Wilson, Environment Canada. That is one  
10 reason we have stressed the contingency of the  
11 spray irrigation being carefully considered. While  
12 total dissolved solids do not have problems with  
13 toxicity, we may see changes to zooplankton  
14 populations that may cause changes to fish  
15 populations that you don't want. I think that's  
16 where the idea of adaptive management on the part  
17 of the company comes in, and as results of  
18 monitoring show up any changes, then decisions  
19 should be made in consultation with stakeholders as  
20 to how to address those.  
21 MS. DAHL: Thank you. No further  
22 questions.  
23 CHAIRPERSON: Any questions from Natural  
24 Resources Canada?  
25 MR. DYKE: No questions.  
26 CHAIRPERSON: Any questions from the

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1 Yellowknife Dene First Nations? Any questions from  
2 the hamlet? Any questions from the public? Any  
3 questions from the elders? Any questions from NIRB  
4 Staff? Dionne?  
5 MS. FILIATRAULT: No questions.  
6 CHAIRPERSON: Any questions from the  
7 Board? Thank you, Environment Canada.  
8 MS. WILSON: Thank you.  
9 CHAIRPERSON: Our next presenter will be  
10 Department of Indian and Northern Affairs.  
11 Let's take a 10-minute coffee break.  
12 (RECESSED AT 10:58 A.M.)  
13 (RECONVENED AT 11:16 A.M.)  
14 CHAIRPERSON: Shall we get started?  
15 MR. TRAYNOR: Thank you, Madam Chair.  
16 CHAIRPERSON: We ask that you get sworn  
17 in as well as your team.  
18 MR. TILLEMAN: State your name for the  
19 record and spell your last name.  
20 MR. PARTRIDGE: Paul Partridge,  
21 P-A-R-T-R-I-D-G-E.  
22 (PAUL PARTRIDGE SWORN)  
23 MR. TILLEMAN: State your name for the  
24 record and spell your last name.  
25 MR. McLEAN: Carl McLean, M-c-L-E-A-N.  
26 (CARL McLEAN SWORN)

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1 MR. TILLEMAN: State your name and spell

2 your last name.  
3 MR. TRAYNOR: Stephen Traynor,  
4 T-R-A-Y-N-O-R.  
5 (STEPHEN TRAYNOR SWORN)  
6 MR. TILLEMAN: Please state your name and  
7 spell your last name.  
8 MS. ABERNETHY-GILLIS: Robyn Abernethy-Gillis,  
9 A-B-E-R-N-E-T-H-Y - G-I-L-L-I-S.  
10 (ROBYN ABERNETHY-GILLIS SWORN)  
11 MR. TILLEMAN: Please state your name for  
12 the record and spell your last name.  
13 MR. WHEELER: Ben Wheeler, W-H-E-E-L-E-R.  
14 (BEN WHEELER SWORN)  
15 MR. TILLEMAN: Please state your name for  
16 the record and spell your last name.  
17 MR. OSMOND: David Osmond, O-S-M-O-N-D.  
18 (DAVID OSMOND SWORN)  
19 MR. TILLEMAN: Please state your name for  
20 the record and spell your last name.  
21 MR. HARTMAIER: Holger Hartmaier,  
22 H-A-R-T-M-A-I-E-R.  
23 (HOLGER HARTMAIER SWORN)  
24 MR. TILLEMAN: State your name for the  
25 record, spell your last name.  
26 MR. DENHOLM: Eric Denholm,

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1 D-E-N-H-O-L-M.  
2 (ERIC DENHOLM SWORN)  
3 MR. TILLEMAN: Thank you, Madam Chair.  
4 CHAIRPERSON: Please go ahead.  
5 PRESENTATION BY DIAND:  
6 MR. TRAYNOR: Good morning, everyone.  
7 I want to thank the Board for the opportunity  
8 to speak to you today, as well as the community  
9 members who are here in Cambridge Bay.  
10 My name is Stephen Traynor, and I'm the  
11 director of operations Indian and Northern Affairs  
12 Canada in Iqaluit. I also currently share the  
13 duties of acting regional director general with  
14 Hagar Eludsic Luvnik (phonetic) at our office.  
15 With me today are staff from our Nunavut  
16 office. I have Carl McLean, the manager of lands;  
17 I have Paul Partridge, regional resource  
18 development advisor; Robyn Abernethy-Gillis,  
19 environmental assessment coordinator; we also have  
20 Norm Cavanagh who is our DOJ legal counsel today.  
21 As well, we have also brought some consultants who  
22 have helped prepare our presentation as well as the  
23 submission, they are Eric Denholm from Gartner Lee,  
24 Dave Osmond from Gartner Lee, Holger Hartmaier from  
25 BGC Engineering and Ben Wheeler from Nemo  
26 Consultants.

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1 INAC, as represented by the Nunavut regional  
2 office, is proud to intervene at these NIRB

3 hearings on Tahera's diamond project. It is an  
4 important, if not historic, milestone in Nunavut  
5 as it represents the start of a new generation of  
6 mining production with a distinct Nunavut identity.

7 This Nunavut identity has far-reaching  
8 implications to the mining industry, Nunavut and  
9 Canada as everyone watches the progress of the  
10 establishment of the territory's first producing  
11 mine since the creation of Nunavut in 1999 and, in  
12 fact, since the signing of the Nunavut Land Claims  
13 Agreement in 1993.

14 It is with this frame of mind, along with  
15 INAC and the regional office's responsibilities and  
16 conviction to provide the best advice to NIRB that  
17 we sit here before you today. We want to be sure  
18 that NIRB has the best available information from  
19 us to perform its role and responsibilities as  
20 outlined in the Nunavut Land Claim Agreement.

21 We are also here to answer any questions the  
22 board has of us, as well as answering any questions  
23 that other intervenors and, most importantly, the  
24 community may have with regard to our submission.

25 It is for these reasons that we have made  
26 available the breadth of expertise we have here

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1 today. In particular, it will be the staff with me  
2 today that will implement any recommendations you  
3 have for us, along with our regulatory policies and  
4 also our suite of regulatory instruments that will  
5 help regulate the mine. We take seriously this  
6 responsibility and are ready to demonstrate INAC's  
7 ability to manage mining projects according to  
8 those responsibilities and mandate.

9 I must emphasize, however, that our  
10 presentation can only be a very short summary of  
11 the full written submission we provided to the  
12 Board. We are only highlighting issues that we  
13 feel need to be brought to the attention of the  
14 Board, Tahera and the public for discussion. And  
15 we hope all parties interested in our target views  
16 on the project will look to our written submission.  
17 However, we are prepared to address any questions  
18 from our entire submission the Board, Tahera and  
19 the public may have for us.

20 INAC's responsibilities and role in this  
21 review stem from several pieces of legislation as  
22 noted on this slide. As you see here, we have got  
23 our main DIAND Act as well as our responsibilities  
24 for NLCA, CEAA, mine site reclamation policies,  
25 principally the Territorial Lands Act and the  
26 Nunavut Water and Surface Rights Tribunal Act. But

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1 beyond this shopping list, if you will, of  
2 operational legislation, we have staff and programs  
3 who are assisting companies and Nunavut

4 organizations and governments in the areas of  
5 training and economic development.  
6 With regard to the Jericho project, INAC will  
7 administer and enforce land tenure on Crown lands,  
8 we will deal with mineral tenure under the CMRs,  
9 and we will provide an enforcement and inspection  
10 function.  
11 I would like to now turn our attention to  
12 water quality and quantity issues. I will be  
13 giving this presentation today. It is unfortunate  
14 Rob Eno (phonetic), our water resources coordinator  
15 for the Kitikmeot region, could not be here, he  
16 fell ill just a day or two before the trip over, so  
17 he sends his apologies, and the department will  
18 still carry on.  
19 Several issues related to water quality and  
20 quantity have been raised by INAC throughout this  
21 environmental assessment. We believe that the  
22 proponent has made an effort to address many  
23 aspects of our concerns. There are, however,  
24 further details needed on the project that we would  
25 require during the regulatory phase of the project.  
26 To facilitate this, the water quality and quantity

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1 presentation will highlight these areas that will  
2 require additional detail and are in our  
3 recommendations.  
4 CHAIRPERSON: Can you speak a little  
5 slower, the interpreters -- thank you.  
6 MR. TRAYNOR: There are still, however,  
7 outstanding and unresolved issues related to water  
8 that will need to be addressed prior to entering  
9 the regulatory phase, these will be presented  
10 toward the end of the water's presentation.  
11 With regard to water quality and water  
12 balance, Tahera's supplementary report has  
13 addressed the fundamental concerns regarding the  
14 site water balance; however, more consideration  
15 must be given to the fact that the capacity of the  
16 PKCA will significantly be reduced over the life of  
17 the mine. To address this during the regulatory  
18 phase, INAC recommends that the proponent develop  
19 more detailed predictions on sediment deposition  
20 within the PKCA over the mine life, including  
21 deposition associated with extreme runoff events.  
22 INAC would also suggest that the water  
23 balance model we utilized to include a range of  
24 PKCA inflow scenarios, including average and  
25 extreme conditions.  
26 With regard to stream data, the proponent

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1 undertook a regional analysis using 35 Water Survey  
2 of Canada hydrometric stations as well as data  
3 gathered onsite in response to INAC's concerns.  
4 INAC believes that this additional work, however,

5 has not adequately established the stage versus  
6 discharge relationship for the Carat Lake outlet.  
7 To address this in water licensing, INAC  
8 recommends the continued operation of the stream  
9 flow monitoring stations on small streams in the  
10 Jericho watershed and the addition of new stations  
11 over the life of the mine. In particular, INAC  
12 recommends that a station be established and  
13 maintained at the outlet of Carat Lake. This  
14 station should include sufficient data collection  
15 to allow for the development of a rating curve for  
16 the Carat Lake outlet.  
17 Surface water management on the mine site  
18 relies on the ability of collection ditches and  
19 sedimentation ponds to function effectively. As  
20 currently presented, the design and layout of these  
21 structures is conceptual. Associated with this is  
22 the insufficient baseline data to directly address  
23 seepage or constructibility issues especially with  
24 regard to the potential find of permafrost.  
25 For the water licensing process, INAC would  
26 look for a demonstration of the ability of the

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1 ponds and ditches to function effectively and  
2 submission of options for operational monitoring  
3 and maintenance.  
4 INAC would also suggest that the proponent  
5 complete and submit geothermal and geotechnical  
6 analysis for the ponds and ditches.  
7 We are not clear as to whether the dam safety  
8 guidelines for the design of the C1 diversion is a  
9 high consequence structure due to the safety of the  
10 men in the pit or whether there is going to be  
11 overtopping of the diversion during flood.  
12 Currently, it is designed for a 1 in 200-year  
13 flood, but we are unclear as to whether this should  
14 be designed for a probable maximum flow.  
15 The effluent quality in the PKCA is the  
16 result of inflow from the processing plant, runoff  
17 from the waste and stockpiles and sewage, all  
18 having variable flows and chemical concentrations.  
19 For the water licensing process, INAC would  
20 suggest the proponent conduct monitoring of all  
21 effluent sources potentially flowing into the PKCA  
22 to determine the quality and quantity from each  
23 source. This information should be assessed and  
24 used to develop a better contaminant mass balance  
25 and to identify improved mitigation measures.  
26 In conjunction with this monitoring of what

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1 is flowing into the PKCA is what is flowing out of  
2 the PKCA, my apologies there. INAC would suggest  
3 that monitoring also include effluent prior to  
4 discharge to the environment to assess whether  
5 mitigation is required.

6 In regards to effluent toxicity, related to  
7 contaminant mass balance is the toxicity levels of  
8 the effluent. Under the three modelled PKCA flow  
9 and discharge regimes, CCME water quality  
10 guidelines for ammonia will be exceeded as far  
11 downstream as the Carat Lake intake. Mitigation  
12 has been proposed; however, CCME exceedances should  
13 be further evaluated, along with the potential  
14 effluent toxicity through the water licensing.

15 INAC suggests that the proponent monitor the  
16 PKCA supernatant in order to validate the predicted  
17 loads and concentrations and determine the need to  
18 revise or implement new mitigation measures.

19 INAC recommends that the water license  
20 specify that effluent from the PKCA be nontoxic to  
21 fish and that CCME chronic toxicity guidelines be  
22 achieved at the edge of the mixing zone yet to be  
23 defined. This requirement should also apply to the  
24 effluent and mixing zone associated with the  
25 discharge of the pit water beginning 20 years after  
26 closure.

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1 In regards to TDS, total dissolved solids,  
2 INAC believes there continues to be a risk that  
3 total dissolved solids is underestimated. Existing  
4 modelling appears to be based on one year of  
5 baseline conditions and does not incorporate the  
6 accumulation of total dissolved solids over the  
7 mine life.

8 To address this through the water licensing  
9 process, INAC recommends that the proponent conduct  
10 additional computer modelling assuming average flow  
11 and discharge regimes both over the mine life and  
12 for ten years following the start of pit water  
13 discharge during closure.

14 In regard to open pit and underground mine,  
15 the open pit and underground mine waters qualities  
16 can be resolved once again through the water  
17 licensing process by including the requirement for  
18 monitoring water sump quality and quantity. INAC  
19 would also recommend that the proposed spray  
20 irrigation methodology be thoroughly assessed using  
21 site-specific data. Consideration should be given  
22 to the distribution of organic matter in the  
23 processed spray irrigation area to ensure adequate  
24 attenuation of metals and nutrients such as  
25 phosphorus and nitrogen.

26 This section of the presentation so far has

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1 highlighted those areas that will require  
2 additional detail during the regulatory phase. To  
3 facilitate this, several recommendations have been  
4 presented, including those that you see above, and  
5 those would be the deposition into the PKCA,  
6 contaminated mass balance in the PKCA and resultant

7 in effluent concentrations and possible toxicity,  
8 the continued operation of hydrometric stations in  
9 the watershed and the addition of new stations at  
10 the Carat Lake outlet, geotechnical and geothermal  
11 analysis of the ditches and ponds and operation  
12 maintenance options for these systems and then  
13 assessment of the spray irrigation methodology and  
14 the metals and nutrient attenuation.

15 To finish this section of the presentation,  
16 one issue that remains outstanding and unresolved  
17 for INAC is the potential failure of the north dam.  
18 In our first submission, INAC felt that  
19 insufficient consideration was given to the  
20 possible failure of the north dam, and ultimately  
21 the subsequent impacts on aquatic life in Carat  
22 Lake.

23 Tahera provided supplemental information  
24 which predicts the effects of the failure of the  
25 north dam and further predicts that the impacts  
26 would be significant. The proponent has not,

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1 however, provided mitigation measures which can be  
2 effected in the event of a failure of the north  
3 dam. Without these mitigative measures identified,  
4 INAC views this as a significant and unresolved  
5 issue.

6 INAC would like to see a commitment from the  
7 proponent at these hearings to provide mitigative  
8 measures linked to their impact assessment on  
9 aquatic resources given a potential failure of the  
10 north dam and subsequent sudden release of tailings  
11 and effluent into C2, C1 and Carat Lakes. These  
12 mitigative measures should also been incorporated  
13 in the proponent's contingency plan submitted  
14 through the water license process.

15 I will now turn the presentation over to Carl  
16 McLean, manager of lands.

17 MR. McLEAN: Thank you, Stephen. The  
18 section I will speak to today is land permafrost  
19 and reclamation. If the project receives approval,  
20 INAC will negotiate, issue and enforce instruments  
21 of land tenure over the portion of the project on  
22 land with surface rights held by the Crown as well  
23 as provide approval and enforcement of the water  
24 license and continue to administer the subsurface  
25 mineral rights.

26 The following facilities are located on Crown

0543

1 land, the airstrip and related facilities, tank  
2 farm and lay-down areas, borrow areas A, C and D,  
3 Carat camp site, water intake facility and  
4 causeway, portions of waste dumps 1 and 2, the open  
5 pit, the diversion ditch, portions of stockpile  
6 sites, the processed kimberlite containment area,  
7 PKCA, accommodations facility, the power plant,

8 processing plant, pipeline and sediment ponds,  
9 various roads, the industrial landfill and the  
10 proposed spray irrigation site.

11 The areas INAC will require further  
12 information on are the borrow pits and quarry  
13 sites, fuel, hazardous materials storage and waste  
14 disposal, the reclamation plan and security. I will  
15 briefly outline these issues and summarize our  
16 recommendations on these at the end of this unit.  
17 Further details on these points can be found in our  
18 written submission to the Board.

19 With regards to the borrow pits and quarry  
20 sites, the supplemental information provided by the  
21 proponent does not resolve the concerns regarding  
22 potential environmental impacts associated with  
23 borrow area development. The general lack of  
24 information on permafrost and ground ice conditions  
25 presented in the supplemental information is an  
26 issue that has not been addressed.

0544

1 The AMEC response indicates that 50,000 cubic  
2 metres of esker materials will be required for the  
3 project. The assessment fails to consider the  
4 variable nature of esker materials, which may force  
5 Tahera to open up more of the borrow area.

6 Issues have not been resolved concerning the  
7 impacts from exploiting granular resources.

8 Fuel and hazardous materials storage and  
9 waste disposal, Tahera indicates that they will  
10 deal with major spills immediately, but also  
11 indicates that final soil remediation will only  
12 take place after the areas are decommissioned,  
13 which is not expected to happen until final  
14 closure. This is not acceptable, as potential  
15 environmental impacts can be enormous and not fully  
16 appreciated until the mine closes. This imposes an  
17 unknown financial liability on the project.

18 This strategy is also unacceptable because in  
19 permafrost regions, hydrocarbons will seep to the  
20 base of the active zone and pool or migrate along  
21 the top of the permafrost. They may also degrade  
22 the permafrost and may penetrate further below the  
23 surface.

24 Tahera provided no comments in the  
25 supplemental information regarding the integrity of  
26 the liner in the existing fuel containment

0545

1 facility. No information has been provided  
2 regarding the effectiveness of the land farm to  
3 remediate contaminated soils at this site.

4 The reclamation plan and security, the  
5 proponent has agreed to meet the objectives of the  
6 Nunavut mine reclamation policy, a deficiency noted  
7 in INAC's May 12, 2003 submission to NIRB.

8 There are a number of outstanding reclamation

9 issues including revegetation, reclamation pit  
10 berm, impacts of waste dump siting on caribou  
11 migration and waste dump countering, PKCA water  
12 management at closure and erosion on the PKCA  
13 cover, which is the process kimberlite containment  
14 area, and finally reclamation security.

15 With regards to revegetation, no supplement  
16 data with respect to revegetation objectives was  
17 provided by Tahera. As stated previously,  
18 postclosure revegetation at arctic sites is an  
19 emerging technology, and encouraging results on  
20 revegetation have been achieved in research on  
21 kimberlite tailings at Ekati.

22 The kimberlite appears to have properties  
23 suitable as a soil substrate or growth media. A  
24 revegetated kimberlite surface with appropriate  
25 erosion control where runoff is concentrated may  
26 yield a superior postclosure habitat in the

0546

1 proposed soil cover on the PKCA, processed  
2 kimberlite containment area. It may also be  
3 possible to use the kimberlite to aid in the  
4 establishment of revegetation on the dumps,  
5 stockpiles and other disturbed areas. Research at  
6 Ekati suggests that a phased approach to  
7 revegetation is practical.

8 The pit berm: It is assumed that the  
9 proponent's assertion of standard practice is  
10 intended also to reflect their view of best  
11 practices for mine reclamation. It is agreed that  
12 a rock berm may be adequate; however, increased  
13 confidence is required that the objective of the  
14 pit berm is to ensure that the current best  
15 practice for long-term protection of human and  
16 wildlife safety is to be implemented at the time of  
17 mine reclamation.

18 Caribou migration trails indicate that the  
19 preferred corridor through the project area is  
20 along the southeast shore of Carat Lake. The  
21 proposed dump and sediment pond may be a barrier to  
22 migration. Other corridors through the project  
23 area may be substantially cut off by the  
24 construction of the tailings pond, mill,  
25 stockpiles, pit and waste dump 2. Stakeholders  
26 need to ensure the locations of this infrastructure

0547

1 are not a barrier to caribou migration.

