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MACKENZIE VALLEY ENVIRONMENTAL  
IMPACT AND REVIEW BOARD  
  
GIANT MINE REMEDIATION PROJECT  
ENVIRONMENTAL ASSESSMENT 0809-001

TECHNICAL SESSION

The Facilitators:     Alan Ehrlich  
                           Paul Mercredi  
                           Darha Phillpot

HELD AT:

Yellowknife, NT  
October 19, 2011  
Day 3 of 5

	APPEARANCES	
1		
2	Alan Ehrlich	) MVEIRB staff
3	Paul Mercredi	)
4	Jessica Simpson (np)	)
5	Darha Phillpot	)
6	Doug Ramsey	) Tetrattec
7	Dave Tyson	) Tetrattec
8	Cesar Oboni	)
9	Lukas Arenson	) BGC
10	Jack Seto (np)	) BGC
11		
12	Joanna Ankersmit	) AANDC
13	Lisa Dyer	) PWGSC
14	Adrian Paradis	) AANDC
15	Dr. Ray Case	) GNWT
16	Mark Cronk	) PWGSC
17	Daryl Hockley	) SRK
18	Darren Kennard (np)	) Golder
19	David Knapik (np)	) AECOM
20	Yose Cormier	) AANDC
21	Henry Westermann	) PWGSC
22	Katherine Silcock	) AANDC
23	Erika Nyssonen	) GNWT
24	Dave Abernethy	) PWGSC
25	Bruce Halbert	) SENES

1 LIST OF APPEARANCES (Cont'd)

2	Rudy Schmidtke	)	AECOM
3	John Hull	)	Golder
4	Octavio Melo	)	AANDC
5	Michael Nahir	)	AANDC
6	Dan Hewitt (np)	)	SRK
7	Doug Townson (np)	)	PWGSC
8	Robert Boon	)	AECOM
9	Kyla Kirk	)	AECOM
10	Hilary Machtans	)	Golder
11	Nathan Schmidt	)	Golder
12	Till Freihammer	)	AECOM
13	Gord Woollett	)	AECOM
14	Arthur Cole	)	Golder
15	Greg Newman (np)	)	NGI/SRK
16	Tony Brown	)	SENES
17	Mark Palmer	)	PWGSC
18	John Hill	)	Golder
19			
20	Jeff Humble	)	City of Yellowknife
21	Dennis Kefalas	)	
22			
23	Morag McPherson	)	DFO
24	Rick Walbourne	)	
25	Sarah Olivier	)	

1 LIST OF APPEARANCES (cont'd)

2 Amy Sparks ) Environment Canada

3 Lisa Lowman )

4

5 France Benoit ) Alternatives North

6 Kevin O'Reilly )

7 Ed Hoeve (np) ) EBA Engineering

8 Bill Horne (np) ) EBA Engineering

9

10 Todd Slack ) YKDFN

11 Randy Freeman (np) )

12 Lukas Novy ) ARKTIS

13

14 Ricki Hurst ) DPRA Canada

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	LIST OF UNDERTAKINGS	
1		
2	NO.	PAGE NO.
3	5	Giant Team to provide clarification
4		to the group on how we see the Baker
5		Creek north diversion being deployed
6		as a contingency. Provide the current
7		thinking and outline an approach to
8		the current thinking that the project
9		requires quick summary of the process
10		that would be followed for any
11		authorizations for contingencies. How
12		would we go about following the
13		directive from the inspector for this
14		work. Include a discussion on the
15		backwater flow from the diversion entry
16		into YK Bay by November 15th 21
17	6	City of Yellowknife will share its
18		standards that it's employing for its
19		current landfill. 152
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21		demolition assessment for the roaster
22		complex 231
23	8	Provide a copy of investigation
24		report regarding tailings covers 235
25		

1 --- Upon commencing at 9:08 a.m.

2

3 THE FACILITATOR EHRLICH: Okay. Good  
4 morning, everybody. And welcome to day 3 of the Giant  
5 Mine technical sessions. I am going to keep the opening  
6 comments fairly brief, if I can.

7 You'll recall yesterday we were dealing  
8 with water treatment and management. We ran a bit short  
9 on time, and so I said that the first hour, to hour and a  
10 half this morning, we'll also take questions regarding  
11 water treatment and management, and that includes  
12 groundwater at Baker Cree -- Creek, the diffuser, and all  
13 other wet stuff that applies here.

14 What will happen for the rest of the day  
15 is we're going to surface remediation, and so there'll be  
16 a presentation by the developer, which I believe we can  
17 complete before lunch, and then questions from the  
18 parties for the remainder of the day with a break at  
19 2:45, and we'll try to wrap it up by 5:00.

20 The Yellowknives Dene First Nation, in one  
21 (1) of the planning meetings for this technical session,  
22 raised a concern about agenda creep, I think that's the  
23 phrase. But the -- the worry was if we can't get quite  
24 enough done every day, then we're a little bit later each  
25 day, and then the last day winds up getting pinched

1 because we don't have enough time to adequately address  
2 the subjects.

3 But on each day we've got very important  
4 matters to deal with, and the Yellowknives proposed an  
5 additional day on Saturday. And we thought about it, and  
6 decided that with focussed facilitation and some  
7 flexibility during the week, we can avoid having Saturday  
8 as an extra day.

9 Because we figured after five (5) days of  
10 technical grilling, everyone would be pretty burnt out,  
11 and we've noticed in the past that things tend to get a  
12 little bit less productive the longer people have -- have  
13 been at it sometimes. So we are not proposing to hold a  
14 Saturday session. What I am proposing is if necessary  
15 tomorrow to go late.

16 Now, I -- I'm hoping we can wrap up  
17 surface remediation in the time we have left today, but  
18 because we're going to do some water in the morning we  
19 might not be able to do that. If that happens, things  
20 might get bumped on a little bit.

21 Is there anyone on the Giant Mine team who  
22 absolutely cannot stay on past 5:00 tomorrow?

23

24

(BRIEF PAUSE)

25

1                   THE FACILITATOR EHRLICH:    Going, going,  
2 gone.  So the Giant -- the developer is -- is okay with  
3 doing that.  In terms of the -- the parties, we'll --  
4 we'll -- is there anyone in the parties who has a major  
5 objection to going over time tomorrow, if necessary, and  
6 I'll still try to facilitate officially enough so that --  
7 you know, I -- I don't want to depend on tomorrow  
8 afternoon, but -- after 5:00, but if it's absolutely  
9 required, are you able to do it?

10

11   (BRIEF PAUSE)

12

13                   THE FACILITATOR EHRLICH:    Okay, great.  
14 I'm seeing a lot of yeses, and I assume that for the  
15 Review Board's experts there's no problem with staying on  
16 past 5 if necessary.  Okay.  So that's the agenda change  
17 that we're going to see.

18                   We're -- we're going to work hard at -- at  
19 getting through it in the time we've got, all right.  
20 We're not going to lean on that extra time, but it's  
21 there.  This is us going out of our way to try and -- and  
22 respond to a concern that the Yellowknives raised fairly  
23 and early, and that we've -- we've committed to, you  
24 know, try and avoid the problem they were worried about.  
25 That's how we'll do it.

1                   There are sign-in sheets -- are they  
2 circulating, or are they at the door?

3

4                   (BRIEF PAUSE)

5

6                   THE FACILITATOR EHRLICH:   Okay.  This is  
7 the sign-in sheet.  If anyone hasn't signed it in, we're  
8 going to put it at the little table next to the door, and  
9 when you get an opportunity to -- to sign in, it -- it  
10 makes a -- a difference to the quality of the  
11 transcription if Wendy and -- and her service can see how  
12 everyone's name is spelled.  It makes it much easier for  
13 them to track what's going on and when.

14                   I'm pleased to report that the transcripts  
15 for day 1 and day 2 are both available on the Web now.  
16 I've said before they're searchable.  You just hit  
17 control F and you get a -- a very efficient way of  
18 tracking many hours of discussion.  They're available on  
19 Wendy's website, which is tscript.com -- is that T hyphen  
20 script?  Tscript with no hyphen, one (1) word, dot com.  
21 Go the repository -- go to the transcript repository,  
22 select "Review Board," and then it's a calendar, and just  
23 click on the days you want.

24                   And so we applaud Wendy for her sorceress-  
25 like efficiency.  It's always amazing to me that they can

1 get hundreds of pages of transcript with really good  
2 accuracy on our website while we were asleep. So thank  
3 you for that, Wendy.

4 Is there anyone who's here today who  
5 wasn't here for previous days? I'm going to try to  
6 figure out how much of the opening comments I need to  
7 repeat, because I'd -- I'd really like to get directly to  
8 the good stuff. Everyone -- just about everyone looks  
9 familiar. Who was not here on an earlier day?

10

11 (BRIEF PAUSE)

12

13 THE FACILITATOR EHRLICH: Excellent.  
14 People are still reminded that the keys to the washroom  
15 are by the little dish of mints at the end of the bar,  
16 but the bar is not serving, no matter how long you wait.  
17 And there were more washroom keys in that little dish;  
18 there are less washroom keys now. If we run out, people  
19 are going to be hopping around and talking very quickly.  
20 So if you've accidentally put a washroom key in your  
21 pocket, please bring it back there. They really need  
22 them. They're in demand, and this is to benefit everyone  
23 here. And I would suggest, if it was you, don't admit  
24 it; just slip it back there sometime, because people who  
25 need to go will not be understanding.

1                   The -- as with the last couple of days,  
2 there's some media interest in what's happening, because  
3 Giant Mine is a subject that many people are interested  
4 in. They've asked to take a few quick shots of the room.  
5 It's a public setting. They've agreed to do so in a way  
6 that's not obtrusive, so they're going to take a few room  
7 shots at the beginning.

8                   Yesterday, none of the parties objected to  
9 us sharing our audio recording with CBC where they'd  
10 asked. I assume that no one objects today. Is there  
11 anyone who objects to that today?

12

13   (BRIEF PAUSE)

14

15                   THE FACILITATOR EHRLICH:   Okay. Then  
16 it's still on. We know that the members of the Giant  
17 team had an interview with CBC earlier, and, to us, it's  
18 encouraging that CBC has been present for enough of this  
19 so that they have a bit of a depth of understanding of  
20 the subject matter, because we find that, the better  
21 people understand this, the more accurate information can  
22 be made available to the public, so we see this as being  
23 generally helpful.

24                   However, I will remind parties and media  
25 that if there are -- is an interest in more interviews,

1 the purpose of this session is the technical exchange of  
2 information between specialists and between parties; it  
3 is not a media scrum. So I'm going to ask, if any other  
4 interviewing happens, just as has been done in previous  
5 days, it should be done in the hallways or in other  
6 rooms, in breaks, before the session, after the session,  
7 or at lunchtime.

8 That covers it. The day's going to go the  
9 same way in terms of the order of questioning, which is  
10 that, since this is not a hearing, the Review Board is  
11 not here, it is an informal session where we're trying to  
12 get through a number of issues. I'm going to remind  
13 everyone that I'm not going to follow the order of  
14 parties -- order of parties registration, as you would  
15 have during a hearing. This is not a hearing. I'm going  
16 to keep to the informal order that we've been following,  
17 which is people who want to ask a question, please raise  
18 a hand, and we'll do our best to get everyone's questions  
19 in.

20

21 (BRIEF PAUSE)

22

23 THE FACILITATOR EHRlich: We're not going  
24 to do a round robin this morning, because everyone who is  
25 here today was here yesterday, and it's not that long to

1 remember. As well, everyone's reminded to say their name  
2 at the beginning when they start speaking, which means  
3 you -- you'll know who's talking. We're going to skip  
4 the round robin.

5 I'm going to remind the developer, where  
6 there are any divergencies or recent design developments  
7 between the material you're presenting and what was  
8 presented in the IR Responses or the Developer's  
9 Assessment Report, it would be quite helpful to parties  
10 if you made that quite explicit so that they understand  
11 and are working with the most current information.

12 I would like to introduce my colleagues  
13 briefly. You'll remember Paul Mercredi who was co-chair  
14 yesterday, but Darha Phillpot over there will be co-  
15 chairing once we get to surface -- surface remediation,  
16 and she's sitting in for the morning. Darha is an  
17 Environmental Assessment Officer with the Review Board.  
18 Okay. That's enough of the opening pleasantries.

19 When we last left our intrepid group of  
20 technical questioners, I think that Department of  
21 Fisheries and Oceans, and Environment Canada had  
22 questions. I think Alternatives North had questions and  
23 I think the Yellowknives had questions, which you've all  
24 kindly agreed to -- to sleep on.

25 Why don't we start with Department of

1 Fisheries and Oceans, because they were in the middle of  
2 a series when we had to change the subject yesterday.  
3 I'm guessing Morag McPherson is starting? Please go  
4 ahead.

5 MS. MORAG MCPHERSON: Thank you. Morag  
6 McPherson with Fisheries and Oceans. As mentioned  
7 yesterday, there were a couple of responses to  
8 Information Requests that came in that provided some  
9 additional information from what was in the DAR. And  
10 there was a couple of -- there was some information that  
11 was provided in some of these responses that we had  
12 identified where we'd like some additional clair --  
13 clarification.

14 One (1) of those was Alternatives North  
15 IR-6, that questioned potential impacts to Baker Creek  
16 from fish and fish habitat, discontinuing discharge of  
17 mine water into the creek.

18 In Response number 2 I think there was a  
19 series of questions in the IR. In Response number 2 that  
20 INAC -- or that the Giant Mine Team provided, it states  
21 that:

22 "Currently there are no fish in Upper  
23 Baker Creek between Marten Lake and  
24 Baker Pond."

25 DFO is aware that sampling has been

1 conducted in 1998 in Upper Baker Creek, as well as more  
2 recently in 2010 and 2011, and that fish, ninespine  
3 stickleback, burbot, and Northern Pike have been found in  
4 -- found in various areas between the inlet of Baker  
5 Creek at Marten to right above the falls on the Giant  
6 Mine site at Reach 6.

7 I guess we just felt it was important to  
8 clarify some of this information in terms of the fish and  
9 fish habitat in the upper parts of Baker Creek,  
10 specifically given some of the discussions on the north  
11 diversion.

12 So I just wanted to clarify what  
13 references were used to support this statement, or was it  
14 intended to say that there is currently no fish passage  
15 into Upper Baker Creek, from -- from Baker Creek on the  
16 mine site, versus there's no fish in Upper Baker Creek?

17 THE FACILITATOR EHRLICH: And over to the  
18 Giant team. Who's going to be responding to this?

19 MR. ADRIAN PARADIS: Adrian Paradis from  
20 INAC. Just give us half a sec here, I'm just going to  
21 get a response for you here.

22

23 (BRIEF PAUSE)

24

25 MR. ADRIAN PARADIS: Adrian Paradis with

1 INAC. I apologize, you're right. You're correct, Morag.  
2 It was -- the intention was to say no fish passage. The  
3 mistake slipped through. I apologize.

4 THE FACILITATOR EHRLICH: But no fish are  
5 slipping through, that's your point.

6 MR. ADRIAN PARADIS: No fi -- no fish are  
7 slipping through, you're right.

8 MS. MORAG MCPHERSON: They're slipping  
9 down, they're not slipping up. Morag McPherson. Morag.  
10 Thanks very much for that clarification. Again, it was  
11 just -- I feel it's important to have some of this  
12 information clarified in these sessions when it's put  
13 forward on the record in responses.

14 That leads me into some of the questions I  
15 had on the north diversion as it's been proposed. There  
16 were a couple of aspects of the -- how it was presented  
17 yesterday in Nathan's presentation that I wanted to just  
18 ask about.

19 One (1) of them was a statement that was  
20 made about potentially opening this area up. Again, I  
21 just wanted to clarify that it -- it is existing -- that  
22 there are -- it is currently fish habitat, but it -- it  
23 would be opening access for migratory species from Great  
24 Slave Lake, and that that was sort of the intent of that  
25 statement.

1 MR. NATHAN SCHMIDT: Yeah, Nathan  
2 Schmidt. Yes, that was the intent of the statement and,  
3 you know, any decision as to, you know, how far we would  
4 design for fish passage of course would be done in  
5 collaboration with DFO.

6 THE FACILITATOR EHRLICH: I -- I'd like  
7 to point out that because we don't have a lot of time, I  
8 very much appreciate how focussed the questions and  
9 responses are. And I am going to encourage the parties  
10 who have questions on -- on subjects relating to water to  
11 just think through your questions to make sure that  
12 they're -- they're -- you -- you say what you need to say  
13 as concisely as we can so we -- we have a chance to get  
14 in all the questions.

15 Morag McPherson, do you have any other  
16 questions, or anyone else from DFO?

17 MS. MORAG MCPHERSON: Yeah, Morag  
18 McPherson. Thank you. We did have one (1) other  
19 question related to the north diversion.

20 It's our understanding at this point in  
21 time that this option is being put forward as part of a  
22 contingency plan in the event of an emergency scenario on  
23 the Giant Mine site, and it is not being proposed as a  
24 long term option for the remediation of Baker Creek.

25 Given this, given sort of how this has

1 been presented at this point in the process, when will  
2 further information related to this contingency plan be  
3 submitted to the Review Board and other parties in order  
4 to be evaluated, and -- and included in the EA process,  
5 and what information do you anticipate submitting?

6 I'll add just here, we -- we have some  
7 thoughts on this, and just would recommend that -- that  
8 there be some additional information submitted into the  
9 process to assist in discussions on this, and that some  
10 of the information that could be included or discussed at  
11 this point in time that DFO feels would be important  
12 would be some sort of definition of an emergency and  
13 emergency scenarios onsite that would initiate  
14 consideration of a north diversion; criteria that would  
15 be used for decision-making related to the use of this  
16 north diversion; a hierarchy or outline of contingency  
17 measures and mitigation actions that would be conducted  
18 onsite to avoid an emergency scenario, including such  
19 things as a water management plan for Baker Creek.

20 And some sort of a con -- a conceptual  
21 assessment at some point in terms of potential  
22 environmental effects based on our current information  
23 and understanding on the site from both the construction  
24 and operation of a north diversion; effects to Baker  
25 Creek in terms of short term operation of a diversion;

1 and effects to Baker Creek under potential long term  
2 operating scenario.

3 So again, the question is just when will  
4 additional in -- what -- what additional information  
5 would be submitted, and when is it planned on being  
6 submitted?

7

8 (BRIEF PAUSE)

9

10 THE FACILITATOR EHRLICH: Morag, while  
11 the Giant team is discussing and preparing their  
12 response, I'll also point out that day 4 of this  
13 technical session deals with risk assessment and  
14 contingencies are what you use for things you're not  
15 planning on happening, happening. In day 4 there'll be  
16 more flushing out of -- perhaps of what the contingencies  
17 are for, and what kind of likelihoods are involved. Just  
18 because of the order of the agenda we don't have that  
19 under our belts already.

20 But I -- I think it would be useful for  
21 you to come to that because, you know, this is one (1) of  
22 the contingencies that is probably going to be discussed  
23 on day 4.

24 Is the Giant team ready to go?

25 MS. LISA DYER: Thank you. Lisa Dyer. I

1 haven't spoken a lot this morning, sorry. Thank you,  
2 Morag, for the questions and for giving us some, I guess,  
3 ideas or kind of additional information that DFO would  
4 like to see.

5 I was trying busily to write it all down  
6 and there was a lot there, and I didn't get it all down,  
7 so it would be nice to get that in writing, just so we're  
8 all on the same page.

9 We can provide, I guess, clarification on  
10 how we see the contingency being in place, and we can do  
11 that -- it will take us a little bit of time. We can  
12 talk about it, but again we're pressed for time right now  
13 so we're more than happy to kind of provide a description  
14 of how we see the contingency being employed, and we can  
15 do that by November 14th. So we'll do this as an  
16 undertaking.

17 THE FACILITATOR EHRLICH: Thank you. I'm  
18 going to ask a question of our transcriptionist: Do we  
19 start undertakings anew each day, or -- so this would be  
20 Undertaking Number 5 on the record. And we'll rephrase  
21 it during the -- the recap.

22

23 --- UNDERTAKING NO. 5: Giant Team to provide  
24 clarification to the group on  
25 how we see the Baker Creek

1 north diversion being  
2 deployed as a contingency.  
3 Provide the current thinking  
4 and outline an approach to  
5 the current thinking that the  
6 project requires quick  
7 summary of the process that  
8 would be followed for any  
9 authorizations for  
10 contingencies. How would we  
11 go about following the  
12 directive from the inspector  
13 for this work. Include a  
14 discussion on the backwater  
15 flow from the diversion entry  
16 into YK Bay by November 15th.  
17

18 THE FACILITATOR EHRLICH: I should also  
19 remind parties that the -- where the Review Board in the  
20 past has found an unacceptable risk that a project is  
21 likely to cause significant adverse effects, it has made  
22 measures that deal with, or reduce the risk, at certain  
23 times in the past.

24 And I -- I know that the Giant team is  
25 aware of that. I -- I just want to be sure that parties

1 understand that the Board has -- has done that in  
2 environmental assessments in the past as well.

3 Does DFO -- I see nodding, so I'm taking  
4 that as they understand. Are there any more questions  
5 from Fisheries and Oceans?

6 MS. MORAG MCPHERSON: No, thanks. I  
7 think that's it. I just want to clarify on that last  
8 question that I guess the expectation wasn't that all of  
9 that information, you would have that available  
10 immediately, by November 14th. It's just more getting a  
11 sense of when -- what the plans are, I guess, in terms of  
12 submitting something more formally into the review  
13 process here, I guess, related to this north diversion  
14 and -- and sort of what you would envision being able to  
15 be put forward.

16 So I'm not really expecting that all of  
17 this information would be -- be able to be gathered and  
18 put forward by November 14th, but just an idea of how  
19 this is all going to be brought forward. Thank you.

20 MS. LISA DYER: Lisa Dyer. Just to  
21 clarify, yeah, we -- we don't -- as I mentioned earlier,  
22 this contingency is part of the work that we -- are  
23 underway due to the directive that we've gotten, so we  
24 don't have all the details at this point. What we can do  
25 is provide the current thinking and outline a -- kind of

1 an approach to obtaining the information that -- that the  
2 process requires.

3 THE FACILITATOR EHRLICH: Can I also  
4 request, from the Review Board's perspective, that, in  
5 the November 14th submission, you give a -- a quick  
6 summary of what -- what process you would need to follow  
7 for authorizations, should you pursue that contingency?

8 MS. LISA DYER: We can try and provide  
9 that additional information. Again, that would -- are  
10 you asking what we would apply for, or are you asking --  
11 because the -- the Fisheries authorization or licensing  
12 processes, I think, we can't make a judgment call on how  
13 that will be applied. We could indicate what  
14 requirements we see we would require.

15 So I -- I'm trying to understand if you're  
16 asking for us -- us what regulatory instruments you think  
17 we would require and how we would go about ob --  
18 obtaining them, or are you asking us how this would apply  
19 to the north diversion? Just a clarification.

20 THE FACILITATOR EHRLICH: I'm thinking  
21 that one (1) of the things you got was a -- it sounded  
22 like you had direction from an inspector that dealt, in  
23 part, with looking at alternate routes for Baker Creek.  
24 And if you need to do it, I'd like to know how you would  
25 have to go about doing it.

1 MS. LISA DYER: Okay.

2 THE FACILITATOR EHRLICH: Do we have any  
3 more questions from -- and, just for the record, Lisa  
4 said, "Okay," just not into a microphone.

5 But, you know, I -- I'm talking about  
6 maybe an extra page on the undertaking you were -- you  
7 were discussing before. Please don't -- don't submit a,  
8 you know, hundred-page treatise on the -- the details of  
9 -- of what I just asked. Just a high-level summary would  
10 be good.

11 MS. LISA DYER: Yes, we will provide  
12 that. Thank you. Lisa Dyer, for the record.

13 THE FACILITATOR EHRLICH: Thank you. You  
14 can -- you can tell I know I'm dealing with a productive  
15 and thorough developer when I -- I specifically request  
16 short things instead of long.

17 Now, does DFO have another question?

18 MS. MORAG MCPHERSON: It's actually more  
19 of a -- Morag McPherson with Fisheries and Oceans. I  
20 just want to make a statement of clarification, that my  
21 understanding of the inspector's direction that was given  
22 to the Giant Mine team was not to explore alternative  
23 options for Baker Creek alignment. It was to prevent the  
24 event that happened this spring from happening again.

25 And there's a number of contingencies and

1 measures that could be put on place in site during normal  
2 operation of site that -- that I think that a complete  
3 diversion of the creek north is a contingency, but was  
4 not a requirement to be looked at under the inspector's  
5 direction.

6 MS. LISA DYER: That is correct, Morag.  
7 We -- we have -- we are looking at it as a viable  
8 contingency. We were not directed to look at the north  
9 diversion specifically. There are a number of  
10 contingency measures that we are exploring, and this is  
11 one (1) of them.

12 THE FACILITATOR EHRLICH: It's Alan  
13 Ehrlich. We're glad you're exploring it, since you've  
14 identified that Baker Creek presents certain risks to the  
15 site. These are risks to a new application in an  
16 important setting, and your project is intended to work  
17 for perpetuity. So any potential risks to underground  
18 arsenic containment are things that the Board's going to  
19 certainly look at and -- and consider, and you've  
20 identified that -- that Baker Creek is -- poses a -- a  
21 few different onsite risks with that respect.

22 Some of this is about satisfying the  
23 Department of Fisheries and Oceans regarding their  
24 mandate. Some of it is not about fish or fish habitat,  
25 it's about the potential significant adverse

1 environmental impacts of the project, which means that  
2 your goal is not necessarily just to satisfy DFO's  
3 interest in that, but to at least make sure that the  
4 Review Board understands your thinking so it can make a  
5 long-term decision that -- that does what its mandate  
6 requires it to do.

7                   On that very subject, since DFO has talked  
8 about things that prevent bank overtopping, or the -- the  
9 inspector's direction before, I -- I'd like to ask a  
10 question of my own. In response to Review Board  
11 Information Request number 20, the developer wrote that:

12                   "The remediation for -- [okay] extreme  
13 floods do pose at -- risk to the water  
14 management system if they lead to water  
15 levels high enough to overtop the banks  
16 of Baker Creek and then flood the  
17 underground mine. The remediation plan  
18 for Baker Creek recognizes that risk  
19 and, in fact, minimizing the risk of  
20 bank overtopping is the primary  
21 objective of the Plan."

22                   But you didn't actually give any details  
23 about how you propose to minimize the risk of bank  
24 overtopping in that IR response.

25                   Could you give a -- a short summary of --

1 of some of the physical mechanisms that you're -- you're  
2 proposing to minimize the risk of bank overtopping.

3 MR. NATHAN SCHMIDT: Nathan Schmidt. I  
4 think we'd identified three (3) of the areas that we're  
5 most concerned about at the B1, C1, and A2 pits, where  
6 there's direct potential for spillage at high water  
7 levels. That's been identified.

8 At C1 Pit and A2 Pit, we've actually got  
9 channel diversions planned that take the channel further  
10 away. It also reduces the constrictions of the existing  
11 channels there and increases the conveyance capacity.  
12 That prevents water from backing up upstream and reduces  
13 the upstream water levels. So, in providing that extra  
14 conveyance capacity the design flood levels drop, okay.

15 In other instances we've also got  
16 increasing elevations of the -- the material beside the  
17 creek, okay. So, we've got higher banks essentially.  
18 And, in particular, at the B1 Pit, there's a bit of a  
19 dyke planned in that area to -- to prevent any -- any  
20 overtopping into the underground there.

21 THE FACILITATOR EHRLICH: Thanks. I -- I  
22 picked up parts of that during the presentation this  
23 morning -- yesterday morning, and I'm not sure if I -- I  
24 blinked and missed parts of it, but I -- I think that  
25 helps.

1                   So, you're talking about making channels  
2 wider, moving them further from the pits and raising the  
3 edge of the channel towards the pit where you don't have  
4 the topography that lets you move the creek away from the  
5 pit.

6                   Do I have that correct?

7                   MR. NATHAN SCHMIDT:   That's correct.

8                   THE FACILITATOR EHRLICH:   And --

9                   MR. NATHAN SCHMIDT:   Nathan Schmidt.

10                  THE FACILITATOR EHRLICH:   Thanks.  And --  
11 and, Nathan, in -- in areas where -- where you have  
12 limits like topography, you don't have a flood plain to  
13 work with, the amount that you've raised channel walls,  
14 I'm taking it that the indicator of that is you've raised  
15 them to the design criteria that you've described.  I  
16 think it was a 1 in 500 year flood event, right?

17                  MR. NATHAN SCHMIDT:   Nathan Schmidt.  
18 Yeah, that's correct, with the allocation for -- for  
19 anchor ice as well as freeboard.

20                  THE FACILITATOR EHRLICH:   I'll -- I'll  
21 save any other questions I got on that until the risk  
22 assessment day.  Let's go back to Department of Fisheries  
23 and Oceans.

24                  MS. MORAG MCPHERSON:   Morag McPherson,  
25 Fisheries and Oceans.  We have no further questions.

1 Thank you.

2 THE FACILITATOR EHRLICH: How about  
3 Environment Canada? Lisa Lowman and Amy Sparks have been  
4 waiting patiently. Do you have other questions that  
5 either on the que -- either on the subjects you were  
6 starting on yesterday, or on other aspects regarding  
7 water and water management?

8 MS. AMY SPARKS: Amy Sparks, Environment  
9 Canada. I have a question about Baker Creek. I  
10 understand that once the effluent isn't released into  
11 Baker Creek anymore, it's going to be considered more  
12 natural conditions and there will be changes made, but do  
13 you expect to see any potential chemistry changes with  
14 those sediments being oxidized and remobilized, any --  
15 any potential effects that we're going to see on that  
16 route?

17 MR. BRUCE HALBERT: Bruce Halbert. I  
18 wouldn't expect to see any change really in the chemistry  
19 down through that system. It's -- sediments are exposed  
20 today under low flow conditions, so that's not really  
21 changing, if you will, in -- in the overall picture of --  
22 of time, so, no.

23 THE FACILITATOR EHRLICH: Amy Sparks...?

24 MS. AMY SPARKS: Amy Sparks. Thank you.

25 THE FACILITATOR EHRLICH: Does

1 Environment Canada have any other questions regarding  
2 water, and water management?

3

4 (BRIEF PAUSE)

5

6 THE FACILITATOR EHRLICH: Okay. And  
7 remember that if questions do come up that relate to  
8 things like risk assessment, or the monitoring,  
9 evaluation, and -- and followup, there are also other  
10 opportunities to ask them.

11 I'm going to keep going around the table  
12 to Alternatives North. Kevin, do you have other  
13 questions on water and water management that you didn't  
14 have a chance to ask yesterday?

