supper and come back at seven. Thank you.

(RECESSED AT 5:30 P.M.)

(RECONVENED AT 7:05 P.M.)

CHAIRMAN: Welcome back. I believe Tahera has a statement to make.

GREG MISSAL: Thank you, Mr. Chair. Greg Missal with Tahera Diamond Corporation. Prior to the break, I guess the question I think, if I can repeat it correctly, was if we basically agreed with all the items in INAC's intervention that perhaps was not discussed in the dialogue of the question and answer, and I think our position on that is that we will be presenting a position in our closing remarks on those recommendations in the DIAND submission, so the Board will certainly have a clear indication of Tahera's position at that time as we go through our closing comments.

I don't think for a second that Tahera can be presumed to agree with something just because we are silent on something, and I also would like to add that I believe Tahera and INAC have, on some of the major items I think have come to a very good consensus on many of the items.

So one in particular would be the reclamation deposit number. As I stated earlier, we certainly agree with the amount, and we consider that one a

particularly major item.

In terms of the discharge limits, we have presented our opinion on the discharge criteria, and you heard INAC respond that they believe that those limits are safe to the environment. So I think, as you can tell with those two items in particular, that there is quite a great deal of consensus on major items between Tahera and INAC. And as we move through, or we will go through the recommendations that they make, that they have made in their submission, and we will be doing that in our closing comments.

CHAIRMAN: Thank you. DIAND?

GLEN STEPHENS: Mr. Chairperson, we were -- it is Glen Stephens. With regard to the first question, the first question with regard to did INAC consider the 500,000 cubic metres per year annual water use? Our response is no, our assessment was based on information INAC -- INAC's assessment was based on information that was provided during the EA and in the licensing process. It was seen as appropriately conservative, so it was not considered.

And with regard to the request from the Water Board staff, Elizabeth Sherlock will provide a response.

ELIZABETH SHERLOCK: Thank you, Mr. Chairman. The question was posed as if INAC had provided parameter, frequency, location and phase of project in its recommendation. What INAC has provided is some level of detail for some of its recommendations. In others, we have provided general guidance to address monitoring needs.

INAC would look to the water license to provide a time frame for Tahera to develop and submit a final surveillance network plan for review and approval. And then INAC would encourage Tahera to consider our recommendations in developing that final plan. Thank you.

CHAIRMAN: Thank you. Any further questions?

ELIZABETH SHERLOCK: Mr. Chairman, if I may, while going through this intervention we did note another typographical error that I would like to bring to everyone's attention. It is on page 10 of the INAC intervention. Under the recommendation, the first sentence is, "In general, the current water management plan is." The last phrase, "in the first two years", at the end of the first bullet should actually be at the start of the second bullet. So the second bullet should read, "In the first two years direct site and

pile runoff into the pit and small storage areas that would be more or less located where ponds A, B and C would ultimately be located."

Thank you.

CHAIRMAN: Are there any further questions from the staff to DIAND? Thank you. Okay.

GLEN STEPHENS: Mr. Chairperson, further to provide some clarification on some of the questions being asked by the Board staff with regard to the breakdown of security for land and water, we would like to offer a table that Mr. Brodie has prepared for INAC. It shows some of the percentage breakdowns and thoughts behind some of the discussions, if that would help the Board.

CHAIRMAN: Okay. Mr. Brodie?

JOHN DONIHEE: John Brodie, Mr. Chairman. I think what Glen was stating there is that the table is out right now being photocopied, and they will supply it as soon as they can bring it back to this hearing.

CHAIRMAN: Would you like to table that as evidence?

GLEN STEPHENS: Yes, please, Mr. Chairperson.

CHAIRMAN: Okay. Thank you.

BILL TILLEMAN: So, Mr. Chair, so we will propose that's Exhibit number 6, and that's Mr. Brodie's table regarding -- what is it called, Mr. Brodie?

JOHN DONIHEE: John Brodie. The table is titled "Segregation of Land and Water Liability."