2 With regards to the PKCA, the processed  
3 kimberlite containment area, the following issues  
4 remain outstanding. The reclamation plan does not  
5 describe how the final liquid phase volume in the  
6 PKCA will be managed. The proponent provides no  
7 discussion on the potential impacts of  
8 concentration by freezing on tailings pore water.  
9 The proponent provides no description of means to

10 control erosion on the covered tailings surface.  
11 We will move on to spray irrigation. The  
12 emerging technology has received limited use in an  
13 arctic environment above the tree line. Tahera  
14 proposes this as an option to dispose of the mine  
15 effluent waste water and indicates that up to 16  
16 hectares of land will be required. If Tahera  
17 receives approval to use spray irrigation in their  
18 operation, it will increase the footprint of the  
19 project by approximately 16 hectares, which will  
20 then have to be considered in calculating the  
21 reclamation security requirements for remaining  
22 liabilities. Undoubtedly, the environmental  
23 liabilities will increase if 16 hectares of land  
24 are to be used for spray irrigation. This  
25 requirement can be dealt with during the regulatory  
26 phase.

0548

1 Reclamation security: The proponent has only  
2 provided supplemental information regarding the  
3 breakdown of reclamation liability as they had  
4 previously estimated for land and water-related  
5 liability in a letter from Nuna Logistics. The  
6 supplemental information only provides a breakdown  
7 of land and water-related liability in the  
8 proponent's previous estimate. INAC feels the  
9 estimate of 7.5 million for reclamation security is  
10 low and will be reviewing this figure and  
11 reclamation plans in detail during the regulatory  
12 phase.

13 INAC needs to ensure that the proponent can  
14 meet the reclamation security requirements as  
15 stipulated in the mine site reclamation policy for  
16 Nunavut. Further work is required to confirm the  
17 security requirements for Jericho. This issue can  
18 be resolved during the regulatory phase.

19 I'll now go back, and we will look at the  
20 recommendations that arise from this portion of the  
21 presentation.

22 Tahera must develop a comprehensive aggregate  
23 management plan. This management plan should  
24 contain refinement of estimates for granular  
25 materials with plant areas for excavation and ice  
26 volumes, contingencies to deal with melt water if

0549

1 ground ice is impacted, operational details and  
2 detailed reclamation plans. Tahera must submit a  
3 detailed spill contingency and contaminated soil  
4 management plan for approval. Tahera must agree to  
5 discuss reasonable revegetation programs with the  
6 regulators. We would like Tahera to conduct  
7 revegetation research on the kimberlite to  
8 determine if the postclosure conditions can be  
9 improved.

10 Tahera implement a progressive revegetation

11 program, revegetation should commence on an area as  
12 soon as possible once it is no longer utilized by  
13 the project, Tahera commit to reclaim the land to a  
14 stable condition which would facilitate and, if  
15 possible, accelerate the return of the land to a  
16 condition and functionally similar to the way it  
17 was prior to development.

18 Tahera clearly state the intended objectives  
19 for the reclamation pit berm. Tahera and the  
20 regulators discuss dump design and abandonment  
21 and restoration planning to resolve postclosure  
22 wildlife use of the waste dump area to incorporate  
23 ramps into the final contours of the waste dumps  
24 and stockpiles. This would help provide access to  
25 elevated areas which the caribou seek for relief  
26 from bugs. Tahera commit to resolve the processed

0550

1 kimberlite containment area, PKCA reclamation  
2 through abandonment and restoration during the  
3 regulatory phase.

4 Tahera and the regulators must confirm  
5 environmental liabilities if 16 hectares of land  
6 are to be used for spray irrigation. Tahera and  
7 the regulators must work during the regulatory  
8 phase to confirm reclamation security requirements  
9 and confirm the separation in liabilities between  
10 land and water and between Inuit-owned land and  
11 Crown land.

12 I will now turn the floor over Paul Partridge  
13 who will continue with our presentation.

14 MR. PARTRIDGE: Thank you, Carl. I will be  
15 speaking to socioeconomic aspects of Tahera's final  
16 EIS.

17 Socioeconomic assessments, if they are to  
18 make a meaningful contribution to decision making,  
19 must be able to confidently predict which, how and  
20 to what degree potential impacts will affect the  
21 present socioeconomic environment. These  
22 predictions must be based on valid, and where  
23 possible, testable assumptions which themselves  
24 have been formulated on previous studies and  
25 experience.

26 Today in Nunavut, as elsewhere in Canada,

0551

1 socioeconomic impact assessments must adequately  
2 address stringent guidelines to ensure that  
3 benefits accruing from the project are maximized  
4 and disadvantages minimized.

5 Tahera has provided information on seven  
6 important socioeconomic aspects, much of which was  
7 significantly improved upon in their supplementary  
8 documents. These include employment, education and  
9 training, contract and benefit -- contract and  
10 business opportunities, community health, crime,  
11 demographic impacts and cumulative effects

12 assessment.  
13 In reviewing Tahera's socioeconomic  
14 assessment, INAC has identified three areas in the  
15 proponent's assessment that reduce the department's  
16 confidence in their conclusions, those are  
17 methodology, understanding of the impacts and  
18 mitigation and monitoring. INAC notes that  
19 Tahera's socioeconomic assessment lacks the benefit  
20 of the following, socioeconomic model, assumptions,  
21 mathematical procedures, calculations, confidences  
22 and baseline reference.  
23 Analysts, when developing socioeconomic  
24 assessments, utilize models, mathematical or  
25 economic concepts to help quantify socioeconomic  
26 impacts and impact effects. Though the proponent

0552

1 indicated that it employed a model for economic  
2 impacts based on the one used for Diavik mine and  
3 neglected to provide the intrinsic and important  
4 assumptions, mathematical procedures, calculation  
5 and confidence intervals associated with these  
6 calculations. Without this information, it is  
7 difficult to understand how the proponent was able  
8 to address potential gaps in data, how they applied  
9 the precautionary principle and arrived at the  
10 conclusions they have presented.

11 CHAIRPERSON: Before turning the page,  
12 just wait until the interpreters are done with that  
13 page.

14 MR. PARTRIDGE: I apologize for speaking so  
15 quickly.

16 Tahera's assessment has identified a number  
17 of valued socioeconomic components, VSECs. In  
18 their assessment of the impacts -- sorry, in their  
19 assessment of the impacts, there is a lack of the  
20 information on the nature of impacts. Some  
21 socioeconomic impacts don't always lend themselves  
22 to monitoring, for example, early childhood  
23 development issues that might result from parental  
24 absence, relationship of the impacts and parties.

25 The proponent hasn't identified -- has not  
26 clearly indicated how the various impacts or

0553

1 impacts effects will affect individuals, families,  
2 communities, various organizations and agencies in  
3 the region or territory, example, what is the  
4 potential effect on municipal governments from the  
5 siphoning impact? What demands will the proposed  
6 mitigation place on the government of Nunavut?  
7 And, finally, the cost and benefits of the impacts?  
8 What is the relationship of the impacts to one  
9 another? Are there singeries (phonetic)? Do the  
10 benefits outweigh the cost respecting the fact that  
11 most of these are not a direct trade-off? For  
12 instance, those who accrue the benefits are not

13 always those who incur the costs.  
14 The key components of offsetting potential  
15 adverse impacts is the implementation of  
16 appropriate mitigation. While the proponent has  
17 listed a number of options to address potential  
18 impacts, the value of these options and the  
19 proponent's desired form have not been provided.  
20 The end result is an inability to assess the value  
21 of the proponent's mitigation, mitigation strategy  
22 to address potential adverse problems which, in  
23 turn, omit our ability to effectively understand  
24 what residual impacts might result from the  
25 project.  
26 As mentioned previously, the nature of

0554

1 certain impacts are not always -- are not  
2 appropriate -- sorry. As mentioned previously, the  
3 nature of certain impacts are not appropriately  
4 addressed through monitoring, which is a concern of  
5 the assessment given its heavy emphasis placed --  
6 given the heavy emphasis it places on a wait and  
7 see approach. Additionally, there are also issues  
8 about how the indicators identified in the  
9 assessment are related to the valued socioeconomic  
10 components, the impact effects or the mitigation  
11 measures without a clear indication of how the  
12 indicators are intended to effectively assess  
13 socioeconomic impacts of the project -- sorry,  
14 assess the socioeconomic effects of the project,  
15 the effectiveness of the proposed monitoring regime  
16 is not understood.  
17 INAC's confidence in the proponent's  
18 conclusions would improve by addressing the  
19 outstanding issues which we have identified. It is  
20 further felt that a socioeconomic management  
21 strategy developed with the support of a  
22 multi-stakeholder advisory committee is the best  
23 option for addressing our issues with a  
24 socioeconomic assessment. Not only will it build  
25 upon the work the proponent has provided -- not  
26 only will it build upon the work of the proponent

0555

1 and provide an opportunity for various agencies and  
2 organizations, but it will also allow for the  
3 project to move forward acknowledging the strengths  
4 and merits, what has been provided while  
5 understanding that there is a need to have these  
6 addressed.  
7 The specific objectives of the socioeconomic  
8 management strategy will be to accomplish three  
9 major objectives. First, address and identify  
10 deficiencies in the assessment which will require  
11 the impacts -- which will require that the impacts  
12 are quantified in support of a cost benefit  
13 analysis. Identification -- or, secondly,

14 identification of impacted parties will be required  
15 to ensure that the understanding of how the impacts  
16 will affect Nunavut is provided.

17 And, finally, identification of mitigation  
18 and monitoring will be required once the impacts  
19 have been appropriately quantified and their  
20 relationships defined. This should ensure that the  
21 proposed mitigation will be effective in addressing  
22 the impacts and that monitoring is based upon  
23 indicators that are clearly linked to valued  
24 socioeconomic components, impacts, impact effects  
25 and mitigation.

26 Unlike water, wildlife and land issues,

0556

1 socioeconomic impacts do not have the benefit of a  
2 regulatory phase to more clearly define and address  
3 issues. Instead, socioeconomic issues are  
4 addressed through impact and benefit agreements.  
5 In the case of Inuit, these are addressed through  
6 mechanisms laid out in the Nunavut Land Claim  
7 Agreement that provide for the negotiation of an  
8 Article 26 IIBA. In the case of Nunavummuit as a  
9 whole, municipalities and the territorial  
10 government, the convention has been the development  
11 of a socioeconomic agreement.

12 The value of a socioeconomic management  
13 strategy is in its ability to address the need for  
14 additional information required beyond the impact  
15 assessment phase in the development of effective  
16 agreements, while providing the Board with a  
17 mechanism which will ensure that the outstanding  
18 issues are addressed as the outcome of the strategy  
19 will form the basis of an amendment for a project  
20 -- to the project certificate. This approach will  
21 ensure that affected parties will have an  
22 opportunity to clearly identify and address  
23 relevant concerns. It will also provide the Board  
24 with an option that would avoid delays while  
25 respecting its mandate and the integrity of the  
26 process.

0557

1 I would like to pass this on to Stephen  
2 Traynor to finish off our presentation.  
3 MR. TRAYNOR: At this point, we would  
4 like to note that Tahera has made efforts to inform  
5 to Kitikmeot communities of the Jericho project.  
6 However, INAC does recommend that the proponent  
7 follow through on its commitment to continue to  
8 inform affected communities about the project, and  
9 further, to consult with the public regarding  
10 participation in the design, management and  
11 monitoring strategies.

12 With regards to its cumulative effects  
13 assessment, we do recognize that there are  
14 weaknesses in the cumulative effects assessment,

15 including its methodology. In it, Jericho --  
16 Tahera Corporation does not specifically identify  
17 residual adverse effects of the Jericho project,  
18 nor similar effects from other projects adequately.  
19 It is, therefore, very important that the company  
20 gather multi-stakeholders together and work with  
21 them collaboratively involved in the cumulative  
22 effects of the Slave geological province in the  
23 current processes that are in place.  
24 We do recognize that it is an issue both for  
25 government, the public as well as industries, and  
26 we would like to see them involved in the broader

0558

1 regional process, as well as participation in the  
2 regional issues that are relevant to Nunavut  
3 through the Nunavut planning commission's land use  
4 planning processes.  
5 Reaching the close of our presentation, and I  
6 thank everyone for their patience here.  
7 I do want to make an additional comment  
8 because it does seem to be a very real issue that  
9 everyone grapples with, and that is with regard to  
10 the reclamation costs. DIAND did not review the  
11 cost estimates, nor did we do this during the EA  
12 phase, but rather we focused this phase on the  
13 concept on how they will be doing reclamation.  
14 They did not provide enough information for us to  
15 delve into too deeply what the actual cost  
16 parameters would be.  
17 However, it is important for our department  
18 to state to you, to the Board today that we do  
19 have, and I would ask that these be put into  
20 evidence as a document for the hearing, the mine  
21 site reclamation policy for Nunavut. And in this  
22 policy, you will note that with regard to financial  
23 security, that the department expects that the  
24 total financial security for the final reclamation  
25 required at any time during the life of the mine  
26 should be equal to the total outstanding

0559

1 reclamation liability for land and water combined.  
2 The department and our minister has a zero  
3 liability. They do not, and the government of  
4 Canada, I repeat, does not expect any liability  
5 here. We want to ensure that the cost of the  
6 liability is covered off and borne under the  
7 polluter pay principle.  
8 The policy also recognizes that we have to  
9 work together to the extent possible to coordinate  
10 among the various regulatory authorities to come  
11 together to have a complete package in terms of  
12 security deposits. In that vein, we have had  
13 discussions with our colleagues at the Kitikmeot  
14 Inuit Association with regard to Inuit-owned land,  
15 and we have agreed to work together on reviewing,

16 analyzing, assessing and dividing up what the  
17 appropriate financial implications would be to  
18 cover off those liabilities.

19 In conclusion, INAC is of the opinion that  
20 the Jericho Diamond Project should proceed to the  
21 regulatory approval stage. The environmental and  
22 social risk associated with this mine proposal  
23 appear to be manageable.

24 The information provided in the supplemental  
25 information, in combination with the technical  
26 workshops and the provision of supplemental

0560

1 technical information has developed a higher degree  
2 of confidence that this project should proceed to  
3 the regulatory stage.

4 The proponent is to be commended on providing  
5 the supplemental information through technical  
6 memorandum, as well as through workshops. This  
7 demonstrates a desire to develop this project in an  
8 environmentally and socially acceptable manner. We  
9 encourage Tahera to continue this commitment  
10 through the develop of rigorous and focussed  
11 monitoring programs, an effective adaptive  
12 management program and thorough contingency  
13 planning.

14 Thank you, this concludes our presentation.

15 CHAIRPERSON: Okay. Thank you. Why  
16 don't we break for lunch, and we will do the  
17 exhibits break at 1:30. I think 1:30 was just the  
18 right time, so if we can start exactly at 1:30.  
19 Thank you.

20 (RECESSED AT 12:09 P.M.)

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

22 CHAIRPERSON: Okay. We have got a busy  
23 schedule for today. Before we start, Bill, you  
24 have got some --

25 MR. TILLEMAN: Thank you, Madam Chair.  
26 Over the last three days, we have gone through a

0561

1 lot of evidence and some new documents that were  
2 filed, and what I would like to do now is take the  
3 opportunity, with your permission, to enter these  
4 documents as exhibits into the record. I think I  
5 have caught most of them, but I recognize that  
6 there are still a few that are outstanding, and we  
7 will try to, with the help of counsel and other  
8 parties, make sure that I don't miss anything, and  
9 if I do, please bring it to my attention.

10 So as Exhibit number 1, we suggest, then,  
11 that the KIA presentation which was offered on  
12 January 6th of '04 be entered. If there be no  
13 objections, that's what we will do, and none seen  
14 in the audience.

15 EXHIBIT NO. 1:

16 KIA PRESENTATION AND SPEAKING NOTES OF

17 CHARLIE EVALIK  
18 MR. TILLEMANN: The second one, Exhibit  
19 number 2, would be the IIBA document entered into  
20 between Tahera and KIA, filed January 7th. No  
21 objections? None seen.  
22 EXHIBIT NO. 2:  
23 IIBA ENTERED INTO BETWEEN TAHERA AND KIA,  
24 FILED JANUARY 7, 2004  
25 MR. TILLEMANN: Exhibit number 3 would be  
26 the Tahera presentation of January 5th of '04, it

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1 would be marked as Exhibit number 3.  
2 EXHIBIT NO. 3A:  
3 HARD COPY OF TAHERA PRESENTATION OF  
4 JANUARY 5, 2004  
5 EXHIBIT NO. 3B:  
6 TAHERA PRESENTATION ON CD ROM  
7 MR. TILLEMANN: Exhibit number 4 would be  
8 the Tahera community presentation that was January  
9 6th of '04.  
10 EXHIBIT NO. 4A:  
11 HARD COPY OF TAHERA COMMUNITY PRESENTATION  
12 OF JANUARY 6, 2004  
13 EXHIBIT NO. 4B:  
14 TAHERA COMMUNITY PRESENTATION ON CD ROM  
15 MR. TILLEMANN: Exhibit number 5 would be  
16 the Tahera Errata on Ammonia Discharge.  
17 EXHIBIT NO. 5:  
18 TAHERA ERRATA ON AMMONIA DISCHARGE  
19 MR. TILLEMANN: Exhibit 6, Tahera Errata,  
20 Re-run of the Dilution Model.  
21 EXHIBIT NO. 6:  
22 TAHERA ERRATA RE-RUN DILUTION MODEL  
23 MR. TILLEMANN: Exhibit 7, DIAND slide  
24 presentation.  
25 EXHIBIT NO. 7:  
26 DIAND SLIDE PRESENTATION

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1 MR. TILLEMANN: Exhibit 8, KIA slide  
2 presentation.  
3 EXHIBIT NO. 8:  
4 KIA SLIDE PRESENTATION,  
5 MR. TILLEMANN: Exhibit 9, NTI slide  
6 presentation.  
7 EXHIBIT NO. 9:  
8 NTI WRITTEN PRESENTATION TO NIRB IN  
9 CAMBRIDGE BAY  
10 MR. TILLEMANN: Exhibit 10, DFO slide  
11 presentation.  
12 EXHIBIT NO. 10:  
13 DFO SLIDE PRESENTATION  
14 MR. TILLEMANN: Exhibit 11, Environment  
15 Canada slide presentation.  
16 EXHIBIT NO. 11:  
17 DOE (ENVIRONMENT CANADA) SLIDE

18 PRESENTATION  
19 MR. TILLEMANN: Exhibit 12, referred to  
20 just before the break, would be the DIAND mine  
21 reclamation policy. And the date on that was 2003,  
22 we think it is last year.  
23 MR. TRAYNOR: And it is their mine  
24 reclamation policy for Nunavut.  
25 MR. TILLEMANN: For Nunavut. Thank you.  
26 2002.

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1 EXHIBIT NO. 12:  
2 "MINE SITE RECLAMATION POLICY FOR NUNAVUT"  
3 MR. TILLEMANN: And also if there are no  
4 objections, a couple of days ago, Andre Sobolewski  
5 had referred to a study that he did, the title of  
6 which is "A Review of the Environment Effects of  
7 Diamond Mining" prepared for Environment Canada,  
8 and if there are no objections to entering that,  
9 then we would enter that. We received a fax copy,  
10 and we would propose that that be entered, then, as  
11 number 13 by Sobolewski, et al.  
12 EXHIBIT NO. 13:  
13 "A REVIEW OF THE ENVIRONMENTAL EFFECTS OF  
14 DIAMOND MINING" BY MR. SOBOLEWSKI, ET AL.  
15 MR. TILLEMANN: And I appreciate there are  
16 others, and if the parties could bring those to the  
17 staff's attention, we will make sure they get  
18 entered.  
19 We would also like to let the audience know,  
20 we have hard copies of many of these things, and so  
21 please ask the staff for a hard copy. We are  
22 trying to get hard copies of all of them. In some  
23 cases, we have a CD ROM, and we will do the best  
24 that we can.  
25 Now, it is easier in Cambridge Bay, of  
26 course, for us to get photocopies, but, Madam

0565

1 Chair, I would like to suggest through you to these  
2 parties that in Gjoa Haven and in Kugluktuk, it is  
3 going to be very hard to get hard copies. So for  
4 the benefit of those people in those little  
5 communities, if you could -- if you need copies of  
6 your presentations or anything that you would like  
7 to discuss in Kugluktuk or else in Gjoa Haven,  
8 please approach the staff today so we can help get  
9 prepared before we get on the plane early tomorrow  
10 morning. Thank you.  
11 CHAIRPERSON: And the exhibits that you  
12 don't have now, would you like them now or sometime  
13 today?  
14 MR. TILLEMANN: Well, I am confident -- for  
15 example, we have a package of CVs that will come in  
16 through Tahera whenever that will happen. And I  
17 know the counsel will keep me on my toes, and I'm  
18 not worried about that. And I also realize that

19 others, the Dene's will have a presentation, and I  
20 have some others on my list, but I will make sure  
21 that they are filed before the hearing closes.