15 MR. KEVIN O'REILLY: Thanks, Alan. Kevin  
16 O'Reilly, Alternatives North. Well, I want to thank DFO  
17 for asking the questions around the north diversion  
18 because that was on my list, but they were able to  
19 actually do it much better because they understand the  
20 terminology better than I do. So thank you for doing a  
21 good job.

22 I did want to ask some questions around  
23 the water treatment plant design, I guess. On the slides  
24 it talked about a high test minewater stream with arsenic  
25 levels up to 7,300 milligrams per litre.



1 have to allow for some dilution or whatever before it  
2 goes in?

3

4 (BRIEF PAUSE)

5

6 MR. ROBERT BOON: Yeah, Bob Boon. The  
7 equipment that has been used in the pre-design is up to  
8 three thousand (3,000).

9 MR. KEVIN O'REILLY: Okay, thank you.  
10 Kevin O'Reilly, Alternatives North. I want to ask  
11 another question then if I can.

12 THE FACILITATOR EHRLICH: Please go  
13 ahead.

14 MR. KEVIN O'REILLY: It's about sludge.  
15 And maybe I missed it in the DAR, but I'm hoping that  
16 they can just briefly dis -- the developer can briefly  
17 describe the chemistry of the sludge, its stability, a  
18 little bit about toxicity.

19 And why I want to know this is -- maybe it  
20 slips over into today's topic, is, are there any special  
21 design considerations in disposing of the material, given  
22 its chemistry, stability, and toxicity? Thank you.

23 THE FACILITATOR EHRLICH: Thanks for  
24 that, Kevin. Does the Giant team need a moment to  
25 discuss that, or are you good to go?

1 (BRIEF PAUSE)

2

3 MS. LISA DYER: Lisa Dyer. I'm going to  
4 ask Kyla and Till to answer that question. I'm just  
5 going to give them a couple of seconds to just clarify  
6 their answer.

7

8 (BRIEF PAUSE)

9

10 MS. KYLA KIRK: Kyla Kirk. Based on what  
11 we're -- the chemicals that we're using in the treatment  
12 process, we have an idea of what sort of solids will be  
13 produced. Some of these include manganese dioxide from  
14 the oxidation process, ferric arsenic from adding the  
15 ferric sulphate in. We'll have metal hydroxides because  
16 we are adding lime to precipitate these metals. We  
17 should have some excess lime in the sludge and total  
18 suspended solids.

19 The only one that might be a bit unstable  
20 is the ferric arsenic, but lime addition will help  
21 stabilize the sludge in that case. And we are planning  
22 to do some bench scale testing and pilot testing on the  
23 sludge that's produced, so we can have a better idea of  
24 what the characteristics would be; the percentage of  
25 solids that we produce.

1                   And as for the special design  
2 considerations, that will probably come out today in the  
3 surface.

4                   THE FACILITATOR EHRLICH:   Kevin, do you  
5 have follow-up?

6                   MR. KEVIN O'REILLY:   Sure.  Thanks.  
7 Kevin O'Reilly, Alternatives North.  Just wondering about  
8 the timing, then, of the bench scale testing, and whether  
9 that's going to be done as -- before the environmental  
10 assessment's finished or not.

11

12   (BRIEF PAUSE)

13

14                   MS. LISA DYER:   Lisa Dyer.  One (1) of  
15 the things I want to refer people to is that we've been  
16 using the same technology for the past twenty (20),  
17 thirty (30) years at Giant, and we don't expect the  
18 characteristics of the sludge to be much different than  
19 what we currently have.  So, this is a technology that  
20 we're familiar with, and we have a lot of information on  
21 the sludge characteristics already.

22                   That being said, we are planning to do  
23 some bench scale testing this fall.  That bench stel --  
24 scale testing will allow us to confirm reagents and  
25 reagent addition and the proper sequencing of that.  As

1 well, it will allow us to confirm the sludge stability.

2 But I'd just like to refer back to that we  
3 have been using this same treatment process at Giant  
4 Mine, and so we are very confident with the performance  
5 of the system, and we will be talking more about our  
6 sludge management plans in a presentation this afternoon.  
7 Thank you.

8 I think I said "Lisa Dyer," didn't I?

9 THE FACILITATOR EHRLICH: I think I heard  
10 it. Kevin...?

11 MR. KEVIN O'REILLY: Thanks, and that's  
12 for that clarification. That's helpful. I guess this is  
13 the kind of detail, in terms of ongoing research and  
14 where it's headed, that I think would be really helpful  
15 to have in your -- I'm not going to get the terminology  
16 right, or the acronym, E-M-E-F, or whatever it is, in  
17 terms of what ongoing research you have and how that fits  
18 in -- into your overall development of closure criteria,  
19 performance criteria. So -- but thank you for the -- the  
20 response.

21 My -- my last question is about -- I think  
22 in response to Alternatives North 21, one (1) of our  
23 questions there was about the C Shaft and the -- how it's  
24 no longer available to do stratification sampling of the  
25 minewater. And -- but in the response from the

1 developer, they say that they are looking at alternate  
2 methods for stratification sampling, and I wonder if they  
3 can tell us something about what their thinking is there.  
4 Thanks.

5

6

(BRIEF PAUSE)

7

8

MR. ADRIAN PARADIS: Adrian Paradis,  
9 INAC. Just give me half a sec while we get the IR out.

10

MR. KEVIN O'REILLY: If you like, I can  
11 read it. It's on page 2. Sorry, Kevin O'Reilly. It's  
12 on page 2:

13

14

"INAC is working on alternative methods  
for stratification sampling."

15

16

17

So, I'm just curious to know, what are  
those alternative methods? What's the thinking there?  
Thank you.

18

19

(BRIEF PAUSE)

20

21

22

23

24

25

MS. LISA DYER: Lisa Dyer. In the  
interests of time, I think the colleagues are going to  
need a little bit more time to provide an answer to this.

Can we move on and then come back, or do  
you have an answer?

1                   MR. ADRIAN PARADIS:    Yeah.  I can try and  
2 answer this at little bit.  I don't have an answer for  
3 you right now, but we'll go back.  We have to go back and  
4 pull up some of the reports from 2009, and this is Tara's  
5 (phonetic) speciality.  So, what we'll do is we'll try  
6 and, like, go back, look at it, and provide a response  
7 later this -- hopefully by the end of this day.  If not,  
8 we'll follow it up in writing and provide it.

9                   THE FACILITATOR EHRLICH:   Thanks.  So  
10 let's mark that as a task --

11                  MR. ADRIAN PARADIS:    Yes.

12                  THE FACILITATOR EHRLICH:   -- for the end  
13 of the day, which will become an undertaking if you're  
14 not able to do it during the course of the technical  
15 sessions.  Okay.  We got it.

16                  Kevin's got one (1) question, and the way  
17 he waved his hand makes me think it will be quick.

18                  MR. KEVIN O'REILLY:    Yeah, I -- well, I'm  
19 never sure if my questions are -- the responses are quick  
20 or whatever.  Thanks.  Kevin O'Reilly, Alternatives  
21 North.

22                  I guess the -- I want to -- I think that  
23 the reas -- I want to understand the reason for why the -  
24 - the developer wants to do this stratification sampling.  
25 Presumably, it's so that you understand, or better

1 understand, where the major sources of arsenic are  
2 underground, and that you try to -- or that you will look  
3 at ways to better isolate or control the -- the flow or  
4 arsenic from those areas. That's presumably the reason  
5 why you want to do stratification sampling.

6 MR. BRUCE HALBERT: Bruce Halbert.  
7 Sorry. You got my name, though, right? Bruce Halbert.  
8 I'm going to refer to Table 14.2.1 in the -- in the DAR,  
9 and in there, there's a -- a water quality monitoring  
10 program laid out for the -- the minewater itself.

11 Currently, there is a multi-port sampling  
12 device, if you will, at the C Shaft, and in the future  
13 it's proposed that we install seven (7) additional multi-  
14 port sampling devices down through the various levels.  
15 As I would understand, the reason for the objective of  
16 the monitoring is to characterize arsenic and other  
17 parameters throughout the mine workings, see how the  
18 levels are changing over time, whether there's a  
19 particular area that -- that's still a contributing  
20 source, but ultimately you're looking to establish: are  
21 we over time progressively improving the water quality  
22 within the mine.

23 The fact of sampling at -- at multiple  
24 levels doesn't mean we're drawing the water -- the bottom  
25 waters up into the treatment system. In fact, water at

1 the bottom will -- will stay at the bottom. If it  
2 stratifies, then it wouldn't become the feed to the  
3 treatment system.

4                   So it's a characterization program  
5 ultimately intended to provide information on the  
6 characteristics of minewater, and how -- how it evolves  
7 going forward.

8                   THE FACILITATOR EHRLICH: Okay. Todd  
9 Slack, and, Lukas, your -- your name has fallen and I've  
10 forgotten your last name, but can you put your -- your --  
11 is it Novy?

12                   Todd Slack and Lukas Novy for the  
13 Yellowknives, you indicated yesterday that you had some  
14 questions. Please try to -- try to keep it concise if  
15 possible, but go ahead.

16                   MR. LUKAS NOVY: Thanks for that, Alan.  
17 Yeah, it's Lukas Novy here for the Dene. And I have a  
18 specific question related to -- it was somewhat brought  
19 up by Environment Canada, but with the uptake of  
20 sediments, and contaminant movement into Baker Creek.

21                   And I'm just wondering how that was  
22 accounted for in the current evaluation of arsenic loads  
23 into Baker Creek?

24

25                   (BRIEF PAUSE)

1 MS. LISA DYER: Lisa Dyer. I'm going to  
2 ask Bruce Halbert to speak to this issue.

3 MR. BRUCE HALBERT. Thanks, Lisa. Bruce  
4 Halbert. Could I just get you to restate that -- that  
5 question, just so it's clear in my mind just what you're  
6 actually asking.

7 MR. LUKAS NOVY: I just want to know the  
8 -- I guess I want to know how sediments -- arsenic  
9 sediment contamination and it's uptake into the water --  
10 water stream was accounted for in the modelling of  
11 arsenic loads.

12 Does that help?

13 MR. BRUCE HALBERT: Indeed. Bruce  
14 Halbert again. As far as Baker Creek is -- is concerned  
15 specifically in that element of the -- of the overall  
16 surface water environment, the loads are -- are accounted  
17 for in the measured data coming off that system. So over  
18 time, there's been data collected at the mouth of Baker  
19 Creek, and at various points throughout that system, and  
20 by inherently the sour -- the contributions from all  
21 sources are included in that analysis.

22 That -- that is part of the load  
23 assessment that I referred to in my presentation  
24 yesterday. We're not explicitly differentiating the load  
25 from sediments from other drainage coming into Baker

1 Creek.

2 We are explicitly accounting for sediment  
3 contribution within Back Bay, Yellowknife Bay, et cetera,  
4 but for Baker Creek itself it's -- it's an inclusive  
5 load.

6 MR. LUKAS NOVY: Lukas Novy. So I just  
7 want one (1) clarification on that answer. So would that  
8 be in the -- in the two-twenty (220) runoff from --  
9 runoff from surface facilities to Baker Creek would that  
10 -- where that sediment uptake would encompass?

11 MR. BRUCE HALBERT: It's part of the  
12 overall load at the mouth, yes. There's a two-twenty  
13 (220) coming in from upstream. There's additional  
14 contributions coming in from the various watersheds, sub-  
15 basins, if you will, both to the west of the Giant Mine  
16 site and -- and the mine site itself. And inclusively  
17 within that, we're capturing the sediment contribution.

18 MR. LUKAS NOVY: Lukas Novy here. So I  
19 just have a follow-up question to that, and it ties into  
20 the sediment program that's -- I think it was indicated  
21 that it's -- it's still a work in progress.

22 But my understanding is the discussion  
23 from that has been primarily based on a fish habitat  
24 point of view, and I just had an overall question on how  
25 -- whatever results come from that -- and what is the

1 overall focus of that?

2                   And if -- if it is to limit the arsenic  
3 load, how's -- what type of monitoring or mechanisms are  
4 going to be used to evaluate how successful that is going  
5 to be in terms of arsenic concentrations?

6

7                   (BRIEF PAUSE)

8

9                   MS. HILLARY MACHTANS:   Hillary Machtans,  
10 Golder Associates. I can speak to the -- the purpose of  
11 the Sediment Study and how the data might be used and  
12 then we can see if we can get to the part two (2) of your  
13 question.

14                   So the purpose of the Sediment Study is --  
15 is to assess, I guess you could call it par -- in part  
16 for fish habitat, but primarily what we call ecological  
17 risk and human health risk. So it -- it's good to take  
18 all the data from the top to the bottom of the creek  
19 that's on the property and take those concentrations and  
20 say, Are they a theoretical risk to fish, and bugs, and  
21 plants, and humans, and then say in -- and then, Are they  
22 a real risk, are the fish actually uptaking that arsenic;  
23 are the plants actually taking that up. So that's how we  
24 intend to use that. That's the primary purpose of the  
25 study.

1                   A secondary purpose of the study is to  
2 inform the remediation options, so sediment thicknesses,  
3 arsenic values, and -- and other metals, not just  
4 arsenic, along the stream. So that -- the final  
5 decisions on some of the Reaches, so we can decide, I  
6 guess those -- the really hard question of sediment in or  
7 sediment out.

8                   So I would -- I would assume that we would  
9 not answer the question, your part two (2) of your  
10 question which is what do we do -- how does that inform  
11 arsenic loading in the future. I don't think we can  
12 answer that question yet, because we would take the  
13 results of the study to inform the final remediation  
14 choices. And, Nathan, correct me if -- if I'm wrong, so  
15 then we would -- we would not yet have those numbers to  
16 know future arsenic values. So if I understand what  
17 Bruce is saying correctly, we're going on current values  
18 now to be conservative.

19                   Does -- does that answer your question?

20                   MR. LUKAS NOVY: Yeah, it does. It gives  
21 me an understanding of what -- what is trying to be done  
22 with the sediment program.

23                   So I just have one (1) more quick question  
24 on the -- the scenario where that two twenty (220) load,  
25 from the -- runoff from the surface facilities in its

1 current state and in the post-remediation state, how much  
2 -- what is exactly -- what remediation activities are  
3 lowering -- or proposed to lower that, and -- and where  
4 does that -- where does the sediment at all tie into  
5 that?

6 MR. BRUCE HALBERT: Bruce Halbert. We  
7 took a fairly conservative approach here in that we have  
8 an assessment of what the -- the low contributions are  
9 coming from various sub watersheds from the site area, in  
10 and around the site area.

11 In the assessment moving forward, I  
12 believe you'll -- you'll note that I only -- we only  
13 accounted for a reduction from two twenty (220) to one  
14 ninety (190) in the contribution from the site.

15 And basically what we've -- the approach  
16 we've taken is to say we don't have sufficient basis to  
17 say we're going to drop that by 50 percent, 75 percent,  
18 whatever. So we're going to take it in a conservative  
19 approach in moving forward in the assessment and that's  
20 what we -- how we approached it.

21 So we have not accounted for the benefits  
22 that would be derived, let's say from the remediation  
23 work on sediments in Baker Creek, whether that's removal,  
24 or capping, or whatever the -- the ultimate program is,  
25 as that has not been defined yet.

1                   So that could be a refinement down the  
2 road in the assessment point of view, but that is the  
3 approach what we took here, to be -- to be fairly  
4 cautious in what we're doing.

5                   MR. LUKAS NOVY:    Lukas Novy.  Thanks for  
6 that.  That actually puts -- puts me more at peace of  
7 mind that there was a conservative approach and hopefully  
8 down the road that as long as there's mechanisms to  
9 measure that future success, then that's -- that's a step  
10 forward, in my opinion.  Thank you.

11                  THE FACILITATOR EHRLICH:  Great.  As you  
12 heard yesterday I love it when developers are willing and  
13 able to give robust enough responses to help parties  
14 decide what issues they do and -- and don't need to carry  
15 further.

16                  I think there's another question from the  
17 Yellowknives Dene.  Todd...?

18                  MR. TODD SLACK:    Thanks, Alan.  Todd  
19 Slack, YKDFN.  I have two (2) things that I think are  
20 perhaps best suited as tasks, and then one (1) question.  
21 The first potential task, and I'll leave it up to the --  
22 the crew if they want to take it as such, in -- and I  
23 spoke to Hillary yesterday off the record about this, but  
24 I think it's important to get something on the record.

25                  In Information Request 13 from the

1 Yellowknives Dene First Nation I'm going to read a  
2 sentence here:

3 "The results of the environmental  
4 effects monitoring work on Baker Creek  
5 has shown some differences in the  
6 health of fish from the creek versus  
7 fish taken from unaffected reference  
8 area, with the condition factor being  
9 higher for sentinel species in the  
10 exposure, i.e., Baker Creek."

11 Now, the implication of this sentence  
12 seems to suggest that fish out of Baker Creek are  
13 healthier, and while I understand that the EEM data may  
14 suggest that the condition factor for what was actually  
15 sampled shows that they have a higher condition factor,  
16 it seems that there's a great number of limitations that  
17 go along -- or caveats that go along with this sentence.

18 And I'm just wondering if Baker -- or, not  
19 Baker, pardon me -- the Giant Mine team or perhaps Hilary  
20 would like to take on submitting a memo that further  
21 explains the -- essentially, what you told me last night,  
22 or if you wanted to enter it into the record now,  
23 whatever you would prefer, but I'm sure there'll be  
24 questions for that.

25 THE FACILITATOR EHRLICH: Hilary, the

1 Review Board's preference, if you're comfortable with it,  
2 is reiterating it now, because one (1) of the things  
3 we're trying to do is cut through having a huge amount of  
4 material, written number of documents on the record,  
5 because it can be quite cumbersome, as you've seen in --  
6 in other EAs sometimes.

7                   If you're comfortable with summarizing  
8 that now, and if the Yellowknives agree that -- that what  
9 you just said matches the discussion that was being  
10 referred to, that's our preference. If not, then it's  
11 okay to do is as an un -- a written undertaken.

12                   MS. HILARY MACHTANS: Hilary Machtans,  
13 Golder Associates. I -- I'm reasonably comfortable. I  
14 mean, it's up to you to decide if I've given a -- an  
15 appropriate response.

16                   What we discussed yesterday was whether or  
17 not the -- the sentence in IR-13 which says the condition  
18 factor is higher based on the environmental effects  
19 monitoring studies, what that implies. And I would -- I  
20 think my statement now is it's an ambiguous statement,  
21 and I could clarify that.

22                   So it -- it could be taken either way.  
23 What -- what the particular statement is, is -- is  
24 condition factor. Condition factor in fish is usually  
25 the bigger the number, the better they are, the more sort

1 of robust they are. So the implication in the IR could  
2 be that fish in Baker Creek are more robust. I'd argue  
3 it's just not a clear enough statement, and it doesn't  
4 appropriately summarize the entire EEM program. So I --  
5 if you'd -- I could take just one (1) minute to clarify  
6 that.

7                   So the Giant Mine EEM program has been  
8 going on since 2003, and it's designed to study the  
9 effects of the effluent, not the sediment, effluent only.  
10 It uses two (2) sentinel species, and by "sentinel," we  
11 mean small-bodied species that you might expect to see  
12 effects to fish first. So that's not usually large-  
13 bodied species.

14                   In the case of Giant Mine, the two (2)  
15 sentinel species are the nine spine stickleback and the  
16 slimy sculpin. We saw different things in each fish.  
17 The nine spined stickleback are -- have a higher  
18 condition factor. They are slightly larger in Baker  
19 Creek than they are in a reference area.

20                   We see similar things at the Con Mine.  
21 There can be a variety of reasons for that. It could be  
22 temperature, the water's warmer in Baker Creek slightly,  
23 and there's more food; it could be slightly negative,  
24 meaning the -- the bodies are more stressed by -- and  
25 they've tak -- they have more processes going on in their



1 is showing there are some differences between Baker Creek  
2 and a reference area. Some of them could be positive;  
3 some of them could be negative. It's fairly likely that  
4 it is not due to effluent, but some differences may be  
5 either due to temperature or due to sediment  
6 concentrations.

7 Does that help?

8 THE FACILITATOR EHRLICH: Todd...?

9 MR. TODD SLACK: Todd Slack, YKDFN. Can  
10 I ask two (2) points of clarification on that.

11 Can you confirm that the -- what the  
12 reference in this case is? And number two (2), the --  
13 the study that's referred here, you said it started in,  
14 sorry, 2003 or 2004, when was the report written, and  
15 like what was the end date of that -- that sampling  
16 period?

17 MS. HILARY MACHTANS: Hilary Machtans,  
18 Golder Associations. Yes, the Giant -- all EEMs in  
19 Canada are on a regular schedule, if you will, so they  
20 run every two (2) years, or every three (3) years.

21 So the Giant Mine would have done theirs  
22 2003 to 2005, 2005 to 2008, and 2008 to 2010, so they've  
23 just as of June 2011 submitted their -- their report.

24 And then we're awaiting Environment  
25 Canada's decision on next study steps. I believe those -



1 Giant Mine remediation project team  
2 position that this type of monitoring  
3 will provide a much more useful insight  
4 into the recovery and health of Baker  
5 Creek, as opposed to adopting an  
6 arbitrary arsenic concentration target  
7 that may not be achievable."

8 While I understand the very last point of  
9 that sentence, I'm wondering if the project could comment  
10 on why they see the CCMEs as arbitrary, because it's my  
11 understanding of these guidelines that they're anything  
12 but arbitrary.

13 Hard targets are the -- the exact  
14 opposite, I would have thought.

15  
16 (BRIEF PAUSE)

17  
18 MS. LISA DYER: I'm going to ask Bruce  
19 Halbert to respond to this. Lisa Dyer.

20 MR. BRUCE HALBERT: Thanks, Lisa. Bruce  
21 Halbert. Indeed, the CCME guidelines are not arbitrary.  
22 That's not the -- the question here. They are -- they  
23 are defined, if you will, to be protective of all aquatic  
24 species, even the most sensitive species, with a safety -  
25 - a factor of safety built into it.

1                   But the fact is, on Baker Creek coming  
2 into the site from upstream, our arsenic levels run in  
3 the order of 20 to 60 micrograms per litre, which is  
4 above the criteria we're talking about, or the guideline  
5 value we're talking about here of five (5). So baseline  
6 by itself in this particular system is elevated. So the  
7 guideline, there -- this doesn't apply in -- in this  
8 particular application.

9                   THE FACILITATOR EHRLICH:   Todd, if you  
10 don't have any more questions, we've got a few more  
11 questions on water that we still want to get through, and  
12 we know that the Giant team's experts will only be here  
13 for a short time.

14                   Are you okay with what you just heard?

15                   MR. TODD SLACK:   Yeah, I'm okay, but I  
16 had one (1) more thing that I think could be added to  
17 what DFO was talking about previously in terms of the  
18 diversions and the -- the memo, or the undertaking.

19                   And so this suggests the task, if the  
20 project team is willing to -- to take it on, includes two  
21 (2) -- two (2) particular paragraphs. One (1) would be  
22 the volume associated with the rock cuts of each of the  
23 diversions, and number two (2) would be a discussion in  
24 terms of backwater flow as that div -- as those  
25 diversions enter into the top of Yellowknife Bay is I

1 guess how I'll describe it.

2 As the project team knows, the water  
3 management plant is very close and I've seen water moving  
4 backwards up that river, at least on the surface. So a  
5 discussion about that and how they anticipate dealing  
6 with this, or modelling it, or what they think about  
7 this, would be very interesting.

8 THE FACILITATOR EHRLICH: I'm going to  
9 request those as written undertakings. I think that's a  
10 level of detail that's probably beyond what -- oh, one  
11 (1) of them can be answered on the spot.

12 Mark Cronk, from the Giant Team...?

13

14 (BRIEF PAUSE)

15

16 MR. NATHAN SCHMIDT: Nathan Schmidt. I  
17 just want to address the question about the rock cuts,  
18 because we have those numbers at hand. There are really  
19 three (3) cases we're looking at. One (1) is the DAR  
20 case; one (1) is the design variant that we talked about,  
21 where Reach 3 goes in a deep cut around the west side of  
22 C1 Pit; and then the third one (1) is the north  
23 diversion.

24 And for the two (2) -- for the DAR case  
25 and the DAR variant, we're -- our numbers are -- I --

1 I'll say a lot more certain than for the north diversion.  
2 The north diversion one, remember there were no surveys,  
3 it's all done on the basis of the digital elevation model  
4 from the City of Yellowknife, okay.

5 But to give you some sort of, you know,  
6 way to compare them, for the DAR case, for the rock cuts,  
7 we're looking at about 230,000 cubic metres. For the DAR  
8 variant, with the deep cut, about nine hundred and forty  
9 thousand (940,000). And for the north diversion we'd be  
10 looking at around 1.2 million.

11 So, you know, the DAR variant is about  
12 four (4) times as much as the -- the DAR base case. And  
13 the DAR -- and the north diversion is about five (5)  
14 times as much as the base case. I would like to say  
15 though that we've got some potential synergies here where  
16 we're going to need a lot of rock to be quarried for  
17 tailings covers and that sort of thing, and so we are  
18 looking into ways that we can, you know, get a lot more  
19 bang for our buck. So the actual incremental cost isn't  
20 going to be like what you see on its face.

21 THE FACILITATOR EHRLICH: So, Todd, with  
22 that, are there any remaining undertakings that you're  
23 asking Giant to -- to produce? When I say, "Giant", I  
24 mean the Giant team, of course.

25 MR. TODD SLACK: No, that completes our -

1 - my line of inquiry, or my line of questioning. So --  
2 sorry, but including the -- the backwater flow associated  
3 with north diversions.

4 THE FACILITATOR EHRLICH: And is the  
5 Giant team prepared to produce something in writing by  
6 November 14th regarding -- in response to the YKDFN  
7 question about backwater flow and the diversions?

8 MS. LISA DYER: Would it be possible to  
9 add this to the undertaking that we're doing for DFO, the  
10 request to provide more information on the contingency  
11 plan of the north diversion, then we can include this in  
12 that and do it as one (1) undertaking, to build on that  
13 information?

14 THE FACILITATOR EHRLICH: Are you  
15 producing that for November 14th?

16

17 (BRIEF PAUSE)

18

19 MR. NATHAN SCHMIDT: Yeah, Nathan  
20 Schmidt. I just want to say we'll -- we'll do our best  
21 based on available information. I -- I'm not sure right  
22 now exactly what sort of topographical data and river  
23 elevation, like a stage discharge rating curve for the  
24 river at that location.

25 So the -- the level of detail will depend

1 on the information we have, but we could at least do a  
2 first cut for it.

3 THE FACILITATOR EHRLICH: And are you  
4 prepared to do that by November 14th?

5 MR. NATHAN SCHMIDT: Yes.

6 THE FACILITATOR EHRLICH: I'm going to  
7 encourage the Giant Team, I've noticed at some -- past  
8 experience in various EAs shows that the transcription  
9 service does its best to identify the wording of the  
10 commitments, and -- and -- or of the undertakings, and --  
11 and produce them at the beginning of the transcripts.

12 But very often the nature of the  
13 information that's sought is described in the discussion  
14 surrounding the original commitment to do -- do the  
15 undertaking, and isn't necessarily captured in the little  
16 snippet that describes the undertaking at the beginning  
17 of the transcript.

18 So I want to remind parties that when  
19 you're looking at undertakings, and you're trying to  
20 remember what they were, please don't just use the stuff  
21 at the beginning of the transcript but go back into the  
22 transcript, examine the discussion immediately preceding  
23 the undertaking (phonetic) because, you know, the -- the  
24 -- it tends to reduce the amount of back and forth if you  
25 remember the initial context. I -- I just think that's

1 quite an important point.

2 On the same subject that the Yellowknives  
3 were asking recently, my read on the DAR Section 7.1.3.1  
4 dealing with water quality guidelines, I've got a couple  
5 of questions that relate to the effects concentration  
6 that was reported by SENES in 2006.

7 You're talking about CCME freshwater  
8 arsenic guidelines as an indicator of potential economic  
9 degradation. You're saying it's fundamentally  
10 conservative. Of particular importance you say:

11 "Freshwater fish have demonstrated a  
12 lower sensitivity to arsenic than  
13 either invertebrates or algae. For  
14 example, as reported in SENES 2006, an  
15 effects concentration of 20 percent of  
16 the population of predator fish, such  
17 as Northern Pike or Lake Trout, was  
18 calculated to be 140 micrograms per  
19 litre."

20 And, you know, when I -- I read this -- I  
21 mean, the -- assuming that effects concentration, I'm  
22 guessing that's for arsenic in isolation, all right.  
23 Does that also consider what's actually happening in the  
24 fish?

25 I mean, fish up here tend to have slightly

1 higher mercury loads than some down south may due to  
2 various mechanisms that you know and understand, and the  
3 physiological response of a combination of contaminants  
4 on those fish may not be the same as the physiological  
5 response of a single contaminant in isolation. But  
6 what's actually happening in these fish is that the real  
7 world is effecting them in -- in many different ways.

8                   Is it safe to say that that 20 percent  
9 number is accurate for the fish in Baker Creek not just  
10 imagining that arsenic is the only contaminant that is  
11 affecting them, but in -- in line with what we actually  
12 know about other contaminants in the system, such as  
13 mercury?

14                   MR. BRUCE HALBERT: Good question, Alan.  
15 Bruce Halbert. The toxicity values that are used in  
16 these types of assessment are based on test work done in  
17 laboratories. So obviously it's different species in  
18 some cases, and certainly they've had different life  
19 exposures than fish perhaps here or elsewhere.

20                   So these -- these values are applied in a  
21 broad scale. They don't recognize any interactions, if  
22 you will, between different -- exposure to different  
23 contaminants, whether it's mercury and arsenic, or -- or  
24 other elements in the environment.

25                   The test work is -- is specific to an

1 element, and what other conditions they're exposed to,  
2 right. So it's -- it's not -- it's not an absolute  
3 number, but they provide us the best guidance we have at  
4 this point in time in our scientific world.

5 THE FACILITATOR EHRLICH: Thank you for  
6 that. On the same subject, if it's laboratory tests I'm  
7 guessing Rainbow Trout are probably the predatory fish  
8 that are being used. Are there differences between  
9 species' responses to different kinds of contaminants?  
10 I'm mean, we're talking about raising that as an  
11 indicator for -- for Grayling and Northern Pike. Why do  
12 we assume that we can extrapolate across species with  
13 confidence on that?

14 MR. BRUCE HALBERT: Bruce Halbert. In  
15 general, you're correct, and most of the test work is  
16 done using Rainbow Trout though there are -- there are --  
17 or there is an increasing inventory, if you will, of  
18 toxicity information in other species as well. We go to  
19 a reference -- or a referee database, such as the US EPA  
20 ECOTOX database for a -- a lot of the information we  
21 draw.