EXHIBIT NO. 6:

TABLE ENTITLED "SEGREGATION OF LAND AND WATER LIABILITY" CREATED BY JOHN BRODIE

CHAIRMAN: Okay. I believe we are all done with DIAND. Pardon me. Are there any questions from Environment Canada for them? No. DFO? No. NTI? KIA? Hamlet of Kugluktuk? Independent consultants?

RAMLI HALIM: No questions, Mr. Chairman.

CHAIRMAN: Thank you. Okay. I saw a hand. Did somebody raise their hand?

BILL TILLEMAN: Mr. Chairman, it is Bill Tilleman. And we did receive a document that's not from DIAND, but it has Tahera Diamond Corporation on it, dated August 2004. And this is a report of some kind that was submitted by AMEC Earth and Environmental. It appears that it was

sent to Tahera Diamond Corp. by Dr. Ott with a CC to Dionne Filiatrault and also Robert Eno. The Water Board staff did not receive it at all until yesterday it was given to the staff. So we just think we should file it so it is available to everyone, whatever relevance that may have. That being the case, it would be the operational monitoring summary, Tahera Diamond Corporation, August 2004. And with that, the staff has no further items for DIAND.

EXHIBT NO. 7:

EDITED VERSION OF THE OPERATIONAL MONITORING SUMMARY, TAHERA DIAMOND CORPORATION, AUGUST 2004

CHAIRMAN: Thank you very much.

GREG MISSAL: Sorry, Mr. Chair, Greg Missal with Tahera. Just for further clarification on that document that counsel for the Board just entered as an item onto the list, an exhibit onto this list, that document was part of the submission to the Nunavut Water Board, the water license application, if you will. However, as a result of the technical meetings that we had, there was a requirement for a few revisions in it, and that was the revised -- that's the revised version. I think there might have been some complications with maybe

electronic mail transfer. It was sent out quite a while back, and this resend was just a follow-up when it was realized that maybe that document didn't get to everyone. So that's just added clarification for that document.

BILL TILLEMAN: So, Mr. Chairman, we just then propose to call it the edited version. Thanks, Mr. Missal.

CHAIRMAN: Okay. Thank you so very much, DIAND.

GLEN STEPHENS: Thank you very much.

CHAIRMAN: Next presentation will be by Environment Canada, Anne Wilson.

BILL TILLEMAN: Thank you, Mr. Chairman. I propose to swear in Ms. Wilson, and after that, she is doing a presentation which we will also mark as exhibits, one is the hard copy, and the electronic version is already with Ms. Filiatrault, as the next two exhibits accordingly.

EXHIBIT NO. 8:

HARD COPY OF ENVIRONMENT CANADA PRESENTATION

EXHIBIT NO. 9:

ELECTRONIC COPY OF ENVIRONMENT CANADA PRESENTATION

BILL TILLEMAN: So, Ms. Wilson, please

state your last name for the record.

ANNE WILSON: Wilson, W-I-L-S-O-N.

(ANNE WILSON SWORN)

BILL TILLEMAN: Thank you.

PRESENTATION BY ENVIRONMENT CANADA:

ANNE WILSON: Good evening, Mr. Chairman, members of the Board. My name is Anne Wilson. I would like to thank the Board for the opportunity tonight to make this presentation on behalf of Environment Canada.

I have a tendency to talk too quickly, so please let me know if the translators are running into trouble, okay?

To start with, I would just like to go over our involvement in this file. It is based on our mandated responsibilities under this legislation, the Department of Fisheries and Oceans the Environment Act, the Fisheries Act Pollution Prevention Provisions, the Canadian Environmental Protection Act, the Migratory Birds Prevention Act and Migratory Birds Regulations and the Species at Risk Act.

This intervention focuses mainly on our responsibilities under Section 36.3 of the Fisheries Act.

A quick overview of my presentation. I will

go into our comments and recommendations regarding monitoring of aquatic effects, the discharge criteria which are proposed, the use of toxicity testing, both acute and chronic, the plans for the life of the mine and some miscellaneous license recommendations.