22 I think we are good for now unless any  
23 parties have something to add. It looks like NTI  
24 has a comment.

25 CHAIRPERSON: Okay. NTI?

26 MR. LOPATKA: Stefan Lopatka of

0566

1 NTI. You referred to an NTI slide presentation, we  
2 did not do a slide presentation, so could we get  
3 clarification on that?

4 MR. TILLEMAN: Okay. So how would you  
5 like it to be? Is it simply NTI's written comments  
6 presented at the hearing?

7 MR. LOPATKA: It was our submission to  
8 NIRB.

9 MR. TILLEMAN: Thank you for that  
10 clarification, and so then Exhibit number 9 would  
11 be NTI's written presentation to NIRB in Cambridge  
12 Bay.

13 MR. LOPATKA: Thank you.

14 MR. TILLEMAN: Thank you, Mr. Lopatka.

15 CHAIRPERSON: Okay. Now, we are at  
16 questions to Department of Indian and Northern  
17 Affairs from Tahera Corporation. Tahera, you may  
18 go ahead.

19 TAHERA CORPORATION QUESTIONS DIAND:

20 MR. MISSAL: Thank you very much, Madam  
21 Chair. Greg Missal with Tahera.

22 I would like to begin off -- begin our  
23 questions starting with Pete McCreath.

24 MR. MCCREATH: Madam Chair. I have a  
25 single question to ask the Department of Indian  
26 Affairs from their presentation, it relates to the

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1 diversion channel C1. There was concern expressed  
2 regarding the design and the effective safety of  
3 the diversion channel, and there was reference made  
4 to the Canadian dam safety guidelines.

5 I would like to ask the department if they  
6 are aware that the CDSA guidelines are applicable  
7 to impoundment structures, dams, reservoirs and are  
8 not applicable to diversion channels? Given that,  
9 what would the department recommend as appropriate  
10 design criteria for a diversion channel?

11 MR. TRAYNOR: I would ask Holger  
12 Hartmaier to respond to that issue.

13 MR. HARTMAIER: Madam Chair, Holger  
14 Hartmaier, BGC Engineering.

15 The request for reviewing the design of the  
16 C1 diversion, with respect to the Canadian Dam  
17 Association dam safety guidelines has to do with  
18 the potential safety aspect of men and equipment  
19 working in a pit related to the berm between the C1

20 diversion and the edge of the pit.  
21 Now, the dam safety guidelines, the berm  
22 could be construed to be a water retention  
23 structure because it holds back the water of the  
24 creek, and it needs to be reviewed as far as the  
25 overall safety aspect. Now, having said that, the  
26 actual safety management is the responsibility of

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1 Tahera.  
2 All we are saying is that the potential  
3 safety implications of diverting water next to the  
4 edge of the pit may need to be addressed in terms  
5 of using the CDA guidelines as a guide where, for  
6 instance, if there is potential for life risk, then  
7 it should be construed as a potential  
8 high-consequence structure.  
9 So what we are advising is that the C1  
10 diversion needs to be reviewed in terms of the  
11 water-handling capacity. Right now I understand it  
12 is designed as a 1-in-200-year flood. The amount  
13 of water that channel could potentially carry in an  
14 extreme event needs to be reviewed. From a safety  
15 point of view, maybe it needs to be designed for  
16 PMF, probable maximum flood conditions.  
17 MR. MCCREATH: I would like to confirm  
18 that, of course, following good professional  
19 practice, we will be assessing the potential  
20 consequences of failure of this diversion during  
21 the final design phase and appropriate factors of  
22 safety, including free board, and the assessment of  
23 the potential consequences of failure will be  
24 evaluated during that phase. Thank you for your  
25 input.  
26 MR. HARTMAIER: Thank you.

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1 MR. MISSAL: Madam Chair, I would now  
2 ask Kelly Sexsmith to address a couple questions.  
3 MS. SEXSMITH: Kelly Sexsmith, SRK. On  
4 page 2 of the DIAND presentation, the fifth slide  
5 in that presentation, there was a point made that  
6 the water license should specify that effluent from  
7 the PKCA be nontoxic to fish within a mixing zone.  
8 And during the presentation, the wording of that  
9 was slightly different, it was that the water  
10 license should specify that effluent from the PKCA  
11 be nontoxic to fish at the end of a mixing zone yet  
12 to be applied, and we want that wording to be  
13 stated in the record, if that is acceptable.  
14 MR. TRAYNOR: Stephen Traynor. Yes, it  
15 is duly noted that we had changed the wording, and  
16 it read "at the edge of a mixing zone yet to be  
17 defined."  
18 Q Thank you. My other question was that I would like  
19 DIAND to clarify that the concerns that they have  
20 with water quality predictions are with respect to

21 the concentrations that have been predicted for the  
22 receiving environment, in particular, the total  
23 dissolved salts content in the receiving  
24 environment.  
25 MR. TRAYNOR: I call upon Dave Osmond to  
26 respond to that on behalf of DIAND.

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1 MR. OSMOND: Dave Osmond here.  
2 Yes, Kelly, that is for the receiving water  
3 and the applicable guidelines that apply to  
4 receiving water, CCME guidelines.  
5 MS. SEXSMITH: Okay. Thank you for that  
6 clarification. We -- again, as we mentioned to  
7 Environment Canada, are fully willing to work with  
8 them on developing some additional scenarios that  
9 would reflect a range of potential concentrations  
10 in the receiving environment under a range of  
11 discharge and receiving water flow conditions.  
12 MR. MISSAL: Madam Chair, I would now  
13 like to call on Cam Scott at SRK for a question.  
14 MR. SCOTT: Cam Scott, SRK.  
15 I have a question in relation to the comments  
16 related to page 3, middle slide, left side,  
17 specifically the potential failure of the north  
18 dam. Given that the dam design so far has been  
19 based on procedures, classification and procedures  
20 related to the dam safety, Canadian dam safety  
21 guidelines, I am wondering what exactly -- and this  
22 applies to the north dam as well, I'm wondering  
23 what DIAND is specifically referring to in terms of  
24 mitigative measures?  
25 MR. TRAYNOR: Once again, I will call  
26 upon Dave Osmond to respond to that issue.

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1 MR. OSMOND: Dave Osmond for DIAND.  
2 Cam, I am not a geotechnical engineer, and I may be  
3 calling on some help with my colleague here,  
4 Holger, but this relates to an accidents and  
5 malfunctions response that we gave to or issue that  
6 we raised about the possible failure of the north  
7 dam and the direct redirection of tailings water  
8 through C1. I can't remember the numbers of the  
9 lakes, C2, C1 and then out into Carat Lake became a  
10 concern to us, and you subsequently had Mainstream  
11 do a little risk assessment of an eventuality, and  
12 it was raised as a major -- as a significant impact  
13 that would accrue as a result of such a failure.  
14 That having been done, it sort of flagged  
15 that area of something of fairly critical  
16 significance environmentally. I don't know the  
17 Canadian dam safety guidelines and how they relate  
18 to environmental consequences, but that to me  
19 triggered the -- a logical need for some kind of  
20 mitigation. That's why the issue was raised, and it  
21 had nothing to do with any geotechnical concern, it

22 was strictly environmental.  
23 MR. SCOTT: Cam Scott. Point taken,  
24 Dave. I think in the context of the design of  
25 these sorts of structures, once you establish the  
26 classification of the structure, and arguably, one

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1 could consider because of the different drainage,  
2 one could arguably identify a different  
3 classification for that structure that would then  
4 influence your design. Specifically, what that  
5 would relate to would be two features essentially,  
6 one would be the design flood, and in that  
7 facility, we are anticipating design for the PMF,  
8 the probable maximum flood. So arguably that --  
9 whatever classification is assigned to dam 1 will  
10 not change that aspect.

11 The second aspect is in relation to the  
12 seismicity, and what we have taken in getting  
13 information from NRCan and other work on our own,  
14 we have used, in fact, the 1-in-2457-year event.  
15 As it turns out, based on the information from  
16 NRCan, that is the largest predicted value for an  
17 earthquake. In fact, it is higher than the  
18 1-in-10,000 number that they got from a different  
19 matter. We have not taken the maximum credible  
20 earthquake, but the worst or the highest earthquake  
21 that we could predict based on existing knowledge  
22 of the rare event of a large earthquake in the  
23 north.

24 MR. OSMOND: If I may, Madam Chair, just  
25 a follow-up question then. As a professional  
26 geotechnical engineer, then, you feel that the

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1 mitigation has already been built into the design  
2 of the structure at this point then?  
3 MR. SCOTT: Cam Scott. That's correct.  
4 MR. OSMOND: Thank you.  
5 MR. MISSAL: Madam Chair, I now call on  
6 Ben Hubert for his questions.  
7 MR. HUBERT: Thank you, Greg, Madam  
8 Chair. My question is one of clarification for  
9 Mr. McLean. In his comments on the structures on  
10 the southeast shore of Carat Lake, he expressed the  
11 view that that route was a preferred caribou  
12 migration route through the project area, and  
13 unless Mr. McLean has got additional information to  
14 those presented by Tahera, I think it is a small  
15 but important point that it should be withdrawn and  
16 replaced with a statement that it is one of many  
17 migration routes through the project area.  
18 MR. TRAYNOR: I will ask Carl.  
19 MR. McLEAN: Thanks, Ben. Carl McLean,  
20 INAC.

21 As you see on the map on the wall there with  
22 the orange caribou routes, that route is considered

23 to be a main route for caribou movement or  
24 migration, so I will agree to change the word  
25 "preferred" to a main route for caribou migration.  
26 MR. HUBERT: Ben Hubert. Rather than

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1 take up a lot of time, it is a significant  
2 difference in notion from preferred to main, but  
3 it's important to note that there are other routes  
4 that can accommodate caribou movements through the  
5 project area for caribou travelling in those  
6 directions.  
7 CHAIRPERSON: Bill?  
8 MR. TILLEMAN: Thank you. It is just to  
9 mark -- the transcript won't show what a chart on  
10 the wall means, I doesn't mean anything to the  
11 reader of the transcript, and because of that, what  
12 we should do is either enter that -- I realize it  
13 is in the record anyway, but could someone just go  
14 read it and find out what the title of that chart  
15 is, or map?  
16 Okay. So that is Map B, as in baker. You  
17 know what, let's just enter it as an exhibit.  
18 Let's not deal with it. So unless there are any  
19 objections, let's just make it one. That then will  
20 be number 14. So Exhibit 14 is a map, and I want  
21 to get this right. So Carl's language was the  
22 main -- it is actually entitled, I think, "Main  
23 Area of Caribou Movement."  
24 MR. MISSAL: That's correct.  
25 MR. TILLEMAN: So that's actually the  
26 title, Map B, Exhibit 14. We will so stamp it

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1 during one of the breaks. Thank you very much.  
2 Thank you, Madam Chair.  
3 EXHIBIT NO. 14:  
4 MAP B ENTITLED "MAIN AREA OF CARIBOU  
5 MOVEMENT."  
6 CHAIRPERSON: Greg Missal?  
7 MR. MISSAL: Thank you very much, Madam  
8 Chair. Greg Missal with Tahera.  
9 I think sort of the final area of questioning  
10 that we have for Indian and Northern Affairs is  
11 related to their socioeconomic presentation, and  
12 the concept of a socioeconomic management strategy.  
13 I believe Indian and Northern Affairs is  
14 aware that Tahera has negotiated an IIBA with the  
15 Kitikmeot Inuit Association. Within that IIBA, and  
16 I realize that that's only being made public today  
17 for the first time to NIRB and through this forum,  
18 but there are many mechanisms within the IIBA that  
19 cover off many of the items that are proposed  
20 through the socioeconomic management strategy.  
21 I think in terms of questions, I would like  
22 to know who you would envisage would participate in  
23 a program like this, and how the role of this group

24 would be more effective or what it would do in  
25 comparison to what is already in place through the  
26 IIBA?

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1 MR. TRAYNOR: Thank you, Madam Chair. I  
2 will call upon Paul Partridge to respond to that  
3 issue.

4 MR. PARTRIDGE: Thank you, Madam Chair.  
5 Paul Partridge.

6 If I get your questions correct here, the  
7 first one was what did we envision with the  
8 committee and who would, sort of, be a party to  
9 that, I guess? And what exactly were our  
10 intentions for the socioeconomic management  
11 strategy in relation to the IIBA or how it would  
12 improve upon the IIBA?

13 Q That's correct.

14 A All right. The socioeconomic -- or, sorry, the  
15 multi-stakeholder advisory committee, I guess, that  
16 we were sort of envisioning is a broad range of  
17 stakeholders from the GN, from communities, from  
18 representative organizations who have a stake in  
19 the potential socioeconomic impacts of the project,  
20 and it would be to provide advice on the  
21 socioeconomic management strategy itself.

22 As far as the strategy in relation to the  
23 IIBA, as you have mentioned, it has just come out  
24 today, and I have only had a chance to thumb  
25 through it, so I don't believe I am prepared to  
26 really make an effective comment on how it would

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1 improve upon what has been provided there. So if  
2 it's possible, perhaps over the next little while  
3 we can get together and maybe discuss or have a  
4 chance to look at it at least and then come back to  
5 the question later.

6 Q Okay. I guess just following up on the membership  
7 of something like this, would it be unique to this  
8 project and Tahera, or would it include other  
9 industry representatives, or how did you see that?

10 MR. TRAYNOR: Stephen Traynor.  
11 Essentially we would see it unique to this project,  
12 but it is ensuring that the organizations from the  
13 communities who would be impacted are  
14 participating, whether it is GN health and social  
15 services, perhaps RCMP, community leaders, things  
16 like that. Not necessarily other industry, but it  
17 should be very specific to your project and to your  
18 needs as your project is impacted upon those  
19 communities.

20 MR. MISSAL: And I guess one final  
21 question related to that would be how -- who would  
22 you envisage would take the lead role in something  
23 like this?

24 MR. TRAYNOR: Stephen Traynor, DIAND. We

25 would see that it is the responsibility of the  
26 company to ensure that the advisory committee is

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1 there to help them look at the impacts that your  
2 project is having on the community, so we would  
3 certainly see Tahera as having the need for this.  
4 MR. MISSAL: That's all our questions,  
5 Madam Chair. Thank you.  
6 CHAIRPERSON: Any questions to Indian and  
7 Northern Affairs from NTI?  
8 MR. LOPATKA: No questions, madam.  
9 CHAIRPERSON: KIA?  
10 KIA QUESTIONS Indian and Northern Affairs:  
11 MR. DONIHEE: Thank you. Thank you,  
12 Madam Chair. John Donihee for the Kitikmeot Inuit  
13 Association. My questions are follow ups, I guess,  
14 to those asked by Tahera, so I'm going to address  
15 really just the socioeconomic recommendations made  
16 by INAC.  
17 Let me say, first to start that KIA welcomes  
18 INAC's interest in the socioeconomic matters, and  
19 we are certainly willing to work with INAC and the  
20 government of Nunavut in addressing these matters  
21 on a front that's broader than the IIBA itself, but  
22 I think we do have some concerns about the  
23 possibility of overlap between what is being  
24 proposed and what has already been negotiated at  
25 considerable cost between the company and the KIA.  
26 So my first -- the first question I want to

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1 ask, because there were a number of somewhat  
2 critical comments made in the DIAND submission  
3 about the methodology used in the socioeconomic  
4 impact assessment, which has been filed by Tahera.  
5 And without repeating too much, you know, the  
6 suggestions were made that there should have been  
7 social VECs established and that statistical -- you  
8 know, statistics should have been gathered.  
9 I looked at the Tahera materials, and there  
10 seemed to be rather a lot of statistics there to  
11 me, but I'm not a modeler, and I'm not here to  
12 comment on the model.  
13 I guess the question I had was this, what did  
14 happen was that the company responsible for the  
15 project and the organization which is  
16 representative of 85 to 90 percent of the residents  
17 of the region, sat down and addressed in detail  
18 what would happen, and, you know, KIA has done this  
19 kind of thing before, we have negotiated several  
20 IIBAs, and a number of benefits agreements or  
21 participation agreements for mines that are outside  
22 Nunavut.  
23 And so my question to INAC is this, you know,  
24 I'm not challenging the fact that a socioeconomic  
25 model, you know, that relies on a bunch of data

26 collection and statistics is one way to come to an

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1 understanding of the impacts of this project, but I  
2 guess the question is wouldn't you agree that a  
3 reasonable alternative approach would be exactly  
4 what has already been done, that's to have the  
5 company that knows what they are going to do and  
6 the representatives of the residents of the area,  
7 sit down, identify the impacts and actually  
8 negotiate an agreement that addresses them  
9 directly? So is that a reasonable alternative to  
10 this modelling approach that you suggested?

11 MR. TRAYNOR: Stephen Traynor, DIAND.  
12 Thank you very much for your comments, John, and  
13 there are certainly well-founded. And the  
14 department certainly respects the negotiations of  
15 both KIA and Tahera, and we do see it as a  
16 reasonable approach, and it is certainly under the  
17 claim envisioned.

18 I guess our concern lay in the fact, and it  
19 was presented in the KIA's presentation earlier was  
20 the fact that it does represent the Inuit. Our  
21 concern is also with support agencies. While the  
22 KIA may have discussions with Tahera, we were  
23 looking for some mechanism that allowed for GN  
24 social services, our federal colleagues like RCMP  
25 or any other agency that provides some level of  
26 service to the community to also have a say and

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1 also provide some information, and you would  
2 probably well agree, some valued feedback on their  
3 perceptions of community wellness.

4 We certainly see it as a large component of  
5 the IIBA does deal with Inuit, however, we feel  
6 there is potentially some good information, some  
7 good advice that may be missed, and we wanted to  
8 ensure that everyone was included.

9 Q Thank you very much. John Donihee, again. I have  
10 another question.

11 In one of your slides, you indicated that you  
12 felt that the socioeconomic impacts don't have the  
13 benefits of a licensing or permitting phase. I  
14 certainly am not quibbling with that argument, but  
15 I presume that the reason that that was said was  
16 because, in a sense, that means that there really  
17 isn't an enforceable -- or at least in your view,  
18 there isn't an enforceable way to address the  
19 socioeconomic impacts and to ensure or to give  
20 certainty that they will be mitigated. And, again,  
21 I expect that you are aware of it, but I will  
22 phrase it as a question anyway.

23 I mean, you are aware that the IIBA is  
24 enforceable under Part 9 of Article 26, legally  
25 enforceable, and that the commitments that Tahera  
26 has made there, you know, could be -- I mean, if

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1 they defaulted, I suppose litigation would actually  
2 be possible to enforce this?  
3 A Stephen Traynor, DIAND. I'm not quite sure what  
4 the question is there. But I guess commenting on  
5 your comments is, once again, we certainly  
6 recognize the value of the IIBA and its importance  
7 and being -- not being a lawyer, I will certainly  
8 take your word for it that it is enforceable. It  
9 was just part of our responsibility and mandate to  
10 look at and help assist NIRB in its determination  
11 that looks at both the socioeconomic as well as the  
12 environmental conditions.

13 And despite the fact that the IIBA is still  
14 an agreement between two parties, and we would just  
15 reiterate that there still is potentially a missing  
16 piece. And as Paul mentioned a few minutes ago, it  
17 would be nice to have a better understanding of the  
18 relationship of the full socioeconomic impacts and  
19 crosswalk that against what the IIBA is.

20 We would not quibble with the fact, we have  
21 every confidence in the KIA and their capacity to  
22 negotiate what is in the best interest of the  
23 Inuit, but we just wanted to make sure that there  
24 was a sense of wholeness to the discussion and to  
25 the facts put forth today.

26 Q John Donihee again.

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1 Well, thanks for the vote of confidence, and  
2 that was one of those tricky questions where the  
3 question is the answer, and I guess you got it.

4 The other questions I have for you relate to  
5 actually the socioeconomic management strategy.  
6 And when Mr. Missal asked his questions of you, you  
7 indicated that the multi-stakeholder committee's  
8 role would be to implement the strategy, but what  
9 exactly is the strategy?