22 Where we have a particular interest in a  
23 specific species, we will look to see if there is data on  
24 that species that we can -- that we can use in place of  
25 using Rainbow Trout.

1                   But in a more general sense, since we're  
2 often dealing with a variety of species from a -- from an  
3 eco risk point of view, focus on a particular one (1), we  
4 typically rely on tox data that's based on Rainbow Trout.

5                   THE FACILITATOR EHRLICH:    Okay.  Thank  
6 you for that.  I'm going to hop around to a few of the  
7 questions that I didn't want to interject before, because  
8 I didn't want to break up the flow of the discussion, but  
9 there are a couple of things that are -- oh, Morag  
10 McPherson of DFO would like to make a comment regarding  
11 the last line of questions.

12                   MS. MORAG MCPHERSON:    Yeah.  Thank you.  
13 Morag McPherson with Fisheries.  Just wanted to add to  
14 this, just as a piece of information, that it's an  
15 interesting discussion you're having in terms of toxicity  
16 reference values and what we use and how that applies to  
17 northern fish species.

18                   I know quite a few people are aware of  
19 this, and I've made the project team aware as well, that  
20 there is some work underway to look at doing toxicity  
21 work on northern fish species in colder-water scenarios  
22 than what is currently being done and used and relied on  
23 in some of these ecological risk assessments.  So there  
24 is some toxicity work happening to try to have some more  
25 cold species-specific toxicity reference values to use.

1                   Some of this information we're hoping will  
2 be available this fiscal year, we're not sure, but when  
3 that information is available, it's something that can be  
4 shared -- will be shared with the Giant Mine team, and  
5 can be shared with the Review Board as well.

6                   THE FACILITATOR EHRLICH: Thanks for  
7 that, Morag. And, you know, I mean, one (1) of the  
8 reasons why I'm asking for a little bit more detail on  
9 this is partly because the Board is required to consider  
10 the -- explicitly required to consider the potential  
11 impacts on traditional lifestyle and traditional  
12 subsistence. And in the DAR, in Table 8.7.2, the Giant  
13 team pointed that of -- of particular concern to the  
14 public are the effects of arsenic on fish habitat and  
15 traditional foods.

16                   And so, you know, it's -- I -- I'm not  
17 asking this because this is necessarily one (1) of the  
18 biggest issues in the assessment, but because the Review  
19 Board's mandate requires due diligence with respect to  
20 this, and, as has been pointed out yesterday, it's not  
21 just the actuality; the perception as well carries  
22 certain impacts, too. And so, you know, as you guys have  
23 to deal with, so -- so do we.

24                   Next question that I have had to do with -  
25 - we were talking about mercury a moment ago. We talked

1 about arsenic from flooded mine workings. I -- I do  
2 recall in the DAR being struck by the -- the sheer length  
3 of underground mine workings, the surprising amount of  
4 mine workings underground that are not in chambers and  
5 are not in stopes. I don't remember the measure in  
6 kilometres; one (1) of you might. I remember it was --  
7 it was -- I think it was 20 kilometres or something, like  
8 -- it was a high number.

9                   And -- and the -- the Giant team  
10 identified that there were quite a number of contaminants  
11 in those things, including a fair bit of arsenic,  
12 including tailings that have been used as backfill and  
13 other stuff.

14                   What about mercury from flooded mine  
15 workings? Have you looked at that?

16                   MR. BRUCE HALBERT: Bruce Halbert, for  
17 the record again. That was a question in one (1) of the  
18 IRs, I'm not sure which one it was, but we did -- we did  
19 respond to that and -- and looked at mercury level  
20 measurements in not just the minewaters, but in drainage  
21 from the site of various sources. And in practically all  
22 cases, the mercury level measurements are less than  
23 detection limits. I think there was only one (1) area  
24 where there was defined to be mercury levels that were  
25 detectable, and that was in the foreshore tailings beach.

1                   THE FACILITATOR EHRLICH:    The IR that it  
2 was, was I -- Review Board IR Number 25, and the response  
3 was that:

4                   "The Giant Mine site is not considered  
5                   to be a significant source of mercury.  
6                   There were low concentrations in the  
7                   soils and in the downstream receiving  
8                   environments."

9                   But because the response didn't describe  
10 what was going on in the underground workings, I just  
11 wanted to be thorough and make sure. Okay. But I've --  
12 I've heard your answer, and I -- it sounds like a good  
13 one to me.

14                   With respect to the diffuser -- sorry, I'm  
15 shuffling, as you can see, through a fair amount of paper  
16 while trying to facilitate the session at the same time,  
17 so I'll ask you to bear with me for a moment.

18                   Regarding potential for effluent  
19 accumulation around the diffuser, and, you know, this  
20 might just require some clarifying on some stuff that was  
21 discussed yesterday as well, Review Board IR Number 24  
22 touched on this: What is the potential for effluent  
23 accumulation in the immediate -- sorry, for arsenic  
24 accumulation in the immediate vicinity around the  
25 diffuser?

1                   We know you've got your mixing zone. I  
2 imagine we're talking about largely soluble stuff, but I  
3 know in some cases concentrations will decrease, you  
4 know, as a reverse exponential factor.

5                   What's going to happen on -- on -- in the  
6 sediment in the immediate vicinity of that diffuser?  
7 We'll start off with the short-term, I guess, and then my  
8 -- my question wants to explore further into the long-  
9 term.

10

11   (BRIEF PAUSE)

12

13                   MR. BRUCE HALBERT: Bruce Halbert. I'll  
14 give you kind of a two (2) part answer here. The arsenic  
15 level present in sediment, in part, if it's -- if it's --  
16 if the source is coming from the water column, and not  
17 from tailings deposition historically, there is an  
18 equilibrium that's set up between concentrations in the  
19 water column and concentrations that accumulated in  
20 sediments both from removal unsetting solids and by  
21 diffusive exchange of -- between the pour water in the  
22 sediments and the water column. That we do account for  
23 in our modelling.

24

25                   My expectation is that within the  
immediate area of the diffuser, and I mean tight, there

1 may be some accumulation beyond what's there already.

2 My expectation -- beyond that though  
3 there won't be, because we're into an area that does have  
4 some arsenic present in sediments already. Our overall  
5 predictions in the -- in Back Bay, Yellowknife Bay, and  
6 down through the whole system is a declining  
7 concentration over time as we've -- as the water column  
8 has been im -- improving as well over time.

9 So does that answer your question?

10 THE FACILITATOR EHRLICH: Partly.  
11 Where's it going over time? I mean, where downstream do  
12 you -- you think it's winding up?

13 MR. BRUCE HALBERT: Bruce Halbert again.  
14 Well, as we move away from the diffuser the concentration  
15 of arsenic in the water column continues to dilute, if  
16 you will, and become less and less an approach background  
17 within Great -- Great Slave Lake.

18 So, for example, in the -- in the South  
19 Arm of Yellowknife Bay we're predicting the -- the  
20 arsenic concentration in the order of -- of point six  
21 (.6), in the shorter term, if you will, the next hundred  
22 (100) years. Micrograms per litre, sorry.

23 In Yellowknife Bay coming -- or  
24 Yellowknife River coming in, by comparison is at .3  
25 micrograms per litre. So given a -- the bigger water

1 body picture you expect the concentration in Great Slave  
2 Lake to be around point three (.3) without any influence  
3 of anyth -- anything else coming in.

4 So as far as exchange where the sediments  
5 is concerned, at those kind of low concentrations it's  
6 very low -- low levels that would be reflected in the  
7 sediments.

8 THE FACILITATOR EHRLICH: Thank you.  
9 And, you know, with the kinds of terms that most projects  
10 we assess involve, the -- the life cycle of the project,  
11 I -- I -- your -- your response in the IR that there  
12 would be little or no settling in the vicinity of the  
13 diffuser would work fine, and I understand that.

14 But because this is -- project is expected  
15 to be released in water that does contain some arsenic,  
16 not just for a short time, not just for, you know, fifty  
17 (50) years or five hundred (500), but for five thousand  
18 (5,000) or fifty thousand (50,000), even if there is a  
19 little progressive settling, I imagine that level's going  
20 to go up, and up, and up, because you want to do it  
21 forever.

22 Is that -- in -- in the -- in the vicinity  
23 of the diffuser. Is that right? Or is the -- is the  
24 improving quality of the water -- is the improving  
25 quality of the water that -- that's happening as -- as

1 contaminants on the site taper off over time, and you've  
2 -- you said before, it would be many years, but you said  
3 within twenty-five (25) year -- was it ten (10) to twenty  
4 (20) years you're expecting some stabilization in the  
5 amount of contaminants coming out.

6 Is that enough to make sure that there is  
7 no long-term accumulation of arsenic in the vicinity of  
8 the diffuser?

9

10 (BRIEF PAUSE)

11

12 MR. BRUCE HALBERT: Bruce Halbert, for  
13 the record. I think there's several points I better make  
14 here to try to clarify this. The discussion yesterday,  
15 talking about stabilization, or conditions stabilizing in  
16 twenty (20) -- ten (10) to twenty (20) years was specific  
17 to levels within the mine -- mine workings themselves.  
18 Okay.

19 As far as the effluent quality is  
20 concerned, our ex -- expectation would be we'll achieve,  
21 you know, on target, average .2 micrograms per -- or  
22 milligrams per litre in the effluent, regardless of  
23 what's happening in the mine. Okay. So that -- they're  
24 not directly related. I mean, there's no carryover  
25 influence here.

1                   The second point I think I should make is  
2 that in the area wherever the outfall is going, the  
3 sediments already contain arsenic that's above baseline,  
4 if you will. Okay. So we already have a reflection in  
5 that system of an historic input.

6                   Those sediments are acting today as a  
7 source of arsenic feedback to the water column. That's  
8 occurring regardless. So given that -- that condition  
9 where we are today, in those sediments, and the levels  
10 that we're talking about in the effluent discharge going  
11 in, we -- my expectation is, and that's what our  
12 modelling results suggest, is that there is no accu --  
13 net accumulation occurring as a result of the effluent.  
14 In fact, conditions -- sediment concentrations will  
15 continue to improve.

16                   The third point I should make is that in  
17 the big picture there is -- and this takes -- does take  
18 decades, but there is a progressive accumulation of new  
19 sediment building up on top, and burial of sediments out  
20 at the bottom. And core sampling within Yellowknife Bay  
21 has -- demonstrates that. You have a blip of higher  
22 concentration of arsenic near the surface, dropping off,  
23 and then you come back in -- in higher concentrations  
24 down typically, I'm going to say between 6 and 10  
25 centimetres below the surface, which really reflects that

1 historic input. So the -- they're progressively being  
2 buried. So while there will be some let's say transport  
3 downstream and conditions will stabilize, at some point  
4 in time it just doesn't continue to increase.

5                   And at the concentrations we're talking  
6 about of arsenic in the water column, we're not talking  
7 about any big increase in -- in arsenic concentrations in  
8 sediments.

9                   THE FACILITATOR EHRLICH: So then if I  
10 understand you correctly, you're saying that over the  
11 very long time, not just decades but over the millennia  
12 for which the project is proposed, that the natural  
13 buildup of sediment is gonna wind up resulting in no long  
14 term net increase compared to -- tell me if I'm right on  
15 this part -- not just the point that they're at today but  
16 the trend that the sediment is -- is currently following.

17                   You're saying that the -- the ars --  
18 arsenic in the sediment is -- is being released so  
19 there's a trend of gradual improvement going on with the  
20 sediment now, and I think I heard you say the project  
21 will not make it worse than it is today.

22                   But the question that I'm implying here  
23 is, Is it also going to allow that trend to continue in  
24 that area, and the answer that I think I heard was that  
25 over the millennia as sediment continues to build out via

1 natural processes there won't be more arsenic immediately  
2 surrounding the diffuser because of this project.

3 MR. BRUCE HALBERT: Bruce Halbert again.  
4 Yes, Alan, you're -- I think you've interpreted what I  
5 said correctly.

6 THE FACILITATOR EHRLICH: Okay. I'm --  
7 I'm running to keep up. I asked an innocent question  
8 about arsenic and some how we got into paleolimnology,  
9 and so that's at my -- edge of my comfort zone, I assure  
10 you.

11 Okay. But, you know what, we're -- we're  
12 covering a lot of ground and we're very near tying up the  
13 -- the water section.

14 I'm gonna ask if the Review Board's expert  
15 Dave Tyson has any questions he'd like to ask the  
16 developer, or for that matter since DFO is here. The  
17 reason why I'm saying the developer or -- or DFO is  
18 because it's an unusual situation that DFO, in providing  
19 objective scientific advice, has also been influential in  
20 the design of Baker Creek.

21 The design of Baker Creek has an influence  
22 on the -- the project as proposed. But I recognize that  
23 DFO is not here as part of the Giant team, I still think  
24 they may have some -- some useful information.

25 So, Dave, what is your question, and who'd

1 you like to direct it to?

2 MR. DAVE TYSON: Excuse me. Dave Tyson  
3 for the Review Board. I'd like to direct this towards  
4 the Giant Mine team.

5 You know, we've been talking a lot about,  
6 you know, the details in Baker Creek; toxicity, potential  
7 impacts, potential remediation. But until about twenty-  
8 four (24) hours ago really when the information was  
9 presented about alternatives for diverting Baker Creek,  
10 it wasn't really considered. And I was wondering if the  
11 team could explain why they did not investigate the  
12 diversion of Baker Creek as an alternative to maintaining  
13 flow down Baker Creek?

14

15 (BRIEF PAUSE)

16

17 MR. ADRIAN PARADIS: Excuse us --

18 THE FACILITATOR EHRLICH: You know it's a  
19 good question when the Giant team needs a huddle.

20

21 (BRIEF PAUSE)

22

23 THE FACILITATOR EHRLICH: This is an  
24 agenda update in response to some questions I'm hearing  
25 around the back there. My -- you know, because we're

1 determined to try and get through this agenda, and I've  
2 said that we're not going to do -- the focus is going to  
3 be on the surface remediation after the break, we're  
4 delaying the break. Anyone who wants to sneak off and  
5 use the washroom is encouraged to do it now.

6 Remember, anything you've missed will be  
7 available on the transcript tomorrow morning on the Web.  
8 And, Dave, your answer is going to be coming up next. So  
9 you're -- you ask a question, you're pretty much stuck  
10 with staying here, right?

11 Okay, you know what? We're going to take  
12 a five (5) minute break now. You know what? Let's make  
13 a -- we'll make a ten (10) minute break now, but the --  
14 the rest of the questions here are going to be pretty  
15 short, and then we're going to go straight to surface  
16 remediation.

17 So let's do our ten (10) minute break now,  
18 and we're coming back at ten (10) minutes to 11:00.

19  
20 --- Upon recessing at 10:40 a.m.

21 --- Upon resuming at 10:50 a.m.

22

23 THE FACILITATOR EHRLICH: Okay. I'm  
24 going to ask the Giant team to respond to Dave Tyson's  
25 question, and then we have two (2) questions by Dave

1 Ramsey. And the response is going to have to be quick,  
2 because we've got the people we need for water on the  
3 Giant team disappearing at 11 o'clock. Remember, they're  
4 carried over from yesterday, and they're not able or  
5 intending to stay all day today.

6 So, Giant team, have you had a chance to  
7 consider?

8 MR. DARYL HOCKLEY: Daryl Hockley. We  
9 did look at the opportunities for a complete diversion of  
10 -- of Baker Creek, and we -- we wondered if we had  
11 reported on that, but we did actually find a paragraph in  
12 the DAR that -- that explains that that had been looked  
13 at.

14 I -- I guess the -- the change is -- is  
15 the -- the reconsideration of the risk profile of Baker  
16 Creek, and that -- that's caused a renewed interest in --  
17 in that -- in that topic and in other mitigations that --  
18 that might be applied, so.

19 THE FACILITATOR EHRLICH: Thanks for  
20 that. Doug Ramsey, are you in the room? I don't see  
21 you.

22

23

(BRIEF PAUSE)

24

25

THE FACILITATOR EHRLICH: Morag McPherson

1 of Department of Fisheries and Oceans.

2 MS. MORAG MCPHERSON: Morag McPherson  
3 from Fisheries and Oceans. Just wanting -- wondering,  
4 was that the -- the total response from the Giant Mine  
5 team on that?

6 If I may, given that there were some  
7 comments made at the beginning in terms of DFO's role in  
8 this, I think it's something that's important to clarify,  
9 because I'm not sure why, or it seems that there's a  
10 misinterpretation of what our priorities are and what our  
11 role has been in this process.

12 There's the Federal Contaminated Sites  
13 Action Plan Program that has money given to federal  
14 departments to assist in doing site assessments and risk  
15 assessments on sites in order to determine what the  
16 Remediation Plan is.

17 So it's more of a formalized process for  
18 DFO to become involved in contaminated sites management.  
19 And that is a separate role that is a more formalized  
20 approach to engage us in site assessment, risk  
21 assessment, remedial options analysis.

22 In terms of -- this project has been put  
23 forward as a remediation project now, so DFO's role is as  
24 it is with any other proposed development, what are the  
25 impacts on fish and fish habitat.

1           The -- our involvement upfront in fix-up  
2 was more of a formalized way of us getting engaged. But  
3 if proponents come to us early in a process we deal with  
4 them the very same as we do on this process.

5           The only difference is is that there was  
6 money put forward as a formalized approach for DFO to  
7 ensure we're engaged and have the capacity --

8           THE FACILITATOR EHRLICH:   And, Morag, I -  
9 - I appreciate this.

10          MS. MORAG MCPHERSON:    Yes.

11          THE FACILITATOR EHRLICH:   Hold onto that  
12 for another six (6) --

13          MS. MORAG MCPHERSON:    Okay.

14          THE FACILITATOR EHRLICH:   -- minutes.

15          MS. MORAG MCPHERSON:    Okay.

16          THE FACILITATOR EHRLICH:   Okay. Because  
17 the experts we need to respond --

18          MS. MORAG MCPHERSON:    Okay.

19          THE FACILITATOR EHRLICH:   -- to two (2)  
20 questions we have will not be here in six (6) minutes.

21          MS. MORAG MCPHERSON:    Okay. Thank you.

22          THE FACILITATOR EHRLICH:   And we'll talk  
23 more about that soon. It is helpful.

24          MS. MORAG MCPHERSON:    Yeah. Yeah. No, I  
25 forgot about the time restrictions. Thank you.

1                   THE FACILITATOR EHRLICH:    Doug Ramsey,  
2 two (2) questions and due to time constraints everything  
3 has to be pretty succinct.

4                   MR. DOUG RAMSEY:    Doug Ramsey.  I've got  
5 two (2) questions.  Hopefully they can be answered very  
6 quickly.  The first one (1) is a continuation of the  
7 conversation surrounding the diffuser and arsenic loading  
8 into Yellowknife Bay.

9                   My recollection from the presentation  
10 yesterday was that overall there's an expected 24 percent  
11 reduction in arsenic loading to Yellowknife Bay from  
12 Baker Creek as a result of the remediation project.

13                   And based on that, my expectation would be  
14 that overall that would also lead ultimately to a  
15 reduction in arsenic concentration in -- in Yellowknife  
16 Bay.  The diff -- the change though is the point at which  
17 the arsenic is introduced to Yellowknife Bay, move --  
18 moving some it from the mouth -- from the discharge of  
19 Baker Creek out to the point of the diffuser.

20                   And at the point of the diffuser we're  
21 looking at a structure that, based on the design  
22 information presented, is approximately 81 metres long  
23 with the mixing zone extending 15 metres out from all  
24 sides, which takes me to a mixing zone that's  
25 approximately 111 metres long by approximately 30 metres

1 wide, which gives us an area of approximately 3,300  
2 square metres of lake bottom that would sit underneath  
3 your mixing zone.

4                   And my question is -- first, is my  
5 assessment of the expected reduction in arsenic  
6 concentration in Yellowknife Bay based on the reduction  
7 in loading correct?

8                   THE FACILITATOR EHRLICH: If this can be  
9 answered promptly by the Giant Team, great. If not, then  
10 you can take it as a written undertaking.

11                   MR. BRUCE HALBERT: I followed -- sorry,  
12 Bruce Halbert. I followed your discussion up -- up to  
13 your last question. Could you just restate --

14                   MR. DOUG RAMSEY: I'm just -- I'm -- and  
15 I'm seeking -- Doug Ramsey. I'm seeking confirmation  
16 that based on the expected reduction in arsenic loading  
17 to Yellowknife Bay, that we should see a proportionate  
18 reduction in arsenic concentration in Yellowknife Bay  
19 once equilibrium is established?

20                   MR. BRUCE HALBERT: Bruce Halbert for the  
21 record. Yes, and we do predict that, and that is  
22 actually presented within supporting document N-1, where  
23 you will see that.

24                   The -- the only point I'd make here is  
25 that the 24 percent reduction we're talking about from

1 external loads to Ye -- to Yellowknife Bay does not in --  
2 take into account the fact that there is an internal load  
3 also within the Bay itself as a result of the sediments  
4 that are there.

5 So the recovery of the system is dependent  
6 upon the complete picture, and that's part of what we  
7 assimilated.

8 THE FACILITATOR EHRLICH: Okay. Doug, do  
9 you have a second question?

10 MR. DOUG RAMSEY: The second question is,  
11 and that relates to the diversion of Baker Creek as a --  
12 as a contingency measure. It was evident from the  
13 answers that were provided yesterday that some of the  
14 other potential effects or benefits of the diversion  
15 remain to be examined, including the potential for a  
16 further reduction in arsenic load into Yellowknife Bay as  
17 a result of the diversion of Baker Creek. I -- we were  
18 told yesterday that that hasn't been looked at, so you  
19 can't say one (1) way or the other.

20 Would the Giant team be prepared to commit  
21 to explicitly examining that as part of examining the  
22 advantages and disadvantages of the Baker Creek  
23 diversion?

24 THE FACILITATOR EHRLICH: And, you know,  
25 again, because it's a perpetuity project, I -- I

1 understand this is a contingency, but if you're going to  
2 be having this operate for millennia, there is a chance  
3 you will need to use contingencies, it's worth  
4 understanding them well.

5                   Is that something the Giant Mine team can  
6 commit to produce by November 14th?

7                   MR. BRUCE HALBERT: I'm going -- Bruce  
8 Halbert. I'm going to give you my thoughts, and they're  
9 not necessarily what the team's thoughts are, so I'll  
10 qualify it.

11                   As I indicated yesterday, diverting this -  
12 - Baker Creek does not necessarily remove the loads that  
13 are going into Yellowknife Bay. We took a very  
14 conservative approach to assessing what the implications  
15 were to Back Bay, Yellowknife Bay, as I indicated in a --  
16 in an earlier response. I would not propose to undertake  
17 any further analysis in that regard. I would simply take  
18 the same approach: whatever loads we've assimilate --  
19 assumed are coming off the site for the -- for the  
20 current assessment, I would assume are gonna be there for  
21 the next assessment.

22                   I -- I -- this gets into a question of  
23 trying to establish now what's gonna be the incremental  
24 effect on -- on the loadings from that -- that system  
25 from sediment removal, for example. Our analysis is not

1 that refined to be able to say element A, B, and C all  
2 contribute, you know, X, Y, and Z to the total.

3 So that's my -- my thought on it.

4 THE FACILITATOR EHRLICH: Now, you're  
5 saying it's -- it's yours, but -- and you're speaking on  
6 behalf of the Giant team, but that might not be the view  
7 of the Giant team. I want to be sure that the record's  
8 pretty clear on: Is that the Giant team's response to  
9 that question? Are you guys all together on that?

10

11 (BRIEF PAUSE)

12

13 MS. LISA DYER: Lisa Dyer, for the  
14 record. We are more than happy to share information as  
15 we advance in our thinking. At this time, we would not  
16 be able to provide that kind of consideration for  
17 November 14th. This is a contingency and we are very  
18 early on in our considerations of this. We -- we just  
19 don't have this background information to provide, but we  
20 are more than willing, as are -- we advance on  
21 considering this contingency, of providing more  
22 information, but it's -- it's just not realistic at this  
23 time. And -- and we really initially do not feel that  
24 this will change the loading to the environment.

25

THE FACILITATOR EHRLICH: And I'm going

1 to ask -- Doug Ramsey, you've heard the team's response,  
2 as well as Bruce Halbert's response, does that satisfy  
3 your requirements? Can we get away without an  
4 undertaking, provided the Giant team keep us posted as  
5 their thinking develop?

6 MR. DOUG RAMSEY: Doug Ramsey. As long  
7 as they do provide that information as their -- their  
8 thinking on the diversion develops. We do understand  
9 that the consideration of the diversion is in a very  
10 early stage. I would only add that, as part of that, it  
11 may -- is it -- would it be possible to look at the  
12 opportunities for additional ar -- arsenic management  
13 that may result as -- as a result of the diversion of  
14 Baker Creek?

15 THE FACILITATOR EHRLICH: Thank you. In  
16 that case, I'm not going to call this an undertaking.  
17 Giant team has said that, as its thinking evolves with  
18 respect to the -- the potential for an alternate route  
19 for Baker Creek, through the north diversion I guess it's  
20 being called, it will keep us posted, and I -- so long as  
21 you're willing to also, as you keep us posted, let us  
22 know if there are implications for arsenic loading of --  
23 of Yellowknife Bay, then I think this is satisfied  
24 without giving you guys an additional undertaking. And,  
25 again, that, to me, is a sign that the technical session

1 is working, so I'm happy about that.

2 Do you have any other questions -- this is  
3 the last kick at the can -- for the Giant waters team?

4 MS. LISA DYER: I -- just on that note,  
5 if we can make this the last, because I see people  
6 beginning to twitch. They -- they do want to get home to  
7 their families, and they're a little bit worried about  
8 missing their planes right now.

9 So, please, if you have questions, let us  
10 know what topic area they are so that we can release some  
11 people so that they can make their flights. There's  
12 nothing worse than missing your flight when you really  
13 want to go home.

14 THE FACILITATOR EHRLICH: Lisa, in my  
15 view, and I'll invoke the awesome power of facilitator  
16 here, everyone who needed to ask questions on this has  
17 had adequate opportunity to ask questions on it. Please  
18 release your devoted team so they can get back to where  
19 they need to get back to in time.

20 Thank you all very much for bearing with  
21 us for a long time, for truly constructive discussion.  
22 You know, I think we covered a lot of ground and people  
23 have a more clear idea of what you're proposing. There's  
24 some useful answers that came out. I heard quite a -- a  
25 valuable commitment come out yesterday as well. Go

1 safely, and let's get on with the presentation having to  
2 do with surface remediation as soon as the Giant team is  
3 ready.

4                   As some members of the Giant team leave,  
5 I'm going to ask DFO to please continue its comments that  
6 it kindly allowed me to cut off about ten (10) minutes  
7 ago. Go ahead, Morag McPherson.

8                   MS. MORAG MCPHERSON: Thank you very  
9 much. Morag McPherson, Fisheries and Oceans. I didn't  
10 have any further questions for the Giant Mine technical  
11 team, but I wanted to follow up on some of the comments  
12 that we heard from the Board in terms of Baker Creek and  
13 -- and how we're considering habitat in the creek, just  
14 to clarify, because I think we've been hearing some of  
15 these comments, and I think it's important we use these  
16 forums to have an opportunity to clarify any  
17 misunderstandings that might be there.

18                   The consideration of restoration of Baker  
19 Creek within the larger Giant Mine remediation hasn't  
20 been done in isolation; it's not just focussed on  
21 habitat. There's -- a restoration concepts paper was put  
22 together in 2005, it's supporting toc -- document G-2.  
23 And the -- the idea of trying to have some sort of  
24 rehabilitation of Baker Creek, there's -- it's recognized  
25 that there's several elements and factors within the

1 remediation on the site that need to be dealt with first  
2 before it's feasible to really undertake any type of  
3 restoration of the habitat, and it outlines what those  
4 elements are: stability of the site in the mine; water  
5 quality and sediment quality, which is human health and  
6 ecological risk.

7                   We recognize that those are the  
8 priorities, and that where those are found to be stable  
9 and the risk is acceptable, that then the opportunity to  
10 provide channel restoration, habitat restoration, fish  
11 access, overlay that. It's not on top as a priority.

12                   So I just want to make that clear, that,  
13 in our discussions overall in terms of what's happening  
14 on the site, that the priority is the stability of the  
15 site, reducing environmental and ecological risks. We  
16 don't want to be creating habitat in an area that will  
17 pose a long-term risk, and that's why we're working with  
18 them on these studies, and we're recognizing that these  
19 stability issues need to be dealt with.

20                   And, regardless of what comes out at the  
21 end, it's likely that a DFO authorization is going to be  
22 required. So we're not trumping any of these other  
23 things with habitat. It's -- we see it all as part of  
24 the picture, and we recognize that these other elements  
25 need to be in place before any type of habitat

1 considerations are even feasible.

2                   So -- so that's how we have come into  
3 this, and it's just ensuring that we have the appropriate  
4 information on both sides, on all sides, to make a  
5 balanced decision in this regard. So just -- just so  
6 it's clear that we're not -- we're not saying that our  
7 position and our role is the priority. We -- we know  
8 what the priorities are at site, and we know what the  
9 risk is, and the habitat side of that is just -- is -- is  
10 supposed to be complementary to the long-term objectives  
11 of the site, not driving what's happening onsite.

12                   So that -- I think that's sort of what we  
13 had to say there, is that it's -- it's in line with --  
14 you know, it's complementary, and -- and it's our  
15 understanding that it's still in line with the overall  
16 objectives and complementary. Thank you.

17                   THE FACILITATOR EHRLICH: Morag, I think  
18 that's very helpful.

19                   Everyone who has to leave to catch a  
20 plane, please leave to catch a plane, because there's no  
21 questions that need answering here, so away with you.

22                   I -- I -- yeah, that -- that big picture  
23 view is -- is useful, as was what I heard before, where  
24 you were clarifying a bit of DFO's role. How you were  
25 helping with design of an aspect of this but you're

1 participating in the environmental assessment as an  
2 expert department providing an objective review as far as  
3 your mandate is concerned.

4                   And I'm guessing that we can expect from  
5 DFO, at the same time we get it from other parties, a  
6 technical report providing your -- your views on the  
7 potential impacts of the proposed project. In other  
8 words, remediation project.

9                   That's not a question. Just one (1)  
10 moment please.

11

12                   (BRIEF PAUSE)

13

14                   THE FACILITATOR EHRLICH: Okay. I think  
15 we are ready to roll onto the surface issues. We've got  
16 just about an hour until lunchtime. I would really like  
17 it if you can have -- make your presentation finish at  
18 five (5) minutes to noon, because that five (5) minutes  
19 helps us start up again on time.