I would just like to note that the purpose of this intervention is to try and provide constructive advice to the Nunavut Water Board to assist in developing a license which is both protective and practical.

Now, Tahera has provided a draft AEMP which is generally comprehensive enough to detect changes in the environment, and I base that statement on the parameters that they are proposing to monitor for and the locations, and generally the frequencies.

However, I do have considerable concern with how they are proposing to use the data. It is not set out ahead of time how they will evaluate what is a real change in the environmental conditions. By planning how this is to be done up front, we can be sure that they are now collecting the right data, not violating any assumptions of the statistical tests and that they can use the right statistical tests.

So Environment Canada recommends that the water license include a requirement that the proponent submit a detailed AEMP or an aquatic effects monitoring plan for approval. And approval of the plan would hopefully follow on input from reviewers and experts on statistics, and so on. The plan should also include an evaluation of the baseline data and set out exactly what tests will be used to evaluate changes in the environment.

Planning of the statistical design should include all parameters so that would be water, sediment, chemistry, benthic invertebrates, zooplankton and phytoplankton.

I'll just go over a few specific points on monitoring. It is recommended that water quality in the Long Lake containment facility be measured annually under ice, as well as the planned monitoring during the open water season.

Some of the experience we are gaining from the Ekati mine shows seasonal differences in quality, and this seems to be building up over time. You mainly catch it in the winter, and you can get a heads up if there is going to be problems for discharging come spring by checking in the winter.

It is also recommended that the lakes

downstream be monitored for seasonal density stratification. This could affect the mixing of the effluent and thus affect the dilution predictions downstream.

Also, for comparisons to be done between water samples and between lakes, we have to know for sure that the samples are representative of the depths in the various areas of the lakes being monitored. The AEMP proposes to take a single sample from the top of the lake, and we have to know that that will also represent the whole water column within the lake and all areas of the lake in order to make -- to capture the variability, and that's to the benefit of the proponent. You have to know how much natural variability there is in a lake to know if you are seeing a real change attributable to the project.

My next slide is with monitoring specifically for ammonia. We do recommend that ammonia levels be carefully monitored and that Tahera be prepared to implement an effective contingency, if needed. And the ammonia should be monitored in both sources and in the receiving environment.

Target thresholds should be identified which would trigger appropriate actions. For example, if they are monitoring upstream sources of ammonia,

such as their sumps in the open pit, and see much higher concentrations than expected, then of course they would know that that was going to need some action down the road. And, again, it has been noted that source control is the biggest factor in determining how much ammonia ends up in the waste stream. So I was glad to hear it confirmed earlier about the blasting agent plan that's in the -- their waste management plan.

And, lastly, the seep survey should also include ammonia as a monitoring parameter.

As mentioned, there should be thresholds which are developed for changes in the environment which would trigger adaptive management actions. This would be a practical approach to preventing environmental problems using internal rather than regulated limits for certain parameters, which would then trigger investigation of causes, assess what risk was associated with those increasing levels, what potential effects were and then determine what mitigation might be needed. The SNP should include a full suite of parameters, including all the metals listed in an ICP scan, the major ions, the nutrients and the physical parameters. And I just was scanning the updated monitoring plan, and at this time it does include

all those parameters, which I was glad to see.

Next I would like to go over Environment Canada's recommendations on the effluent quality criteria. Tahera has proposed end of pipe discharge criteria for various parameters of concern. Environment Canada does not believe that all of these need to be regulated and proposes this list of regulated parameters. So under the total metals we have got aluminum, arsenic, cadmium, chromium, copper, lead, molybdenum, nickel and zinc. For nutrients, total ammonia, nitrite and nitrate, all to be measured and regulated as nitrogen and total phosphorus. The other parameters are total suspended solids, pH, total petroleum hydrocarbons, biological oxygen demand and faecal coliforms. And of course there would be a lower testing frequency for the parameters associated with sewage normally.