10 A I'll ask -- I guess, first of all, I will clarify,  
11 the role of the committee is not to implement the  
12 strategy. The role, as we see, of an advisory  
13 committee is just to advise the company regarding  
14 their strategy. It is just recommendations from a  
15 multi-stakeholder committee.

16 And now I will pass it over to Paul Partridge  
17 to elaborate more on our thoughts of the  
18 socioeconomic management strategy.

19 MR. PARTRIDGE: Thank you, Madam  
20 Chair. Paul Partridge.

21 Our thoughts behind it are to address the  
22 issues we have raised and specifically to create a  
23 linkage between the document highlighting what  
24 mitigation will be used against which particular  
25 impacts, and then turn around and identify which  
26 clear mitigation or monitoring indicators will be

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1 used to help identify all of those aspects and how  
2 best to address potential socioeconomic concerns,  
3 more or less tying up and filling up the gaps that  
4 are presently in the assessment and really  
5 providing a clear, sound indication as to what  
6 would happen with it.

7 Right now, as I say, we haven't had the  
8 benefit of the IIBA which says, I am assuming,  
9 provide more clarity on how certain aspects or  
10 potential impacts that have been identified in the  
11 assessment will be mitigated and the approach that  
12 the company has done, which the assessment at the  
13 time of our intervention did not have.

14 So hopefully through a review of that and an  
15 assessment of how that fits together, it would be  
16 possible to better see where things are. Again, it  
17 would be a question of having the strategy address  
18 the area or the area in a holistic manner and  
19 complete the circle, I guess, to allow other  
20 agencies that fall outside of the scope of the IIBA  
21 to have an opportunity to make sure that any  
22 concerns they have could be either mitigated or  
23 monitored appropriately, and that would be advised  
24 through the advisory committee. Thank you.

25 MR. DONIHEE: John Donihee, final  
26 question. Did it ever occur to you that the

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1 company's strategy might be the IIBA?

2 MR. TRAYNOR: Stephen Traynor, DIAND. We  
3 certainly -- once again, I'll reiterate, appreciate  
4 and understand the IIBA and its role and  
5 relationship.

6 If I could add on to what Paul had stated,  
7 our thoughts on a socioec management strategy  
8 analogous to what we have proposed and what is  
9 traditionally done in terms of environmental  
10 strategies. You basically have a baseline  
11 information, you then look at what issues you are  
12 monitoring, and then you come up with strategies on  
13 how you are going to mitigate any issues that with  
14 regard come up to monitoring.

15 At this point, we have not had the benefit of  
16 seeing the IIBA. It was our intent to ensure that  
17 there was adequate and a fairly complete collection  
18 of information regarding community wellness issues  
19 were being monitored, and then the company would  
20 have appropriate mitigation measures to deal with  
21 those.

22 Now, if the IIBA covers off what  
23 socioeconomic activities are going to be monitored,  
24 what information is going to be collected and  
25 appropriate mitigation measures are in place for  
26 the community as a whole, we will take a look at

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1 that, and we will accept it. However, recognizing  
2 that some other organizations have not had a look  
3 at the IIBA, such as GN social services or GN  
4 health or anybody else, to determine whether there  
5 is information that can appropriately be collected  
6 to help guide Tahera and the community on  
7 monitoring the effects from a socioeconomic  
8 standpoint.  
9 Q John Donihee. Final question then, would you at  
10 least give us a commitment that in the evolution of  
11 this socioeconomic monitoring strategy or  
12 management strategy that you are not intending to  
13 duplicate or otherwise impede the activities and  
14 commitments made under the IIBA?  
15 A Stephen Traynor, DIAND. I can assure you that it  
16 is not the intention through our recommendation of  
17 DIAND suggesting any diminished capacity of the  
18 IIBA. it is just our response in providing,  
19 filling a gap that we saw between the IIBA and the  
20 broader responsibility to all of you Nunavummut.  
21 And you will agree that the IIBA is a function of  
22 Inuit.  
23 There is a certain portion that may not get  
24 covered off, and we were trying to ensure for  
25 completeness that the whole region and the  
26 communities as a whole were covered off, so I hope

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1 that answers your concerns.  
2 Q Yes, thank you very much for that commitment.  
3 CHAIRPERSON: KIA and Indian and Northern  
4 Affairs have a strong interest for Inuit benefits.  
5 KIA?  
6 MR. EVALIK: Yeah, this is Charlie  
7 Evalik from KIA.  
8 There has been presentation from DIAND in  
9 terms of the monitoring, in terms of this review of  
10 this project and the negotiations being discussed  
11 as just before I came up here. And in terms of  
12 reviewing negotiations as well as submitting to  
13 this kind of hearings, it is the Kitikmeot don't  
14 have the benefit of close interaction with DIAND in  
15 terms of putting together what might be considered  
16 as to gaps, as you indicated in your statements and  
17 your answers, it is the -- I see a big gap in terms  
18 of monitoring, in terms of what is going to happen  
19 with this development as well as other developments  
20 that is going to be going on in Kitikmeot.  
21 And my question is to DIAND, is it your  
22 intention of DIAND to move some people to Kitikmeot  
23 so the interaction by people impacted by any  
24 development that's happening in Kitikmeot going to  
25 happen very soon?  
26 MR. TRAYNOR: Stephen Traynor, DIAND. I

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1 will mention as relevant to the hearings here, we

2 have a resource management officer in Kugluktuk  
3 that looks after our field operations, and he will  
4 look after the inspections and enforcement from the  
5 land tenure perspective on this lease, on the  
6 leases for this project. And along with that, we  
7 have a water inspector in Iqaluit who looks after  
8 this region. That is currently who we have to  
9 monitor the region.

10 We will be looking at the recommendations of  
11 this project. We will assess and we are -- you can  
12 have our assurance that we are continually  
13 monitoring the development in the Kitikmeot, and we  
14 have to manage that against our ability to deliver  
15 on programs and services. But you can have our  
16 assurances that at the current time, we have no  
17 plans of providing -- putting more people in the  
18 area here, but we are monitoring closely the future  
19 development of the Kitikmeot. And if such a time  
20 it warrants, we may consider additional resources  
21 or folks in here, but that will have to be  
22 determined at a later date. And quite frankly, it  
23 would have to be determined by a higher authority  
24 than myself at this hearing, mainly our deputy  
25 minister and any new RDG.

26 Q See, in following your response, and is the field

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1 officer in Kugluktuk, as you stated, capable and  
2 have the capacity to all inspections in terms of  
3 the work that's going to be required in terms of  
4 monitoring this project?

5 A The resource -- Stephen Traynor, DIAND. The  
6 resource management officer in Kugluktuk, and I  
7 apologize he is not here today, but he will be  
8 happy -- he should be in Kugluktuk tomorrow when we  
9 are there.

10 Be assured that he will have the resources he  
11 needs to inspect and enforce any conditions of a  
12 lease or leases for this project. And the  
13 department takes great lengths to ensure that this  
14 individual, along with a water inspector, is  
15 trained and has the appropriate backup manual,  
16 policies and procedures to conduct his business.  
17 As well, this also, I would say, applies to our  
18 water licensing inspector in Iqaluit.

19 Q One more question is the -- in terms of benefit to  
20 the Inuit in terms of socioeconomic, is the  
21 department able to handle, to assist the Inuit in  
22 this region, as your offices are in Iqaluit, in a  
23 timely manner so Inuit could take employment  
24 training opportunities as well as business  
25 opportunities that may arise from this project?

26 A Stephen Traynor, DIAND. The department is very

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1 cognizant, and we have been very active in  
2 reviewing and assessing and helping the Kitikmeot

3 work towards a -- I guess, accessing programs and  
4 services of all federal departments.  
5 One area that most people aren't aware of,  
6 there is a mine training group, and we are very  
7 active in helping bring together both industry and  
8 the federal government agencies, particularly HRDC,  
9 I think they are still called that, I'm not sure, I  
10 would have to check on that one, together to access  
11 training dollars.  
12 We have been also very active in assessing  
13 the needs of businesses and economic development.  
14 We are working with CEDOs in the communities to  
15 identify areas, and we are also hoping to bring on  
16 new staff to be able to provide better service to  
17 you to understanding your needs.  
18 Given that, there may always be some delays,  
19 but we are trying very hard in making our best  
20 efforts to respond to your inquiries and in terms  
21 of your needs for information and resourcing.  
22 Q My final question is it takes me as a trustee, I  
23 guess, for the Inuit as president of KIA to travel  
24 to Iqaluit, it takes -- for a one-day meeting, it  
25 takes about a week return and costs about \$7,000.  
26 Is the Department aware of that? Would they be

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1 able to provide resources to offset some of the  
2 costs that we need to deal with, people from  
3 Iqaluit? As I believe they impact in regions here,  
4 and the people that should be assisting us is  
5 DIAND, and they should be in this region and not --  
6 I don't know if there is any development that's  
7 going on in Iqaluit, to tell the truth.  
8 A Thank you for your comments, Charlie, we will take  
9 them under advisement, and I will make sure our  
10 department is aware of your concerns.  
11 Q Thank you.  
12 CHAIRPERSON: Any other questions from  
13 KIA? Any questions from GN? Any questions from  
14 Department of Fisheries and Oceans to DIAND?  
15 DFO QUESTIONS Indian and Northern Affairs:  
16 MS. DAHL: Julie Dahl, Department of  
17 Fisheries and Oceans. I just have a couple of  
18 questions here.  
19 I just want to clarify that I heard correctly  
20 at the beginning of the DIAND presentation that the  
21 statement had been made that there were several  
22 outstanding and unresolved issues that needed to be  
23 addressed prior to entering the regulatory phase.  
24 Did I hear that correctly?  
25 MR. TRAYNOR: Yes, you did.  
26 Q Okay. As the presentation unfolded, paying

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1 particular attention to the water-related issues, I  
2 wasn't sure whether or not I then heard any  
3 recommendation for how any of these outstanding and

4 unresolved issues were to be met prior to the  
5 regulatory phase. Most of the references, or all  
6 of the references I heard were to addressing them  
7 in the regulatory phase.  
8 A Stephen Traynor, DIAND. That is correct.  
9 Recognizing, of course, that the outstanding issues  
10 were in regard to the presentation as a whole. The  
11 one we did mention, which was discussed earlier and  
12 dealt with, was the potential failure of the north  
13 dam, but also recognize that some of the  
14 outstanding issues that we were looking for --  
15 sorry for speaking so fast -- for some resolution  
16 on were things like commitment to a comprehensive  
17 aggregate management plan, dealing with management  
18 plans, implementation of a revegetation program, as  
19 well as things with regard to a commitment that you  
20 will ask for or attain some land tenure for the  
21 spray irrigation issue as well as the SEC and the  
22 advisory commitment.  
23 Q Thank you. So to clarify, that statement did not  
24 necessarily refer to water-related issues?  
25 A No, it referred to the presentation as a whole, I  
26 believe.

0593

1 Q Okay. Thank you. With respect to the comments  
2 made on the PK -- the processed kimberlite  
3 containment area capacity, I believe the statement  
4 was made that the issues related to this could be  
5 addressed in the regulatory phase via water balance  
6 modelling which was to include extreme events and  
7 reduced capacity due to sediment deposition. My  
8 question is, does DIAND see any aspects of capacity  
9 modelling and operation needed to be addressed in  
10 the EA phase to allow for adequate impact  
11 prediction and determining the adequacy of  
12 mitigation?  
13 A I'll ask Dave Osmond to respond on our behalf.  
14 MR. OSMOND: As always, Julie, a good  
15 question. I think that there was commitment made  
16 by Tahera to do a -- and I believe they have done  
17 some follow-up modelling, they rerun the model at  
18 revised volumes and revised ammonia parameter  
19 treatment, and what I'm still looking for, and I  
20 would like to be able to have, a model showing  
21 concentrations over a protracted period of  
22 discharge for TDS in Lake C3 and Carat Lake. Both  
23 during -- into the operations of the -- well into  
24 the operations of the mine and then ten years after  
25 the point when the water is being discharged from  
26 the pit so that we have some kind of a feel for

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1 whether or not TDS is being accumulated or passed  
2 through. And I think I am sensing the answer to  
3 that, but I want to see it in living colour, if I  
4 may. So that's one of the things that I would like

5 done before -- as soon as possible to give me some  
6 more comfort on that issue.  
7 Q Thank you. Julie Dahl, Fisheries and Oceans. So I  
8 take it that's a yes that there is some aspect of  
9 the modelling or capacity operation needed to be  
10 addressed in the EA phase.  
11 MR. OSMOND: You asked me a question.  
12 MR. TRAYNOR: I'll ask Dave Osmond to  
13 respond.  
14 MR. OSMOND: If you will take that as a  
15 yes, I think it is can be dealt with now or in the  
16 regulatory stage.  
17 MS. DAHL: Thank you.  
18 MR. MISSAL: Madam Chair, can we just  
19 get clarification on what Mr. Osmond just said  
20 there? I only heard part of it.  
21 MR. OSMOND: Dave Osmond on behalf of  
22 INAC. The question was whether or not I felt that  
23 the -- I needed the model run for TDS at this  
24 environmental impact or environmental assessment  
25 stage and NIRB stage or whether it would be helpful  
26 to be -- or would it be okay that it be done during

0595

1 the regulatory stage?  
2 It would be an advantage to see it now, but  
3 I -- my feeling is that it is not -- based on what  
4 I am hearing, and I guess I would love to see the  
5 information that's been submitted and apparently  
6 recorded before I can make that answer, Julie. I  
7 am getting a sense of the answers, but I haven't  
8 seen it in black and white yet, so I would like to  
9 see a little bit more information that is just new  
10 information that's been developed and submitted  
11 before I answer that question.  
12 Is that adequate, Madam Chairman?  
13 MR. MISSAL: I guess it is -- we don't  
14 consider -- Greg Missal, Tahera, sorry. We don't  
15 consider that information new information, but it  
16 is -- but I did think -- I thought that I heard you  
17 say that it could also have been done during the  
18 permitting phase as well.  
19 MR. OSMOND: That's what I said, and as  
20 I am -- you brought me back up here, Greg, you will  
21 probably regret it now, but I think that I can --  
22 having seen or when I see the results of the  
23 revised modelling that's been done, I think I can  
24 answer that question better, and I would be happy  
25 to respond to it after I have done that during the  
26 proceedings.

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1 CHAIRPERSON: And, actually, the Board  
2 has a question in regards to computer modelling on  
3 total dissolved solids, but we will -- just so you  
4 will be prepared.  
5 Go ahead, Department of Fisheries and Oceans.

6 MS. DAHL: Thank you, Julie Dahl.  
7 Thank you, Mr. Osmond, for that response.  
8 I think that Mr. Osmond's response was to  
9 another question that I had, and that was the  
10 modelling for TDS. My question had to do with the  
11 PKC capacity and modelling dealing with the water  
12 balance and the operation of the PKC, and the  
13 question was whether or not any aspects of the  
14 capacity and modelling and operation needed to be  
15 addressed in the EA phase to allow for adequate  
16 impact prediction in determination of adequacy of  
17 mitigation with regards to the capacity.  
18 So that was more my question, not specific to  
19 the TDS modelling. But it went back to a statement  
20 made by DIAND that the water balance modelling  
21 included -- was to include extreme events and  
22 sediment, the effects of sediment deposition. This  
23 could be addressed in the regulatory phase. I was  
24 merely asking if any part of that was needed in the  
25 EA phase for impact prediction and determining  
26 adequacy of mitigation.

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1 MR. TRAYNOR: It would be appreciated if  
2 I can get back to the Board as I will confer with  
3 the consultants and have a more definite answer  
4 once I have done that.  
5 CHAIRPERSON: Bill?  
6 MR. TILLEMAN: And, I mean, that's fine,  
7 we just two and a half days left, so we will have  
8 to do it as quick as we can, but with that caveat.  
9 MR. TRAYNOR: It won't take long, but I  
10 just need to have a few minutes to confer with  
11 them, so I could do it right now, or if you want to  
12 take a break, we can get back to you on that.  
13 CHAIRPERSON: Can you just write that  
14 done and then we will get back to it. But we will  
15 continue with other questions.  
16 DFO?  
17 MS. DAHL: Thank you, Madam Chair,  
18 Julie Dahl. In DIAND's presentation as well, I  
19 just wanted to seek clarification on one slide that  
20 had already been questioned. It was a statement  
21 made DIAND recommended that the effluent be  
22 nontoxic to fish, and I guess it was clarified at  
23 the edge of the mixing zone. I just want to clarify  
24 and confirm that when it was referred to as being  
25 nontoxic, that DIAND was referring to  
26 nonchronically toxic at the mixing zone boundary,

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1 not that they were looking at something being  
2 nonacutely toxic at that boundary, can I just get  
3 clarification on that?  
4 MR. TRAYNOR: Certainly. I will ask Dave  
5 Osmond to respond.  
6 MR. OSMOND: Yes, Julie, that's the

7 case, it is non -- a discharge before mixing has to  
8 be nonacutely toxic, but the edge of the fixing  
9 zone non -- it has to meet the CCME guidelines,  
10 which is nonchronically toxic, if that provides the  
11 clarification required.

12 Q Thank you. Julie Dahl. There was also another  
13 statement made by DIAND in reference to the total  
14 dissolved solids. I believe the statement was  
15 something to the effect that total dissolved solid  
16 estimates were likely underestimated because they  
17 didn't account for accumulation over the mine life  
18 and that this issue could again be addressed in the  
19 regulatory phase. My question is whether DIAND  
20 sees this deficiency as affecting the impact  
21 assessment and whether or not it is something that  
22 should be addressed prior to the regulatory phase?

23 MR. TRAYNOR: Once again, I will talk  
24 with our experts and get back to you on that.

25 Q Okay. Moving right along here. I just wanted  
26 clarification, again, on this reference made to

0599

1 water quality and quantity, and a requirement for  
2 monitoring the quality and quantity of the pit  
3 water sumps, and I just want to seek clarification  
4 as to whether DIAND expects this monitoring to lead  
5 to the assessment of whether thresholds are met for  
6 the initiation or mitigation contingencies? Is  
7 that the goal of the monitoring of that pit sumps?

8 MR. TRAYNOR: Once, again, I have to get  
9 back to the Board on that one.

10 CHAIRPERSON: Three questions we will get  
11 back to.

12 MS. DAHL: Thank you, that's all my  
13 questions.

14 CHAIRPERSON: Any questions from  
15 Environment Canada?

16 MS. WILSON: No questions.

17 CHAIRPERSON: Natural Resources Canada?

18 MR. DYKE: No questions.

19 CHAIRPERSON: Any questions from the  
20 Yellowknife Dene First Nations?

21 YELLOWKNIFE DENE FIRST NATION QUESTIONS DIAND:

22 MR. BYERS: One question of DIAND, and  
23 that relates to the inspectors, DIAND's inspectors,  
24 land and water inspectors that will be in place  
25 presumably if this project gets the go ahead.

26 I recall that for the BHP project at Ekati,

0600

1 there was a change of inspector personnel, a fellow  
2 who was very, very good at his job had to leave for  
3 a different job, and I note that it took, I believe  
4 it was six months for DIAND to replace that fellow.  
5 In the interim, BHP, the mining company, was doing  
6 their own self-inspections, and I would like to  
7 know from DIAND if they foresee any window of

8 extended noninspection being the case again?  
9 MR. TRAYNOR: Stephen Traynor, DIAND. To  
10 clarify, we represent DIAND Nunavut regional office  
11 and is a separate entity from the DIAND NWT office  
12 with which the BHP situation was situated. I can  
13 only speak to our regional office here representing  
14 Nunavut.  
15 Right now we are fully staffed for  
16 inspectors, and we do not expect any window to open  
17 up in terms of a lack of inspection. And in my  
18 role as director of operations, it is my legal  
19 responsibility to ensure that that mine is  
20 inspected and enforced under the conditions of the  
21 leases, as well as the water licenses, and we will  
22 make every effort to ensure that inspections are  
23 done in a timely and effective manner.  
24 CHAIRPERSON: Any questions from the  
25 elders? Any questions from the local hamlet? Any  
26 questions from the NIRB staff?