20                   So you're given an hour, and it's actually  
21 -- it's actually fifty (50) minutes. If you can't, you  
22 can't, but please do your very best. We're going to back  
23 this table out of here.

24                   Anyone who wants to see better, just like  
25 yesterday, should go over to the good seats, and leave

1 this table. Thanks. Over to the Giant team.

2

3

(BRIEF PAUSE)

4

5 PRESENTATION BY THE DEVELOPER RE SURFACE REMEDIATION:

6 MR. MARK CRONK: Mark Cronk. I guess  
7 we'll get started, Alan, if that's okay with you.

8 THE FACILITATOR EHRLICH: Please do.

9 MR. MARK CRONK: I'd like to introduce  
10 generally the surface team. The presentation you're  
11 going to see this morning covers five (5) topics.

12 It will start with the open pits, which  
13 will be done by Mr. John Hull. Followed by contaminated  
14 soils, which will be presented by Art Cole. Followed by  
15 that we'll go back to John Hull who will discuss the  
16 tailings aspect of the project.

17 We'll go to the surface waste, which is  
18 the demolition of buildings and structures, landfills,  
19 and associated structures, by Mr. Gord Woollett. And  
20 we'll return to Bruce Halbert who will discuss air  
21 quality aspects at the end of the presentation.

22 And so with that, I'll turn it over to  
23 John Hull for the open pits.

24 MR. JOHN HULL: Thank you. John Hull.  
25 This presentation is to discuss the open pits, and the

1 closure plans for the pits.

2 I'll just show briefly the -- the overall  
3 mine site, and the -- the eight (8) pits that we're going  
4 to talk -- open pits we're going to talk about. As  
5 everybody appreciates, this is a fair -- fairly large  
6 site, and extends over a long distance along the Ingraham  
7 Trail.

8 What we want to discuss is the general  
9 design philosophy for the pit closure, just the general  
10 layout of the site, and the pit locations, identify the  
11 existing hazards, some recent items at B1 Pit, and then a  
12 short summary.

13 Starting off with the gen -- the general  
14 design philosophy, and what was the background, or the  
15 underlying theme for the -- for the closure. Essentially  
16 what the existing open pits represent a number of  
17 hazards, and the -- the considerations are to stabilize  
18 them in terms of public health and safety, the  
19 environment, and sen -- sensitive infrastructure.

20 One (1) of the main drivers is that for  
21 the open pits, there is no intended or future  
22 recreational use, or public access to the open pits which  
23 is consistent with practices for open pit closures in  
24 Canada.

25 The criteria that was also used is

1 consistent with the Northwest Territories Mine Health and  
2 Safety Act, and Regulations.

3           What we looked at is three (3) general  
4 areas based on -- and that was used to define the effort  
5 and the criteria that would be identified for the various  
6 open pits along -- on the property.

7           One (1) of the things that we were  
8 concerned with was local rock falls, the pit floor  
9 stability because of underground operations under some of  
10 the pits, the pit walls, and areas that there would be no  
11 impact to public safety, infrastructure, or the arsenic  
12 chambers. This would typically be Pit A1.

13           The next area was where there may be a  
14 impact to public safety or the sensitive in --  
15 infrastructure due to the pit walls, rock falls, and  
16 underground. Again, this would be in the area of A2.

17           And finally, where there is -- the open  
18 pits were close to and would -- failure or any movement  
19 of the slopes or the pit floors would cause damage or  
20 issues with the arsenic chambers and stopes, and this  
21 would be typified by Pit B1.

22           And I'm just going through the various  
23 open pits and just in general -- this identifies the  
24 eight (8) pits on the site: Pits A1, A2, B1, B2, C1,  
25 which we will discuss in some detail. I also note that

1 there's B3, Before, and the Brock Pit. We're not going  
2 to discuss those in any detail in that those pits are  
3 less than 10 metres deep, and there's no stability issues  
4 with the -- the pit slopes or underground in those areas.

5           Flagging the key pits that we will now  
6 talk about, as I said, A1, A2, C1, B1, and B2. What we  
7 identified in terms of the existing hazards was: Were  
8 there any pit slopes instabilities around the pits  
9 resulting from, or as a consequence of, structure, that  
10 would be faults or discontinuities; the location of the -  
11 - any openings that would be -- to underground that would  
12 have to be backfilled, and stopes under the pits; and  
13 were there any subsidence or any movements of the pit  
14 crests around the key pits.

15           To follow up from the work that was done  
16 in the -- the DAR, we've carried out detailed inspections  
17 in 2010 and 2011. In general, the results and our  
18 observations are consistent with what was identified  
19 previously, and the recommendations are consistent with  
20 what was presented in the DAR. What we have done is  
21 taking -- taken the new data and upgraded some of the  
22 recommendations and the comments.

23           I now want to go through the key pits and  
24 identify what we've identified, and then the -- a quick  
25 overview of closure options and proposals.

1                   At Pit A1, showing Baker Creek along the  
2 east side there, just off the bottom of the -- the  
3 figure, what you can identify as the purple is the extent  
4 of the underground workings. Some of the workings have  
5 been backfilled as part of the mining operation, some  
6 haven't been, and we haven't fully identified which of  
7 the openings and stopes were backfilled fully.

8                   Along the north and northwest side,  
9 there's a drainage ditch which then runs to Baker Creek.  
10 At the moment, that is diverted into the pit due to  
11 sediment issues and T -- total suspended solids. We also  
12 note that Pit A -- the portal in Pit A1 is still open,  
13 and that would be closed as part of the closure options.

14                   And the two (2) areas on this area on the  
15 northwest and this area on the northeast are overburdened  
16 from mine waste from stripping the other pits, and that  
17 is slowly creeping into the pits. That will be  
18 stabilized as part of the closure planning.

19                   Again, here is the picture of the same  
20 pit, showing the underground openings and stopes, which  
21 would be backfilled as appropriate. Fencing and berming  
22 along the west side, and improvement of the ditching  
23 along the north and west side.

24                   And, as Nathan mentioned before, there's  
25 Baker Creek, and there's a reasonably large berm between

1 Baker Creek and the pit, which would minimize any  
2 potential and any risk for Baker Creek heading into the  
3 A1 Pit.

4 Moving to A2. Again, showing the  
5 underground workings in the purple. The portal in this  
6 pit, a two (2) portal. There's a series of Crown pillars  
7 which need to be investigated through this area. That  
8 includes the sequence of two-o-five (205) and two-o-one  
9 (201) on this lower area.

10 There's also the DWC stope and portal in  
11 this area. And at the moment, we've identified some  
12 local spalling of the east pit wall, and there's some  
13 spalling off of the west pit wall in this area. That's  
14 local bench fall -- failures, which are typical of mines  
15 and open pits.

16 THE FACILITATOR EHRlich: Excuse me, Mr.  
17 Hull, just for a second. Could you -- we've got a number  
18 of people in this room, a number of different  
19 backgrounds, could you define "spalling," please?

20 MR. JOHN HULL: That would be a local  
21 slab filling of a piece -- a rock off the pit wall.  
22 That's -- that is typically identified for a rock size  
23 that might be the size of a desk, but no bigger than the  
24 -- one of your small subcompact cars.

25 That -- the proposed plan for the A2 Pit

1 includes sealing the A2 portal in the lower part here,  
2 backfilling on the bottom of the pit to stabilize and  
3 buttress the east slope, which is where the spalling and  
4 the small rock falls were occurring, also in the area of  
5 the DWC portal, and some minor instabilities of the  
6 slopes in that area. Baker Creek runs along the north  
7 side, and that was addressed in Nathan's discussion  
8 yesterday.

9                   Now moving to B1 Pit. This is more  
10 important because of the B208 arsenic stope, and the  
11 B212, 213, 214 stope on the north side.

12                   There has been some -- on the west side  
13 there's a complex of about three (3) stopes that were  
14 mined out and have not been backfilled that would be  
15 backfilled as part of stabilization so that the B2 -- B1  
16 Pit can be backfilled.

17                   There's also a -- some movement -- some  
18 minor movement of the east slope and that's being  
19 monitored. The monitoring started last year. At the  
20 moment it's stable, but would -- monitoring would  
21 continue.

22                   There's also a sinkhole, that was  
23 mentioned earlier, just in this area which I'll talk  
24 about briefly on the next slide. As I mentioned, there's  
25 a -- some minor slope instability in this east area.

1 There's some overburden that's slowly creeping towards  
2 the pit. As I say, we've monitored it. Most of the  
3 movement was in the spring; it's now stopped. Monitoring  
4 will continue and be upgraded.

5 There's also monitoring over the 212, 13,  
6 14 complex. One (1) of the flags in the DAR and in the  
7 re -- remedial action plan for them -- the site was a  
8 concern with the crown pillar in this area, and this  
9 monitoring is to confirm if anything is moving so that if  
10 something is noticed, the mine would be able to react  
11 appropriately.

12 And then I identified the stopes that are  
13 on the west side, which would be backfilled as part of  
14 this closure for the B1 pit. And there is Baker Creek  
15 just along the corner, which is at the top left.

16  
17 (BRIEF PAUSE)

18  
19 MR. JOHN HULL: As I noted, this spring  
20 there was a sinkhole that developed on the south side of  
21 B1 Pit. It was identified from discussion with miners  
22 who've worked on the property for some time that there  
23 was a small extension, or slot cut, on the south side of  
24 the B1 Pit. It was backfilled after the mining was  
25 complete. And what's happening is the -- the slot cut

1 was connected to the underground. There has been some  
2 seepage from Baker Creek, which is off to the right.  
3 That seepage has moved material to the underground, and  
4 subsequently we have a sinkhole.

5                   Inspection of the pit slope just to the  
6 left for a -- the B2 -- B1 Pit indicates there's been no  
7 movement of that pit slope so that the material is going  
8 directly to the underground.

9                   You can see from the three (3) photos,  
10 there's a slight increase in the size of the hole -- the  
11 sinkhole. An inspection of the sinkhole the other day  
12 indicates that it is not much bigger than the July 18th  
13 figure.

14

15                   (BRIEF PAUSE)

16

17                   MR. JOHN HULL: In the remediation plan  
18 for the B1 Pit, because of the arsenic stopes 208, 214,  
19 213, 212, B1 Pit will be backfilled.

20                   The backfill would be extended to a height  
21 at least 2 metres above Baker Creek so that Baker Creek  
22 would not get back into the B1 Pit area.

23                   That would prepare the pad -- pad for the  
24 freeze system. And, as identified on Monday, the freeze  
25 pipes would be in this area, in this area, and then

1 around those arsenic chambers. I don't have -- I haven't  
2 placed the locations on here, just to avoid confusion  
3 with the -- this slide.

4 The runoff would be directed initially  
5 into this area to collect it, and then to make sure the  
6 suspended solids were appropriate and water quality was  
7 acceptable, ultimately it would be discharged as sheet  
8 flow into Baker Creek.

9 The full area would be surrounded with  
10 security fencing because of the need to protect the  
11 freeze system, which is as I just identified.

12

13 (BRIEF PAUSE)

14

15 MR. JOHN HULL: In B2 Pit, again just to  
16 locate it, B1 is just off to the bottom and to the -- to  
17 the right, this is Baker Creek on the lower right, and  
18 the B2 dike which separates Baker Creek from the B2 Pit.

19 The pit slope, there's some minor  
20 sloughing of the slope on the east side, and the B12 or  
21 UBC portal is at the bottom of the pit, which gives  
22 access to the underground mine.

23 The present plan includes some potential  
24 minor backfilling of the B2 Pit, specifically on the east  
25 side. That's a minor change from the DAR. That change

1 is only reflected in the possibility to improve the  
2 thermal insulation against Chamber 12 in this area.

3           There may be a sealing of the B2 portal.  
4 Again, because of that filling and the -- reducing the  
5 risk of an overtopping of the B2 dike into this pit, so  
6 that would min -- minimize the potential if it does  
7 overtop, or there is leakage, of getting water into the  
8 underground mine.

9           C1 Pit, the last of the -- the big pits.  
10 Baker Creek is just along the west side. There's Highway  
11 4, as Nathan mentioned the other day, in the relocation  
12 that the -- relocation in the DAR identifies moving  
13 Highway 4 in this area, and putting Baker Creek in that  
14 area.

15           Or alternatively an option we're thinking  
16 of proposing would move Baker Creek off to the west,  
17 which would be on-site. This is defined as Reach 3,  
18 which starts at about this location, and goes off to the  
19 -- off to the left.

20           Again you can see there's some fairly  
21 extensive underground workings under the -- under the  
22 open pit. There's about six (6) crown pillars in there.  
23 Investigations that have been carried out in the past  
24 have identified that some of them have been backfilled,  
25 some of them haven't been, and part of the ongoing work

1 would be to confirm which have been backfilled and which  
2 haven't.

3                   There's a minor slope instability noted in  
4 this west corner -- north -- southwest wall of the open  
5 pit. The plan for remediation would be to buttress that  
6 southwest corner, and then buttress the north end of the  
7 pit, given the present plan to move Baker Creek into this  
8 -- this area on the east side of the pit. As noted below  
9 at the bottom, if Baker Creek is moved to the west side,  
10 the -- the filling that would be proposed would be less  
11 or may not be necessary.

12                   In summary, the reme -- the remediation of  
13 the open pits is focussed on minimizing risk to the  
14 public safety and health, protecting the environment, and  
15 to manage the costs in as prac -- as efficient a way and  
16 effective way as possible. The remediation measures are  
17 all proposed to -- consistent with current standards for  
18 health and safety and for open-pit closures in Canada,  
19 and are consistent with the NWT Health and Safety -- Mine  
20 Health and Safety Act.

21                   The re -- remediation measures are  
22 specifically focussed on B1 and B2 and C1, and they are  
23 the main issues -- or main features of that include  
24 fences, berming, and buttressing slopes, which appear to  
25 be having minor issues with slopes to building, which

1 would be just falling of rocks and rockfalls off benches.

2 I want to stress that the proposed  
3 remediation -- remedial designs are consistent with the  
4 fundamental objectives in the DAR. We have, based on  
5 site visits and inspections, identified some minor  
6 changes, but they're all consistent with the change in  
7 the proposals and the philosophy which was in the DAR.  
8 The changes which we're considering, as I noted, some  
9 minor backfilling in A -- A2 and possibly in C1, based on  
10 what -- where Baker Creek goes.

11 I'll now ask Art -- Art to continue.

12 MR. ARTHUR COLE: Thanks, John. Arthur  
13 Cole, and this is contaminated surface materials. Here's  
14 a brief overview of my presentation. First of all, I'd  
15 like to go through the 2007 Remediation Plan, followed by  
16 the 2010 delineation investigation that we've recently  
17 completed; then I'll discuss preliminary -- our  
18 preliminary design strategy, classes of remedial  
19 excavation, and then a summary.

20 So, as we've talked about the past few  
21 days, the two (2) main contaminants of concern on the  
22 site are arsenic and petroleum hydrocarbons. The  
23 photograph on the right shows what typical arsenic-  
24 contaminated mine rock looks like. This test strip was  
25 excavated in the mill area. This is coarse material,

1 lots of cobbles and boulders, gravel. This is what  
2 you'll find in most places when you excavate around the  
3 mill area.

4           The photograph on the bottom right is  
5 petroleum hydrocarbon-contaminated materials. This was  
6 also a test that was excavated in and around the mill  
7 area, and you'll see very dark staining in that material.  
8 These are releases from above-ground storage tanks, also,  
9 like I said, within the mill area.

10           The site in the 2007 remediation plan was  
11 divided into nine (9) primary areas. These areas were  
12 established based on site history and land use. The  
13 materials containing the highest arsenic concentrations  
14 were within the mill area and what we call Area 4, which  
15 is west of the settling ponds. Hydrocarbon contamination  
16 was also noted, again principally in the mill area, from  
17 the above-ground storage tanks.

18           Again, this is from the -- from the DAR  
19 and the remediation plan. The remedial excavation depth  
20 was set at a maximum of 2 metres. This is ver -- a very  
21 practical approach on this site, because most of the  
22 contamination is in fact less than a metre in -- in  
23 depth. Anything found below 2 metres, in terms of  
24 remediation, would be capped and left in place and -- and  
25 re-graded to promote drainage. This -- oh, and those

1 areas would also be delineated on maps, just to prevent  
2 any accidental excavation in the future.

3 This schematic just simply shows, if you  
4 were to excavate material, you'd leave some contaminated  
5 soil in place if it was below 2 metres.

6 Last year, we started our delineation  
7 investigations, and the first thing that we did was we  
8 compiled all the historical data. And there had been  
9 some previous seven (7) investigations completed, some of  
10 them completed actually by Golder, and we compiled all  
11 the data. We put it all on a -- on a large base map and  
12 we looked at everything. And our main objective was to  
13 refine the previous estimates of contaminated material,  
14 so that was the purpose of what we were asked to do, was  
15 to go in and look at these volumes again and confirm the  
16 volumes.

17 So we -- our field program consisted of  
18 about a hundred and fifteen (115) test pits, a hundred  
19 and five (105) hand augers, and eight (8) boreholes. And  
20 this field program, I should note, was carried out over  
21 four (4) different phases, so that we didn't go out all  
22 at once. It was done in multiple phases throughout 2010  
23 and 2011.

24 This photograph shows a hand auger,  
25 basically. So this is what you'd do when you're out in

1 the field collecting a hand auger sample, and you could  
2 typically get down to about a metre with this type of  
3 device.

4                   So we submitted a total of three hundred  
5 and thirty-six (336) soil samples for -- for arsenic over  
6 our whole program, and sixty-nine (69) for -- for  
7 hydrocarbons.

8                   At the end of the day, we came up with a  
9 volume estimate of nine hundred and sixty-thousand  
10 (960,000) cubes, which is a large number, admittedly.  
11 And this is close to triple of what's presented in the  
12 DAR, actually. And as it's stated here, it includes  
13 tailings not in the tailings containment area.

14                   The increase in volume was primarily due  
15 to an increase in size and depth of known areas of  
16 contamination, so we haven't found any -- anything new,  
17 or different than what's in the DAR.

18                   It's just that the -- the areas that are  
19 shown, the contamination is deeper, and in some cases a  
20 little bit larger laterally.

21                   So this is in essence the results of our  
22 investigation, and again this drawing is not very  
23 different than what's in -- in the DAR.

24                   You -- you'll note some of the areas are a  
25 little bit larger. For example, Area 2 here is larger

1 down I this area. Area 4 is also quite a bit larger.  
2 Area 8 for the townsite -- or sorry, Area 6 for the  
3 townsite right here, and Area 8, as well. So those are a  
4 little bit larger laterally.

5           So the first thing that we did from a  
6 design perspective is we segregated the materials based  
7 on type, and again this wasn't anything new. This is --  
8 previous work has -- has -- looked at segregating  
9 materials. And so what we've done is -- what you can  
10 note three is about over -- over a half a million cubes  
11 we've categorized as wasterock. And right away we looked  
12 at the -- the total volume of nine hundred and sixty  
13 thousand (960,000), and said, Well, this is a very large  
14 number. How can we -- we look at every single  
15 excavation, and determine whether it was practical to  
16 excavate to 2 metres in all of these areas.

17           So we identified four (4) areas, and maybe  
18 I'll go back and show you those. The first one (1) being  
19 the mill pond, where we investigated right in through  
20 there, and the depth of contamination in that area far  
21 exceeds 2 metres. So digging that material -- digging 2  
22 metres of material out and then capping it simply  
23 wouldn't allow any additional environmental benefit.  
24 You're just lowering the topography in that -- in that  
25 area.

1                   And the same can be applied for -- for the  
2 calcine area right here, and most of Area 4. The  
3 thickness of contaminated materials in those three (3)  
4 areas far exceeded 2 metres. So again, capping --  
5 digging out 2 metres and capping wouldn't really help the  
6 situation significantly.

7                   So what we did was, we basically  
8 eliminated those three (3) -- or those four (4) areas,  
9 including Yellowknife Bay tailings, from our total  
10 number.

11                   So we removed three hundred and seventeen  
12 thousand (317,000) cubes, and recognizing that those four  
13 (4) areas would be capped but not excavated, and this  
14 left us with a total volume of six hundred and forty-  
15 three thousand (643,000).

16                   So now we looked at that total number and  
17 we said, Well, from this volume of material are there  
18 some materials that could potentially, although they're  
19 contaminated, could the potentially be reused on site,  
20 for example, for landfill construction.

21                   And so we assigned a -- an arbitrary  
22 benchmark of 3,000 parts per million arsenic, which is  
23 typical of the -- of tailings, and -- and determined that  
24 -- or -- or we're -- we're proposing that any material  
25 that's above three-hundred (300) yet below three thousand

1 (3,000) could be categorized as a marginally affected  
2 material that could be reused within the tailings areas  
3 potentially for landfill construction, which Gord will  
4 speak about in a minute.

5           So that Type A material, most of which is  
6 soil which is very beneficial, amounted to about seventy-  
7 five thousand (75,000) cubes of material, and then we  
8 have material which is exclusively hydrocarbon  
9 contaminated. It's a relatively small volume of twenty-  
10 eight hundred (2,800), which is in this column right  
11 here, sorry, Type D, right there, and that could be land  
12 farmed on site.

13           So if we remove the Type A and the Type D  
14 materials from the total, it leaves us with five hundred  
15 and sixty-five thousand (565,000) cubes, which would be  
16 required for disposal on site.

17           So again, for the purposes of organizing  
18 all this information we decided to -- to look at all of  
19 the forty (40) different remedial excavations, again,  
20 within eleven (11) areas on the site and classify them  
21 based on what we call post-remediation outcomes.

22           So when we look at this we realize that  
23 most of those excavations, thirty (30) out of the forty  
24 (40), are relatively straightforward and can be dealt  
25 with, you know, in a -- in a straightforward manner. And

1 the ex -- all the material can be remediated and that  
2 those excavations can be closed, essentially.

3           The Class 2 excavations are the larger  
4 ones on site and they have some isolated pockets that are  
5 -- that contain mat -- impacted material deeper than 2  
6 metres. And -- so there's six (6) of these locations on  
7 the site.

8           And the Class 3 are the ones that I -- I  
9 spoke about earlier that will not be excavated and will  
10 simply be -- be capped. So this is a schematic  
11 essentially showing Class 1, Class 2, and Class 3.

12           Class 1 is, like I said, it -- the total  
13 of all of these, although it represents thirty (30) of  
14 the forty (40) remedial excavations, it -- it amounts to  
15 a little less than 20 percent of the total volume of  
16 affected materials on the site.

17           The Class 2 excavations, although there  
18 are -- there are sixty (60) of them and there's some  
19 fourteen (14) what we call pockets that are deeper than 2  
20 metres, this represents greater than 80 percent of the  
21 volume of material to be remediated on site.

22           And the Class 3s, which is shown here  
23 schematically, now normally this would be the are -- the  
24 -- the material we'd consider digging out, but we're just  
25 going to cap over that area completely. So none of that

1 material from the Class 3s will be excavated.

2                   So this is a map showing -- basically  
3 summarizing all of the remedial excavations and the  
4 classes and types of material on the site. I recognize  
5 it's a little bit hard to read. But what you can see is  
6 that the yellow areas are the Class 1s and they're mostly  
7 the -- the smaller locations here, what I've referred to  
8 is -- as the satellite areas, small zones, shallow impact  
9 that can be easily dealt with.

10                   The Class 2 excavations are shown in  
11 orange and that includes the mill area, Area 2, and the  
12 townsite. And they will have some isolated pockets  
13 remaining after we've remediated the area.

14                   And the Class 3s are all shown in green,  
15 and that's the -- the millpond, the calcine area, Area 4,  
16 and Yellowknife Bay tailings.

17                   So at the end of the day when we're  
18 finished remediating, what will be left over will be the  
19 -- the four (4) main capped areas, the -- the Class 3  
20 areas and some isolated -- small isolated pockets that  
21 are deeper than 2 metres within the Class 2 excavations.

22                   And so at the end of the day this is what  
23 the site will look like. Again, we see the -- the green  
24 areas are -- sorry, the large green areas are the Class  
25 3s right here and down here, and the Class 2 pockets,

1 very hard to see, some of them are quite small, they're -  
2 - and those areas are deeper than -- than 2 metres.

3           So in summary, we've -- we've actually  
4 gone through a plan to sort of develop a strategy to  
5 remediate the site. We believe that this work can be  
6 completed over a three year period. What we're  
7 suggesting is to start from the outside -- again, the  
8 satellite areas, the smaller areas, and work towards the  
9 mill area and -- and all the remaining pockets, like I  
10 said before, the class 2s will be capped and left in  
11 place and they'll all -- all of these capped areas, the  
12 class 2s and class 3s will be delineated on site maps to  
13 prevent any accidental excavation in the future. Thank  
14 you.

15           MR. JOHN HULL: John Hull. I'll give a  
16 short discussion on the tailings remediation. I just  
17 wanted to go over the -- the site and identify the key  
18 areas that we're going to talk about in this -- this part  
19 of the discussion. There's the tailings containment  
20 areas, the north, central -- north, central and south,  
21 the polishing pond and the settling pond and then the  
22 Northwest Pond on the far side of the site.

23           The con -- the -- all of the sites, all of  
24 the north, central and north ponds will all be capped and  
25 remediated. The drainage from the sites, these -- the --

1 on the -- the north, central, and south there'll be a  
2 spillway developed in this area which will then identi --  
3 pass the surface water towards Baker Creek.

4 For the Northwest Pond there's a spillway  
5 planned on this north -- on the west side that would then  
6 drain into Baker -- Trapper Creek and then down into --  
7 to Baker Creek.

8 There's also a plan to take some of the  
9 tailings from the south and central pond to use as  
10 backfill for backfilling some of the stopes under the  
11 open pits and in the area of the arsenic chambers for  
12 stability reasons and safety.

13 So just as a summary, we're going to go  
14 over briefly the -- the Remediation Plan. I've  
15 identified the locations. I'll note the cover systems  
16 proposed, some of the details for the remediation, and  
17 then a comment about the historic tailings on the  
18 Yellowknife Bay side.

19 As part of the investigation for the  
20 tailings, it was necessary to look for sources of borrow  
21 material. We've identified numerous sources. There's  
22 some overburden just to the west of the A1, A2 -- the B1  
23 and B2 pits, just -- there's some material to the west of  
24 C1. We're also proposing in the spillways that they  
25 would act as rock quarries, and that would provide some

1 of the -- the material that's required for the closure of  
2 the tailings covers. Nathan also identified that if the  
3 west Reach 3 option is proposed around C1 pit, there  
4 would be additional material and rock provided for the  
5 capping of the tailings areas.

6           The results of the investigation have  
7 identified that there's sufficient material for the upper  
8 vegetative layer from these areas, and with the spillways  
9 proposed and possibly minor other quarries, there's  
10 sufficient rock that will be generated on the property to  
11 -- to cover the tailings areas. There may be some  
12 material that would also be available for other projects  
13 or other capping sites. As Art has identified, he would  
14 need some of the material to cap some of the contain --  
15 contaminated sites areas.

16           The cover design is -- is consistent with  
17 what is presented in the -- in the DAR. It consists of a  
18 vegetative support layer, a gravel or coarse layer which  
19 acts as a barrier for material roots from any plants that  
20 grow on the -- the vegetative cover, and would prevent  
21 migration of pore water from tailings up into the -- the  
22 vegetative layer.

23           The objective of the -- the cover system  
24 is to provide a physical barrier between the tailings and  
25 the sludge and the surrounding environment. It's to

1 prevent tailings dust release and in direct physical  
2 contact of the -- the area -- of anybody in the area or  
3 mechanical erosion occurring on the tailings. It also  
4 prevents exposure to the surrounding environment of the  
5 arsenic contained in the tailings and the sludges.

6           This -- to explain that, what we're saying  
7 is that any surface water that would flow off of the  
8 tailings cover areas would not come in contact with the  
9 tailings; it would be in contact with the vegetative  
10 layer. It would be non-contact water which could be  
11 directed towards Baker Creek after the -- the covers and  
12 the caps are stabilized and have reached steady state,  
13 and the vegetation there's no erosion or sediment issues.

14           The cover also limits infiltration and  
15 would establish -- or allow establishment of a self-  
16 sustaining vegetation which would be focussed in the long  
17 term with local species, and minimizing and trying to  
18 prevent any invasion of non-native species.

19           The -- the program or the pro -- proposal  
20 would identify that the tailings surfaces would be re-  
21 graded to uniform slopes to promote drainage. The south,  
22 central, and north ponds will be graded to drain to the  
23 north pond. This may -- this includes infilling the  
24 north pond. The slopes we're proposing would be graded  
25 at 1 or 2 percent to allow for a -- generally a flat

1 slope, which would be easily vegetated, and there would  
2 be minimal erosion off of that slope. Any main drainage  
3 channels would be lined or armoured with riprap.

4 The present plan at the moment is to  
5 consider one (1) of the potential landfill sites on the  
6 central pond, in part because it's close to the mill  
7 area. There are other locations being considered, but  
8 this is one (1) potential area. We do note that some of  
9 the material from the central and south pond would be  
10 removed for underground backfilling.

11 The polishing pond and settling pond,  
12 which are part of the water treatment plant system, would  
13 also be covered with the same cover, and surface water  
14 drainage would be connected so that it does drain with  
15 the north pond drainage towards the -- the Baker Creek.

16  
17 (BRIEF PAUSE)

18  
19 MR. JOHN HULL: There's ongoing  
20 maintenance and monitoring proposed. The monitoring  
21 would -- in the -- the initial years would be fairly  
22 frequent.

23 It's anticipated that it would take two  
24 (2) to three (3) years to establish a stable cover on top  
25 of the tailings on the vegetative layer.

1                   As the vegetative layer and the cap  
2 stabilizes, and reaches a steady state, it is anticipated  
3 in the long term that that monitoring would reduce, but  
4 again that would be defined by the performance of the  
5 cover which would be detailed as measures of succ -- of  
6 success as the project evolves, and the detailed design  
7 components are put together.

8                   Maintenance that's envisioned in the short  
9 term would be revegetation, overseeding, fertilizing,  
10 minor repair of erosion, and it's anticipated there may  
11 be some areas of -- that would settle in -- in the near  
12 term. They would be fixed, and made -- making sure that  
13 the surface drainage did continue towards the drainage  
14 channels, and as I said, toward Baker Creek, and for the  
15 Northwest Pond, toward Trapper Creek.

16                   The other area that is being capped is the  
17 foreshore tailings that was beside Area 8 that Art  
18 showed. Most of that area has already been capped. The  
19 intent is to further stabilize the beach with the --  
20 extending the -- the present system that's in place. It  
21 would be extended to minimize further erosion of the  
22 tailings in that area using the -- the same design that's  
23 been successful there since nineteen (19) -- since 2003.