Environment Canada has some recommendations for discharge limits. Tahera has proposed numbers which Environment Canada finds acceptable for all of the metals except for aluminium and chromium. And I have highlighted the places on my table there where our recommendations are different from what Tahera had put forward. And the limits I am referring to from Tahera were from technical memorandum 0, proposed discharge limits, and what

was shown last night in Kelly Sexsmith's presentation was slightly different than that, and I apologize for not having the most current information there, but it doesn't affect the conclusions here.

So I will look at the metals first. To start with aluminum, the solubility of aluminum is a little different than most metals. It is in solution at high pHs and at low pHs. And we do see that the predicted concentrations of aluminum are above receiving water quality objectives during spring freshet for a short period of time.

In spring, what we see is an acidic pulse as the snow melt is quite acidic, and you get mobilization of metals that are soluble in more acidic pHs. And so the concern with lowering the aluminum limit is to avoid having dissolved aluminum, which is bioavailable and a little more toxic than the particulate silicates that are expected to be there at more neutral pH levels.

The next one is chromium. Now there are two forms of chromium, hexavalent chromium and trivalent chromium, and all you really need to know about those is that one is more toxic than the other. They are both quite toxic.

The guidelines that were set in the receiving

water quality objectives just used the less toxic form. So, I think, in fairness, because both forms would be expected to be present, there should be an average between the two forms. It would be a mixture you would expect to see in the environment. So for that reason, the water quality objectives should be adjusted and the criteria down -- accordingly set downwards. So I am proposing lower limits for chromium than Tahera had put forth.

For the rest of the parameters, Environment Canada differs with Tahera mainly on pH, nitrite and would like to suggest three additional parameters that weren't included in their list.

For pH, we know that kimberlites are alkaline. And that has been shown in previous studies with the other mines to be a factor in the toxicity of kimberlite. There seemed to be a cut off of a pH of 8.8 identified by work done at the Ekati mine where you didn't see pH-associated toxicity with kimberlite below that number. And that was the reason that the Diavik license has an upper pH limit of 8.4. So in addition of higher pHs, you again get aluminum being more soluble and ammonia toxicity is also increased at higher pHs. So to be a little more protective, keeping the pH between 6 and 8.5 is recommended.

The nitrite objectives. Tahera had suggested a grab of 5 and a maximum average concentration of 2.5 milligrams per litre. We feel those are a little higher than they need to be. The other licenses are 2 and 1. And there has been a great deal of confusion with how nitrite is measured and reported and how guidelines are developed.

The CCME guidelines use the weight of a whole nitrite molecule. The labs reported as only the weight of a nitrogen in that molecule. And there is a threefold difference between the two numbers, so there was some confusion in the initial development of the numbers by Tahera. It didn't significantly affect the results, but as a result, I feel they should have lowered the proposed limits for the nitrite. And, again, it provides consistency with the other licenses.

Additionally, the higher nitrite numbers were based on having chloride values which got up to 20. It is less toxic the higher chloride values. The average chloride values are up there, but they won't be happening right away, so I think it is better to have a nitrite level that is protective at a larger range of chloride values.

The next highlighted box is for total petroleum hydrocarbons, and the recommended level

for that is 3 milligrams per litre. This refers to the mineral fraction of petroleum hydrocarbons. If you have just oil and grease, you also include biological lipids. The limit for that has historically been 5 milligrams per litre. So it seems reasonable since you are looking at a smaller fraction to take that down to 3 milligrams per litre. And that's consistent with what's been put in other northern licenses right now.

The recommendation for the biological oxygen demand is from the waste water guidelines applicable to lakes. The faecal coliforms, what is predicted is that there should be little or none based on their waste water treatment system. And a further thought on that is that if the water from the Long Lake containment facility is going to be recycled, there shouldn't be any faecal coliforms. But the 100 coliform units per decalitre would be a reasonable limit if they are not recycling.