0601

1 BOARD STAFF QUESTIONS DIAND:  
2 MS. FILIATRAULT: Thank you, Madam Chair.  
3 Dionne.  
4 There has been a lot of discussion over the  
5 last couple of days with respect to management  
6 plans and getting a commitment from Tahera. I  
7 would like to take it one step further and ask  
8 DIAND that realizing that there is all of these  
9 management plans that are going to be coming in and  
10 there is various regulators that review and have a  
11 portion of their mandates overlapping, do you see  
12 coordinating with the Water Board, KIA and other  
13 regulators in jointly approving some of these  
14 management plans, as opposed to Tahera potentially  
15 having to submit different plans to each individual  
16 organization?  
17 MR. TRAYNOR: Stephen Traynor, DIAND.  
18 That's a very good question, and I think we all  
19 realize as regulators that would make eminent  
20 sense, and we would certainly like to work with --  
21 we know we do have some cooperation at this point  
22 with KIA, and we would like to have further  
23 cooperation with our other federal agencies as well  
24 as the Water Board to ensure that we provide, I  
25 would say, probably an effective one window  
26 approach for the company to submit documents and

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1 monitoring plans that make sense for the mine and  
2 that also do not overlap, but that everyone can  
3 work together to review and assemble and create  
4 efficiencies for everyone involved in this process.  
5 Q One of the issues that was raised in your written  
6 submission as opposed to the hearing, your  
7 PowerPoint presentation, was you indicated that  
8 further work was required prior to licensing, that

9 would explain the reasons and the potential effect  
10 of elevated uranium values. What specifically is  
11 INAC requesting to address this deficiency?  
12 A Can I ask that you ask that one again and provide  
13 the specific location in the submission?  
14 Q I'll have to get back to you on the specific  
15 location. It indicated, and I'm quoting pretty  
16 much verbatim, that further work was required prior  
17 to licensing, that would explain the reasons and  
18 potential effects of elevated uranium values. It  
19 further indicated that supplemental data provided  
20 confirmed reasonable values except for sources of  
21 uranium, total alkalinity and nutrients. And my  
22 question is, is what specifically is INAC  
23 requesting to address this deficiency?  
24 A We will review that and get back to you on that  
25 one.  
26 Q The next question is in the area of cumulative

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1 impact assessment, and it refers to Roman Numeral  
2 page V of your written submission. You suggest  
3 that  
4 "there are weaknesses in the cumulative  
5 effects assessment including its  
6 methodology. It lacks a quantitative  
7 approach or use of quantitative data from  
8 other sources, it is inconsistent with  
9 respect to the treatment of biophysical and  
10 socio-economic components of the  
11 environment, and it does not explicitly  
12 identify the residual adverse effects of  
13 the Jericho project and similar effects  
14 from other projects."  
15 INAC indicates they provide recommendation on  
16 the coordination of socioeconomic impacts,  
17 management activities and the development and  
18 implementation of cumulative effects assessment.  
19 What does INAC propose to address this  
20 weakness in the cumulative effects assessment data,  
21 and is this lack of quantitative assessment  
22 sufficient to delay the NIRB decision until this  
23 work is undertaken?  
24 A Stephen Traynor, DIAND. As you have well have  
25 heard from other presenters today, there is still,  
26 in certain cases, some understanding that the

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1 information -- some baseline information may not  
2 all be there. We have heard that already from a  
3 few others. We have also heard that everyone is  
4 working with Tahera to clarify what that type of  
5 data is and what's required.  
6 We certainly recognize that while there still  
7 may be some work in clearly identifying and working  
8 with both ourselves and other agencies to  
9 understanding what that data is, we are confident

10 that they are working forward to providing it.  
11 Now, what that then leads to is that increased  
12 information on basic data allows the company to  
13 then work with, from its site-specific data, the  
14 broader government agencies, work with other  
15 Aboriginal agencies, work with the planning  
16 commission and other groups on the cumulative  
17 effects management framework for the Slave province  
18 that was initially put in place through the Diavik  
19 process.

20 So what we were simply saying there is there  
21 is sufficient information with the manageable  
22 mitigations that they have put in place to move  
23 forward here, but we think there is more  
24 information that can be collected that would help  
25 in the greater understanding of the impacts in the  
26 region as a whole.

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1 So we do think the information can be  
2 collected, they have mitigation strategies in place  
3 if there is gaps, but that we would like them to  
4 work closer with some government agencies and  
5 others to move forward in understanding the  
6 cumulative impacts in the region as a whole.

7 Q Thank you. Just as a matter of clarification,  
8 along the same lines of collecting data, there was  
9 one statement in your written submission on page 3,  
10 you suggest the need to continue collecting climate  
11 and precipitation data to determine and predict the  
12 long-term precipitation regime.

13 In the actual reference, INAC uses sort of  
14 the past tense, and I just want to confirm, does  
15 INAC suggest that there is a need to continue the  
16 collection of climate and precipitation data, or is  
17 this not required?

18 A I do believe there is always a need to continue to  
19 collect climate data and precipitation data  
20 particularly as it relates to it is often a key  
21 component to other areas, whether it is water  
22 balance understandings as well as understanding the  
23 general climatic conditions with which animals and  
24 other environmental issues can be gauged.

25 It is just a general background information  
26 that everyone always likes to have and use in

0606

1 understanding any variation in predictabilities in  
2 terms of the terrestrial environment.

3 MS. FILIATRAULT: That's all, Madam Chair.

4 CHAIRPERSON: Any questions or comments  
5 from Bill?

6 MR. TILLEMANN: Madam Chair, just before I  
7 suppose we are going to a break, but before that  
8 happens, I do have a couple of comments, one is on  
9 the matter of filing something that was referred to  
10 in DIAND's presentation and in questions, which is

11 the Canadian Dam Association guidelines. So I  
12 propose -- we have acquired a copy today, so I  
13 propose that we -- thanks to Stephanie, so I  
14 propose we mark that as Exhibit number 15.

15 And also in the discussion about an hour ago  
16 there was, I think, a change to one of DIAND's  
17 exhibits regarding the mixing zone, and so what we  
18 should do is file that, whatever happened with the  
19 exhibit, which I wasn't able to follow quite  
20 closely, let's change it and we will mark it after  
21 the break. So if you did write something on it, we  
22 need to refile it and give it a new number. We  
23 will do that after the break.

24 And, also, I appreciate that several parties  
25 have brought experts and others with them, and  
26 everyone has the right to file a package of CVs,

0607

1 too. I apologize, Madam Chair, I think I inferred  
2 that maybe only Tahera should file that. But  
3 anyone who brings witnesses with them and friends,  
4 whoever they might be, please feel free to file  
5 their background in with the Board whenever you  
6 wish to do so.

7 Now, finally there is a student who -- the  
8 students have been very appreciative of being in  
9 the audience and listening to the presentations,  
10 and so one or more of them would like to come up  
11 and say a few words to the Board, I think, at this  
12 time. Thank you, Madam Chair.

13 EXHIBIT NO. 15:

14 CANADIAN DAM ASSOCIATION DAM SAFETY  
15 GUIDELINES

16 CHAIRPERSON: Okay. Student from the  
17 Illkultukchat (phonetic) school.

18 MS. KOBLONGINA: On behalf of the youth of  
19 Cambridge Bay, I would like to thank NIRB and all  
20 the people that are present here for taking the  
21 time to plan -- I mean, good planning in regards  
22 our land and our future, and I would just like to  
23 thank everyone that has concerns of our land and  
24 for job openings for the people here in Nunavut,  
25 and that's all.

26 CHAIRPERSON: Thank you. And before we

0608

1 break, let me just -- in case you need to gather  
2 some information or look for a slide, we are going  
3 to ask in regard to computer modelling to total  
4 dissolved solids, what is this and what if the  
5 computer has a default, can a study be done  
6 manually? That is another question that we will be  
7 asking, and we will get back to three questions,  
8 plus the new number that Bill is asking for. So  
9 let's break for ten minutes.

10 (RECESSED AT 2:48 P.M.)

11 (RECONVENED AT 3:06 P.M.)

12 CHAIRPERSON: Shall we continue? Before  
13 we begin again, I would like to thank the ladies  
14 that are in the kitchen giving, making coffee, tea  
15 and providing lots of good things for us. And we  
16 would like to give them T-shirts, so if Mary  
17 Kalutuk and Anna Nahugolak (phonetic), if you can  
18 hear me, can you please come up to the front?  
19 Okay. I believe the -- there were three,  
20 four questions, one question from Dionne and three  
21 questions from the Department of Fisheries and  
22 Oceans that you were going to get back to and a new  
23 number for Bill. Bill?  
24 MR. TILLEMAN: Thank you, Madam Chair. On  
25 the new exhibit, that will be filed in due course,  
26 I'm leaving that in DIAND's hands, so I have

0609

1 nothing further.  
2 CHAIRPERSON: Okay. And after that,  
3 Tahera also had a comment, and the Board had a  
4 question. So Indian and Northern Affairs, do you  
5 want to answer the four questions that were  
6 deferred? Thank you.  
7 MR. TRAYNOR: Stephen Traynor, DIAND.  
8 Thank you much -- thank you very much, Madam Chair,  
9 for the opportunity to collect our thoughts, if you  
10 will, and find some of the source of these  
11 questions.  
12 In response to the issue of uranium and its  
13 potential elevated values and alkalinity that  
14 Dionne raised, she had asked what our response or  
15 recommendation is on that.  
16 This relates to what we consider to be part  
17 of a waste rock monitoring plan, it relates to the  
18 characterization of the waste rock, and it is just  
19 one component of understanding that, the  
20 geochemistry of it. And in our submission, it is  
21 in -- the recommendation would be INAC 19 as part  
22 of a waste rock monitoring plan. The proponent  
23 should sample the blast rock to confirm the  
24 geochemical properties, particularly the low  
25 sulphide and carbonate analysis during operation.  
26 This essentially has an issue of understanding the

0610

1 characteristics of the rock.  
2 CHAIRPERSON: Dionne?  
3 MS. FILIATRAULT: Thank you, Madam Chair.  
4 Dionne.  
5 So just to clarify, this is something that  
6 can be deferred to a regulatory phase?  
7 MR. TRAYNOR: Stephen Traynor, DIAND.  
8 Yes, it is, and we would expect it to be in the  
9 regulatory phase component.  
10 Madam Chair, then moving on to some of the  
11 other issues, the other one was with regard to the  
12 TDS -- the TDS and some of the modelling issues,

13 and the question mainly related to were we  
14 satisfied that there was information or it could be  
15 managed here at the EA process, or is it a  
16 regulatory process issue?

17 We feel in combination with Environment  
18 Canada's presentation that the issue is mitigatable  
19 and manageable during the current process and that  
20 the further information we seek can be dealt with  
21 at the regulatory process.

22 With regard to the capacity of the PKCA,  
23 similarly, it was addressed in Environment Canada's  
24 presentation. We would like to see more detail,  
25 but we are confident that mitigatable and manageable  
26 in the current and understandable to a reasonable

0611

1 extent having known that it is manageable, and that  
2 can also be deferred to the regulatory process. It  
3 is not an issue, per se, for the EA process.

4 And I believe the last one we had was in  
5 terms of the capacity of the PKCA -- oh, the  
6 sediment in-filling, and we feel that's the same,  
7 that there is -- we would seek further information  
8 at the regulatory phase to put it together, but  
9 once again, it is mitigatable and manageable at  
10 this point in time. Thank you.

11 CHAIRPERSON: Tahera, you had a question  
12 or a comment to make? Legal counsel?

13 MS. MacLACHLAN: Thank you, Madam Chair. I  
14 just wanted to withdraw the request made to  
15 Environment Canada earlier today for information on  
16 the Canadian Environmental Assessment Act. This  
17 information is not really needed for these  
18 particular proceedings, and I would not want this  
19 type of information requirement to delay closure of  
20 the hearings past the Friday afternoon deadline.  
21 Thank you.

22 BOARD QUESTIONS INDIAN AND NORTHERN AFFAIRS:

23 CHAIRPERSON: Okay. And I had one  
24 question regarding the computer modelling, and I  
25 believe one of your staff was going to answer. The  
26 question was, in regards to total dissolved solids,

0612

1 the computer modelling, what is this, and what if  
2 this computer has a default? Can a study be done  
3 manually if this computer breaks down or doesn't  
4 work?

5 MR. McCREATH: Madam Chair, Pete McCreath,  
6 Clearwater Consultants.

7 The mathematical computer model that's used  
8 has been applied for many years in many different  
9 types of situations. The operators of the model  
10 have good confidence in the ability of the model to  
11 simulate conditions, natural conditions.

12 In simple terms, what the model does is it  
13 mixes one fluid with another fluid. A simple

14 analogy would be, for example, taking a glass of  
15 apple juice, and it would have the taste of apple  
16 juice, mixing that in a large barrel of water, it  
17 would be dispersed, it would be mixed within the  
18 barrel. And taking a drink out of that barrel, you  
19 probably would not be able to taste the apple juice  
20 because of the dilution of the apple juice with the  
21 water. This is what the model does mathematically  
22 using physical factors such as the temperature of  
23 the water, the velocity of the wind across the  
24 water, the depth of water within the lake, and the  
25 shape of the lake bottom itself.  
26 As I say, it is a very complex model, but it

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1 has been used for many years. There is -- there  
2 are means of carrying out very simple checks on the  
3 results of the model by looking at, for example,  
4 the total volume of water in the lake and the total  
5 volume of water that's being released to the lake,  
6 analogous to the glass of apple juice and the  
7 barrel of water, the simple calculation. If the  
8 barrel is 100 times as big as the glass, you have a  
9 dilution factor of about 100.  
10 Q And what is the size of this model? Is it indoors,  
11 outdoors?  
12 A This is a mathematical computer model, and it is  
13 run on machines such as you see staff using, laptop  
14 computers. Because it is a very complex model that  
15 carries out many, many calculations, it is, in  
16 fact, a lengthy procedure to produce results. When  
17 I say lengthy, it is a matter of in the order of  
18 days once you have put the numbers in, the initial  
19 conditions of what you are assuming, and then the  
20 model starts its calculations. So it is a computer  
21 model, not a physical model that would sit outside.  
22 Q And this is a reliable in the conditions up here,  
23 it is reliable?  
24 A Yes, we believe it is. It has been used in fresh  
25 water conditions, in salt water conditions, in both  
26 hot and cold conditions. It takes these physical

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1 variables such as temperature into account. So,  
2 yes, we believe it is fully applicable up here.  
3 CHAIRPERSON: Thank you. Any other  
4 questions from the Board? Indian and Northern  
5 Affairs?  
6 MR. TRAYNOR: I would be remiss, there is  
7 one question that we did miss, and I will be  
8 certainly willing to take questions from the Board  
9 after that.  
10 The question did relate to why we were asking  
11 for the requirement for monitoring water sump  
12 quality and quantity. The basic answer to that is  
13 we were just seeking to understand the  
14 characteristics of that water and any potential

15 contaminants in it, more of an information  
16 gathering that further provides a sense of what's  
17 going on within the water balance.

18 It is commonly referred to as source  
19 characterization.

20 CHAIRPERSON: Thank you. Any questions  
21 from the elders? Local people of Cambridge Bay?  
22 Thank you, Department of Indian and Northern  
23 Affairs.

24 One question?

25 DFO QUESTIONS DIAND:

26 MS. DAHL: It is Julie Dahl,

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1 Department of Fisheries and Oceans.

2 I just want to clarify some things, I'm not  
3 sure that my questions were answered as I had asked  
4 them.

5 The last question, I understand that DIAND  
6 had recommended the monitoring of the quality and  
7 quantity of pit water. I guess my point is that  
8 monitoring is, unless it is monitoring to some end,  
9 you are monitoring for a purpose, and that purpose  
10 is usually for some action, and I merely wanted to  
11 clarify whether or not DIAND saw the purpose of the  
12 quality and quantity monitoring whether or not if  
13 that was to see if some threshold had been met for  
14 the initiation of treatment of mitigation  
15 contingencies, meaning it is the means to an end,  
16 is the ends being the treatment and mitigation  
17 contingencies that would then be applied?

18 MR. TRAYNOR: I'll ask Dave Osmond to  
19 respond.

20 MR. OSMOND: Dave Osmond for INAC.  
21 Julie, I have difficulty with this question because  
22 it is not one that I had generated or addressed.  
23 As I read this, this is pit water sump will be  
24 pumped to a pond, Pond A, B or C. It will be  
25 monitored from the point of view of ensuring and  
26 characterizing and feeding into the

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1 characterization of the discharge water that would  
2 be leaving the PKCA.

3 And I think that's the main reason that this  
4 question has been raised and this recommendation  
5 has been made, to allow a good knowledge of the  
6 characterization of the source water that will be  
7 run through the PKCA, then into the sedimentation  
8 pond and then for discharge to the receiving  
9 environment.

10 Q And if I could just add that the end of that would  
11 be then to allow for appropriate action to be  
12 taken?

13 A That's right. Sorry.

14 Q That's what I was trying to get at.

15 And in the initial question that I had asked

16 was whether or not any aspect of the capacity, the  
17 modelling or the operation of the processed  
18 kimberlite containment area, whether or not any of  
19 that was needed in the EA phase. And I guess the  
20 answer was that INAC would like more detail, but  
21 they didn't see that it was an issue for the EA  
22 process.

23 So does that mean that INAC feels that there  
24 is adequate information required on the water  
25 balance modelling and the issue of capacity and  
26 operation to allow for adequate impact prediction

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1 at this point and to determine the adequacy of  
2 mitigation proposed at this point?  
3 MR. TRAYNOR: Stephen Traynor. Yes, we  
4 would agree with that.  
5 MS. DAHL: Thank you.  
6 CHAIRPERSON: Bill? Okay. Thank you for  
7 your presentation.  
8 MR. TRAYNOR: Thank you, Madam Chair.  
9 CHAIRPERSON: Next we could like to call  
10 the Yellowknife Dene First Nations to make their  
11 presentation.  
12 MR. TILLEMANN: Please state your name for  
13 the record and spell your last name.  
14 MR. BYERS: Tim Byers, B-Y-E-R-S.  
15 (TIM BYERS SWORN)  
16 MR. TILLEMANN: Please state your name for  
17 the record and spell yourself last name.  
18 MR. GOULET: Lawrence Goulet,  
19 G-O-U-L-E-T.  
20 (LAWRENCE GOULET SWORN)  
21 MR. TILLEMANN: Please state your name for  
22 the record and spell your last name.  
23 MR. BAILLARGEON: Alfred Baillargeon under  
24 band council for wildlife. I work for wildlife.  
25 (ALFRED BAILLARGEON SWORN)  
26 MR. TILLEMANN: Thank you.

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1 Madam Chair, they are about to begin, and I  
2 just suggest we file as Exhibit number 16 their  
3 intervention, which is the intervention of the  
4 Yellowknife Dene's filed today, this 7th of  
5 January.  
6 EXHIBIT NO. 16:  
7 YELLOWKNIFE DENE SLIDE PRESENTATION  
8 PRESENTATION BY YELLOWKNIFE DENE First  
9 Nation:  
10 MR. BYERS: Sorry, Madam Chair, we are  
11 having a bit of difficulty getting our PowerPoint  
12 presentation, but I think it will be up very soon.  
13 While we are waiting, we would like to take  
14 this opportunity to say Koana, thank you, Madam  
15 Chair and Board members, for this opportunity to  
16 giving us to speak to you today.

17 My name is Tim Byers, I'm an environmental  
18 impact consultant to the landed environment  
19 committee of the Yellowknives Dene First Nation.  
20 On my left we have two gentlemen from the land and  
21 environment committee, Lawrence Goulet and Alfred  
22 Baillargeon.  
23 We will begin with Lawrence's presentation to  
24 introduce you to his committee. After Lawrence is  
25 finished, he will pass it on to myself to give you  
26 the technical matters that we have concerns on, and

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1 once I am done, I will pass it over to my good  
2 friend Alfred, an elder from Detta (phonetic), to  
3 give you his comments.  
4 MR. GOULET: Good afternoon, Madam  
5 Chair, Board members, community members and also to  
6 all the ladies and gentlemen.  
7 On behalf of the Yellowknives First Nation,  
8 we would like to say thank you to the Nunavut  
9 Impact Review Board for having us here to represent  
10 Yellowknife.  
11 My name is Lawrence, and this is Alfred, he  
12 is an elder from the Yellowknives First Nation.  
13 The Yellowknives First Nation land and  
14 environment committee's mission is to protect the  
15 environment within the Yellowknives First Nation  
16 territory for the future of our children. We  
17 provide assistance to -- the land and environment  
18 committees provide assistance to the community  
19 members in maintaining their hunting, fishing and  
20 trapping and harvesting activities.  
21 We do environmental monitoring and clean-ups  
22 within the Yellowknives First Nation area, and we  
23 do within ourselves and within our communities and  
24 with other members of close by other nations, we do  
25 recording and mapping of our traditional land use.  
26 We try and provide advice to projects in

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1 order to protect the environment within our areas,  
2 and we represent community interests on management  
3 boards and groups that plan tourism and business  
4 development by development projects. We promote  
5 environmental positive practices and regulations  
6 for the hunting and the fishing within our area.  
7 And we, as Yellowknives First Nation, have  
8 tried to maintain positive roles within all other  
9 groups within the Yellowknives First Nation. And  
10 we have identified some concerns with Jericho  
11 mines, that's why we are here.  
12 And I will pass this on to Tim Byers, my  
13 consultant.  
14 MR. BYERS: So the concerns of the  
15 Yellowknives Dene First Nation regarding Jericho  
16 project could be probably lumped into, I guess,  
17 three categories, all of which are transboundary

18 issues, not necessarily local issues in Nunavut,  
19 but things that can affect migratory caribou,  
20 migratory birds, air, which of course air does not  
21 hold to think boundaries as such, and also the  
22 contribution of this project to increasing traffic  
23 on the Tippet/Contwoyto winter road.