24                   It would be extended into the -- out -- to  
25 the edge so that that's within the -- below the wave

1 zone, and the tailings are not exposed in time.

2                   The existing design consists of a rock  
3 layer over a geotext -- sorry. The existing design  
4 consists of gravel over geotextile, which in -- extends  
5 into the beach area. It would extend to the areas as  
6 identified where there's wave action. The tailings  
7 further up the valley will be remediated as part of the  
8 contaminated sites program -- soils program as identified  
9 in Art's discussion.

10                   There's no plan to cover the tailings  
11 within the Yellowknife Bay beyond the littoral, or the --  
12 the wave zone.

13                   THE FACILITATOR EHRLICH: Mr. Hull, I'm  
14 just going to step in for a second here, as a scheduling  
15 thing. I'm going to give you whatever time you need to  
16 make the presentation. The just question is -- the only  
17 question is will it be before or after lunch.

18                   How many more minutes roughly do you think  
19 you've -- you've got, and then you have one (1) other  
20 presenter after this?

21                   MR. JOHN HULL: Two (2).

22                   THE FACILITATOR EHRLICH: So can you give  
23 me an estimate roughly the number of -- of minutes that -  
24 - of total presentation the Giant team has left on -- on  
25 this subject?

1 MR. ADRIAN PARADIS: Ten (10) minutes.

2 Well, there's -- the -- I've spoken briefly to the  
3 parties about the air quality presentation and I think  
4 for the sake of expediency, we'll cut that off of our  
5 presentation, which will re -- get us out of here  
6 quicker.

7 We'll still have our experts around to  
8 discuss air quality after the break.

9 THE FACILITATOR EHRLICH: And for the  
10 record, that was Adrian Paradis speaking.

11 I don't want to entirely forego the air  
12 quality presentation, but if you wish to condense it to a  
13 couple of key slides, and a summary that would be useful  
14 as well.

15 What I'd rather do is not do all of this  
16 before lunch. John, do you think that you've got more  
17 than five (5) minutes left in this one?

18 MR. JOHN HULL: John Hull. That was the  
19 last slide. Only the last comment was that the design --  
20 design concept and plan for the tailings cover for the  
21 south central, north, and Northwest Pond are consistent  
22 with the design philosophy in the DAR.

23 I'll now pass it to Gord.

24 THE FACILITATOR EHRLICH: Okay, let's --  
25 let's take that pass after lunch. I -- I thank you,

1 John, for what has been a -- I think a very -- you  
2 covered a lot of ground, literally and figuratively in  
3 this.

4 We've got five (5) minutes just before  
5 lunch. I don't want to start a presentation that isn't  
6 going to get finished. I do have a question about the  
7 overall amount, and forgive me if I didn't pick it up in  
8 here, but on one (1) of the tours the amount of surface  
9 tailings, as I recall the DAR mentioned something about  
10 16 million tonnes.

11 Is that still the correct figure for the  
12 amount of tailings needing to be remediated here?

13 MR. JOHN HULL: That's the approximate  
14 volume of tailings on surface, yes.

15 THE FACILITATOR EHRLICH: The tonnes  
16 would be more mass than volume, right?

17 MR. JOHN HULL: That's mass that --  
18 there's approximately 90 to 95 hectares of surface area  
19 that has to be covered.

20 THE FACILITATOR EHRLICH: I'm never good  
21 with hectares, having grown up on metric but I was built  
22 with Imperial. What was told to me on one (1) of the --  
23 the site visits was it's about three hundred (300)  
24 American football fields.

25 Is that about right?

1                   MR. JOHN HULL:   John Hull.  That -- yes,  
2   that's approximately correct.

3                   THE FACILITATOR EHRLICH:  It's -- I mean  
4   -- you know, I mean I know it seems kind of weird, but  
5   you guys are dealing with a project of such scale that  
6   you have many numbers that a lot of people don't deal  
7   with on a day-to-day basis.  If you're not an engineer,  
8   you're not dealing with these kinds of things directly.

9                   And I felt a lot of people tend to gloss  
10  out -- they sort of glaze over after the first three (3)  
11  or four (4) zeros, and not distinguish between the very,  
12  very large numbers and the merely big numbers.

13                  But those things on the ground pose some  
14  serious challenges with respect to the project, and I  
15  know you have to wrestle with that all the time.

16                  So, you know, I've been trying to make an  
17  effort, and I will continue to do so in -- in this  
18  technical session, not as much here because of the --  
19  just the staggering number of engineers populating the  
20  room right now, but -- as well as in the rest of the EA,  
21  to try and make the big numbers meaningful to the people  
22  who have to understand them.

23                  And I see that the Giant team has gone to  
24  some length to try and do that for the public to date,  
25  and I think that's -- that's been a pretty helpful move.

1                   We can break now for lunch. I don't  
2 really think we've got enough time for any other  
3 questions. It's five (5) minutes to 12:00. I want you  
4 to get a jump on the lunch crowd again.

5                   Let's meet back here -- we're gonna start  
6 at 1:15 promptly, and we'll start with Gordon's  
7 presentation. At 1:15 promptly. Thank you.

8

9 --- Upon recessing at 11:55 a.m.

10 --- Upon resuming at 1:17 p.m.

11

12                   THE FACILITATOR PHILLPOT: Darha  
13 Phillpot, for the record. Thanks very much. I hope  
14 everyone had a good lunch. We're going to resume where  
15 we left off before the lunch break, so, without further  
16 ado, I'll turn it over to Gordon who will continue with  
17 the presentation from contaminants and remediation  
18 directorate.

19                   MR. GORDON WOOLLETT: Good afternoon. My  
20 name is Gordon Woollett, and this is the waste management  
21 presentation for these technical sessions.

22                   This -- this pres -- presentation will  
23 include a discussion of the following items: a summary  
24 of current waste locations; an overview of waste types  
25 and volumes; hazardous material removal processes; our

1 view of waste disposal options; a non-hazardous landfill  
2 site location design overview; and long-term monitoring.

3           The waste at Giant Mine are essentially  
4 located in three (3) areas. These consist of surface  
5 debris piles, which are waste materials in used equipment  
6 storage areas; building demolition wastes -- these would  
7 be wastes generated when all the structures and  
8 utilities, with no future use, are demolished; and  
9 hazardous waste, currently located underground,  
10 consisting of construction materials, equipment, and  
11 supplies.

12           This is a slide of an overview of Giant  
13 Mine, and currently there's approximately a hundred (100)  
14 structures and they're concentrated in the areas of  
15 Akaitcho, the TRP, A, B, and C-shafts, as well as a  
16 townsite. There's also another twenty-three (23) service  
17 debris areas that have been identified and inventoried.  
18 They're scatter -- they're scattered around the mine site  
19 and shown in black in this figure.

20           The types of waste on site can be  
21 separated into a number of different categories. These  
22 wastes are typically defined by territorial or federal  
23 reg -- leg -- legislation, excuse me. The waste streams  
24 include both hazardous and non-hazardous items. So at  
25 Giant Mine, we have a large volume of non-hazardous

1 wastes, and these would be wastes such as scrap metal,  
2 wood, glass, concrete, fibreglass, and paper.

3 Hazardous waste would include items such  
4 as mercury containing equipment, ozone-depleting  
5 substances, asbestos, PCB containing equipment, and a  
6 category here called other TDG, but these would be items  
7 such as corrosive materials, solvents, petroleum  
8 products, flammable materials, any kind of use and mill  
9 process chemicals that remain onsite.

10 We also have a volume of leachable lead-  
11 containing items, particularly pai -- located in paints.  
12 There's arsenic trioxide dust located in the roaster  
13 complex. Also in the mill buildings, we have semi-  
14 processed ores which are non-arsenic trioxide containing.  
15 And then it'll be the sludge that'll be generated from  
16 the waste water treatment plant.

17 Just to assist with the preliminary  
18 design, there's a requirement to estimate the volume of  
19 the various waste streams. These field surveys were  
20 completed in 2010 and 2011 to help us estimate those  
21 quantities. The surveys include the collection of field  
22 measurements and analytical testing to identify hazardous  
23 building materials and hados -- hazardous products.

24 Based on the lab data and field  
25 measurements, calculations were made to help estimate the

1 volumes of each material, and volumes presented in  
2 previous surveys completed in 2003 and 2009 were also  
3 utilized in our overall waste volumes. And, once again,  
4 these surveys were completed on all surface debris piles,  
5 all structures, and hazardous mater -- materials  
6 underground.

7                   This slide presents a summary of the total  
8 volumes of each waste category that have been currently  
9 identified. As noted here, there's approximately 67,000  
10 cubic metres of non-hazardous waste and 14,000 cubic  
11 metres of hazardous products.

12                   During the demolition program, the  
13 hazardous wastes will have to be removed, and this is a  
14 slide that kind of summarizes the main abatement methods.  
15 Certainly, the contractor will be removing these items  
16 prior to the building demolition and not afterwards.  
17 Underground hazardous materials will have to be removed.  
18 Hazardous materials will be collected, packaged, and  
19 transported according to applicable regulations, and non-  
20 hazardous materials will be decontaminated prior to  
21 disposal in the onsite landfill.

22                   An overview of waste disposal. So this  
23 table represents a summary of our current design concepts  
24 for the proposed disposal of each waste material. So for  
25 non-hazardous wastes, currently we're looking at a -- a

1 design concept as an onsite landfill in the area of the  
2 central tailings pond. Asbestos waste would be disposed  
3 of in a dedicated area within that pond -- or, sorry,  
4 within that landfill. Semi-processed ores, which are  
5 non-arsenic trioxide containing, would be located into a  
6 tailings pond. Any kind of item with PCBs, TDG items,  
7 mercury, ozone depleting substances, fuel oils, all would  
8 be disposed of out of the territories for ultimate  
9 disposal.

10                   Ongoing right now we are evaluating  
11 options for the disposal of any arsenic trioxide dust  
12 that is going to be recovered from the roaster complex.  
13 We're proceeding with the evaluation of options -- options  
14 that were identified in the DAR, which included disposal  
15 underground in Chamber 15, disposal in the B1 Pit or --  
16 disposal of -- in a new underground chamber, or a  
17 surface pit, or quarry.

18                   We're also doing further evaluation on how  
19 to dispose of the water treatment plant sludges that were  
20 discussed earlier this morning. The items included in  
21 the DAR were for a short-term period. We disp -- tried  
22 to dispose of these materials in the frozen zone, so the  
23 short-term there would be during the implementation of  
24 the freeze and after it's frozen we'd end -- end up  
25 moving that material to a new facility dedicated for

1 disposal of the sludge itself. The location of that cell  
2 has not been decided upon and certainly characterization  
3 -- further characterization of that waste will help us  
4 identify disposal requirements.

5           This is a shot showing the area of the  
6 central pond that we have available for disposal of the -  
7 - of our waste in the area of the Central Pond. It shows  
8 in relation to the North Pond, the South Pond, and the --  
9 the other mine infrastructure.

10           The slide on the right shows the more  
11 detailed area of the Central Pond. So the preliminary  
12 design is being based on using the Central Pond as our --  
13 as a disposal location for our landfill. This location  
14 was chosen for a number of reasons including the -- its  
15 central location. It's close to all major mine  
16 infrastructure and it helps minimize haul distances, and  
17 it helps minimize highway traffic -- hauling traffic  
18 across Highway 4.

19           This proposed location is -- fallen into  
20 the DAR, which specifically the landfill will be located  
21 on a previously disturbed area and on top of a tailings  
22 pond.

23           Other disposal options are available on  
24 the property. These include using the South Pond, or the  
25 North Pond, or even the Northwest Pond, which is

1 suggested in the DAR, or we can also -- would be a  
2 deviation from the DAR would be to put the landfill in a  
3 previous disturbed area.

4 Land -- landfill design. Here's a typical  
5 section of a non-hazardous waste landfill. As indicated  
6 in the DAR the landfill will be constructed with  
7 alternating layers of waste and intermediate fill. And  
8 other design features include a surface cap which will  
9 help prevent water infiltration into the landfill, as  
10 well, shed water to the exterior ditching. Other  
11 features also include groundwater monitoring.

12 As indicated in the DAR the monitoring  
13 would include annual inspections of all the constructed  
14 items and to observe any evidence of changes; groundwater  
15 monitoring both in shallow and deep monitoring wells;  
16 well sampling done following industry standards; and  
17 annual reportings being generated.

18 Just to conclude here, the central  
19 tailings pond is being considered for the construction of  
20 a non-hazardous landfill. There's a lot of area  
21 available for the pond -- or for that -- in that pond  
22 area for construction for a landfill. We propose to  
23 dispose of asbestos waste in this same landfill.

24 And currently, the evaluations are being  
25 completed to identify disposal locations for the arsenic

1 trioxide dust that we recovered, as well as the sludge  
2 that will be generated from the waste -- from the water  
3 treatment plant.

4 All haz -- hazardous waste will be  
5 disposed of off site and there'll be, once completed, a  
6 ongoing monitoring program and inspection program on the  
7 landfill site. Thank you.

8 THE FACILITATOR PHILLPOT: Thank you for  
9 that, Gordon. Next we'll turn to Bruce Halbert for the  
10 final part of the developer's presentation. And we just  
11 ask that you please provide a high-level summary, the key  
12 points of your presentation in the interest of time and  
13 that will leave more time for questions and where we can  
14 get into any details that parties may have about this  
15 subject.

16 MR. BRUCE HALBERT: Thank you. Bruce  
17 Halbert. I will indeed shorten my presentation. On this  
18 slide I just want to point out we looked at four (4) --  
19 four (4) indicators of air quality, if you will, of  
20 issue, particulate matter, arsenic and then nitrogen  
21 dioxide and sulfur oxides -- or sulfur dioxide and  
22 nitrogen oxides, like I said earlier on.

23 I'm gonna focus briefly here on arsenic  
24 because that's the main contaminative interest. This is  
25 a -- a summary graph taken from the -- the GNWT

1 environmental air quality monitoring station in  
2 Yellowknife. It covers a period from 1973 to 2007. On  
3 the left-hand scale, we -- it shows the -- the annual  
4 average arsenic concentration in micrograms per cubic  
5 metre. These are the bar -- the bars are the -- the  
6 annual averages, and on the right-hand side, we have the  
7 twenty-four (24) hour maximum arsenic concentrations, and  
8 they are the boxes.

9           The only message I want to deliver out of  
10 this is that air quality certainly has improved over  
11 time, and subsequent to 1988, when there was some  
12 baghouse failures and a couple of exceedances of the air  
13 quality standard -- I'm going to refer to it briefly --  
14 the air quality has been quite good as far as arsenic is  
15 -- is concerned, and particularly in the last decade.

16           The air quality criteria I'm going to  
17 compare it to here is -- is .3 micrograms per cubic  
18 metre. It is one taken from the Ontario Ministry of  
19 Health, as neither the GNWT or Government of Canada have  
20 arsenic criteria at this point in time.

21           I'm gonna slip by a few of these slides  
22 very briefly. The -- the work that was undertaken was  
23 undertaken in air quality assessment using a USEPA model,  
24 that ISCLT, that we use for screening level assessments,  
25 and some of the -- that model was used to predict one (1)

1 hour, twenty-four (24) hour and annual average ground-  
2 level concentrations of the parameters I noted.

3           And for this assessment, we took a --  
4 undertook a very conservative or cautious approach to do  
5 the screening, in that we assumed a number of activities  
6 were occurring onsite at the same time. So we assumed,  
7 in the first case, that we had a freeze plant in  
8 operation, one (1) of the chambers has been piped and the  
9 power -- or the plant turned on, requiring a power supply  
10 of up to 3 megawatts of power. We assumed Baker Creek  
11 remediation activities had been started near the mouth of  
12 Baker Creek. We assumed that contaminated soil  
13 excavation and remediation had been commenced in the area  
14 of the -- of the roaster. We also assumed that  
15 remediation activities had been initiated in the south  
16 tailings pond area and on the sludge ponds; also, that a  
17 free -- that active drilling was going on for the  
18 additional installation of freeze pipes, and, finally,  
19 that the roaster complex was being decommissioned.

20           So we had -- this is an unrealistic  
21 scenario, and it's very unlikely all these would occur  
22 simultaneously, but it allows us to -- to take a  
23 screening assessment of what the combined effects are of  
24 all those activities.

25           I'm going to skip by this slide, because

1 it just outlines some of the assumptions that went into  
2 the analysis.

3                   We assessed air quality both onsite and  
4 offsite. For the offsite receptors, we looked at five  
5 (5) specific locations, one being up in the area of the  
6 Yellowknife River Park, community of N'Dilo, community of  
7 Back -- that's on Back Bay at the marina, and at the  
8 landfill.

9                   When we do an air quality modelling  
10 assessment, we predict concentrations at a ho (phonetic)  
11 grid of grid point overlaying the whole area of interest,  
12 and that data is subsequently analyzed to create what we  
13 call concentration contours or isopleths. That's what  
14 this -- that's what this -- back here again. Sorry.  
15 That's what this figure is showing.

16                   In the left-hand figure here, we're  
17 showing, with inclusion of wind erosion effects -- this  
18 is the wind erosion mainly of like the exposed tailings,  
19 and then, on the right-hand side, we've taken away that  
20 wind erosion component, just to show what the effect is  
21 of wind-blown dust.

22                   And the -- the contour of interest here is  
23 the -- the one I was showing you in red is the .3  
24 microgram per cubic metre contour I suggested. You can  
25 see basically any effects of -- of activities. All these

1 activities are very limited to the site area itself, and  
2 as we move off, the concentrations drop off quickly.

3           This slide summarizes the predicted  
4 arsenic concentrations, with a maximum twenty-four (24)  
5 hour comparison here for each of these offsite receptors.  
6 And on the bottom we have shown this air quality  
7 criterion I mentioned, the .3 micrograms per cubic metre,  
8 and the background level that's measured at the  
9 monitoring station in Yellowknife of point zero zero four  
10 (.004).

11           The point -- important point of message  
12 here is that all these predicted concentrations are well  
13 below the criteria, and by -- by at least a factor of ten  
14 (10).

15           I'm going to skip over the rest of these -  
16 - these particular slides. They summarize similar  
17 information for particulate matter, we -- and there we  
18 look at total suspended particulate matter, as well as  
19 two (2) smaller sized fractions, what we call PM10 and  
20 PM2.5. That stands for micron size particles. Again,  
21 the same message, we're well below criteria.

22           The same applies for nitrogen dioxide.  
23 This is a really a result of the power generation station  
24 and operation of all equ -- construction equipment on  
25 site, it affects the NO2 levels.

1                   The same comparison with the same  
2 receptors, same result. We're -- we're below criteria  
3 across the board. And finally, for sulfur dioxide it's  
4 the -- it's the same message. Okay. So we -- we -- from  
5 the screen level assessment we -- we conclude in the very  
6 conservative nature of it that there are no really air  
7 quality issues to be concerned about. Post-remediation  
8 air quality pro -- air quality emissions basically  
9 disappear from the site, so the interest is really during  
10 the implementation period.

11                   The overall conclusions of the study were  
12 that the -- there are no predicted exceedances of air  
13 quality indicators associated with the worst-case  
14 scenario at any of the receptor locations.

15                   Of particular in -- importance, arsenic  
16 concentrations at all sensitive receptor locations are  
17 predicted to -- to remain well below applicable criteria.  
18 Air quality monitoring of TSP and metals has been in  
19 place on the Giant Mine site since 2004. And as I  
20 mentioned, there's also a monitoring station that has  
21 been in operation for several decades by the GNWT.

22                   The existing Air Quality Monitoring  
23 Program will be modified and incorporated into the Air  
24 Quality Management Plan prior to the initiation of a --  
25 of site remediation activities.

1                   To facilitate adaptive management the Air  
2 Quality Environmental Monit -- Management Plan will  
3 identify action levels that trigger additional management  
4 actions if required.

5                   Site-wide air quality monitoring will be  
6 continued until surface remediation activities are  
7 complete and for three (3) years thereafter. At that  
8 time the need for continued monitoring will be assessed  
9 and revisions to the program will be made as appropriate.

10                   This slide summarizes briefly where we  
11 proposed in the -- in the DAR for monitoring to be  
12 carried out on an ongoing basis during the remediation  
13 activities with a -- what we call high vol sampler in the  
14 area of the old Giant Mine townsite, two (2) other mini  
15 vol type facilities along the east side of the site and a  
16 couple more in the west side, south and west side.

17                   There's one (1) additional point I'll  
18 touch on and this will be the end of my presentation. We  
19 were asked to also assess what the -- the effects would  
20 be on NO2 levels as a result of the Jackfish power  
21 generations plant operating at full capacity. That is at  
22 27 megawatt generating capacity.

23                   Our initial screening on that indicated  
24 that we would potentially have exceedances at several of  
25 the -- of the receptor locations we looked at. We are in

1 the process right now of undertaking a -- a detailed  
2 assessment.

3 And with that I'll...

4 THE FACILITATOR PHILLPOT: Thank you,  
5 Bruce. This is Darha Phillipot with the Review Board.  
6 We're now going to take a moment to move our table up so  
7 that we can see a little bit better for facilitating  
8 purposes, so one (1) moment.

9

10 (BRIEF PAUSE)

11

12 QUESTION PERIOD:

13 THE FACILITATOR PHILLPOT: Thanks very  
14 much. We're now going to move to questions from parties.  
15 Before we begin I do want to point out that at the break  
16 two (2) parties came to indicate to us that they won't be  
17 here for the full afternoon, and that was the City of  
18 Yellowknife. I believe they said 2:30 was the estimate -  
19 - estimated time that they'll be leaving, and DFO also  
20 this afternoon will be leaving at 3:00.

21 So if they have questions, or if there are  
22 questions for them, remember that you should get those  
23 questions out early. And so to begin, are there any  
24 questions? Jeff Humble, City of Yellowknife...?

25 MR. JEFF HUMBLE: Thank you. Jeff

1 Humble, City of Yellowknife. I'd like to lead by just  
2 following up a bit with regards to the question yesterday  
3 pertaining to the marina. And in this instance we're --  
4 we're looking toward the land portion of the -- of the  
5 site. And when I say the site I'm referring to the --  
6 primarily to the townsite.

7           The DAR discusses remediation standards of  
8 the site to the industrial standard and the Review Board  
9 determined that soil remediation was acceptable, as it  
10 was an improvement to the existing soil conditions.

11           Throughout the process the City has  
12 continued to emphasize the need to remediate Giant Mine  
13 to a residential standard. This is the traditional use  
14 of the site since the mine was established. And we  
15 already have an overcapacity of industrial land in the  
16 City.

17           In addition to developed and undeveloped  
18 industrial lands within the boundaries, further  
19 industrial lands will be added as a result of the  
20 remediation of Con Mine.

21           We had negotiated with Newmont Mining to  
22 remediate a portion of these lands to the residential  
23 standard. Given the socioeconomic and environmental  
24 legacy of Giant Mine on the City and the region, the City  
25 requests fuller analysis of acceptable remediation

1 standards at the site to a residential standard.

2 And we have requested this as part of our  
3 Information Requests, and from what I gather the response  
4 from the developer is a willingness to certainly discuss  
5 and provided information on that matter.

6 There was also a direction that the City  
7 may explore directly with the GNWT and other avenues. I  
8 was just wondering what other revenues are available to  
9 the City on this matter?

10 THE FACILITATOR EHRLICH: So the question  
11 that I'm hearing is a clarification on Giant -- the Giant  
12 team's IR response, which correctly pointed out the  
13 remediation standards outside of the scope of the  
14 environmental assessment, but the response suggested that  
15 you look at other avenues for discussing this, and your  
16 question is, What oth -- other avenues was the -- the  
17 Giant team referring to in that -- in that response?

18 MR. JEFF HUMBLE: That's correct. Jeff  
19 Humble.

20 THE FACILITATOR EHRLICH: I -- I think  
21 that's a fair enough question. What did the Giant team  
22 have in mind?

23

24

(BRIEF PAUSE)

25

1 MR. ADRIAN PARADIS: Have -- have a  
2 moment here, please. And Adrian Paradis for the Giant  
3 team. We'll ask Ray Case to respond.

4 THE FACILITATOR EHRLICH: And for the  
5 Review Board side, to make clear, we're not suggesting  
6 that as part of the EA discussion of the remediation  
7 standard of residential versus industrial is -- is  
8 required, we're just looking for a clarification on the  
9 IR response that you chose to put on record.

10 DR. RAY CASE: Ray Case, Giant Mine team.  
11 As you might be aware, the -- the Giant Mine team is --  
12 is very much aware of the -- the City's interest in -- in  
13 using the townsite area at some point in the future for  
14 residential development.

15 We have been keeping that in mind as we go  
16 forward to take a look at how the -- the site would be  
17 remediated, and how -- what the activities at -- at the  
18 townsite would -- would be.

19 And so as -- as we're developing that we  
20 see an opportunity to engage in some further direct  
21 discussions with the -- with the City as to what are our  
22 -- our final design plans are -- are looking at -- like,  
23 and how that relates to what their developing concept of  
24 what the -- the site would be like in the future.

25 I will highlight that, you know, portions

1 of the townsite are already at residential standard. The  
2 project is looking to -- to move the pro -- the whole  
3 area to -- to, at minimum, industrial standard. And  
4 beyond -- with -- with removal of some fill material we  
5 could leave some of the area -- additional areas could  
6 also be converted to -- to a better standard.

7                   So we're certainly open to have those  
8 discussions and make -- see how the remediation at the  
9 site and the interest of the City can -- can align as we  
10 go forward.

11                   THE FACILITATOR PHILLPOT: And so just to  
12 clarify, we heard that the question of Jeff Humble as  
13 really what -- what are the avenues for further  
14 discussions, when and where, and so perhaps further  
15 specifics to that question would be helpful for the  
16 record.

17                   DR. RAY CASE: Ray Case. We -- the --  
18 the Giant Mine remediation team will provide some contact  
19 information on some members for the -- the City to -- to  
20 contact directly.

21                   And if we don't hear from the City, we  
22 will be in touch with them.

23                   MR. JEFF HUMBLE: I just have a few more  
24 related questions, if -- if I may ask. Jeff Humble, for  
25 the record.

1                   THE FACILITATOR EHRLICH:    I -- I just  
2    want to make sure I -- I understood what I just heard.  I  
3    mean, because the -- the content about the remediation  
4    standard is not part of the environmental assessment, it  
5    still sounded to me like the Giant team expressed  
6    openness to meet and discuss with us outside the setting  
7    of the -- of the environmental assessment.  I see  
8    everyone nodding their heads.

9                   If it was inside the scope of the EA, I  
10   would say, We've just heard a commitment from the Giant  
11   team to meet with you outside of the EA to do it.  But we  
12   don't actually track commitments outside of the  
13   environmental assessment, so I'm not exactly sure how to  
14   do it, except for that it appears that the Giant team is  
15   willing to do what -- to meet with you as you want to  
16   meet with them.  And since it's outside the scope of the  
17   EA, I don't want to chase that particular line any  
18   further.

19                   Are you okay with where that got to,  
20   considering that it's outside the scope?

21                   MR. JEFF HUMBLE:    I am.  I might have a  
22   few more questions, if I can, and then just get to the  
23   heart of -- of what I think we would like to make as the  
24   request to -- to, I guess, engage that process.

25                   So, may I proceed with a few more

1 questions?

2 THE FACILITATOR EHRLICH: Fire away.

3 MR. JEFF HUMBLE: Jeff Humble, City of  
4 Yellowknife. In one (1) of our IRs we referred to the  
5 development permit process for the City of Yellowknife,  
6 and -- and that process, essentially, requires a  
7 development permit for certain works that are undertaken  
8 within City boundaries.

9 The IR response referred to Section 98 and  
10 the lack of clarity because of the review of Section 98  
11 of the Mackenzie Valley Resource Management Act, and  
12 that, I believe, has been concluded, and it's my  
13 understanding that the jurisdiction of development  
14 permits is still within the City of Yellowknife  
15 jurisdiction.

16 Can the Board or the developer clarify,  
17 please?

18 THE FACILITATOR EHRLICH: I'm going to  
19 ask the Giant's team to respond to that given the -- the  
20 new information that they provided over the last couple  
21 of days having to do with the fact that they -- they will  
22 need a permit, a land-use permit, for the -- for the  
23 project.

24 I wonder, do you have information that  
25 might help answer Mr. Humble's question?

1                   MR. ADRIAN PARADIS:    Adrian Paradis for  
2 the Giant Mine project team.  Yes, with the new -- with  
3 the Section 98 decision, we have met with the Land and  
4 Water Board and we've had brief discussions with the  
5 Impact Review Board and with the City about getting the  
6 land-use permit.

7                   We also met last week to talk about what  
8 would be in -- starting to understand and starting to  
9 assess what a development permit may -- may include or  
10 may not include, and I believe those discussions are very  
11 preliminary, just with the recent discussion -- with the  
12 recent decision.

13                   THE FACILITATOR EHRLICH:   Mr. Humble...?

14                   MR. JEFF HUMBLE:    Jeff Humble, City of  
15 Yellowknife.  Tying the two (2) issues together, I mean,  
16 the City -- we did meet and have discussions on this  
17 matter, and it's very unclear at this point to what  
18 degree the City wants to regulate the development permit  
19 process.  We have the authority to do so.  We have the  
20 authority to, from our perspective, hold up components of  
21 this project based on the level of detail that we would  
22 normally require for a development permit process in the  
23 City.

24                   What I'm looking for from the developer is  
25 a commitment to engage with the City in a public workshop

1 on a land-use plan for the town site and the surrounding  
2 areas, including opportunities for recreational space,  
3 transportation, trails, things of that nature; and,  
4 subsequent to that, to get into an MOU process that would  
5 allow the City to work with the developer to proceed down  
6 a process that we can work together to realistically say,  
7 This makes sense to remediate, this is not going to be  
8 too onerous, this is going to fit in with the overall  
9 remediation of the site.

10 We -- we don't see how you can put forward  
11 a remediation plan when you're not looking five (5) years  
12 beyond what the end use of the site's going to be. So we  
13 -- we feel that's a major shortcoming of this whole plan,  
14 and I guess we'd be seeking -- seeking a response from  
15 the developer. Thank you.

16 MS. LISA DYER: Thanks, Jeff. I just  
17 want to clarify some of the -- the issues you brought up.  
18 You talk about a public workshop, and I guess I'm just  
19 trying to clarify: What exactly do you see that  
20 entailing?

21 MR. JEFF HUMBLE: Jeff Humble, City of  
22 Yellowknife. We -- the City of Yellowknife, we have, I  
23 would say, a fairly high level of expertise in public  
24 consultation. We engage the public on many issues, but,  
25 generally, a development scheme process which invites the



1 you -- overdue to -- to get additional information on  
2 public interest of what future use of -- of the site is  
3 going to be. And I think the session on Tuesday -- or,  
4 sorry, Friday, is something -- that is something that  
5 we're -- we're highlighting.