And the last item on discharge criteria has to do with total suspended solids. Tahera has requested total suspended solid limits of 100 milligrams per litre in grab samples and 50 milligrams per litre for surface runoff and for Long Lake containment facility discharges during construction.

Now, EC concerns with the limit for surface runoff, which will involve limited volumes, and much of the sediments will settle out on the land or could be mitigated at water's edge by the use of silt curtains. However, we don't agree that this limit should apply to discharges from the containment facility as there is the potential for large volumes of silty water to be discharged to Stream C3.

We support Tahera's approach to monitoring using TSS in conjunction with the developed turbidity correlation. And we do also recommend monthly monitoring of the full suite of parameters, i.e., metals, ions, nutrients and physical parameters during the dewatering as well.

Next, I will move on to the use of toxicity testing. Tahera has proposed the monthly use of microtox testing as a screening tool. I don't know how familiar people are with the microtox test, so I will just go over it a little bit. It is a bacterial test. The bacteria generate light. If they are happy, they put out lots of light. If you poison them with whatever you are testing, they tend to drop their light output, and you can tell how toxic a substance is by how much light they reduce, how quickly.

The microtox is used widely as a screening tool. It hasn't been used so much as a regulatory tool before. However, in Alberta they do use it as a regulatory test for discharge from oil field sumps, so there is some precedent there. It can be difficult to correlate the microtox test to the fish test and the Daphnia test because the bacteria may react differently than the trout or the Daphnia in tests for given effluent.

For example, if you have solutions containing ammonia, such as municipal waste, you will often see an increase in light production. They become happier because it is a nutrient. However, that very same sample would cause a problem for fish or Daphnia, so it isn't always exactly a good tool if it is ammonia that's causing the problem or nitrate or nitrogen.

So for that reason, if this test is to be used, it must be calibrated to the standard rainbow trout and Daphnia tests for that particular mine effluent so that if you have a pass in the microtox, you know that it would also equal a pass in the rainbow trout or in the Daphnia tests.

And it should be noted that if effluent is shown to be acutely toxic by any of the standard tests, discharge must stop immediately. And the

microtox is considered to be a standard test. There is an Environment Canada protocol for it, and this recommendation is to make sure that Section 36.3 of the Federal Fisheries Act is complied with, which prohibits the deposit of deleterious substances into waters frequented by fish.

For routine operations, Environment Canada recommends that the standard rainbow trout and Daphnia acute toxicity tests be done at the start of each discharge and just before freezeup each year.

And now we will look at some recommendations for the chronic toxicity testing. Chronic toxicity refers to effects which don't kill your test organism. What will happen is it may inhibit growth or reduce reproduction, it is a sublethal test. Water quality objectives were set so that there is no chronic toxicity at the edge of the initial mixing zone, which is 200 metres into Lake C3 from the mouth of Stream C3.

And chronic toxicity tests should be done annually on samples taken at the edge of this zone using the standard bioassay tests, and we would recommend Ceriodaphnia dubia at a minimum, and possibly an algal test as well or a fish test, just to confirm that chronic toxicity doesn't occur

there. This should be done at the end of the open-water season when you have had most of your discharge into the environment, so you can get a good idea if you are going to see chronic effects there.

Next, I will move to some of Environment Canada's recommendation on plans. EC recommends that a dewatering plan for Long Lake be submitted. Our concern is that based on the Ekati experience, summer dewatering has sometimes been difficult.

I was glad to hear earlier that the sediments are deeper than the level the lake will be dewatered to, and that the shoreline should not be susceptible to slumping and sedimentation. That has been a problem at other sites. But it would be good to know that the proponent has a plan in place if they have to dewater and are encountering sediments, i.e., they can put a flocculation plant in or some treatment, or halt dewatering, as mentioned earlier.

The A&R plan should be submitted for approval under the license and should include identification of any research needs for reclamation planning. And one example would be to assess the coarse kimberlite weathering and behavior in order to determine appropriate cover depths.