24 Now, Jericho has told us that we can expect  
25 an additional during construction, 441 trucks a  
26 year to use the Tippet/Contwoyto road. So with

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1 more truck traffic, you have the opportunity or the  
2 potential to have more spills on the winter road.  
3 With the opportunity or potential to have spills on  
4 the winter road, of course you have the potential  
5 for more environmental hazards. If those -- if  
6 those accidents, those truck accidents happened to  
7 spill anything such as petroleum products, that is  
8 gas and diesel, into our water body, and these  
9 short-term hazards can present us with more long  
10 range, long-lasting environmental impacts on those  
11 water bodies over which the trucks roll.

12 Now, the winter road, much of the winter  
13 road, rather, follows traditional Yellowknives Dene  
14 dog sled and canoe routes along the Courageous  
15 River north from Great Slave Lake to the barren  
16 lands.

17 So accidental spills along the route, and  
18 there have been spills over the years, and the NWT  
19 government renewable resources keeps a log of all  
20 of the spills on the winter road in the NWT. So  
21 what concerns us is Tahera has said that there will  
22 be "a negligible," a negligible effect of the  
23 winter road on the environment.

24 And Tahera also reminds us that there is not  
25 only oil and gas and diesel products being hauled  
26 by truck, but there are also less harmful things,

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1 cement and other things being hauled on the road,  
2 and this is quite correct, but we would like to  
3 point out that in the period 1983 to 2001 on the  
4 Contwoyto/Tippet Lake road or Tippet/Contwoyto Lake  
5 road, almost three-quarters of the spills were of  
6 diesel and gasoline. And once again, these are  
7 products that are not exactly helpful to fish in  
8 water bodies adjoining the road, and so  
9 consequently, these are things that are very much a  
10 concern to Yellowknives Dene.

11 So judging from the statistics Tahera has  
12 provided us, we can expect over the life of the  
13 Jericho project probably one accidental spill due  
14 to Jericho on the Tippet/Contwoyto Lake road,  
15 winter road. Now, since greater than 75 percent,  
16 roughly, of this winter road is within the NWT, we  
17 wonder where this one accident will occur, will it  
18 occur within the NWT or will it occur within

19 Nunavut?

20 Now, during the risk assessment, Tahera's  
21 risk assessment, I understood it to be that they  
22 were using a worst-case spill of 200 litres of  
23 gasoline on that road in making their risk  
24 assessment.

25 When I pointed out to them that, in fact,  
26 there has been a recorded incident in March 2000 of

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1 a truck spilling 15,000 litres of petroleum, then  
2 they agreed that perhaps they should redo their  
3 rating of how that would affect local lakes, so  
4 they gave us a rating for this type of worst-case  
5 spill, 15,000 litres. That for Lynne Lake there  
6 would be a significant impact because it is a very  
7 small lake, for Contwoyto it would not be as  
8 significant because it is a much larger lake. So  
9 we thank them for that clarification, we thank  
10 Tahera for that clarification.

11 But following along with the concerns of the  
12 Yellowknives Dene First Nation, we believe that a  
13 comparable rating should be done on all of the  
14 water bodies that this winter road crosses, because  
15 as we say, this one accident could, in fact, end up  
16 spilling in the NWT.

17 And Alfred has just asked me, and I must say  
18 I do not know the answer, maybe Tahera could  
19 enlighten us. Alfred is concerned that if this  
20 spill does happen and it does dump gasoline or  
21 other hazardous goods into a lake or a river, who  
22 is responsible for the clean-up? Is this -- if  
23 this is a truck servicing Jericho, then if -- would  
24 such a spill be the responsibility of Jericho to  
25 provide the clean up, would it be the  
26 responsibility of the trucking company, for

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1 example, RTL who is hauling a load, or would it be  
2 the responsibility of the consortium of companies  
3 that have the land lease of that road? So this is  
4 one of the questions that we would like addressed.

5 Now, road crossings are -- have always been a  
6 very big issue to the Yellowknives Dene as far as  
7 road crossing for caribou, so that caribou can  
8 safely cross roads. It has been something that  
9 has been talked about at length with other diamond  
10 mines in the NWT. And as such, we would just like  
11 to bring to the attention of Tahera and others that  
12 this is a concern of ours.

13 The Yellowknives Dene do not want there to  
14 occur any impediment, any barriers to caribou  
15 movement through the region. Caribou are very  
16 important to the Yellowknives Dene harvesters. So  
17 this being -- at any rate, these pink -- these pink  
18 or red trails are caribou trails, traditional  
19 caribou trails that cross the Lynne Lake winter

20 access road and the -- I guess the all-weather  
21 road.

22 Now, if proper access ramps for caribou are  
23 not built on the all-weather road, we would like to  
24 know how will this affect caribou? Will they try  
25 to climb up and over the road, possibly injuring  
26 their legs and hooves on the rough granite rock on

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1 the sides of the road? Or would they be deflected,  
2 say, to the west through the mine site? Or would  
3 they be deflected to the east around Contwoyto  
4 Lake? These are questions that we have that I'm  
5 not sure if Tahera can answer now or not, but these  
6 are questions that we would like eventually to know  
7 about.

8 Tahera has told us in their Environmental  
9 Impact Statement that "the PKCA," that is the  
10 processed kimberlite containment area, "the PKCA  
11 water will contain elevated metals and main ions,  
12 total dissolved solids." Also Tahera has stated  
13 that the only methods of taking in contaminants by  
14 caribou at the Jericho site will be either drinking  
15 water in the containment area, kimberlite  
16 containment area or eating dust-contaminated  
17 plants.

18 But we believe there is a third way that  
19 caribou could take contaminants into their body,  
20 and that is if there is going to be high total  
21 dissolved solids that is equivalent to salts in  
22 this containment area, then will that act as a salt  
23 lick for caribou? And if so, then we would think  
24 that caribou would actually be licking or eating  
25 kimberlite, which we don't see as being a very good  
26 thing for caribou health. So we would like to know

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1 what measures Tahera will take to ensure that this  
2 does not happen at Jericho.

3 As mentioned earlier, migratory birds are  
4 also of a big concern to the Yellowknives Dene.  
5 Tahera has stated that the processed kimberlite  
6 containment area, being essentially devoid of  
7 waterfowl, or, sorry, devoid of aquatic life, will  
8 not be attractive to waterfowl; that is, there is  
9 nothing in -- there will be nothing in the PKCA for  
10 geese and ducks to eat. And we maintain that this  
11 assumption is not backed up by any data or any  
12 evidence that we are aware of.

13 There was no aquatic life, that is food, for  
14 ducks and geese in a pool of oil in the land farm  
15 at Ekati in the NWT, yet ducks did land there  
16 anyway. So we are simply saying that simply  
17 because there is no feed in a water body that could  
18 affect -- could harm them does not mean they won't  
19 go there.

20 We note that Tahera has stated "bird deaths

21 are not an issue at Ekati." This is wrong. Land  
22 farm oil ducks were found by myself and others at  
23 Ekati, and these three ducks died from being oiled.  
24 Only because BHP Billiton took this very seriously,  
25 even though it was only three ducks, that  
26 particular company took it very seriously and

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1 immediately put in place mitigation of --  
2 mitigation on that oiled area to prevent more birds  
3 from landing in that oil and having more ducks die.  
4 Contamination in animals, especially animals  
5 that Dene people eat, has always been a concern for  
6 Yellowknives Dene First Nation people. When mines  
7 are not managed properly, contamination of water,  
8 plants and animals can result. Yellowknives Dene  
9 have had a long history of mines in their backyard,  
10 from gold mines to the present diamond mines.  
11 Yellowknives Dene see the examples every day  
12 close to home, they need no -- they need not look  
13 any farther than Giant Mine to experience firsthand  
14 the huge environmental problems created, affecting  
15 Dene harvesting of plants, animals and even of  
16 drinking of water around that particular mine site.  
17 We recognize that Tahera is not going to be  
18 having a gold mine, but this kind of tells you  
19 where we were coming from as far as our concerns  
20 about any mine.  
21 Now, contaminants, as Alfred has told me,  
22 contaminants is something of such concern that we  
23 would like to see all mines contribute to  
24 contaminant studies in animals, especially caribou.  
25 Now, we have been told quite rightly by other  
26 mining companies that, yes, they see a value in

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1 doing contaminate studies of caribou; however,  
2 contaminant studies of caribou may not answer the  
3 questions we want to ask, answered.  
4 That is, caribou being long-distance  
5 travellers, if we find caribou shot at a  
6 particular -- near a particular mine site have  
7 contaminant, we can't say where those contaminants  
8 came from. If a caribou caught at, say, for  
9 example, Ekati had high cadmium or mercury, we  
10 can't say if that was from Ekati, Diavik or later  
11 down the road Snap Lake or later down the road from  
12 here.  
13 So perhaps we should get a local animal that  
14 doesn't migrate so far away from this particular  
15 mine, so we are suggesting that perhaps sik-siks  
16 could be that animal. They are considered an early  
17 warning indicator of site specific contamination of  
18 the land. And since they do not migrate out of the  
19 immediate area like caribou, ducks or geese do,  
20 that any increase in contaminants in their bodies  
21 would indicate a source in the immediate area of

22 the mine.  
23 So if you were to do a study of sik-siks  
24 around in the Jericho area, and they show up with  
25 contaminants of any kind, then your immediate idea  
26 would be check the mine and see what this mine is

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1 doing.  
2 Now, Tahera's consultant has told us that  
3 ground squirrels and mice probably are not a good  
4 thing to look at for contaminants. Hubert &  
5 Associates's report has noted on page B.3.3 that  
6 ground squirrels are active for only eight weeks of  
7 the year, but this kind of confuses me when I read  
8 this, because I also read that ground squirrels  
9 have been spotted being active from May the 10th  
10 through to as late as mid-August, which gives me a  
11 15-week period. So if they are active for 15 weeks  
12 rather than 8 weeks, it's -- I'm not a  
13 toxicologist, but it seems to me that would give  
14 them ample opportunity to take into their bodies  
15 any type of plants that may be affected, for  
16 example, by dust or other things from a mine.  
17 So to my way of thinking, why not use  
18 sik-siks for contaminant studies since ground  
19 squirrels live longer, sik-siks live longer than  
20 mice, longer than two years at any rate, and  
21 sik-siks seem to be active for a few months  
22 perhaps? Then we would like Tahera to explain why  
23 biomagnification of contaminants is not possible in  
24 these animals.  
25 Caribou access to the pits is something that  
26 is mitigated by other mine companies. Now, the pit

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1 you see here is at Ekati. It is roughly 300 metres  
2 deep, which in feet, I believe, is over a thousand  
3 feet deep.  
4 Now, what I understand Tahera to say is that  
5 their -- that their mine will be roughly 175 metres  
6 deep, which would put it roughly around this layer  
7 here, so not quite as deep, but even so, a fairly  
8 monstrous hole for any caribou migrating through  
9 the area.  
10 If you take a peak at the very top up here of  
11 this big pit, you will see a caribou show up just  
12 for scale, and even at that scale, that would be a  
13 giant caribou. But I simply put that up to  
14 illustrate the size of hole we can contemplate as  
15 these migrating caribou are moving through.  
16 Page 73 of the EIS describes the process of  
17 berm development around this pit, but we have  
18 failed to find any physical description of this  
19 berm, either its dimensions, how big it is going to  
20 be, how tall it is going to be, how wide it is  
21 going to be, the size of rocks that this berm is  
22 going to be built with. So contrary to what AMEC

23 has stated on page 26 of their final EIS, I believe  
24 the Department of Sustainable Development is  
25 correct in stating there are no detailed plans for  
26 the pit rim berm. This makes it difficult for us

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1 to evaluate how effective this berm is going to be  
2 in keeping caribou out of the pits.  
3 I would note that BHP Billiton at Ekati does  
4 use rock berms quite effectively for their barriers  
5 around their pits.  
6 Ammonium nitrate storage: Tahera wants to  
7 store ammonium nitrate in an open-air storage pad,  
8 as has been eluded to earlier by, I believe it was  
9 Environment Canada. This will -- this pad, this  
10 storage pad will prevent spills of ammonium nitrate  
11 from entering lakes. However, we know based on  
12 previous experience that a storage building such as  
13 being built at other mines is needed to store this  
14 type of ammonia, to store ammonium nitrate. And  
15 this we believe is to prevent bird poisonings.  
16 I have spoken to a number of farmers on the  
17 Canadian prairies who use ammonium nitrate as  
18 fertilizer, not as explosives, but as a fertilizer,  
19 that can tell you that if they are a little bit  
20 reckless with how they move their ammonium nitrate  
21 around, that any of those little bits of prill, as  
22 they call it, which I believe are little bits of  
23 ammonium nitrate gravel, if you will, that birds  
24 can pick that up, not as food, but as little bits  
25 of gravel that birds always use in their crops to  
26 help with digestion. So if birds pick up this

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1 prill to aid in their digestion, we believe that  
2 will poison them. So that's something we would  
3 like Tahera to consider in storing their ammonium  
4 nitrate.  
5 The last two slides here before I pass it on  
6 to Alfred. Tahera is proposing a monitoring plan  
7 for contaminants in lichen on the mine property, we  
8 applaud this. We think this is a very positive  
9 step to let us know what caribou food is going to  
10 be picking up in the way of contaminants, so we  
11 think this is a very positive move on Tahera's  
12 part. But we would also like to see this  
13 supplemented with studies on the uptake of  
14 contaminants in plants wherever revegetation  
15 efforts are being made on top of spoiled areas,  
16 such as PKCA kimberlite or on rock piles of any  
17 kind.  
18 As part of the company's plans to revegetate  
19 any of these type of areas, they could look to BHP  
20 Billiton for their expertise on the type of plant  
21 uptake of contaminants that they have been studying  
22 on their site.  
23 Finally, as we mentioned before, air quality

24 is another transboundary issue of importance to  
25 Yellowknives Dene. I have gone through the Diavik  
26 site when they are in the midst of construction, it

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1 was a beautiful blue-sky day, not a cloud in the  
2 sky, you could see for miles and miles and miles,  
3 you could see clear to BHP. And all of a sudden,  
4 we are going along in the company van and all of a  
5 sudden there is a big, high, white cloud. What was  
6 that? Well, that was the rock crusher, all the  
7 dust coming off the rock crusher was creating this  
8 immense cloud that we drove through. So, yes,  
9 mines do create an awful lot of dust both in the  
10 crushing of rocks and travelling along roads in the  
11 summertime.

12 Nuna Logistics has stated that in their  
13 mining experience, water is the only effective  
14 mitigation strategy for mining. However, we note  
15 that BHP on their property has successfully used a  
16 chemical dust suppressant. A chemical dust  
17 suppressant that is supposedly nontoxic, which is  
18 very important, of course. But at any rate, they  
19 have been using this chemical dust suppressant for  
20 their local roads around their mine site. Not the  
21 far distance roads to the pits, but just the stuff  
22 around the centre of the mine site. And  
23 apparently, they have told me they only have to  
24 apply this once or twice a year and it is extremely  
25 effective. When asked -- well, I gather they are  
26 not too crazy about the idea of using it for the

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1 longer roads because it is very expensive compared  
2 to, of course, just using water.

3 But we would submit that a more effective  
4 method than water spraying for roads should be  
5 investigated given that, number 1, Tahera expects  
6 water spraying to have only what they call medium  
7 success in mitigating airborne particulates, that  
8 is PM10 and PM2.5. And number 2, large areas  
9 farther than half a kilometre away from the mine  
10 possibly stretching south to the -- to and past the  
11 NWT border will experience particulate matter  
12 concentrations above federal maximum permissible  
13 levels.

14 So those in a nutshell are our concerns. And  
15 at this point, I would like to pass the microphone  
16 on to Alfred to give you his thoughts. Thank you.  
17 MR. BAILLARGEON: (THROUGH MR. GOULET AS  
18 TRANSLATOR) Hello. He says, his name is Alfred,  
19 and he is Detta, he is an elder from there.  
20 Alfred is just saying to the community of Cambridge  
21 Bay that he is very happy to be here and that he is  
22 very happy to be amongst his so-called Inuit  
23 friends.

24 He says that the Yellowknife people like the

25 Yellowknives Dene and the Inuits are very much the  
26 same because both people have been using caribou to

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1 live with or to live by with, so he is very  
2 concerned that -- he is very concerned about the  
3 caribou because both sides use it.  
4 He is just saying that any diamond mines that  
5 comes up on either side of the border, that both  
6 sides have to respect and try to make sure that  
7 there is no chemical that will interfere in the  
8 caribou's migration -- or not migration but, you  
9 know, to eat, and make sure that there is no  
10 chemicals entering the caribou because both sides  
11 have been living on caribou for thousands of years.  
12 He said he is also just passing on that he is  
13 very concerned about the chemicals that might be  
14 entering into the atmosphere, into the waters so  
15 that migrating caribou -- is very concerned about  
16 the chemicals that might be entering into the  
17 waters and onto that land that the caribou might  
18 pick up on.  
19 He says he is very concerned with, like, the  
20 contaminants because he is not a doctor, and he  
21 doesn't know how to go about -- you know, when he  
22 eats a caribou, he is very concerned that since he  
23 is not a doctor, he wouldn't know how to tell the  
24 infected caribou from a healthy caribou, so that's  
25 why he is very concerned about caribou on behalf of  
26 himself.

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1 He is also saying that because the mines or  
2 the winter road starts from around Yellowknife, and  
3 he is very concerned about, like, the maintaining  
4 of the road, and he is saying that if there is a  
5 mine that's going to be happening up here, you got  
6 to maintain the road in good health and all -- with  
7 all other companies that are involved, and he just  
8 wanted to say that since, you know, he has been  
9 living in Yellowknife all his life, and he is very  
10 concerned because he is -- he is concerned mostly  
11 about the cumulative effects it might have on the  
12 winter roads with all, like, the hunting that's  
13 been going around Yellowknife, and the caribou  
14 population has dropped, and he is very concerned  
15 about the caribou itself.  
16 Thank you. He said thanks.  
17 CHAIRPERSON: Okay. Questions to the  
18 Yellowknife Dene First Nations from Tahera?  
19 MR. MISSAL: Madam Chair, Greg Missal  
20 with Tahera. With your permission, we would just  
21 like to have a few minutes to organize ourselves  
22 for questions for the Yellowknife Dene.  
23 CHAIRPERSON: Okay. It now being five  
24 minutes after 4 o'clock, and we are not finished  
25 yet for this hearing, we still need to hear a

26 couple more presentations, should we break for

0637

1 supper?

2 MR. TILLEMAN: Madam Chair, if I might  
3 just suggest, Tahera, give them a few minutes to  
4 collect their thoughts and then we finish the  
5 questioning of the Yellowknife Denes.

6 Also, we are informed that the mayor of  
7 Cambridge Bay would like to say something, and we  
8 expect that he would probably be here in roughly  
9 half an hour. That likely in all will take us  
10 roughly to about 5 o'clock. And given plane  
11 arrangements that are becoming somewhat pressing at  
12 that time, perhaps we might consider, if it is okay  
13 with GN and NRCan, that maybe they could present in  
14 Kugluktuk tomorrow. And those who are here, with  
15 their indulgence, that might be just the best thing  
16 that could happen, otherwise we are going to  
17 squeeze the Board into the position where we are  
18 just going to miss planes.