6                   With respect to, you know, mechanisms to -  
7 - to get that input, the -- the team is -- is willing to  
8 -- to participate in -- in those mechanisms. We can  
9 certainly be available to -- to provide information about  
10 the -- the site and -- and some of the future limitations  
11 that might be on the site as a result of the remediation  
12 plan, and help inform some of -- some of that discussion.

13                   The -- the remediation plan and approach  
14 still needs to maintain its focus on securing the site,  
15 on the -- ensuring that the issues around risk to the  
16 environment and public health and safety are -- are  
17 addressed, but, beyond that, we can provide information  
18 to a public forum on -- on opportunities and limitations  
19 provided by the site post-remediation.

20                   THE FACILITATOR EHRLICH: Mr. Humble...?

21                   MR. JEFF HUMBLE: I guess this would be  
22 partly a question for the Board but, I mean, we  
23 understand the -- the principles of how this plan was  
24 undertaken, the guiding principles and the -- the INAC  
25 sustainable development strategy when we talk about

1 things of full consideration of economic viability and  
2 social implications, and open and accountable decision  
3 making and -- and an engagement in the interests of the  
4 local communities.

5           So we're looking for a real engagement  
6 process here that, from the City's perspective, we have a  
7 host of issues, but this is really the heart of what the  
8 long-term community interests are. And if we're not  
9 engaging this process and we can't get some kind of a  
10 guarantee, then perhaps we need to explore, as suggested  
11 in the IRs, other avenues to try and get this done.

12           And I'm just not hearing, I guess, the  
13 level of commitment that -- you know, verbal discussions  
14 is going to get us to the level of comfort that we feel  
15 we really need to move to to get this thing advanced to  
16 the point where -- where we're actually progressing on --  
17 on a land-use strategy that's -- that's practical.

18           So, I don't know if the Board can provide  
19 any guidance on how we might want to approach this, but,  
20 as I stated, you know, commitment to some kind of a  
21 workshop, and then a subsequent MOU that's got some  
22 flexibility worked in to -- to work with -- with the  
23 development team.

24           THE FACILITATOR EHRLICH:     Just to  
25 reiterate what I said earlier, although the standard of

1 remediation is outside the scope of the EA, what I've  
2 heard from the Giant team a moment ago sounded like an  
3 openness to participate at a workshop, and an interest in  
4 -- in further communications to and with the public on  
5 the project. This sounds to me like what you're asking  
6 for. Am I missing something there?

7 MR. JEFF HUMBLE: Certainly the  
8 commitment to the workshop -- I mean, if that's basically  
9 what we've heard, that's fabulous. That's great. But we  
10 would like something in writing -- Jeff Humble, City of  
11 Yellowknife -- that we can -- that we know we're  
12 committed to this process. We're not just going to do  
13 something and then walk away from -- from an obligation  
14 to work together on this -- on this process.

15 THE FACILITATOR EHRLICH: Okay. Out --  
16 outside of -- because this is not -- the future land uses  
17 in that area are not -- the standard of remediation is  
18 not part of the scope of the assessment, but since both  
19 parties that are raising this seem to be quite willing to  
20 do what the other one wants, can I ask if at least the  
21 Giant team is -- is willing to engage in some direct  
22 correspondence with the City outside of the public record  
23 of the environmental assessment?

24 Because it's not in the scope, just making  
25 clear what level of involvement at a workshop you're

1 prepared to do more or less elaborating on that, but I  
2 don't want the discussion here to -- to focus on  
3 something outside of the scope in any more depth than it  
4 has.

5                   Would you be able to write such a letter,  
6 and discuss this with the City, and clarify how you could  
7 be involved with that kind of workshop?

8                   MS. JOANNA ANKERSMIT: Yeah. Joanna  
9 Ankersmit. We'd be happy to -- to provide some  
10 correspondence to that effect.

11                   Before we do that, I think we should  
12 actually talk to one another, and talk about kind of what  
13 the plans are, and -- and what the City would hope to  
14 see, and they can -- you know, it makes sense that we do  
15 some things together.

16                   Obviously we're not trying to artificially  
17 de-link certain elements of what makes sense, so we can  
18 do that. And we're happy to do that.

19                   THE FACILITATOR EHRLICH: If it's  
20 possible for you to speak directly to the City on a break  
21 about the where and when that kind of thing can happen,  
22 it would -- sounds like it would be a helpful thing.

23                   MR. JEFF HUMBLE: Jeff Humble, City of  
24 Yellowknife. Thank you. Certainly, you know, we  
25 appreciate it and we are looking for a partnership on

1 this. We think we -- both parties, we can work together  
2 on this.

3 So -- so we look forward to that  
4 discussion, and -- and moving forward. Thank you very  
5 much.

6 THE FACILITATOR EHRLICH: Mr. Humble, do  
7 you have any other questions, or Mr. Kefalas, I see you  
8 approaching a microphone. Questions about surface use of  
9 the site, and the other stuff that we're covering today,  
10 which includes tailings, pits, waste, future land use up  
11 to the -- the point with the ex -- with the exception  
12 that I've made earlier, and air quality.

13 MR. DENNIS KEFALAS: Dennis Kefalas, City  
14 of Yellowknife. Just some clarification on what the  
15 Giant team considers its best practice is in terms of the  
16 non-hazardous landfill sites, and what will be  
17 incorporated as part of their design.

18 THE FACILITATOR EHRLICH: To the Giant  
19 team, then; what do you consider best practice with  
20 respect to hazardous sites, and what will be incorporated  
21 into your design?

22 MS. LISA DYER: Lisa Dyer. Just to  
23 clarify, I heard non-hazardous from Dennis, but I heard  
24 hazardous from Alan.

25 Are you looking for non-hazardous or

1 hazardous?

2 MR. DENNIS KEFALAS: For this specific  
3 question -- Dennis Kefalas -- the non-hazardous sites.

4 MS. LISA DYER: Thank you for that  
5 clarification. I'm going to ask Gord Woollett to speak  
6 to that.

7 MR. GORDON WOOLLETT: Gordon Woollett.  
8 Yeah, the -- as -- in my presentation there was a slide  
9 there showing some design concepts that are commonly used  
10 in other northern landfill sites.

11 Those would be implemented for this one  
12 (1) as well. There is currently no guidelines that will  
13 -- for this kind of landfill in the Northwest  
14 Territories. There are Federal guidelines, so we're  
15 going to be drawing on guidelines and methods for waste  
16 disposal from other jurisdictions.

17 MR. DENNIS KEFALAS: Dennis Kefalas, City  
18 of Yellowknife. Will you be incorporating the same --  
19 the same design standards currently employed by the City  
20 of Yellowknife in these landfills?

21 MR. GORDON WOOLLETT: Gordon Woollett.  
22 Not knowing how that one (1) is designed, I can't really  
23 answer that question at this time.

24 MR. ADRIAN PARADIS: I think the best way  
25 -- Adrian Paradis for Giant project team.

1                   Dennis, if we can get the standards that  
2 you're using, and then we can organize to get that to our  
3 design team so they can take it into consideration.

4                   MR. DENNIS KEFALAS: Thank you. Dennis  
5 Kefalas for the City of Yellowknife. That's good to  
6 hear.

7                   Just the City of Yellowknife expects that  
8 we're setting a standard for the Territories in terms of  
9 new generational landfills, which requires the  
10 installation of liners and leachate collection systems,  
11 even for non-hazardous landfill sites.

12                   THE FACILITATOR EHRLICH: I've a question  
13 for the City of Yellowknife on that.

14                   Are you designing your landfill to  
15 maintain its integrity in perpetuity? You know, five  
16 thousand (5,000) years from now? I mean, is your  
17 landfill expected to -- to last forever, ever, and ever?  
18 In other words, I'm trying to figure out if the standards  
19 that are appropriated to it also suit a project where --  
20 where everything has to keep working for, you know, for -  
21 - for millennia.

22                   MR. DENNIS KEFALAS: It's Dennis Kefalas,  
23 City of Yellowknife. It's safe to say that the standards  
24 that we're currently incorporating will perform better or  
25 longer than what's being proposed by the existing

1 landfill standards currently used throughout the  
2 Territories.

3                   And it's something that was initiated by  
4 the approval of the Mackenzie Land and Valley Water  
5 Board, and we expect that other jurisdictions, as well as  
6 the Giant Mine site incorporate these standards.

7                   THE FACILITATOR EHRLICH:   Mr. Kefalas,  
8 I'm -- I'm not casting aspersions on the quality of the  
9 City of Yellowknife's landfill. From what you said it  
10 sounds like state of the art.

11                   I just -- I'm not aware of other  
12 perpetuity projects in the Northwest Territories anywhere  
13 where the proposed projects that -- that need to keep  
14 working forever and -- and -- and a lot of this project,  
15 because it's a perpetuity project, you know, its -- its  
16 integrity must be maintained forever.

17                   So I just wonder if the Giant Team has  
18 considered this and might want to come up with standards  
19 that are, you know, that -- that match the -- the period  
20 that the project is -- is -- is going to be going on for.

21                   Unless I've -- I've misunderstood  
22 something, and maybe perhaps the Giant Team can respond.

23                   MS. LISA DYER:   Lisa Dyer. Just to -- to  
24 clarify, Dennis, are these standards currently published  
25 right now, or where -- where do these standards rest, and

1 where can we see a copy of those?

2 MR. DENNIS KEFALAS: These -- the  
3 standard that we actually -- Dennis Kefalas, City of  
4 Yellowknife. There's actually a standard currently used  
5 in Alberta and it's what was expected of the City in  
6 terms of our getting our approval for a new landfill.

7 And we'd hope that the Federal Government  
8 and the GNWT would be held to a higher standard than the  
9 City of Yellowknife, or at least equal.

10 MS. LISA DYER: Thank you. So you were  
11 referring to the Alberta guidelines? That is the  
12 standard that you're using?

13 MR. DENNIS KEFALAS: That's the -- Dennis  
14 Kefalas, City of Yellowknife. It's the one (1) we've  
15 currently employed as part of our landfill.

16 MS. LISA DYER: Okay.

17 MR. DENNIS KEFALAS: And which was  
18 accepted by the Mackenzie Valley Land and Water Board.  
19 And we would expect that any other landfills that are, I  
20 guess, installed and constructed within the boundary of  
21 the City of Yellowknife would be at least of that level  
22 if not exceeding it.

23

24 (BRIEF PAUSE)

25



1 landfill.

2

3 THE FACILITATOR EHRLICH: Does anyone  
4 else have any questions for the Giant Team?

5 MR. DENNIS KEFALAS: I have one (1) more  
6 question. Sorry, Dennis Kefalas, City of Yellowknife.  
7 Maybe it's -- considering it's a Giant Mine Team, given  
8 the, I guess proposed reclamation projects, I mean, some  
9 of the pits won't be -- for various reasons won't be  
10 filled, will be left as is, per se.

11 I mean, that really takes a lot of land  
12 out of potential use. I'm just wondering if we could get  
13 a commitment from the team and a member of the team, I  
14 guess at GNWT, that if at such time a -- the bypass  
15 highway, or relocation of Highway 4 is actually  
16 constructed, that the City would have -- based on the  
17 Akaitcho land withdrawal would have the next access to  
18 those lands adjacent to the highway, or provided --  
19 what's the proper word? Hang on a second.

20

21 (BRIEF PAUSE)

22

23 MR. DENNIS KEFALAS: Excuse me, if we  
24 would have first refusal to those lands based on the  
25 Akaitcho withdraw?

1 THE FACILITATOR PHILLPOT: Thank you,  
2 Dennis. Is there someone with the Giant remediation team  
3 who would like to respond to that?

4 DR. RAY CASE: Ray Case, Giant Mine  
5 remediation team. The -- I believe the issue that's been  
6 raised is a matter between the Government of the  
7 Northwest Territories, the City and -- and the Akaitcho  
8 Territory, and should be pursued at -- at that juncture.

9 Certainly, the -- the rationale the City  
10 has just put forward as -- as to what the outcomes of the  
11 -- the Giant Mine remediation and -- and such could be  
12 put forward in -- in that context as -- as part of the  
13 argument, but we don't see it as -- as a matter that the  
14 Giant Mine remediation team would be able to address.

15 THE FACILITATOR EHRLICH: Thank you, Dr.  
16 Case. Any other questions for the Giant team?

17 THE FACILITATOR PHILLPOT: Kevin O'Reilly  
18 with Alternatives North...?

19 MR. KEVIN O'REILLY: Thanks. Kevin  
20 O'Reilly with Alternatives North.

21 Alan, I just wanted to follow up on this  
22 discussion about future land use. I understand that the  
23 soil rema -- remediation criterion is not part of the  
24 assessment, but future land use is. And I would direct  
25 you to the terms of reference 3.4.1, item 7, and it reads

1 as follows:

2 "At a minimum, the developer is  
3 required to:

4 7. Consider how any aspect of the  
5 development may affect present and  
6 future land uses in the area, including  
7 opportunity costs."

8 So this prior discussion about future land  
9 uses I think is quite squarely within the -- the scope of  
10 this assessment, and I think that information should be  
11 put on the public registry. And they weren't talking  
12 about soil criterion, they were talking about future land  
13 use.

14 So I just want to get your thoughts about  
15 that, if I could, and if the developer wants to comment,  
16 they -- they're welcome to do that as well. Thanks.

17 THE FACILITATOR EHRLICH: You're correct,  
18 and I apologize if I've been unclear. It's the soil  
19 remediation standard that the Board explicitly decided  
20 was outside of the scope of the EA. If it's in the terms  
21 of reference, for example, future land use and  
22 opportunity cost, then it is inside the scope of the  
23 environmental assessment, in which case please submit the  
24 information to the record as well as to the City  
25 directly, so that we can put it on the public registry.

1                   But to -- to make it clear, yeah, the  
2 residential versus industrial standard, not on. Future  
3 land uses and opportunity costs which relate to future  
4 forgone, that's -- that's within the scope.

5                   MR. KEVIN O'REILLY:    Sorry, if I may.  
6 Kevin O'Reilly, Alternatives North.

7                   I just want to point out, too, that the  
8 City did develop a land-use plan for this area. It was  
9 filed on the public registry by myself as an individual  
10 close to the beginning of the -- the -- this  
11 environmental assessment, so that has been on the public  
12 registry for at least probably a year and a half, and the  
13 developer, I'm sure, is well aware of that document as  
14 well. Thanks.

15                  THE FACILITATOR PHILLPOT:    Thanks, Kevin.  
16 Are there any further questions from the City of  
17 Yellowknife? If not, we'll open up ques -- open up the  
18 floor to questions from other parties.

19                  And Alan just put a little bug in my ear  
20 to remind all -- everyone in the room that DFO will be  
21 leaving at 3:00 p.m., so if there's any questions for  
22 DFO, or if DFO has any questions at this time, perhaps we  
23 could focus on those. And I see a question from the  
24 Review Board's -- one (1) of the Review Board's experts,  
25 Dave Tyson.

1                   MR. DAVE TYSON:    I just wanted to follow  
2 up on Baker Creek and fish habitat in Baker Creek.  And  
3 there's -- DFO has made some comments about the  
4 importance of fish habitat in Baker Creek, and I was  
5 wondering if they had a -- a regional study that  
6 documents the availability and importance of fish  
7 habitat, particularly with respect to Arctic Grayling, or  
8 are these statements at this point about -- such as may  
9 be important grayling habitat just conservative  
10 speculation at this point?

11                   MS. MORAG MCPHERSON:   Morag McPherson,  
12 Fisheries and Oceans.  Our evaluation to date on habitat  
13 in Baker Creek is based on the last five (5) years of  
14 studies that have been conducted on the creek, in  
15 particular where we have learned a lot more in terms of  
16 the actual habitat within the creek on the mine site; had  
17 habitat assessment maps put together.

18                   Again, this is all stuff actually that the  
19 Giant Mine remediation team has done in terms of as part  
20 of this environmental assessment, putting together  
21 information on the habitat within the creek and fish use.

22                   So there has been extensive information  
23 gathered, I guess, that has informed our understanding in  
24 terms of our assessment of their reports on fish habitat  
25 and fish use within the creek itself.

1                   So these -- my comments, and our  
2 information that we have on the habitat -- on fish use  
3 and what actually happens in the creek is based on five  
4 (5) -- five (5) years of studies to date.

5                   In terms of regionally and the importance,  
6 as I mentioned yesterday, that -- that is an unknown.  
7 What DFO has done ourselves has done a little bit of  
8 reconnaissance and some literature reviews in order to  
9 understand where there is other, I guess, seasonal spring  
10 spawning Arctic Graying habitat.

11                   From a habitat side, where we come from,  
12 that's -- that's what we have done, so we have not  
13 requested that the Giant Mine team put it into that  
14 context in terms of they -- them undertaking a study to  
15 determine this importance, because as the project is  
16 proposed right now there would be an improvement in  
17 habitat, and an increase in habitat quantity and quality.

18                   If that was to change, then yes, likely  
19 some additional information would be required and  
20 additional studies requested, but to date based on what's  
21 proposed we didn't feel that was necessary.

22                   I think that's all that I will say on  
23 that. Thank you.

24                   THE FACILITATOR PHILLPOT: Thank you.  
25 Dave, do you have a follow-up question?

1                   MR. DAVE TYSON:     Dave Tyson for the  
2 Review Board.  I -- I guess, you know, the -- what I'd  
3 like to understand is how this is -- you know, there's --  
4 there's been comments about regional importance, and you  
5 know, the -- the place -- the place that -- that Baker  
6 Creek serves in -- in fish productivity in a -- in a  
7 regional basis, and what -- and what I'm understanding is  
8 that we don't understand this right now.  We don't have  
9 that sort of information.  So we don't know that if --  
10 that the habitat currently in Baker Creek is -- is that  
11 important.  The -- the studies have focussed on Baker  
12 Creek basically in isolation.

13                   MS. MORAG MCPHERSON:     Morag McPherson,  
14 Fisheries and Oceans.  Yes, we have focussed on Baker  
15 Creek, so we know what it does produce.

16                   In terms of moving that out into the local  
17 study area, I guess if you want to put it in the context  
18 of the EA and the regional study area, there hasn't been  
19 additional study to understand.

20                   It essentially is a black box in terms of  
21 the importance of Baker Creek to Arctic Grayling  
22 populations in Yellowknife Bay.  I think I would stick  
23 more now to -- I mean, as I said yesterday, we -- yeah,  
24 we don't know -- regionally I guess is the North Slave  
25 region, if you're looking at the scope of the assessment;

1 locally it's Yellowknife Bay. And essentially it is --  
2 it is unknown but given what we know about the creek, we  
3 do know it is -- it produces a lot of Grayling.

4 We don't -- we haven't identified other  
5 Arctic Grayling spawning areas in the Bay, so those are  
6 the facts we have. We don't know its importance in terms  
7 of productivity, or its importance to the Arctic Grayling  
8 stocks in Yellowknife Bay.

9 THE FACILITATOR PHILLPOT: Thank you,  
10 Morag. Dave, did you have an additional question?

11

12 (BRIEF PAUSE)

13

14 THE FACILITATOR PHILLPOT: Thanks. Then  
15 I'll turn to Alan Ehrlich, who has a question.

16 MR. ALAN EHRLICH: I just want to try and  
17 understand the -- make sure I -- I get a grip on -- on  
18 sort of what you're saying about the regional populations  
19 and such.

20 I remember you said before the Beaulieu  
21 River was recognized as an important Grayling spawning  
22 habitat, but I -- I'm not a fisheries expert, I -- so  
23 Grayling aren't spawning up the Yellowknife River, or if  
24 they are they're not coming down into the Bay.

25 Is that correct?

1 MS. MORAG MCPHERSON: Morag McPherson,  
2 Fisheries and Oceans. Again, this is just based on -- on  
3 our reviews of studies and information that we have on  
4 fisheries and fish stocks within the Bay.

5 There has been, I guess, observations of  
6 Grayling in Yellowknife River, but we -- I have not been  
7 able to find to date -- and again, this is something that  
8 we have been undertaking as much as we can, but have not  
9 put together a focussed study on this yet. But there's  
10 been no actual identified spawning sites within  
11 Yellowknife River that have been documented in any type  
12 of study that we've been able to find.

13 There are different populations of  
14 Grayling; not all move into rivers, are adfluvial. Some  
15 can spawn and live just within lakes, but again, this is  
16 some of the challenges of -- of doing fisheries work in  
17 the north, is that we don't have the information, and  
18 fisheries management even does not have these -- this  
19 information on a lot of the stocks.

20 So in terms of understanding is it one (1)  
21 stock or population of Grayling in Yellowknife Bay, or  
22 are there several, are they separate, do they overlap, we  
23 don't -- we don't know that. We know there's Arctic  
24 Grayling that are caught by recreational fishers out near  
25 the sub-islands, but are those Grayling that move into

1 Baker Creek? We don't -- we're not sure.

2                   They -- they could live and spawn within a  
3 lake. There's different sort of life histories that  
4 Grayling can have, and -- and we -- we don't have that --  
5 there hasn't been population-type work done on the Arctic  
6 Grayling. All we know is the habitat that's available  
7 and the numbers that come in, what it produces, what  
8 moves out when, and we've started to learn a lot more --  
9 more about that, but it -- it has not been put into any  
10 sort of context of the importance to populations, I  
11 guess, yet in the bay.

12                   All we know is we have not been able to  
13 identify similar seasonal, spring seasonal, Grayling  
14 spawning within Yellowknife Bay. We think Yellowknife  
15 River likely does provide that. We know from the  
16 Yellowknives Dene that the outlet of Duck Lake coming out  
17 into Yellowknife Bay on the other side of Dettah has a  
18 small sort of riffley (phonetic) run area. It's not very  
19 big, but we -- we do understand that Grayling move in  
20 there in the spring and spawn.

21                   So those are two (2) areas, we know  
22 there's others, but in terms of the -- I guess the  
23 quantity and the type of habitat, when you look at the  
24 channel, does -- the channel structure, the hydrology,  
25 there's nothing similar in terms of that. It doesn't

1 mean there's not spawning elsewhere, but this is what we  
2 know, based on -- on studies and actual documentation  
3 that we've been able to find thus far. But again, there  
4 hasn't been a full study done to that -- to that scale.

5 MR. DAVE TYSON: Okay. Thanks.

6 THE FACILITATOR PHILLPOT: Are there any  
7 other questions for DFO, City of Yellowknife, who will be  
8 leaving shortly, or to other parties?

9

10 (BRIEF PAUSE)

11

12 THE FACILITATOR PHILLPOT: I see a  
13 question from Todd Slack, YKDFN.

14 MR. TODD SLACK: Well, I wanted to give  
15 the federal folks a -- a chance to get questions in, but  
16 it doesn't seem like they have any, so I guess I'll start  
17 in on -- unless somebody jumps in here, I'll start in on  
18 questions for the project team.

19 THE FACILITATOR EHRLICH: Actually, Todd,  
20 I think we -- we will jump in. It's Alan Ehrlich. We  
21 are going to jump in for a second, because with DFO  
22 disappearing, we want to make sure that any questions  
23 that we've got from or for DFO get reached now. Is there  
24 anyone who has any other questions for Department of  
25 Fisheries and Oceans regarding what we've heard? Because

1 after 3:00 you won't have the opportunity.

2 Is DFO planning on coming back on later  
3 days, on -- on Thursday and Friday?

4 MS. MORAG MCPHERSON: Yes, we are going  
5 to be available tomorrow and Friday; we're here all day.  
6 It's just today we're leaving at 3:00. Thank you. Morag  
7 McPherson.

8 THE FACILITATOR EHRLICH: It's Alan  
9 Ehrlich again. Okay, that's good. That's not as dire as  
10 I -- as I thought it was going to be. Okay.

11 Kevin, do you have a question for  
12 Fisheries and Oceans?

13 MR. KEVIN O'REILLY: Sure. Kevin  
14 O'Reilly, Alternatives North. And I -- I did give Morag  
15 a -- a heads up that I might ask this question. So given  
16 what we know now about the diffuser design and the -- the  
17 mixing zone, is DFO going to require Fisheries  
18 authorization? And if you can't answer it because you  
19 don't know enough about the design, that's fine. I just  
20 want to know what you think about it at this point.  
21 Thanks.

22 MS. MORAG MCPHERSON: Morag McPherson,  
23 Fisheries and Oceans. Sorry, maybe I shouldn't have  
24 mentioned I was leaving. We're bringing up -- we're  
25 bringing up topic creep into the surface stuff. Sorry.

1                   Yeah, in response to that, we had  
2 indicated in both our letter to the Board on the scoping  
3 that that was an area that we had indicated there may be  
4 impacts to fish and fish habitat from the construction of  
5 the diffuser.

6                   Also in response to I think it was  
7 Yellowknives Dene IR-26, when it was wanting to get a  
8 little bit more clarity on departments' involvements in  
9 certain technical aspects of the project, we did indicate  
10 there as well that it is an aspect of the project where  
11 we've identified there are likely to be some impacts to  
12 fish and fish habitat, but, as you mentioned, we don't  
13 have all of the design details yet. We -- we just got  
14 some of that information this week as well.

15                   So there hasn't been a determination made,  
16 but it is something that will continue to be reviewed  
17 through this EA, which will inform any regulatory  
18 decisions we have to make as well. So there hasn't been  
19 a determination yet.

20                   THE FACILITATOR PHILLPOT:   Thank you,  
21 Morag. Did you have a follow-up question, Kevin?

22                   MR. KEVIN O'REILLY:   Thanks, Kevin  
23 O'Reilly, Alternatives North. Not a follow-up question,  
24 but I did want to thank DFO for being here. They asked  
25 really good questions. They helped us certainly

1 understand some of the issues a lot better.

2 So I did really want to thank them for  
3 being here.

4 THE FACILITATOR PHILLPOT: Thanks, DFO.  
5 So just to remind everyone, we need to bring back the --  
6 the focus of the questions to the surface remediation  
7 which is the topic for today.

8 And if there are no further questions for  
9 DFO, we'll turn to YKDFN who indicated they had a  
10 question for the developer.

11 MR. LUKAS NOVY: Lukas Novy here. I'm  
12 just going to steal the mic from Todd so I can get a  
13 couple of words in. And it's related to basically with  
14 the water pits and it's specific IRs on YKDFN number 3  
15 and number 5. So I'll just provide some background with  
16 what was said in those and then pose a question and there  
17 most likely will be a follow-up question to it, so.

18 IR number 3 primarily revolved around  
19 getting some historical feedback on the overall process  
20 of selecting the closure option for the open pits. And  
21 with that there was provided some information on that.

22 And I'll just look here for reference. It  
23 was indicated that the -- the operation of allowing the  
24 pits -- pits to flood would produce contaminated lakes,  
25 and that was indicated as a reason for not going with

1 open pits, and additionally it was stated that it could  
2 cause drowning due to usage, public usage of it in a  
3 swimming set up, or whatever -- what -- whatever scenario  
4 was indicated, there could be drowning.

5           That is in a bit of confliction with IR  
6 number 5, which revolved around what type of monitoring  
7 activities would be possess -- would be done for the open  
8 pits. And there's a statement on the Mine Site  
9 Reclamation Guidelines for the Northwest Territories.

10           And the point of confusion is -- is that  
11 some statements are made on the post -- post-closure  
12 monitoring and it's discussing lakes, water being formed  
13 in the lakes, water levels, and that's -- that's kind of  
14 pushing it that there would be some formation of -- of  
15 lakes or some sort of water inside the pits and it's  
16 directly in -- it doesn't really correlate well to IR  
17 number 3.

18           And secondly, the main reasoning for  
19 disapproving the formation of lakes, so it's -- it's  
20 indicated flooding of the Giant Mine pits is not  
21 practical because of the inner connections with the  
22 underground workings.

23           Now it's a different reason that was  
24 provided for IR number 3. So first off the bat I would  
25 like to have some clarification on what was the main

1 reasoning for open pits -- or I guess first off, I would  
2 like to know is there any commitment to whether open pit  
3 lakes will be formed at any point in time during the  
4 project?

5 THE FACILITATOR PHILLPOT: Thank you,  
6 Lukas Novy. To the Giant Remediation Team, they're  
7 looking for a commitment about formation of open pit  
8 lakes at any time during the project.

9

10 (BRIEF PAUSE)

11

12 MR. ADRIAN PARADIS: Adrian Paradis for  
13 INAC. We're just going to ask that Bruce Halbert respond  
14 and then Daryl Hockley will provide some clarifications.

15 MR. BRUCE HALBERT: Bruce Halbert.  
16 You've got a number of questions there so I'll try to  
17 break it out then hopefully Daryl can fill the holes.  
18 One (1) is flooding the pits. You can't flood the pits  
19 without the -- the underground mine workings also being  
20 flooded because there are inner connections. So from a -  
21 - just from a practical point of view that's not an  
22 option, unless, of course, we're gonna allow the -- the  
23 mine wat -- the -- the mine to flood itself eventually.

24 That's not contemplated within the --  
25 within the DAR. Our expectation is that we're going to

1 have to treat water -- minewater for quite some time to  
2 get the quality of the -- the water down to a point where  
3 one could even contemplate allowing it to rise and flood  
4 the pits, and that's, who knows, way out in the future.  
5 So I think I'll stop at that and I'll turn it over to  
6 Daryl.

7 MR. DARYL HOCKLEY: Yeah, I just wanted  
8 to clarify the -- there's confusion, I think, and I can  
9 maybe -- since I didn't write this but I did review this  
10 particular response, so I can tell you what people had in  
11 mind when they wrote them, and -- and that might explain  
12 the confusion.

13 The -- the statement in IR Number 3 that  
14 the flooded pits were evaluated, and -- and ruled out  
15 because of water quality concerns is -- is similar to  
16 what -- what Bruce just said.

17 As water can flow into the mine from the  
18 pits, water could also flow out of the mine into the  
19 pits, and that would be contaminated water. So it's  
20 really just expressing the same thought in -- in two (2)  
21 confusingly different ways, I guess, is what happened  
22 there.

23 The -- the references to the -- to the  
24 guidelines -- mine site reclamation guidelines, I -- I  
25 distinctly remember reading this, and -- and seeing the

1 same potential for a confusion.

2                   The -- the -- what we could have done, I  
3 guess, would have -- to have been to strike all  
4 references to flood the pit, but then we would be saying  
5 the right -- the - - the guidelines say this when they --  
6 and leaving out -- we would have been implying if you  
7 like that the guidelines don't provide for flooded pits  
8 when in fact they do.

9                   So it was an issue of trying to be -- give  
10 a complete representation of what the guidelines said  
11 that we left those references in there, but there is no  
12 intention to have flooded pits in the -- in the current  
13 remediation plan.

14                   THE FACILITATOR PHILLPOT:   Thank you.  
15 Any further questions from Lukas Novy?

16                   MR. LUKAS NOVY:   Yeah.  And so it's a  
17 follow-up question to that, as -- as I know that there's  
18 -- there's some channel diversions that are being  
19 proposed, and my understanding of that is, is to  
20 eliminate the potential of -- of water coming into the  
21 open pits.

22                   I -- I'm just wondering what -- what other  
23 contingencies or mea -- measures -- if I could just get a  
24 summary of measures that are being in place to prevent  
25 that, and how -- how that -- was it the overall -- the

1 overall lack, or thing I'm missing here, is the overall  
2 process of how the open pits were selected as the option  
3 in -- instead of filling the open pits.

4 Because my concern is, is that the -- the  
5 main risk to that in its current state is, is that water  
6 gets in there and could come into the underground  
7 workings.

8 So I -- I just didn't see that linkage  
9 between the underground, and -- and the potential for  
10 water influx. So I'm kind of maybe going off track here,  
11 so maybe the first question is, is just: Currently, how  
12 is water being prevented from entering -- entering the  
13 open pits?

14 THE FACILITATOR PHILLPOT: Thank you,  
15 Lukas. Lisa Dyer, did you want to take that one, or  
16 indicate who from your team will?

17 MS. LISA DYER: Lisa Dyer. I think I'll  
18 ask Mark Cronk to talk about current measures, and then  
19 we'll talk -- ask Daryl Hockley to speak to the second  
20 part, which I'm trying to remember what it is at this  
21 moment in time, and I'm having a total mind blank. Why  
22 we're not filling the pits. Yeah.

23 MR. LUKAS NOVY: Before you guys get  
24 going, and it would be in the -- in the basis of water  
25 management and risk to the underground, is whether it's

1 filling pits or not. Lukas Novy.

2

3 (BRIEF PAUSE)

4

5 MR. MARK CRONK: Mark Cronk. Lukas, if I  
6 understand your question, what steps are we taking to  
7 manage the risk of water infiltration to the pits on  
8 surface?

9 MR. LUKAS NOVY: At this current time,  
10 yes.

11 MR. MARK CRONK: One (1) more  
12 clarification. Is that during the pre-implementation  
13 phase, or as part of the implementation project?

14 MR. LUKAS NOVY: I guess the  
15 implementation of, in terms of time scale, would be  
16 preferable in -- in the frozen blocks, and at their  
17 various stages, so. And that's the time I'm looking for.  
18 It's for the ten (10) year designated target for the  
19 frozen blocks, I want to know.

20 MR. MARK CRONK: Mark Cronk. As Nathan  
21 Schmidt presented in his Baker Creek and surface water,  
22 almost all of the work we will do is improvements to the  
23 channelization, flood plains, lifting the banks,  
24 improving the hydraulic capacity of Baker Creek  
25 travelling through the site.

1 Does that answer your question?

2 MR. LUKAS NOVY: Yeah, it does. It's  
3 just that the -- the main -- I guess that's the nice  
4 segue into the second question. I don't see the -- the  
5 evaluation of how does that compare to filling the pits  
6 in, in terms of cost, in terms of is -- is one (1) more  
7 dominate?

8 Because I know that we're talking about  
9 channel diversion, and -- and I just don't have an  
10 understanding, and I didn't see that in the description  
11 of -- that that was even considered as the option.

12 Basically the -- the filling of the pits  
13 were disapproved that some other area would be a creation  
14 of an open pit lake, and -- and it was said that that's  
15 not a reasonable thing.

16 But the -- what didn't come across the --  
17 the actually filling of the pits could mediate a risk, so  
18 I'm just trying to get some information on, How does it  
19 compare to the diversion of channels?

20 Is it -- is it much more expensive, or --  
21 and any other technical information that could provide  
22 guidance on that.

23 MR. DARYL HOCKLEY: I think -- I think we  
24 just need to back up a step. Daryl Hockley. The -- the  
25 fundamental hazzard is the arsenic trioxide dust. Baker

1 Creek represents a risk insofar as it can flood the mine,  
2 pick up that arsenic trioxide dust and take it out into  
3 the creek. Okay.

4 Our -- our fundamental approach to  
5 managing that hazard and that risk is the frozen block.  
6 We freeze the arsenic trioxide, we significantly reduce  
7 all risks associated with flooding from Baker Creek; that  
8 -- that's the fundamental approach here, okay.

9 In the intervening period there are issues  
10 about Baker Creek representing a risk and there is still  
11 some risk after the frozen block, depending on how much  
12 arsenic is in the underground, et cetera, et cetera. But  
13 the -- the fundamental approach to this has been the  
14 frozen blocks. Okay.

15 So to the question, once the frozen blocks  
16 are in place, which is the -- the proposal, would we then  
17 backfill pits in order to prevent the creek infiltrating  
18 the mine. I suppose it's one (1) of the mitigation  
19 measures that -- that should be considered. It -- it may  
20 be cost wise, or risk wise reasonable. I -- I don't  
21 know.

22 We -- we didn't think in those terms, I  
23 can tell you that, because we -- we feel that once the  
24 arsenic blocks are frozen, the significant risks  
25 associated with Baker Creek are mitigated. And at that

1 point it becomes a question of what to do with the rest  
2 of the site and plans to -- the -- the DAR talks about  
3 other options for the pit that were considered in that  
4 context, right, under the assumption the big hazzard had  
5 been mitigated.

6 So that -- that's the answer to your  
7 question, what was the logic that was followed in the  
8 process of the DAR.

9 MR. LUKAS NOVY: Yeah, that -- that  
10 raises -- you -- you outlined the scenario post-freezing  
11 of the blocks, but I -- I was more concerned, or the  
12 question was in -- in its current state that you -- there  
13 is -- there is an opportunity to eliminate that potential  
14 for water by -- by filling the pits -- by providing a  
15 backfilling at this current time, or -- or before the --  
16 before the freezing is complete?

17 MR. DARYL HOCKLEY: I'm not sure that --  
18 first of all, I'm not sure that backfilling the pits with  
19 any of the available material would actually solve the  
20 problem. The -- the -- we don't have a lot of fine grain  
21 low point building material available and we -- and --  
22 and we probably don't want to stuff it all in pits  
23 because we need it for more high value uses like tailings  
24 covers.

25 So what we'd be putting in those pits is

1 broken rock and broken rock won't stop the infiltration  
2 of water in any case, right. Yeah.

3           Sorry, I had a -- oh, yeah, another point  
4 I wanted to make is that John Hull's presentation did  
5 mention many cases where we are partially filling pits or  
6 stabilizing the edges of pits and that those are largely  
7 directed towards making sure the creek stays out of the  
8 pit.

9           So they're not -- they're perhaps not what  
10 you're thinking of in terms of a total backfill, but --  
11 but options to stabilize the channel by -- by modifying  
12 the pit is certainly -- are in consideration in the  
13 design now.

14           MR. LUKAS NOVY: Okay. I just have one -  
15 - I -- one final question on that. It's -- and I wanted  
16 to focus primarily on -- on the technical validity of --  
17 of doing it that way, and -- and the majority of my  
18 questions are answered.

19           But I just wanted to bring up that  
20 additional point that the future land use that has been  
21 discussed, that's -- that's another positive benefit that  
22 I didn't see in -- in the -- in -- accounted for with the  
23 open pits. If they are filled up, it does -- it does  
24 possess less risk to that.

25           And -- and I guess I'm just wondering if

1 that was accounted for in the overall selection of  
2 keeping -- keeping the open pits as they are and just  
3 providing fencing and what other type of closure  
4 strategy.

5

6 (BRIEF PAUSE)

7

8 MR. MARK CRONK: Mark Cronk. We do  
9 appreciate that leaving the open pits as part of the  
10 remediation plan will produce some restrictions on the  
11 property.

12 The Yellowknife environment doesn't have a  
13 large inventory of borrow material that it can use to  
14 fill those pits, and, in essence, we would have to create  
15 another hole of equal size to generate that material to  
16 fill those pits. And so we accept that there is a  
17 restriction on the land use because of those pits.  
18 That's the best answer I can give you at this point.

19 MR. LUKAS NOVY: Lukas Novy. Thank you  
20 very much, Mark.

21 THE FACILITATOR PHILLPOT: Lukas Novy, do  
22 you have any further questions for the developer or for  
23 any other parties?

24 MR. LUKAS NOVY: Not at this time,  
25 thanks.

1                   THE FACILITATOR PHILLPOT:    Then we have a  
2 question from Lukas, one (1) of the technical experts  
3 with the Review Board, Lukas Arenson.

4                   MR. LUKAS ARENSON:    Lukas Arenson from --  
5 from the Review Board.  I have two (2) or three (3)  
6 questions.  We'll -- we'll see, I guess, with respect to  
7 the tailings and their long-term behaviour, and it's  
8 basically as a followup on the Review Board IR Number 10,  
9 where we're asking for the long-term behaviour and -- and  
10 mainly the settlement.  What are the expected settlement?  
11 We heard this morning in the -- in the presentation that  
12 minor settlements, consolidation settlements are  
13 expected.

14                   The answer in the IR was that Golder is  
15 currently, I think, conducting an additional study on how  
16 the long-term behaviour of the tailings is, and I was  
17 just wondering what's the current status.  Can you  
18 comment on what's going on, and, based on that, I'll see  
19 if I've got more questions.  Thank you.

20                   THE FACILITATOR PHILLPOT:    Thank you,  
21 Lukas Arenson.  Adrian Paradis...?

22                   MR. ADRIAN PARADIS:    We're just going to  
23 ask John Hull and to let him to review the material here  
24 briefly, and he'll respond.  Just give us a moment.

25                   THE FACILITATOR PHILLPOT:    Thanks,

1 Adrian. We'll just take a moment for that.

2

3

(BRIEF PAUSE)

4

5

MR. JOHN HULL: John Hull in responding to the question of settlements and the consolidation.

6

7 The expectation is that, in the area at  
8 the North pond, there would -- because of the regrading,  
9 there will be settlements. Drilling indicated that the  
10 area where there's presently water, there may be higher  
11 settlements than in the surrounding area.

12

A large part of the surrounding area would  
13 be unloading, because we would move the tails to that  
14 area of the North pond. The anticipation is, in the  
15 sequencing, we would leave several years before final  
16 grading to accommodate for some of the settlement.

17

The drilling also indicated that the  
18 thickness of the settlements or soft settlements in the  
19 North pond area is fairly shallow, so it's a limited  
20 amount of settlements. We are also concerned with regard  
21 to permafrost or zones of discontinuous permafrost, which  
22 we know are in some of the tailings ponds area,  
23 specifically in the Central and part of the North pond.

24

We would again anticipate, because of --  
25 with sequencing and regrading, that that area would be

1 left for a short time before final grading and final  
2 cover, to allow for that to liquiverate (phonetic). As I  
3 also noted, there will be, in a short term after the  
4 cover's placed, an anticipation of some settlements, and  
5 some maintenance will be required to make sure that the  
6 grading and contouring still directs all surface water to  
7 a central or system of ditches and then to a spillway off  
8 the North pond into the offsite area.

9 MR. LUKAS ARENSON: Thank you, sir.  
10 Yeah, that -- that answers, I think, my question. And if  
11 I can rephrase it, so there's basically no additional  
12 calculations or estimates done in terms of what, for  
13 example, thaw consider -- because you're saying in the  
14 next couple of years or long term. When I looked at the  
15 -- the temperatures, as you said, in Central pond where  
16 you expect permafrost, this could potentially stay there  
17 for another hundred years that you still have permafrost  
18 down there with the cover and -- and so on.

19 So -- so it's -- is it correct to say that  
20 this is all still under investigation, and you just wait  
21 and basically adjust your cover based on what's going on  
22 over the next long term, being it ten (10), twenty-five  
23 (25) years?

24 MR. JOHN HULL: John Hull. That's a fair  
25 comment, given that there's also the -- the potential for

1 having a part of a landfill on the Central pond.

2 I'm not sure of what final grading and  
3 loading would be in that area. We would anticipate that,  
4 if some of the Central pond does have a landfill, that  
5 will cause settlements within tailings. There'll be some  
6 settlement and readjustment of the landfill material as  
7 it's placed, so it is going to be an ongoing process.

8 There is no detailed additional  
9 calculations that have been made since the DAR was  
10 submitted or the responses were prepared, but there would  
11 have to be as we move into -- to detail design in the  
12 next phase.

13 MR. LUKAS ARENSEN: Thank you. And --  
14 and I ex -- we're probably going to talk on Friday about  
15 that, but I assume it's part of ongoing monitoring, and  
16 see how -- how everything behaves. I -- I see.

17 MR. JOHN HULL: Yeah, one (1) of the keys  
18 as I noted, that there would be the requirement -- John  
19 Hull -- keys would be -- keys would be ongoing  
20 monitoring.

21 We would anticipate from previous  
22 experience that in tailings -- covering and closing  
23 tailings ponds, there's an initial period of several  
24 years, three (3) to five (5), where there's additional  
25 maintenance just because it's re-establishing and the

1 settlements are working -- working out.

2                   And the -- most of the settlement occurs  
3 in that short time, and then after that the maintenance  
4 and monitoring would -- would decrease. But, yes, it is  
5 part of the anticipated program.

6                   MR. LUKAS ARENSEN:   Lukas Arenson, thank  
7 you.

8                   THE FACILITATOR PHILLPOT:   Thank you,  
9 Lukas. Are there any further questions from the parties?  
10 I see a question YKDFN, Todd Slack, please go ahead.

11                   MR. TODD SLACK:   Todd Slack, YKDFN.  
12 Thanks, Darha, and I'm not quite as capable as the -- the  
13 other parties in organizing my questions into a -- a  
14 package here.

15                   So I'll start with -- with my favourite  
16 topic, evaluating success - targets. I don't know why I  
17 ask the same question and expect different responses.  
18 There's something about that -- there's a cliché there  
19 that I know what it is, but I don't want to think about  
20 it.

21                   So perhaps in terms of Information Request  
22 Number 4, for the Yellowknives, talking about the B1  
23 cover, and what the pro -- what the objective of this  
24 cover is.

25                   So, this cover talks about reducing

1 infiltration and providing physical separation. Now, in  
2 terms of success, as -- the criteria for succ -- success  
3 in this, in this component, I'm not talking about the  
4 whole project, I'm not talking about twenty-five (25)  
5 years down the road. I'm talking about why it's being  
6 built at this point in time. So physical separation.  
7 Yeah, you -- that should -- shouldn't be a problem in  
8 terms of meeting that criteria.

9                   But when you talk about establishing  
10 vegetation in part -- in response 'B' at -- where did I  
11 see that -- plans for monitoring vegetation success, and  
12 I'm not talking about the monitoring, but obviously  
13 vegetation success is a criteria and in response A it  
14 talks about infiltration.

15                   So, for this component can we get an  
16 example of what the metrics for success, in terms of  
17 this, what is this cover design to do? How will we know  
18 if it's working?

19                   THE FACILITATOR PHILLPOT: Thank you, Todd  
20 Slack. I will turn to Lisa Dyer to respond to that  
21 question.

22                   MS. LISA DYER: Thank you, Todd. I'm  
23 going to ask John Hull -- we're just going to pass around  
24 the room now. I'm going to ask John Hull to speak to  
25 measurements of success for the tailings cover.

1 MR. JOHN HULL: John Hull. Request  
2 clarification on the question. I think you asked for  
3 just specifically B1 Pit or just the general tailings  
4 area. Just before -- if it's B1, which is the -- the  
5 main open pit which is over the arsenic stope 208 and  
6 214, or beside it, that's backfilled and then created  
7 with a -- essentially, a gravel cover to allow for the  
8 installation of the freeze pipes around those arsenic  
9 chambers.

10 And there's no expectation on that B1 Pit  
11 cover that there would be vegetation because that would  
12 be a gravelled area to allow access for the freeze  
13 program ongoing monitoring and maintenance -- maintenance  
14 of the freeze system.

15 The tailings areas, the intent is to --  
16 for the tailings covers to isolate the -- the areas, and  
17 prevent contact with the tailings and the arsenic from  
18 the environment and any contact, and just by placing a  
19 cover on it, there's a reduction of infiltration into the  
20 underground because there's more runoff and it's more  
21 efficient.

22 I hope that tries to answer your question.

23 MR. TODD SLACK: Todd Slack, YKDFN. It -  
24 - it doesn't. It further complicates the question, and I  
25 -- I had chosen B1 as a very specific example in this

1 Information Request because it does mention that part of  
2 the cover -- sorry.

3           Regardless, Information Request gives you  
4 -- does not coincide with what you've just described, but  
5 let's focus on the tailings cover that you -- you  
6 mentioned, and I'm just trying to use a very specific  
7 example to establish some metrics of success for both the  
8 parties and the inspectors and the boards to know how to  
9 evaluate whether this is -- this has been successful or  
10 not.

11           So when you talk about the tailings cover  
12 and you're talking about reducing the infiltration, by  
13 how much is the goal of reducing infiltration?

14

15   (BRIEF PAUSE)

16

17           MR. JOHN HULL:   John Hull.  The tailings  
18 cover, the anticipation is that with the vegetation  
19 and/or the final cover that's placed, there would be a  
20 significant portion of any precipitation or snow melt  
21 would run off the -- that area and would not infiltrate.

22           The percentage that would be evaluated in  
23 future studies, we haven't gotten to identifying what --  
24 what that would be, but there's -- definitely with the  
25 runoff, which would be non-contact water, it would be

1 reduced from what it is today.

2 The measure of success for a cover or  
3 vegetation, again, that would be something that would be  
4 identified as we move forward into the next phases.

5 MR. ADRIAN PARADIS: Adrian Paradis, for  
6 INAC. If I can continue on John's line of response  
7 there.

8 One (1) of the specific -- one (1) of the  
9 specific things that we'd actually like the YKDFN to  
10 comment on or provide us guidance on, or other parties  
11 too, is on the re-vegetation of the covers.

12 We've heard going into various community  
13 sessions a wide range of opinions on the use of  
14 vegetation or the non-use of vegetation on the covers.  
15 So one (1) of the things we need from the party -- need  
16 from the parties is an actual understanding of what that  
17 expectation is.

18 Do you want vegetation on the tailings cap  
19 covers or would you prefer a hard cap cover?

20 MR. TODD SLACK: The -- that's a matter  
21 to go back to the community and is a matter for a  
22 consultation. Ju -- ju -- you know, I can't speak on  
23 behalf of the community on this particular question.

24 So I'm -- the reason that I'm focussing on  
25 this -- and, you know, I respect when you say there --

1 there'll be a significant change. And I'm going to use a  
2 phrase from the mine closure workshop. I forget the --  
3 the fellow's name that talked about it.

4                   And he said, Well, when the fox is  
5 guarding the henhouse, you better keep a close eye on the  
6 fox. And in this case, the fox is guarding the henhouse  
7 because it's INAC that is the -- the Minister that issues  
8 the permit. It is INAC -- the Minister of INAC that  
9 appoints the members to the Board. It is INAC that  
10 facilitating the work. And it is INAC doing the  
11 inspections.

12                   So, from my point of view, I think that we  
13 need to have very clear targets in terms of what the ini  
14 -- or very clear initial targets in terms of what this  
15 remediation plan is trying to achieve.

16                   When we look at the objectives there --  
17 there's five (5) principle objectives in Section 1.21.  
18 They're very broad and they don't lend themselves to  
19 discreet evaluations of -- of the work that's  
20 undertaking.

21                   So when we get into, will there be a  
22 significant change our two (2) interpretations of  
23 "significant" might be different, and we have to remove  
24 tho -- that -- the large possible discretion that could  
25 happen ahead of time, not after the project has been

1 implemented; otherwise, problems can occur.

2                   And this isn't to do with the depth of  
3 management. That comes after. But there has to be  
4 something at the start.

5                   THE FACILITATOR PHILLPOT: Thanks, Todd.  
6 Did you have a specific question there that you want them  
7 to answer?

8                   MR. TODD SLACK: No, because like I -- I  
9 tried to get at it, but there -- there isn't -- I can't  
10 phrase it any better -- or different maybe.

11                   MR. LUKAS NOVY: Lucas Novy. I just had  
12 a bit of a followup to what Todd's asking. And maybe  
13 what I would like to know is, is where in the design  
14 process would -- because it was stated that the  
15 objectives or criteria for infiltration would be later  
16 on, and I -- I just have a hard time seeing from -- is --  
17 where in the design process is this criteria going to be  
18 acknowledged and how's the design going to be able to  
19 accommodate this value, because it's not something that  
20 should come out at the end of design where -- and  
21 specifically to cover -- I know that it was stated for  
22 the B1 Pit, but the research -- there is trial pads set  
23 up, so there should be an idea of infiltration and  
24 settlement and that should be tying into the design prior  
25 to it going into full design.



1 Adrian, and we'll turn to Mark Cronk, but I'll remind  
2 that the question was: Where in the design process would  
3 the criteria be identified and how -- how would the  
4 design accommodate the targets that are eventually set.

5 So if you could also try to -- to respond  
6 to the question that was put to you. Thank you.

7

8 (BRIEF PAUSE)

9

10 THE FACILITATOR PHILLPOT: The criteria  
11 for tailings. Do you want to just repeat that, Lukas  
12 Novy?

13 MR. LUKAS NOVY: Lukas Novy here. Yeah,  
14 we can just keep it to cover systems so that there's B1  
15 and -- and also the tailings if -- if Mark's going to go  
16 into detail for the design of cover and whatever else he  
17 likes to talk about.

18 MR. MARK CRONK: Mark Cronk here. Lukas,  
19 I'm not sure I'm going to be able to answer your question  
20 right now, but I'm going to work towards it. So if you  
21 and I together can keep chasing it.

22 The design team is very early on. We are  
23 in what we refer to as preliminary design. As John said,  
24 the tailings covers are designed to reduce infiltration,  
25 but their primary objective is to separate the tailings

1 from people, if you will, on surface.

2                   On the performance criteria that's been  
3 asked about is not something that we've attempted to do  
4 yet. We've heard some discussions earlier on this week  
5 that the project team is interested in having a dialogue  
6 about how the environmental monitoring systems would look  
7 like and how we would go about doing them.

8                   I think you're starting to touch on some  
9 of that. John Hull, if there's anything you think you  
10 can add to that discussion.

11                   MR. JOHN HULL: John Hull, that covers  
12 the -- the present state of where we're at.

13                   MR. ALAN EHRLICH: I'm going to remind  
14 the Giant Team again of something that came up yesterday.  
15 With respect to measuring success or figuring out the  
16 criteria to take certain actions with respect to your  
17 adaptive management framework.

18                   From the Review Board's perspective, we  
19 need enough on the record to understand if this is likely  
20 to cause significant adverse environmental effects, and,  
21 you know, what kind of risks are involved. That doesn't  
22 necessarily need to be a strict quantitative detailed  
23 account, but at least a clear qualitative normative model  
24 would be useful so that -- so that it's -- it's clear how  
25 to -- that -- that you will be able to understand if

1 something is going wrong and what you will be able to do  
2 if you find out that something is going wrong.

3 And the timing of that is important,  
4 because the Board needs to understand that during the  
5 course of the assessment, the very detailed quantitative  
6 stuff can -- can likely happily wait for the regulatory  
7 processes, so long as findings of impact significance are  
8 not -- are not likely to hinge on them.

9

10 (BRIEF PAUSE)

11

12 THE FACILITATOR PHILLPOT: We're a little  
13 bit past the time that we'd indicated we'd have a break,  
14 so I think we'll call for a break right now. If everyone  
15 can be back in about ten (10) minutes, we'll reconvene at  
16 that time and I think YKDFN had indicated they have  
17 another question, so we'll start with them after the  
18 break.

19

20 --- Upon recessing at 2:52 p.m.

21 --- Upon resuming at 3:08 p.m.

22

23 THE FACILITATOR PHILLPOT: Okay. We're  
24 going to resume. Before the break, we had another  
25 question, I know from YKDFN, and, subsequently, I have an

1 indication that the developer also wants to say a few  
2 more words. And so, if there's any other questions or  
3 comments on the subject of the tailings cover, let's deal  
4 with those questions at this time.

5 So I'll just turn to YKDFN for their  
6 question before moving on to Mark Cronk, who had a few  
7 comments to make.

8 MR. TODD SLACK: Okay. I think I can go  
9 first, but I -- I don't want necessarily to stomp on what  
10 you were going to say there -- or steamroll is a better  
11 way to put it.

12 MR. MARK CRONK: If I may?

13 MR. TODD SLACK: Sure.

14 MR. MARK CRONK: Mark Cronk. Todd, to  
15 try to put some clarity on to the question you asked, I  
16 think it's important to separate the tailings covers and  
17 their performance into two (2) aspects. I'm going to  
18 deal with the more purely technical, measurable aspect,  
19 and then I'm going to go to Lisa Dyer for the others.

20 From the perspective of the tailings'  
21 performance aspect, it was mentioned in the presentation  
22 that the tailings will shed water. We're going to  
23 measure the quality of that water. If it's not compliant  
24 discharge, we will send it underground and it will become  
25 part of the general minewater and report to the treatment

1 plant.

2 At such point in time as that water cleans  
3 up and the covers stabilize, then we will be putting that  
4 surface water into the receiving environment directly and  
5 continue to monitor it.

6 In terms of the physical protection aspect  
7 of isolating the tailings, that is a different  
8 performance criteria. At this point, I'm going to turn  
9 it over to Lisa Dyer.

10 MS. LISA DYER: Lisa Dyer, for the  
11 record.

12 Todd, I think you brought this up several  
13 times in the last few days, and I -- and I just want to  
14 acknowledge that -- that we've heard it. You -- you're  
15 talking about success. What is the success of the  
16 remediation plan? How do we determine that? And how do  
17 we assure that -- that parties and residents of -- of the  
18 communities around the Giant Mine site have confidence in  
19 that? And that's a really important issue, and I don't  
20 want to lose the importance of that. We've heard that  
21 several times.

22 We've talked about the fact that we're at  
23 the beginning of design, and that we will be moving  
24 towards detailed design. I see that there's an  
25 opportunity to establish what success is, not just from

1 the government's perspective, but also from those parties  
2 to the EA. And so I don't want to lose this aspect of  
3 success, but I really would like to hear from the  
4 parties, because I think this is such an important issue,  
5 because confidence in this project is very important to  
6 us, that -- that the community is confident that we are  
7 taking the appropriate measures and hearing what people  
8 are saying.

9                   So I really want to throw this out, and I  
10 don't know if I can ask the parties questions, but my  
11 question is:

12                   What do you guys -- we can come up with  
13 targets and -- but does that necessarily give you  
14 confidence of success? What are you looking for to feel  
15 more confident in this process, and what can we do?

16                   And -- and I -- I really would like to  
17 hear from all the parties, because, to me, this is an  
18 important issue that we really need to spend some time  
19 and focus on.

20                   MR. TODD SLACK: Todd Slack, YKDFN. And  
21 while I'll speak to Mark first just because I think  
22 that's really short.

23                   And so, yeah, when -- when the cover sheds  
24 this water and it's -- the water is monitored and what  
25 happens to that? That's part of the -- the management

1 system and it's not part of the initial targets for  
2 success. So I -- I'm trying to decompilate (phonetic)  
3 these two (2) issues -- if that's a word. So the  
4 monitoring and the adaptive management, that is one (1)  
5 issue and that comes after the initial success, in my  
6 mind. And so I'm just going to try and explain how I see  
7 the success -- or, the initial targets for success.

8           And so I know what the worry is here: The  
9 worry is that if initial targets are proposed -- like, so  
10 yesterday we heard there was -- and I -- I'm not trying  
11 to complete days, but there was three (3) targets  
12 mentioned, three (3) principle contaminants of concern  
13 for water quality, and one (1) of them was point two (.2)  
14 for arsenic.

15           And I'll -- I'll just use that one as the  
16 example. And the worry is that if you guys propose  
17 point two (.2), we're going to say, Well, no, you can do  
18 better. But point two (.2) is the -- the CCME -- and  
19 this is a remediation project, so I -- I can't see why --  
20 now, I'm -- I have to take -- you know, we all have to  
21 take these things back. But I -- I would certainly be  
22 recommending that that be accepted as the -- the target  
23 for success in that case. I cannot promise that that  
24 would be it for all things, that we wouldn't recommend  
25 more stringent measures in some cases.

1                   But that initial target for success has to  
2 be open and in the EA process, in my mind because the  
3 whole point of this project is the remediation and so  
4 what that remediation is has to be measurable in some  
5 way.

6                   To -- as we were talking over there I  
7 mentioned Section 1.21, the purpose and objectives that -  
8 - that is laid out for this project. These are very  
9 broad, qualitative statements that are very difficult to  
10 -- for all parties to agree on in terms of wheth --  
11 whether have been met or not, and not all criteria needs  
12 to be established at the EA phase.

13                   You know, we accept that the -- the  
14 regulatory phase is the place for a lot of this stuff.  
15 But for these big issues, like, is the frozen block  
16 frozen? Is -- is it -- is it established? What is the  
17 water quality coming out of the mine?

18                   What is the land remediation standard?  
19 Now that's a good example because it's set. That --  
20 that is a measurable criteria in terms of success, just  
21 as an example. And we have -- we have very good exam --  
22 examples of this with the BHP and the Diavik interim  
23 closure plans.

24                   Now in those cases those weren't  
25 considered at EA: 1) I think because the evolution of the

1 processes and the parties hadn't evolved to this point.  
2 But for this project, because that is the whole project  
3 more or less, because of the nature of the mixed mandate,  
4 this has to be explicitly stated for a number of  
5 different components and those criteria have to be  
6 established in the EA stage.

7 Now I'm happy to clarify that -- like, you  
8 know, this is a two (2) way exchange. So if there's any,  
9 sort of, further questions, I'm happy to go on at length  
10 I'm sure.

11 MS. LISA DYER: Thanks, Todd. Just for -  
12 - Lisa Dyer. Just for clarification, my understanding  
13 is, kind of, those criteria or measurements of success  
14 were done in consultation with interested parties.

15 And is that correct, that there -- there  
16 was a process in place that allowed people to have  
17 discussions and input in that?

18 MR. TODD SLACK: Yeah, and that's  
19 correct. But there was a starting point associated with  
20 that process as well. The -- the initial proposal was  
21 done up and from there it's -- that's when the engagement  
22 process starts. And I'm not saying that should be  
23 delayed any more than necessary in order to establish  
24 these targets, but there has to be something on the ta --  
25 some position from which to work from.