19 So in short, I would recommend that we finish  
20 with the Yellowknife Denes and ask whatever  
21 questions Tahera might have, the audience, the  
22 Staff and the Board, and then hear from the hamlet  
23 who does have a presentation, and then we will  
24 probably have to break for dinner and maybe for the  
25 day.

26 CHAIRPERSON: Okay. Why don't we take a

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1 ten-minute break before we go into Tahera.

2 (RECESSED AT 4:08 P.M.)

3 (RECONVENED AT 4:26 P.M.)

4 CHAIRPERSON: We are just going to wait  
5 for two other members of the Yellowknife Dene First  
6 Nations.

7 Stephanie, did you have some information  
8 regarding supper, lunch? Maybe you can give that  
9 now while we wait.

10 MR. LOPATKA: Okay. Tomorrow we are all  
11 meeting in Kugluktuk. The ladies group over in  
12 that community is preparing lunch for all of the  
13 delegates, as well as supper. That's due to the  
14 fact that the hotels are not -- they are not open,  
15 and they are therefore, not capable of producing  
16 meals for us.

17 On Friday in Gjoa Haven, everyone will be  
18 responsible for bringing their own lunch. However,  
19 an evening meal will be provided by the local  
20 women's group in that community. So you are  
21 responsible for your own lunch. The meeting starts  
22 at 12 o'clock, and it will be a working lunch, so  
23 that's on Friday.

24 The start time tomorrow morning is 10  
25 o'clock. I believe we are finishing at 4 and then  
26 resuming again at 7 for an evening session until

0639

1 10.  
2 CHAIRPERSON: So we will hear from the  
3 questions for the Yellowknife Dene, and we will  
4 hear from the hamlet council of Cambridge Bay  
5 tonight. We will close for today and then off to  
6 Kugluktuk tomorrow, 10 o'clock in the morning in  
7 Kugluktuk until around 4 and then again tomorrow  
8 evening in Kugluktuk. Okay. Everybody get that?  
9 Thank you, Stephanie.  
10 Questions from Tahera to the Yellowknife Dene  
11 First Nations.  
12 TAHERA CORPORATION QUESTIONS YELLOWKNIVES DENE  
13 FIRST NATION:  
14 MR. MISSAL: Thank you very much, Madam  
15 Chair. Greg Missal with Tahera Corporation. I  
16 would like to thank the Yellowknife Dene for coming  
17 to Cambridge Bay and giving their presentation  
18 today.  
19 With the development of the Ekati and Diavik  
20 projects in the NWT having such a significant  
21 positive impact on the Yellowknife Dene, it has  
22 been very useful to hear your perspectives and to  
23 share that information with us.  
24 I would like a couple of our consultants to  
25 ask some questions, and I would like to start off  
26 with Ben Hubert.

0640

1 MR. HUBERT: Thank you, Greg. Ben  
2 Hubert, Hubert and Associates.  
3 I would like to compliment the Yellowknives  
4 Dene on a constructive submission and observations.  
5 And from experience, it is what I would expect from  
6 work that is supervised and managed by Rachel, she  
7 is a very competent and thorough and diligent  
8 person.  
9 The first slide I would like to talk about is  
10 the slide you put up on migration routes in  
11 relation to the all-weather road between the  
12 project and Contwoyto Lake. It should be mentioned  
13 that that road will be primarily a winter road, and  
14 so interactions between caribou and traffic in  
15 winter there is not expected, and that road use  
16 will probably have been completed by the time the  
17 spring migration begins in April.  
18 Secondly, ramps for crossing will be built,  
19 there will be crossing ramps over the road for  
20 easing caribou's travel in areas of high trail  
21 density running in 90 degrees to the road  
22 alignment, so ramps facilitating caribou crossing  
23 will be in place.  
24 The next comment relates to caribou in the  
25 PKCA area. As we discussed yesterday, the transit  
26 time by caribou through the area will be relatively

0641

1 quick, and so the opportunity for ingesting water  
2 will be limited. And in any event, we believe that  
3 on the basis of the modelling that's been done,  
4 that water quality there would meet standards  
5 recommended for livestock. So in the absence of  
6 real field data, that's the basis on the  
7 assessment. And so I think we are in compliance,  
8 and the risk of impact is low.

9 The thought of PKCA serving as a salt lick is  
10 intriguing but, again, with the exception of  
11 individual caribou hanging around, the opportunity  
12 for that affecting a large number of caribou,  
13 again, is very low because of the relatively rapid  
14 movement of caribou through there during the  
15 snow-free period.

16 Your observations on using ground squirrels  
17 are good and, I think, bear further considerations,  
18 although I think that the effort put into  
19 monitoring any changes in the chemical make-up of  
20 lichens is probably a more reliable method in  
21 effects on the food chain, especially the food  
22 chain involving herbivores. And so it bears  
23 consideration, but I think we are on the right  
24 track with the lichen-monitoring effort, and I  
25 think that's it.

26 Caribou access to the pit, your observations

0642

1 are noted, and I think someone else might be  
2 commenting on that before we are finished here.  
3 MR. MISSAL: Thanks, Ben. I would just  
4 ask Cam Scott to comment on that, picking up where  
5 Mr. Hubert left off.

6 MR. SCOTT: Cam Scott here. The  
7 question was raised during the course of the most  
8 recent presentation about a pit perimeter  
9 protection to keep caribou out of the pit. In  
10 fact, in the technical memorandum prepared by SRK,  
11 that is Technical Memorandum K and figures K1 and  
12 K2 provide a conceptual design for pit perimeter  
13 berm.

14 MR. BYERS: Could you just repeat the  
15 numbers?

16 MR. SCOTT: K.1 and K.2 in Technical  
17 Memorandum K by SRK.

18 MR. BYERS: Thank you.

19 MR. MISSAL: Thanks very much, Cam. I  
20 would now call on Bob Humphries for a couple more  
21 comments on air quality.

22 MR. HUMPHRIES: Bob Humphries, Levelton.

23 Madam Chair, this is just a couple of brief  
24 points of clarification. There was comment about  
25 concern with regard to transboundary of air  
26 pollutants, particularly particulate matter.

0643

1           The models indicate that there is a drop-off  
2 of the concentrations when you are getting out to  
3 about 20 kilometres. We don't anticipate  
4 exceedances by the time you get to the border,  
5 which is about 50 kilometres away. On the other  
6 hand, those -- the model that we use, that type of  
7 model really is not very good for long-distance  
8 dispersions. Once you get past about 25  
9 kilometres, you can't rely on it. They are just  
10 overly conservative and give you unrealistic  
11 numbers.

12           So having said that, the way that it will be  
13 approached, as said earlier today when Environment  
14 Canada was making their presentation, that Tahera  
15 will be setting up an air quality monitoring  
16 program, and they will be doing that in  
17 consultation with agencies such as Environment  
18 Canada just to look at those particular questions  
19 that you had.

20 MR. MISSAL:                   Thanks have much, Bob. I  
21 would now ask Court Smith to provide us with some  
22 information regarding the winter road as  
23 specifically related to the one question posed to  
24 us.

25 MR. SMITH:                   Court Smith from Nuna  
26 Logistics. Thank you, Madam Chair and the Board,

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1           for hearing me, and thank you for the Yellowknives  
2 Dene First Nation for a good presentation.

3           The question was posed as to the liability,  
4 who is responsible for spills and that sort of  
5 thing, and I have to say that personally I can't  
6 give a for-sure answer to that, but I can give you  
7 my impression. My impression is that the hauler is  
8 responsible for the spill in the immediate sense;  
9 that is, while they are hauling, they are  
10 responsible for making sure that they do not create  
11 a spill.

12           But the ultimate responsibility for spills in  
13 general on the road lies with the committee in my  
14 understanding, that means that they are the holder  
15 of the license of occupancy of the road, and it is  
16 ultimately their responsibility to make sure that  
17 that road is impacted as little as possible during  
18 the course of the time.

19           The -- I would just like to make a couple of  
20 comments regarding the winter road. The winter  
21 road operates as a group of companies together, and  
22 there is quite an enormous effort towards  
23 cooperation on the road, and as a result, there  
24 are -- there is a concerted effort to minimize  
25 spills along the road. And one of the things that  
26 happens is that the trucking companies are

0645

1           responsible for spill kits and that sort of thing.

2           There is -- there are spills, and it is an  
3 inevitable fact, the spills can range from a  
4 dripping valve on a fuel truck, and that is  
5 considered a spill. And each of the operators is  
6 responsible for cleaning up and stopping the spill  
7 from happening, if at all possible.  
8           Another point is one of the -- a tragic event  
9 can happen on a road when a truck goes through the  
10 ice, but I would like to mention that the  
11 circumstances that usually surround that situation,  
12 usually that occurs when a truck is approaching  
13 shore, the wave that rides out in front of the  
14 truck, if the truck is going too fast, the wave  
15 comes back and creates a hole, and, in fact, it  
16 isn't the fact that the truck drives through the  
17 ice, the truck drives through a hole that appears  
18 in front of them on the ice, or also a bad thing is  
19 that it could -- the wave would actually hit behind  
20 the truck and the person who is following them  
21 drives into the hole that is created. Usually it  
22 is in quite shallow water.  
23           There is a lot of mitigative circumstances so  
24 keep that from happening. The number one thing is  
25 to keep the speed down, and that's pounded into  
26 people's heads all the time on that road.

0646

1           Another aspect to understand is that a loaded  
2 fuel truck will float, which means that the chance  
3 is very slim of a fuel truck dropping to the bottom  
4 of the lake. They, in fact, float, and that's a  
5 good thing.  
6           So while spills are a reality, there is a lot  
7 of mitigative effort to minimize that, and it is  
8 a -- the amount of spills, there is a real effort  
9 to keep that down, so I just wanted people to know  
10 that.  
11 MR. MISSAL:                   Thanks very much, Court.  
12 And just a couple of other closing points, Madam  
13 Chair, in terms of the suggestion that was made for  
14 a covered ammonia nitrate storage, that's something  
15 that we will take under consideration, and that  
16 would be considered as part of our hazardous  
17 materials management plan that will be developed in  
18 the permitting phase.  
19           And then as a final point, the suggestion was  
20 made for perhaps using a chemical dust suppressant,  
21 and our thinking was that we wanted to use  
22 something that was as chemical free as possible at  
23 the mine site, and obviously the most obvious  
24 choice for that is the use of water, the most  
25 natural substance that there is for suppressing  
26 dust.

0647

1           Thank you very much, Madam Chair, that ends  
2 our questions.

3 MR. BYERS: With your indulgence, Madam  
4 Chair, could I guess some clarifications on a  
5 couple of things?  
6 CHAIRPERSON: Sorry, what was that?  
7 MR. BYERS: I would like to know if I  
8 could get some clarifications on some of the  
9 responses that I heard from Tahera, one of which  
10 was three ramps that they are going to build, and  
11 we are still unsure of what that means because --  
12 what the aspect ratio is. In other words, you can  
13 have a ramp that goes down like that, or you can  
14 have a ramp that goes like this. So that was one  
15 of the considerations at Ekati, was that their  
16 ramps maybe could have been a little bit shallower  
17 to allow easier crossing by caribou. So I'm  
18 wondering if Tahera can tell us if it is going to  
19 be a 3 to 1 ratio, a 5 to 1 ration or if they have  
20 any answer to that?  
21 MR. HUBERT: Madam Chair, Ben Hubert. I  
22 just checked with Court, and he indicated that it  
23 would be a 5 to 1 ratio depending on local terrain  
24 conditions, that would be the aim of it, for 5 to  
25 1.  
26 CHAIRPERSON: And what is a 5 to 1 ratio?

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1 MR. HUBERT: For every one metre rise,  
2 there is there is a five metre lateral distance, so  
3 it is very shallow as opposed to very steep.  
4 CHAIRPERSON: Okay. Thank you.  
5 MR. BYERS: I guess my only other  
6 concern with what we just heard from Tahera about  
7 the salt-lick question is that Mr. Hubert told us  
8 that it seems like there is going to be very low or  
9 unlikely possibility of affecting caribou, and,  
10 again, I'm not sure what that means. Are you  
11 stating to us that it is a low probability of  
12 affecting the caribou at the population level, or  
13 are you stating that it is an unlikely occurrence  
14 that even two or three caribou will be contaminated  
15 by PKCA kimberlite?  
16 And the question for us is very important,  
17 because sometimes me, as a scientist, what I think  
18 is biologically or environmentally significant  
19 maybe isn't the same thing as my friends here think  
20 of what is environmentally significant, because  
21 even one caribou or two or five caribou being  
22 contaminated for me as a biologist, it doesn't  
23 matter to the population of caribou, but if one of  
24 these fellows or some fellows from up here are  
25 hunting and they get those two or three caribou,  
26 these guys or the fellows here will take them back

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1 to their families, and those people will be eating  
2 that contaminated meat or liver. So that's why I  
3 would like to know exactly what we mean when we say

4 that there is a low significance of there being a  
5 problem for caribou eating kimberlite. Thank you.  
6 MR. HUBERT: Ben Hubert, Madam Chair.  
7 In relation to your first observation, is it  
8 significant to the population, and I would say --  
9 agree with your observation that it is a very low  
10 probability that PKCA ingestion will affect the  
11 population at large.  
12 I think it is premature on the basis of what  
13 I know on the matter to say definitively what the  
14 effect of kimberlite on the individual caribou is,  
15 and that I think that is another one of those  
16 issues that a multi-stakeholder group needs to  
17 address, and over time, hopefully will find  
18 information, relevant information on it.  
19 In the meantime, however, I think we should  
20 be reassured that the water that comes from  
21 processing kimberlite in containment areas like  
22 Long Lake would meet standards that are recommended  
23 for watering livestock. Thank you.  
24 CHAIRPERSON: Yellowknife?  
25 MR. GOULET: Lawrence Goulet for  
26 Yellowknives. Alfred just showed me a little small

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1 piece of paper with a circle marked with a bunch of  
2 Xs, this circle represents the -- what he says was  
3 the open pit, and the reason he is wondering was  
4 maybe make some kind of suggestions that instead of  
5 putting rock berms, maybe put some kind of fencing  
6 around so that the small Xs, which he says  
7 represents the animals, the caribou, the wolves,  
8 foxes and even the little animals. He is wondering  
9 if you would put some kind of a better fence or  
10 better berm -- barriers that go around, maybe you  
11 can come up with some kind of good fence so that  
12 the animals don't go in there.  
13 MR. HUBERT: Those are -- Madam Chair,  
14 Ben Hubert. Those are good and interesting  
15 observations. In our case, I think Tahera has the  
16 benefit of learning from your experience and the  
17 advice that will come from the independent  
18 monitoring agency over time.  
19 I know it is a concern of long standing and  
20 that there is a lot of attention being paid to it,  
21 and by the time it is our turn in terms of  
22 mitigating at Jericho, that much more information  
23 will be available and we can be effective with the  
24 first treatment tried.  
25 So while the concerns are real and valid and  
26 reasonable, they are -- I think there is a lot of

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1 time to learn from others on this. Thank you.  
2 CHAIRPERSON: Any questions from the  
3 elders? Any questions to the Yellowknife Dene  
4 First Nations from NTI?

5 MR. LOPATKA: No questions.  
6 CHAIRPERSON: Any questions from KIA?  
7 MR. DONIHEE: No questions.  
8 CHAIRPERSON: GN?  
9 MR. MacISAAC: No questions.  
10 CHAIRPERSON: Any questions from Indian  
11 and Northern Affairs?  
12 INAC QUESTIONS YELLOWKNIVES DENE FIRST NATION:  
13 MR. HARTMAIER: Madam Chair, Holger  
14 Hartmaier, BGC on behalf of Indian Affairs. I was  
15 just given permission by DIAND to make a brief  
16 statement regarding a comment that was made by  
17 Yellowknife Dene on the dust at Diavik. I guess  
18 rather than ask -- I will ask it in the form of a  
19 question because this is a question session, but I  
20 also offer it as some information for the Board, as  
21 well as Tahera, and perhaps the Yellowknife Dene as  
22 well.  
23 In their initial slide they talked about, you  
24 know, being in a position to provide environmental  
25 monitoring advice and environmental advice to  
26 projects in order to protect the environment.

0652

1 Based on personal experience at Diavik with regard  
2 to the crusher, I wanted to point out that the rock  
3 that was used for construction of the dikes  
4 consisted of a mixture of granite and pegmatite  
5 that had a high mica content, and the -- one of the  
6 observations I made personally on the site was the  
7 effects that the mica had on the dust around the  
8 area. And also you could notice that there was  
9 mica in the lake bed, very light flakes that you  
10 can see floating just off the bottom of the water.  
11 The -- I guess the question would be have the  
12 Yellowknife Dene done any environmental monitoring  
13 to characterize the dust at Diavik in terms of the  
14 mica content, and would they be able to provide any  
15 of that information to, you know, the panel here as  
16 far as information to benefit the Jericho project?  
17 MR. BYERS: Tim Byers. No, I do not  
18 have any information of that sort myself; however,  
19 I must point out that both Lawrence and myself are  
20 directors respectively of the Diavik monitoring  
21 board, and the monitoring agency for Washagana  
22 (phonetic) BHP program. And I have asked of Diavik  
23 and BHP if they could provide us with their  
24 characterization of the dust, since it is of very  
25 big importance to Yellowknives Dene, so that we  
26 could better evaluate what kind of particles the

0653

1 things like lichens will be receiving and whether  
2 those will, in fact, kill plant life.  
3 So, no, in answer to your question, I don't  
4 have that information, and we are hoping that the  
5 various companies can provide that type of

6 information. I think it would help all of us in  
7 characterizing the dust. So in other words, not  
8 just saying how much dust is going to be settling  
9 on, and we have heard from other companies that it  
10 will be within a one millimeter layer, for example,  
11 which is very, very thin. Okay, that's fine, that  
12 tells us how much dust, but I think we also need to  
13 know what does that dust consist of.  
14 Q Madam Chair, Holger Hartmaier. The important thing  
15 about mica is that, as you are aware, when mica  
16 breaks down, it is a flaky mineral, it is very  
17 light, and it doesn't have a particle shape, so in  
18 terms of -- I'm not an air quality or water quality  
19 specialist, but just submitting it here for  
20 purposes of Tahera that when you are looking at  
21 settlement of particles, the mica behaves very  
22 differently than round particles in water. And,  
23 you know, you have problems with in air, they may  
24 actually become electrostatically charged, so they  
25 may float for greater distances. And in water,  
26 they tend to remain in suspension for a greater

0654

1 period of time. And when they settle out finally,  
2 they are very easily disturbed, you know, by fish  
3 passage or wave action along the shoreline.  
4 The other point I just wanted to bring up was  
5 the -- there was some mention made about the  
6 characterization of kimberlite, and, again, a  
7 question to the Yellowknife Dene. If they had done  
8 a characterization of kimberlite on Diavik or other  
9 properties regarding their properties for  
10 vegetation, the observation I have made is in  
11 northern Alberta where kimberlite is exposed at the  
12 surface, geologically one of the signs for the  
13 kimberlite intrusion is that there is no vegetation  
14 growing at all on the exposed bedrock, so I was  
15 wondering if they had any comments on that.  
16 A Tim Byers with Yellowknife Dene. No, again, we  
17 have not done that type of research ourselves, we  
18 do not have the type of funding required to do this  
19 type of research. But, again, in our discussions  
20 with Diavik and BHP, I can tell you that  
21 personally, I -- we on the environmental --  
22 independent environmental monitoring agency have  
23 learned from BHP that the kimberlite from their  
24 mine does load nickel into the environment.  
25 MR. HARTMAIER: Thank you, Madam Chair,  
26 that's all I have.

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1 CHAIRPERSON: Before you sit down, you  
2 mentioned this mica substance. Does this substance  
3 or can it contaminate?  
4 MR. HARTMAIER: Mica itself is a fairly  
5 inert substance, it is a silicate mineral, and as  
6 far as I'm aware, doesn't break down into any toxic

7 substance, it is fairly stable.  
8 It does maybe alter to clay eventually if it  
9 is weathered, but as far as I'm aware it doesn't  
10 create any toxic or hazardous effects. It is a  
11 constituent of granite. Granite is made up of  
12 three minerals, quartz, feldspar and mica. So that  
13 is the flaky mineral you see in the granite. And  
14 in pegmatite, you get bigger flakes of it. So if  
15 there is any pegmatite around the rock mass, then  
16 you are going to get more of it.  
17 CHAIRPERSON: Thank you.  
18 MR. HARTMAIER: Thank you.  
19 CHAIRPERSON: Any questions from  
20 Department of Fisheries and Oceans? From  
21 Environment Canada?  
22 MS. WILSON: No questions.  
23 CHAIRPERSON: Natural Resources Canada?  
24 MR. DYKE: No questions.  
25 CHAIRPERSON: Any questions from the  
26 local hamlet towards the Yellowknife Dene? Any

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1 questions from the elders? Any questions from NIRB  
2 Staff?  
3 MS. FILIATRAULT: No questions, Madam Chair.  
4 CHAIRPERSON: Any questions from the  
5 Board? Okay. Thank you very much.  
6 The Board appreciates your participation and  
7 will be sensitive to your concerns, as we will for  
8 all parties. Marsi cho.  
9 MR. GOULET: Lawrence Goulet of behalf  
10 of Yellowknives First Nation, I would to thank you  
11 for giving us this opportunity, marsi cho.  
12 CHAIRPERSON: Bill? Okay. I understand  
13 the hamlet council is here, the mayor, Terry  
14 McCallum, and the economic development officer,  
15 Chris King. You may come forward.  
16 MR. TILLEMAN: Madam Chair, it is Bill,  
17 and as they are coming up here, just a couple of  
18 things kind of procedurally. One again is on any  
19 exhibits that we needed to file, and I hope the  
20 parties catch up to me. One in particular would be  
21 DFO, I don't know if they are going tomorrow, but  
22 there were a couple of guidelines they were going  
23 to get to us, and as long as they get in by Friday,  
24 that would be fine.  
25 Also, any party would need to let us know  
26 their objection. If a guideline was referred to in

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1 the application, filed submissions, written  
2 materials and so on, the Board would intend to have  
3 the ability to refer to those guidelines, and so if  
4 there are any objections to that, the parties  
5 should let us know right away. Not that we have  
6 anything in mind, but just to make sure there is no  
7 questions or objections to the Board's referring to

8 materials or references within materials. None  
9 being seen in the audience by way of objection.  
10 The next thing that leads me to a dilemma is  
11 do you swear the witnesses, and if they are --  
12 CHAIRPERSON: I think you should.  
13 MR. TILLEMEN: Okay. I just don't know  
14 how to swear politically, politicians, I don't know  
15 if they give evidence or not, but I will let that  
16 be on their conscience.  
17 So, Madam Chair, I am going to swear in the  
18 witnesses, but Ms. Briscoe, who is the executive  
19 director of the Board, just has a comment to make  
20 as I find my way over to the table.  
21 MS. BRISCOE: Thank you, Madam Chair. I  
22 just would like to point out for the delegation  
23 that I am a representative of the Cambridge Bay  
24 hamlet council, and I would just like to make a  
25 point at this time to indicate that I in no way  
26 participated in the preparation of this submission.

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1 It was a separate report that was done in my  
2 absence. Thanks.  
3 MR. TILLEMEN: State your name for the  
4 record and spell your last name.  
5 MR. KING: Christopher King, K-I-N-G.  
6 (CHRISTOPHER KING SWORN)  
7 MR. TILLEMEN: State your name for the  
8 record and spell your last name.  
9 MR. McCALLUM: Terry McCallum,  
10 M-c-C-A-L-L-U-M.  
11 (TERRY McCALLUM SWORN)  
12 MR. TILLEMEN: Thank you.  
13 PRESENTATION BY HAMLET OF CAMBRIDGE BAY:  
14 CHAIRPERSON: You may begin.  
15 MR. McCALLUM: Good afternoon. Thank you,  
16 Madam Chair.  
17 Firstly, I would just like to introduce  
18 myself. My name is Terry McCallum. I am a newly  
19 elected mayor of the hamlet of Cambridge Bay. This  
20 is my first week in office, my first participation  
21 in a presentation.  
22 First, I would like to welcome all of the  
23 groups here, the review panel, the mining folks,  
24 any other mining stakeholders, the different  
25 government reps, NTI, KIA, interested observers and  
26 community members. And like I say, I am -- a big

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1 welcome to everybody to Cambridge Bay. I hope you  
2 feel at home, and I hope your visit is good.  
3 On behalf of the hamlet council, I would just  
4 like to state that our hamlet council, we have  
5 absolutely no objections to this project, and we  
6 actually, you know, voice our support of any  
7 mineral mining exploration projects in the  
8 Kitikmeot region. And I think this is a good

9 example as we have voiced our support of the  
10 Bathurst road and port project several times.  
11 And over the past couple years, you know, we  
12 faced mine closures, Polaris, more recently Lupin,  
13 and this project here, while not big, the life span  
14 is not huge, but it is certainly a good stepping  
15 stone to what we view as many other projects that  
16 are coming down the pipeline within the region here  
17 of Nunavut.  
18 Another comment, we do foresee that a major  
19 lack of resources from DIAND, we have no staff to  
20 speak of based in the region, and we certainly need  
21 human and financial resources in this region, and I  
22 hope that measures can be brought out.  
23 In close, if there is no questions for me,  
24 I'm going to turn the mic over to Chris King, our  
25 economic development officer, for the actual  
26 presentation. Thank you.

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1 MR. KING: Thank you, Madam Chair.  
2 Good afternoon. I would like to start by stating  
3 that the hamlet and council of Cambridge Bay have  
4 no objections to this project proceeding. We  
5 support the project as it has been presented.  
6 However, there are a few questions we would like  
7 clarified and addressed. The first question is has  
8 a socioeconomic agreement been developed? We would  
9 like to see a socioeconomic agreement developed and  
10 implemented. This plan could be developed in  
11 concert with the mine development.  
12 I realize that an IIBA has been developed;  
13 however, that is a confidential agreement between  
14 two parties, where a socioeconomic agreement would  
15 be a matter of public record.  
16 Also, are there any plans for Tahera to have  
17 an office in Cambridge Bay? Will Tahera consider  
18 having, at minimum, a liaison or an employment  
19 officer in the community of Cambridge Bay? It  
20 would be helpful and beneficial to the community to  
21 have someone, even if only part time, to act as a  
22 liaison between the mine and the local community.  
23 CHAIRPERSON: Excuse me. Slow down a  
24 little bit for the interpreters.  
25 MR. KING: I apologize. The next few  
26 questions involve the secondary diamond market.

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1 Will there be rough diamonds made available to  
2 Kitikmeot companies? Are there any plans to  
3 develop or support the development of a jewelry  
4 manufacturing company in Cambridge Bay? Also, in  
5 regards to the royalty valuation process, has there  
6 been a decision made on where the Canadian diamond  
7 valuation contract will be based? Will this  
8 operation be in Cambridge Bay?  
9 Another area of interest for Cambridge Bay is

10 in regards to education. What plans are in place  
11 for providing educational benefits to Cambridge Bay  
12 youth? Are there steps for tours, classroom  
13 presentations, youth geology training and co-op  
14 work programs for post-secondary students? It is  
15 felt that by exposing youth at an early age to the  
16 future employment opportunities in all sectors of  
17 the mining industry, that it will enable them to  
18 make long-term career plans.

19 The last subject that we would like to  
20 discuss is community wellness support. Are there  
21 any plans to support existing community wellness  
22 programs or to implement new programs? There is a  
23 concern in the community over the impact on  
24 families separated for periods of time while family  
25 members work in the mine. Has there been any  
26 discussion or plans to assist families with those

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1 concerns? Suggestions that have been brought  
2 forward is internet, teleconferencing, video  
3 conferencing or family support groups in the  
4 community.

5 In summation, the hamlet of Cambridge Bay  
6 supports this project and is more than willing to  
7 work in cooperation with Tahera to address these  
8 concerns and issues while the mine develops.

9 Thank you for the opportunity to present our  
10 concerns and support for this project today.

11 CHAIRPERSON: Any questions from Tahera  
12 Corporation?

13 MR. MISSAL: Madam Chair, Greg Missal  
14 with Tahera Corporation. With your permission, I  
15 don't have any questions, but I would like to  
16 respond to the questions presented to us.

17 CHAIRPERSON: Go ahead.

18 TAHERA CORPORATION RESPONDS TO CAMBRIDGE BAY  
19 QUESTIONS:

20 MR. MISSAL: Thank you. I hope that I  
21 caught most of the questions, if I didn't,  
22 certainly remind me at the end and we will redress  
23 anything.

24 But I believe starting off the first question  
25 is has a socioeconomic agreement been developed?  
26 The short answer to that is no. As you are aware,

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1 the Inuit Impact Benefit Agreement is to a stage  
2 now of an agreement in principle with the Kitikmeot  
3 Inuit Association. We feel very strongly that the  
4 items contained in the socioeconomic or in the IIBA  
5 or Inuit Impact Benefit Agreement do satisfy most  
6 of the typical requirements you would see in a  
7 socioeconomic agreement.

8 I think your second point was has Tahera  
9 considered an office in Cambridge Bay or some sort  
10 of an employee in Cambridge Bay? We have

11 considered an office in a Nunavut community, we are  
12 still considering that. And in terms of the  
13 community officer, although the Inuit Impact  
14 Benefit Agreement has just been made public today  
15 for the first time and you probably haven't had a  
16 chance to see it, I have a copy here, there are  
17 items in the IIBA that do contemplate that sort of  
18 a position in conjunction with Tahera and the KIA  
19 working through the IIBA, so you will have to have  
20 a look at that for more information on that.

21 In terms of a secondary diamond market, I  
22 believe you asked the question would rough stones  
23 be made available? The IIBA that has now been made  
24 public today is in its entirety with the exception  
25 of three schedules which will remain confidential  
26 between KIA and Tahera; however, you will notice

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1 from the table of contents, one of the confidential  
2 schedules titled Schedule L is a provision for  
3 rough diamonds, so from that I'm sure you can  
4 assume that that provision has been made in this  
5 agreement.

6 In terms of the Canadian diamond valuation or  
7 the diamond valuation in Nunavut, it is unclear at  
8 this point where that valuation will occur.  
9 However, it is clear that the valuation does need  
10 to be done in Nunavut, in the territory in which  
11 the diamonds are extracted.

12 In terms of educational benefits, again,  
13 there is a number of educational benefits that are  
14 outlined in the Inuit Impact Benefit Agreement, and  
15 again, that's -- as you get a chance to see this  
16 and read there, you will be able to appreciate the  
17 items that are listed in here. However, training  
18 is obviously a very important part of what is here,  
19 so that part certainly is covered off in the  
20 agreement.

21 In terms of community wellness, that is also  
22 an item that's been covered off in the Inuit Impact  
23 Benefit Agreement. It does consider the importance  
24 of families in the communities, and obviously we  
25 want any of our employees who come and work at  
26 Jericho from any of the communities to be satisfied

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1 employees, so we would certainly set up programs  
2 where they could have telephone contact with their  
3 family, and I am not too sure about the internet  
4 contact, but with the way things are evolving, I am  
5 sure there would be internet contact once we reach  
6 that stage.

7 I think those were the points that I got.  
8 Did I cover all of those off?

9 MR. KING: Madam Chair. Yes, you did.  
10 You addressed most of those. If I can just go back  
11 to the bit on education, I think we were under the

12 impression that an IIBA would include training as a  
13 priority in terms of education. The questions here  
14 were more directed towards educating youth as a  
15 priority. Bringing a geologist in and teaching  
16 grade 6 students about geology and giving them  
17 something to look at for a career.

18 MR. MISSAL: Madam Chair, Greg Missal,  
19 Tahera Corporation. Sorry about that, I skipped  
20 over that one point.

21 In terms of the student involvement and  
22 student awareness, that's something that we have  
23 been doing for a little while in the Nunavut  
24 communities. When we are going through doing  
25 community consultations, we will try to make a trip  
26 to the high school to visit students.

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1 In the past, we did a trip with Nunavut  
2 education on one on their career training days or  
3 career information days, and that went to all the  
4 communities in Nunavut and just to make the  
5 students aware, you know, who Tahera was, what our  
6 plans were, and let the students know what types of  
7 jobs and opportunities would be available at the  
8 mine site. And I think I was always very pleased  
9 with the feedback from the students, lots of  
10 interests, and I think the trend is growing in  
11 Nunavut communities where students are going away  
12 to post-secondary educations and are getting higher  
13 levels of training, and it will certainly give them  
14 the opportunity for some high quality jobs at  
15 mining projects like Jericho.

16 MR. KING: Thank you.

17 CHAIRPERSON: Any other questions from  
18 Tahera?

19 MR. MISSAL: I think the only other  
20 thing, Madam Chair, is that we certainly appreciate  
21 the hamlet supporting this project. We look  
22 forward to working with you in the years to come,  
23 and you can always count on us to meet with you at  
24 any time that we are available to.

25 CHAIRPERSON: Any questions from the  
26 elders to the hamlet council? Any questions from

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1 NTI?

2 MR. LOPATKA: No.

3 CHAIRPERSON: KIA?

4 MR. DONIHEE: No questions.

5 CHAIRPERSON: Indian and Northern  
6 Affairs? GN?

7 GOVERNMENT OF NUNAVUT QUESTION HAMLET OF CAMBRIDGE  
8 BAY:

9 MR. MacISAAC: Thank you, Madam Chair. My  
10 name is Bernie MacIsaac. I am with the government  
11 of Nunavut. I have two questions for the community  
12 of Cambridge Bay. The first question is that do

13 you feel your community is prepared for this  
14 development in terms of understanding its impacts  
15 and opportunities? And I can go with the second  
16 question now, or I can wait.  
17 MR. KING: Madam Chair, Chris King,  
18 economic development officer. I would like to  
19 think that at this point we are prepared for the  
20 impact of the mine project. This isn't going to be  
21 a project where tomorrow there is a big impact on  
22 the community, it is going to grow, and I think  
23 from what we have seen so far, it would be at a  
24 pace that we can keep up with. And certainly we  
25 are looking forward to any opportunities for  
26 Cambridge Bay to grow in terms of economic

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1 development in jobs and so on.  
2 Obviously, there have been some concerns  
3 raised in the past over housing for employees, but  
4 I think we are in a position to address those as  
5 this project develops if there is an impact on  
6 housing in Cambridge Bay.  
7 Q Thank you. And the second part of my question is  
8 we would be interested in hearing some ideas from  
9 the hamlet of Cambridge Bay as to best prepare for  
10 these types of developments from a community  
11 perspective.  
12 MR. McCALLUM: Terry McCallum, hamlet of  
13 Cambridge Bay. Really, we have went through all of  
14 this before when the Lupin mine was operating,  
15 there was a good labour force here, and basically  
16 there is not a lot of preparation at the community  
17 level that we foresee needed. Once if there gets  
18 to be some spinoff, secondary diamond stuff, et  
19 cetera, located here, then it wouldn't happen  
20 overnight. We do have the room and a lot of  
21 infrastructure in place presently, you know, in  
22 terms of our air services, et cetera, so we don't  
23 foresee a major preparation.  
24 If it was a huge, huge, huge project, you  
25 know, Diavik or something, then there would be a  
26 little more concern of preparation, but it is not

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1 to that level. But it will be a good stepping  
2 stone to future projects. Thank you.  
3 CHAIRPERSON: Any questions from  
4 Department of Fisheries and Oceans? Environment  
5 Canada? Natural Resources Canada?  
6 MR. DYKE: No questions.  
7 CHAIRPERSON: Any questions from the  
8 Yellowknife Dene First Nations? Any questions from  
9 the elders? Any questions from NIRB staff?  
10 MR. TILLEMAN: Madam Chair, not a  
11 question, but we should mark a couple of exhibits.  
12 So I didn't want to interrupt the Board. If you  
13 want me to -- so really I don't have any questions,

14 but before you close, I have a couple of tiny  
15 things I need to do.  
16 CHAIRPERSON: Any questions from the  
17 Board? Go ahead, Bill.  
18 MR. TILLEMAN: Then it would be that we  
19 would like to mark as Exhibit number 17 the written  
20 submission of the hamlet of Cambridge Bay filed on  
21 January 7th.  
22 EXHIBIT NO. 17:  
23 WRITTEN SUBMISSION OF HAMLET OF CAMBRIDGE  
24 BAY FILED ON JANUARY 7, 2004.  
25 MR. TILLEMAN: And I also understand that  
26 there was one outstanding document that the

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1 Yellowknife Denes may have wanted to file, and I  
2 have been informed of that, but I would like them  
3 to come up to the mic if they can and just inform  
4 us of that, let us know what it is.  
5 CHAIRPERSON: Thank you. Hamlet of  
6 Cambridge Bay.  
7 MR. McCALLUM: Thank you, Madam Chair. I  
8 would just like to thank you for the opportunity to  
9 receive our presentation.  
10 CHAIRPERSON: Bill, you may proceed.  
11 MR. TILLEMAN: So, Mr. Byers, if you could  
12 come up and just let us know what you want to file,  
13 and then we will ask the parties how they feel  
14 about it, and then we will go from there.  
15 MR. BYERS: Thank you, Bill. Tim  
16 Byers, and I waited to this point in the  
17 proceedings because I'm not doing this as  
18 Yellowknives Dene First Nation representative but  
19 as a director on the Board of directors of the  
20 independent environmental monitoring agency.  
21 Since our agency was referenced by Tahera in  
22 their EIS document, I felt it appropriate to bring  
23 for your information, for the information of the  
24 Board, our latest annual report, and in it, it will  
25 tell you of our concerns about air quality, which  
26 is what was referenced in Tahera's document, and so

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1 it is basically an update on the situation at Ekati  
2 now.  
3 I also mention that there is two versions of  
4 our annual report, one is a plain language version  
5 and one is a technical language version, so I will  
6 be very pleased to provide copies to NIRB, to  
7 Tahera, and I have extra copies for others who may  
8 be interested. Thank you.  
9 MR. TILLEMAN: So, Madam Chair, I would  
10 just simply ask the parties if they have any  
11 objections, and if they do, then they should state  
12 them and we can deal with them at that point. So I  
13 would suggest you just go through the list quickly  
14 and see if anybody wants to speak about it?

15 CHAIRPERSON: Any objections from Tahera?  
16 MR. MISSAL: No objections, Madam Chair.  
17 CHAIRPERSON: Any objections from  
18 parties? Go ahead, Bill.  
19 MR. TILLEMAN: Okay. So there appear to  
20 be no objections, so we will file that as Exhibit  
21 number 18, which is a submission -- let's just call  
22 it the annual report of the independent monitoring  
23 agency.  
24 And those are all the things the Staff has.  
25 Thank you, Madam Chair.  
26 EXHIBIT NO. 18A:

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1 INDEPENDENT ENVIRONMENTAL MONITORING AGENCY  
2 PLAIN ENGLISH REPORT  
3 EXHIBIT NO. 18B:  
4 INDEPENDENT ENVIRONMENTAL MONITORING  
5 AGENCY TECHNICAL REPORT  
6 CHAIRPERSON: Thank you, Tahera  
7 Corporation. Thank you, parties, the mayor of  
8 Cambridge Bay and citizens of Cambridge Bay.  
9 We have now concluded the Cambridge Bay  
10 portion of Tahera's environmental assessment  
11 hearings. Tomorrow NIRB will go to Kugluktuk and  
12 Friday to Gjoa Haven. We will hear primarily from  
13 those citizens in each community, and with brief  
14 presentations from Tahera and other government  
15 parties. We will also hear full presentation from  
16 NRCan, GN, local government leaders and Inuit  
17 representation from KIA and NTI.  
18 And at the close of the hearing which NIRB  
19 expects will be Friday after Gjoa Haven, the Board  
20 will prepare and send a report and recommendations  
21 to the minister of DIAND for distribution to other  
22 responsible ministers.  
23 The Nunavut Impact Review Board will be  
24 making every effort to complete its decision within  
25 30 days. Particular thanks goes to the  
26 translators, the visitors, proponent and all of you

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1 for your patience in our hearing schedule.  
2 We will adjourn. I would like to ask Peter  
3 Paneak to please give the closing prayer.  
4 (CLOSING PRAYER)  
5 (ADJOURNED AT 5:27 P.M.)  
6  
7  
8  
9  
10 I, Tara Lutz, Court Reporter, hereby  
11 certify that I attended the above Hearing and took  
12 faithful and accurate shorthand notes and the  
13 foregoing is a true and accurate transcript of my  
14 shorthand notes to the best of my skill and  
15 ability.  
Dated at the City of Calgary, Province of

16 Alberta, this 17th day of January 2004.  
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23  
24 Tara Lutz  
25 Court Reporter  
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