1 MS. LISA DYER: Excellent. Thank you for  
2 that clarification.

3 THE FACILITATOR EHRLICH: Any other  
4 questions for the Giant team? Kevin, would you like to  
5 weigh in?

6 MR. KEVIN O'REILLY: I would like to  
7 weigh in. Thanks. Kevin O'Reilly, Alternatives North.  
8 I just want to start though by saying I'm going to talk  
9 about building confidence specifically on an  
10 environmental management framework or whatever you want  
11 to call it.

12 I'm not talking about the big project.  
13 And if you want to talk more about that on Friday I'm  
14 happy to do it. But I'm going to limit my remarks to how  
15 to build some confidence in your environmental management  
16 framework, I think that's what it's called, or the  
17 environmental monitoring and management framework.

18 So wearing a different hat, my full-time  
19 hat, I was actually very involved in the review of the  
20 BHP clo -- interim closure and reclamation plan. It was  
21 submitted in January of 2007. And it was finally  
22 approved in principal by the Board in December of last  
23 year, and it's going through a final conformity check  
24 now.

25 There was a working group set up through

1 the Wek'eezhii Land and Water Board to review the plan.  
2 They divided it up into sections and it was done  
3 sequentially. One (1) of the difficulties with that  
4 process was that the aboriginal governments were not --  
5 didn't have the capacity to participate.

6                   They did receive some limited IRMA  
7 funding, the Interim Resource Management Assistance  
8 Program through DIAND, as you were formerly called. And  
9 I know at least two (2) groups were able to access some  
10 of that money. And then it ran out partway through and  
11 those groups weren't able to participate any further. I  
12 shouldn't -- I shouldn't call them groups. They're  
13 aboriginal governments.

14                   So I think there's some limitations to  
15 that working group process. But, you know, I -- I've  
16 been involved in a number of multi-stakeholder processes  
17 that your department has put on over the last twenty-five  
18 (25) years, and they include things like the Northern  
19 Contaminants Program, where there is core funding  
20 provided to parties to participate in the process.

21                   I was involved in the arctic environmental  
22 strategy, had one (1) program under there. I think it  
23 was called the Community Action Plan or Program where  
24 funding was provided for organizations to participate in  
25 that.

1                   So there's, I think, a variety of models  
2 out there on how to truly engage folks in developing a  
3 plan or a program. And I guess I want to agree with Todd  
4 and the Yellowknives Dene First Nation in terms of the  
5 need to nail this down during the environmental  
6 assessment to the extent possible.

7                   Look, it's common practice for a new  
8 developer or new development to at least submit a  
9 conceptual re -- closure and reclamation plan. And there  
10 needs to be a clearly stated closure goal. There should  
11 be mine specific -- or, sorry, component specific  
12 objectives identified and, to the extent possible,  
13 identify closure, measurable closure criteria so that, at  
14 the end of the day, the parties, the inspector, everybody  
15 knows what's expected.

16                   I don't think we're here. And I'm -- I --  
17 I understand that there's a lot more research that needs  
18 to be done to get us there, but the -- the material that  
19 we're being presented is not put in that kind of a  
20 format. You -- you're continually getting a lot of  
21 questions about where's this study at, when are we going  
22 to get the results of this, what kind of considerations  
23 are going to go into de -- designing or developing that.

24                   And I think that's a reflection of the way  
25 this material's organized in that it hasn't been put

1 together in a way where people from the outside can  
2 understand where you're at with the design. We don't  
3 understand that. So that's why we're continuing to ask  
4 lots and lots and lots of questions.

5                 So you need to think about how to organize  
6 this material in a clear way. I think you've got your  
7 closure goals. We may not all agree on them, but at  
8 least you've got some. You've got some component  
9 specific objectives for things like the tailings cover,  
10 some of the tailings covers, the open pits for -- some of  
11 the components on the site, you've got some of that.

12                 And in some cases you actually have  
13 performance criteria for the frozen block, 10 metres at  
14 minus ten (10) for the frozen shield, then you add the  
15 water and once it's minus five (5) then you can turn it  
16 to a -- a passive system, but the long-term, you don't  
17 have that.

18                 And I understand that you don't have that.  
19 And I understand better now the complexities of why you  
20 don't have that now. But for us to understand where  
21 you're at in the design process you have to tell us.

22                 You have to tell us specifically what the  
23 tasks are for closing each of the components, whether  
24 it's, you know, the -- the -- the open pits, putting on  
25 the tailings covers, or the frozen block. You have to

1 tell us specifically what the dis -- what the tasks are,  
2 the research tasks, the engineering tasks that you need  
3 to do with a timeline.

4           And if you actually had dollars attached  
5 to it, which is what BHP did, then we understand what  
6 kind of resources you have to devote, what kind of effort  
7 you have to devote to that particular task. And there  
8 has to be a timeline attached to it so that we understand  
9 where you are in the overall design process.

10           So I think that's what I'm looking for. I  
11 think that's what Todd may be looking for, but I don't  
12 want to put words in his mouth, because we continue to  
13 ask you all these questions about where the design work  
14 is at and it's not laid out in that way. So if it could  
15 be laid out in that way it would be very helpful.

16           Now the last point I want to make may not  
17 go over very well, but look, this is -- and I'm not going  
18 to -- as I say, I'm not talking about the bigger issue of  
19 trust and if we want to talk again about that on Friday I  
20 can do that. But if you really want to engage people and  
21 make sure that this environmental monitoring and  
22 management framework is -- truly reflects the interests  
23 and views of the stakeholders, the people that have to  
24 live with this at the end of the day, you need to take  
25 the time to do it properly.

1                   And if that means delaying the EA, so be  
2 it. That -- I know that's not going to be popular. It  
3 may not even be popular with the Review Board, but you've  
4 already asked for delays before. When the participant  
5 funding didn't roll out the way it could or should have,  
6 you asked for a delay so that we could actually start to  
7 get some resources to more meaningfully participate in  
8 the EA.

9                   Now the design of that -- the last thing I  
10 want to say is the design of that framework plan,  
11 although it's part of the EA, it's really your job to do  
12 this. It's not the Review Board's job to do it. It's  
13 your job as the developer to properly consult.

14                   And if that time needs to be taken and you  
15 need to tell the Review Board, You know what, we need to  
16 take the time to properly do this, that's what I think  
17 you need to do.

18                   So there's a few thoughts. I hope I've  
19 been clear on it, but I'm -- but I'm trying to answer  
20 some questions. I'm trying to be constructive and  
21 helpful.

22                   MS. LISA DYER: Thank you. And -- and  
23 this kind of feedback is really important and helpful to  
24 us and we're going to take it under consideration. One  
25 (1) of the things though that I do have to bring to

1 attention is that we're not a new development.

2           And Giant Mine, yeah, we do have some  
3 risks onsite that we have to deal with and there's a --  
4 there's time constraints for us. So I understand what  
5 you're saying about the need for proper engagement and  
6 the need to work together.

7           But I think we have to look -- if we're --  
8 if we are going to move in that direction we all have to  
9 acknowledge that there is a -- there is real pressures  
10 onsite and we can start some of these processes or  
11 processes such as the Environmental Management Plans and  
12 we can talk more about success and thresholds and all the  
13 rest.

14           But I just want to be clear that  
15 ultimately we are responsible for ensuring the health and  
16 safety -- and I know you know that, Kevin -- but it may  
17 not be in the best interest to hold up the EA.

18           So I encourage you to think about ways  
19 that we can establish this environmental monitoring  
20 framework to respect the environmental assessment  
21 process, but to also respect that we have a great  
22 responsibility to ensure that the risks are managed at  
23 site, and that is the big picture that we are faced with.  
24 So it's not minimizing anything that we've heard, but try  
25 to get us to see, to focus on the big picture. And I

1 appreciate your frank and open comments, and they really  
2 are valuable to us.

3                   And I think we can talk more about this on  
4 Friday, and I think this has given us some really  
5 valuable insight to how the parties are feeling, and so I  
6 just -- I appreciate it, but I -- I needed to bring us  
7 back to some of the realities we're facing, and not to  
8 minimize anything that you've said. So I really do  
9 appreciate it. Thank you.

10                   THE FACILITATOR PHILLPOT: Kevin  
11 O'Reilly, do you have a followup to that?

12                   MR. KEVIN O'REILLY: Sure. Thanks.  
13 Kevin O'Reilly, Alternatives North. And thanks, Lisa,  
14 for your thoughts. And I -- I -- as you know, I do  
15 understand the bigger picture. You folks already have  
16 some authority under the Waters Act to do what you need  
17 in an emergency situation, and this EA hasn't stopped  
18 that from happening in any way.

19                   My concern, though, is we've got five (5)  
20 months between now and when the Review Board's going to  
21 have a public hearing, and, you know, look, I'm here by  
22 myself today. We can't -- we can't even afford to have  
23 our -- our engineer here. We could only afford to have  
24 him here for the -- the first day and a half to assist us  
25 with the frozen block stuff.

1                   So you're looking at a capacity issue, and  
2 we've had -- you folks have had ten (10) years, more than  
3 ten (10) years to get here. I've been part of that  
4 process right from the very beginning, looking on it from  
5 the outside. This can and should have been done a long  
6 time ago.

7                   So I don't want to -- we've got five (5)  
8 months left, and I don't want to see the timeframe of the  
9 EA get in the way of actually doing a proper job on this.  
10 So -- and I'll -- I'll just leave it at that, but if you  
11 want to say something else, that's okay.

12                   MS. LISA DYER: Thank you. Lisa Dyer.  
13 Thank you for letting me say something, Kevin. I -- I  
14 don't think we're as far apart as it appears right now,  
15 and I think by opportunity to talk more on this topic on  
16 Friday, I think we'll see that we're not as far apart as  
17 it may appear right now.

18                   You've given us some really informa --  
19 really valuable information on how we need to provide  
20 information and -- and approach the parties so that they  
21 have a better understanding and comfort level with where  
22 we are but, from what I've heard from you, I don't see  
23 that we're that far apart. I don't see that the gulf is  
24 as wide as it may appear right now, and we can talk more  
25 about that on Friday.

1                   MR. ALAN EHRLICH: I'm going to just pipe  
2 up that, from the Review Board's perspective, although  
3 the Review Board remains committed to a timely  
4 environmental assessment process, there have been a  
5 couple of points in this EA where, at the developer's  
6 request, the developer wanted to do a good job on  
7 something that it felt would take a certain amount of  
8 time, and they've asked the Board to, I guess, stop the  
9 clock or to give them the time that they need.

10                   The Board's never had a problem giving  
11 developers the time that -- that they need to produce  
12 quality information. The Board needs good information to  
13 do good environmental assessment. And so I just -- and  
14 one (1) of your comments sort of threw in: If the Board  
15 has problems with it, really, we've -- we've demonstrated  
16 in this that if the developer, you know, is -- is not  
17 able to produce what they need to produce by a certain  
18 time and has asked us for -- for more time, you know, the  
19 Board certainly makes efforts to be reasonable with that.

20                   I've got a few questions regarding the  
21 tailings cover, and I'd like to move on from this  
22 subject, because I think you've covered some important  
23 ground, but I think it's been covered well enough for  
24 where we're at here. They're -- they're small questions,  
25 and I'm -- I'm following up on little odds and ends.

1                   The Review Board's IR Number 9 was talking  
2 about whether or not you'd be monitoring for chemical  
3 uptake in plants in the tailings cover. If you do find a  
4 chemical uptake in plants in the tailings cover, what are  
5 you going to do about it? What options do you have?

6                   I'm referring particularly to selective  
7 nutrient uptake of contaminants.

8                   MR. BRUCE HALBERT: Bruce Halbert, for  
9 the record. That's a very good question, Alan. I'm not  
10 sure we have a -- we have a complete answer for that at  
11 this point, but one (1) of the design features certainly  
12 is, with the rock layer, is to minimize the opportunity  
13 for roots to penetrate into the tailings where they could  
14 uptake ar -- arsenic. And as -- as John mentioned also  
15 to -- to minimize the opportunity for -- by reaction for  
16 tailings pour water to move upwards into the root zone of  
17 the plants.

18                   The real question at the end of the day  
19 with respect to arsenic uptake and vegetation is -- can  
20 be multi-fold. One (1) is it doesn't have an affect on  
21 vegetation itself, and that requires fairly high levels I  
22 believe to -- to have adverse effects, but that's  
23 something that would have to be assessed in -- at that  
24 point in time.

25                   And beyond that then it -- it's also a

1 question of how that might feed through the food chain,  
2 either to wildlife or to people who may harvest whatever  
3 is growing on the tailings. So I don't -- I don't think  
4 at this point in time we have a -- a perception as to  
5 exactly how we would go about remediation that problem if  
6 it happened, but our expectation is it's not, so.

7 MR. ALAN EHRLICH: Okay. And regarding  
8 the -- one (1) of the slides showing a cross-section of  
9 the tailings cover and I -- you and I saw a layer of  
10 coarse material, geotextile of some kind, and then a  
11 finer material in a vegetative layer.

12 What's the role of the geotextile in  
13 there?

14 MR. JOHN HULL: John Hull. The  
15 geotextile, if it is required, which would be part of the  
16 final design, is a separation between the fine -- finer  
17 material and the vegetative layer and the coarser  
18 material just to make sure that the fine material doesn't  
19 move in to the coarse material and reduce the effic --  
20 efficiency of that -- that break and the purpose of the  
21 coarse layer.

22 MR. ALAN EHRLICH: So what would happen  
23 if the finer material went down into the coarse material?

24 MR. JOHN HULL: John Hull. The -- the  
25 efficiency of that coarse layer would be reduced.

1 There's a potential for migration or -- of pour water  
2 working up into the fine layer and/or roots moving down  
3 into the coarse layer and then through into the tailings.

4 MR. ALAN EHRLICH: So I guess that stuff  
5 could compromise the function of the tailings cover in  
6 that case?

7 MR. JOHN HULL: Yes.

8 MR. ALAN EHRLICH: What's the lifespan of  
9 a geotextile layer underground? I mean, I -- I'm  
10 thinking again about the project being proposed for --  
11 you know, in five hundred (500) years this project will  
12 be in its infancy, right?

13 These stay -- these tailings covers are  
14 intended to stay in perpetuity, so they got to be there  
15 and doing well five thousand (5,000) years from now or --  
16 or much longer, right. And I -- I don't know how long a  
17 geotextile layer works underground or stays underground.

18 Do you know how long one of those lasts  
19 underground?

20 MR. JOHN HULL: John Hull. One (1) of  
21 the considerations and why the geotextile is just under  
22 consideration would be to try and get the gradation  
23 between the upper layer and the coarse layer such they're  
24 compatible and the material from the vegetation layer  
25 doesn't move into the coarser layer, so we wouldn't need

1 that. That's part of the detailed design.

2 MR. ALAN EHRLICH: I understand. But  
3 you've indicated that there is a possibility that it  
4 could play an important role in the tailings cover. I  
5 mean, I -- many parts of this project will need periodic  
6 maintenance and the Giant Team has made that very clear,  
7 you're going to have people and money on the scene to do  
8 the periodic maintenance.

9 So, you know, I have a similar question  
10 for the bitumen -- I don't know what it's called, the  
11 bitumen layer that parts of the Baker Creek might  
12 require. The same question came to my mind when I heard  
13 about the riprap that's required.

14 I mean, I know that -- you know, the metal  
15 on the riprap it lasts for a very long time, but you're  
16 proposing this for longer than a very long time. But at  
17 least I understand how people could get to that stuff if  
18 they need to maintain it. And you're going to have the  
19 people there who know what to look for and ready to  
20 maintain it, you know, assuming that -- that the  
21 management situation is the same as it is now, I -- I get  
22 that.

23 But I'm thinking about the -- you know,  
24 the three hundred (300) football fields of tailings and  
25 if -- if there's something under them that's doing an

1 important job, but that isn't designed to last as long as  
2 the -- the tailings facility is supposed to last, how --  
3 how do you propose to deal with that?

4

5 (BRIEF PAUSE)

6

7 MR. DARYL HOCKLEY: Hi, Daryl Hockley.  
8 I've been asked to explain some of the history of the  
9 design thinking on this.

10 I think the -- the desire is always to  
11 avoid the use of synthetics wherever possible in a cover  
12 design. In the case of the tailings, we've never been  
13 quite sure what materials would be available for that  
14 rock layer.

15 If the only thing available for that rock  
16 layer is assorted blocky material with big holes in it,  
17 then I can think you can all envisage tailings coming up  
18 from the bottom and -- and silty cover falling down from  
19 the top, and that would -- that could impair some  
20 functions of the cover.

21 My -- my -- in the early stages of design  
22 the primary role of that rock layer was actually to  
23 prevent physical contact, because we realized that a --  
24 an upper layer is quite -- quite robust for -- for  
25 walkers and -- and that, but it -- but it has a problem

1 when ATVs start -- start driving all over the cover.

2                   And we have seen that when you have large  
3 open areas that are suddenly accessible to ATVs, that  
4 that's almost the first thing that happens, is they get  
5 out there and they rip up that cover.

6                   So that the original intent of that rock  
7 layer was -- wasn't as a capillary break, or anything  
8 like that, it was purely as a -- as a protective layer.  
9 That function would not be compromised by any amount of -  
10 - of silt filtering down, right.

11                   There's also a lot of thought that we  
12 needn't put well sorted rock in there. We could use run-  
13 of-mine rock, which would have -- well, arguably at  
14 least, we -- we don't know this, but -- but it could have  
15 enough of a grain size distribution that that mixing  
16 wouldn't occur.

17                   But there are limits in terms of the  
18 difference, right, John, in term of grain sizes between  
19 two things, if you get the -- get it right they don't mix  
20 at all.

21                   So -- so the way that we've always done it  
22 is we've always shown the drawing with geotextile in  
23 there, just as a heads up to people in case we have to  
24 use it. A heads up to two (2) groups of people; one (1)  
25 people like you who are interested in -- in the

1 environmental assessment process, two (2) people who --  
2 who fund this things, and might have to pay for that  
3 geotextile, right. And neither one of you want it there,  
4 and we don't want it there either, but -- but there might  
5 be some -- some places on -- on the cover where it's  
6 needed.

7 But the -- the overall objective, it would  
8 be to minimize the use of that wherever possible, so.

9 MR. ALAN EHRLICH: Thanks. And I  
10 understand that you might not need to use it. I also  
11 understand that you might.

12 And if that's the case, how long is it  
13 good for there -- before it needs maintenance? I mean,  
14 that's my first question. I don't know if this is like -  
15 - are we talking seventy (70) years, a couple hundred, do  
16 you know?

17 I -- I that's the first part of my  
18 question. In -- in the event that you might. But you  
19 made it very clear that -- that you might not, and that's  
20 the more desirable situation, you know, and maybe there's  
21 a good chance you won't. I -- I do understand that.

22 If -- if it's underground in the setting  
23 that you're describing how long, in your best judgment,  
24 do you think it would last?

25

1 (BRIEF PAUSE)

2

3 MR. DARYL HOCKLEY: That's a -- that's a  
4 question of significant debate amongst the engineering  
5 community. We -- we know that plastics in the ground  
6 last a long, long time.

7 I can get you papers by -- or written  
8 statements by learned authorities on the subject that  
9 will say that most of these syn -- synthetics should last  
10 several hundred years. But I -- I don't actually see  
11 that they have the database to make those statements, so  
12 I -- I tend not to -- I tend to say a few hundred years,  
13 but I -- and I honestly don't know if we can do, as a  
14 group, a lot better than that, so.

15 MR. ALAN EHRLICH: But even if we assume  
16 that it's several hundred years, you know, take the  
17 larger thing, not the more con -- more cautious approach  
18 you assume.

19 I mean, your projects gotta last -- well,  
20 several thousand years is the beginning, right. It's got  
21 to last forever.

22 And so I -- I still see at some point  
23 you're either going to -- if it's the case that you  
24 actually need to use that, right, you're either gonna  
25 need to change it, or I don't know if I can find a

1 material that'll last forever when it's buried between  
2 fine ground and -- and coarse rock, but -- but it's just  
3 -- it's not in a very accessible spot.

4                   So if that was the case, how would you  
5 maintain it?

6                   MR. DARYL HOCKLEY: I think we would look  
7 at -- and again, this is all part of the detailed design  
8 that -- that isn't done yet, and I -- I take Kevin's  
9 comment, that we're confusing all of you by not being  
10 clear about how much is left to be done, that's -- that's  
11 a good point.

12                   But I guess here's the things that -- that  
13 I think we would look at. One (1) is we would look at  
14 the possibility of just putting a thicker layer of -- of  
15 silty material in those areas. I think that is mentioned  
16 in the DAR, that there's a lot of advantages to that.

17                   If you -- if you're worried about root  
18 penetration, well, you can make sure that rock layer's  
19 perfect or you can just put an extra 1/2 metre of soil.  
20 There are very few plant in this region that -- that root  
21 more than a metre deep, for example.

22                   The areas where I would probably think  
23 we're most likely to use those things would be in areas  
24 that are the wet -- the wetter, finer parts of the  
25 tailings. So when tailings are deposited you get these

1 sandy beaches. I -- I highly doubt we're going to have  
2 to use geotextiles on those sandy parts because they --  
3 they'll separate themselves nicely. And -- and we don't  
4 need a capillary breakwater it just keeps going in the  
5 sand. Where I think we're more likely to use them is  
6 when we're building around the -- the finer tailings. So  
7 the sands settle here in the finer clay size and up in  
8 the pond, and they settle really slowly and they're very  
9 soft and squishy, and to build on those is a problem.  
10 Water squirts up. Tailings squirt up. Like I think we  
11 may well need them just for construction on some of those  
12 areas.

13                   So then we're asking the question, Well,  
14 once construction is finished and we're two hundred (200)  
15 years in the future do we still need them at that point,  
16 right. Is there a function really need two hundred (200)  
17 years in the future, so.

18                   So I think you can see where -- by this  
19 process of design we can -- we can narrow down the extent  
20 that we need to rely on those things two (2) or three  
21 hundred (300) years in the future.

22                   MR. ALAN EHRLICH: By -- by my thinking  
23 in terms of this project, two (2) or three hundred (300)  
24 years in the future is still relatively short-term if  
25 this has still got to keep working in ten thousand



1 unless there's something new you want to put on, could we  
2 just keep going? Or -- I see nodding. Joanna...?

3 MS. JOANNA ANKERSMIT: The engineer  
4 shouldn't panic on my team; I'm not going to try to give  
5 a technical answer to this question. Joanna Ankersmit.  
6 Everybody ca -- blood pressure down.

7 No, I'm just listening to the exchange.  
8 And I think it -- I -- I think what I'm hearing is a  
9 concern over what are we going to do if we see something  
10 changing in the future that we can't totally predict  
11 right now.

12 Is that part of the concern?

13 MR. ALAN EHRLICH: Well, part of the  
14 concern is in the extremely distant future, ten thousand  
15 (10,000) years or something like that, I mean, it's --  
16 prediction becomes extremely difficult as well as  
17 predicting, you know, who's on site to respond to this  
18 kind of thing. I mean, ten thousand (10,000) years we're  
19 talking about, you know, Canada's less than, what is it,  
20 a hundred and fifty (150) years old now, and -- and this  
21 has to keep -- as I understand it, keep on working for  
22 over a millennia, which is an -- an ambitious and  
23 challenging thing.

24 And -- and we're used to designing largely  
25 for shorter time periods, which -- which makes it to

1 manage it better. So, anyway, that's -- that's the  
2 thing.

3 MS. JOANNA ANKERSMIT: I think it's  
4 important to note though, it's Joanna Ankersmit, why are  
5 we designing this, why are we doing this in the first  
6 place. The government's doing it to protect human health  
7 and safety in the environment. Everybody knows that and  
8 I'm sorry to repeat it, but we have to because that is  
9 why we're doing it and that's why -- and that's, you  
10 know, I would hope, and I'm pretty confident, that  
11 governments going into the future, will still be in the  
12 business of protecting human health and safety and the  
13 environment.

14 Everything we've seen suggests that we're  
15 getting better at that, and we're working very hard at  
16 that. I think it's been demonstrated that the government  
17 takes contaminated sites overall very seriously with the  
18 -- with the 3.5 billion fix-up investment.

19 And going out into the future, I -- I  
20 appreciate that that gives people concern. That we can't  
21 predict all the things that are going to go wrong. And,  
22 we have to -- we have to understand that the government's  
23 doing this for a specific reason, because it believes in  
24 that. It's part of our democratic way. It's part of why  
25 we have institutions of public government.

1                   Going forward, those institutions of  
2 public government will likely still be in the business of  
3 protecting human health and safety. And what's important  
4 now, is to set up appropriate adaptive management plans,  
5 appropriate environmental monitoring plans, so that we  
6 can know when something's going wrong, and have the  
7 opportunity to make corrections as we go into the future.

8                   MR. ALAN EHRLICH: Thanks for that,  
9 Joanna, and I mean I -- you know, I understand that for,  
10 what feels like a long time now, next one (1) or two  
11 hundred (200) years, we can certainly expect that. It's  
12 just that the time period of thousands and thousands of  
13 years, there haven't been any governments that have  
14 lasted that long, and some governments don't share the  
15 same values, say the same priority on the -- the, say,  
16 well-being of people compared to finance costs and  
17 security and things like that.

18                   I mean, different -- different governments  
19 have different value sets, and in the very distant  
20 future, it's -- it's -- it's just hard to imagine what  
21 will be going on. I mean, I -- I -- ten thousand  
22 (10,000) years from now, I don't know, I doubt there will  
23 be a Canada, for -- likely therefore, not a Giant team or  
24 whatever it's equivalent to be.

25                   But -- but someone does have to be taking

1 care of this site, because it's that kind of site. And -  
2 - and -- and, so I get that. It's just that it's -- it's  
3 hard to look at the engineering stuff without considering  
4 that -- that term. And so, I guess that's where a little  
5 bit of the struggle that you're -- you're hearing is  
6 coming from.

7                   But, I mean, I understand that the, you  
8 know, the government now and for what we normally call  
9 long term, one (1), two hundred (200) years, is -- is  
10 firmly committed to protecting human health and the  
11 environment in this area and is going -- taking great  
12 steps to steps to propose a very ambitious project to --  
13 to do just that. I -- I -- I do understand that. It's  
14 just struggling with -- with different terms when we're  
15 talking about things like design periods and things like  
16 that, that's strange waters for -- from where I'm coming  
17 from.

18                   MS. JOANNA ANKERSMIT: I think we'd agree  
19 with that comment. Joanna Ankersmit.

20                   MR. ALAN EHRLICH: So I -- I understand  
21 there's a question from Lukas Arenson, who is one (1) of  
22 the Review Board's experts.

23                   MR. LUKAS ARENSEN: Yeah. Lukas Arenson.  
24 Yeah, I was just -- when we were talking about the -- the  
25 long term effect and -- and about the geotextile. I'm

1 not really worried about the geotextile, but what's the -  
2 - the weathering of -- of your rock -- of your rock  
3 layer?

4 I -- I don't have the details of the cover  
5 in my head, but I think it's probably not protecting from  
6 all the frost? So I guess the frost might actually go  
7 through into your coarse layer. Can you expect -- do you  
8 expect any frost weathering? Is this su -- susceptible  
9 to any frost weathering?

10 Again, if we're talking the long term, do  
11 we have in five hundred (500) years -- do we have sand  
12 and silts down there just because of all of the -- the  
13 freeze-thaw cycles of -- of the frost penetrating through  
14 your -- through your cover and suddenly, your capillary  
15 barrier is -- is no longer there.

16

17 (BRIEF PAUSE)

18

19 MR. JOHN HULL: John Hull. The local  
20 rock types are fairly resistant to that mat --  
21 weathering. The anticipation is that we would select  
22 material from the site to make sure that it isn't the  
23 schists that are in some parts of the site, but that it  
24 is a more durable rock type that would be used for riprap  
25 and this -- the layer that we're -- the coarse gravel

1 layer.

2 MR. LUKAS ARENSON: Okay, thank you.

3 MR. ALAN EHRLICH: I'm -- I've got some  
4 sort of more specific questions having to do with surface  
5 drainage and -- and they deal with relatively short term  
6 things.

7 One (1) of the things that I was wondering  
8 about has to do with the decommissioning of -- of some of  
9 the buildings, including the roaster building, which  
10 contains a -- a large amount of -- of arsenic trioxide  
11 now. One (1) of the IR responses...

12 A response to Alternatives North IR number  
13 16 talked about construction schedules, and we asked a  
14 similar question. You've pointed out that there's  
15 certain windrose for Yellowknife -- this has to do partly  
16 with air quality -- and that you'll be trying to do it at  
17 a -- in a period with -- with favourable winds: in other  
18 words, when the wind's not blowing towards the city,  
19 because we're talking about a lot of arsenic trioxide  
20 dust that is currently in a -- a building that was not  
21 designed for long-term containment of arsenic trioxide  
22 dust.

23 And I know it's -- it's a real challenge,  
24 and I -- and I know that it's inside the DAR, but there's  
25 a possibility that something more urgent may occur in the

1 meantime.

2                   My question is simply this: The windrose  
3 says there's certain months the wind comes in from that  
4 direction towards Yellowknife, and other months it's more  
5 like to go away from it, and I saw it a commitment in  
6 there to try and do it at a period when the wind was  
7 favourable.

8                   I'm just looking for a specific commitment  
9 that you're talking about, even within that period, it  
10 has to be on a day when the wind is favourable, because  
11 there's a lot of variation, you know, within that overall  
12 time. In other words, while that is going on there will  
13 be real attention to even minor things like -- like wind  
14 direction to -- I know it's tough when you're scheduling  
15 a large project, but some sort of commitment that when  
16 you're doing that kind of deconstruction, with respect to  
17 air quality and potential impacts on people, you're doing  
18 it when the wind is not blowing towards the City of  
19 Yellowknife.

20                   MR. GORD WOOLLETT: Gord Woollett. Yes,  
21 the decontamination of the roaster complex is going to be  
22 a complicated issue with its large quantity of arsenic  
23 trioxide inside. The -- the abatement process really  
24 will be completed in a similar fashion as asbestos  
25 abatement, so it will be done under negative air. The

1 building will be enclosed, so the fibre -- or the dust  
2 won't be exiting the building, it'll be drawn into the  
3 building. So the wind direction is -- won't really --  
4 during the demolition won't be a -- a factor while it's  
5 being removed from inside.

6 MR. ALAN EHRLICH: Yeah. I understand  
7 that, if everything works, the wind direction won't be a  
8 factor. It would be good if you can do that during  
9 favourable conditions. Is the Giant team prepared to  
10 agree to that?

11 MS. LISA DYER: Lisa Dyer. We will -- we  
12 will operate to ensure that there is both worker safely -  
13 - safety and public safety. That is paramount to us.  
14 So, yes, we will ensure that conditions are right and  
15 that they do not add to any impacts that could occur  
16 during the demolition of a building.

17 MR. ALAN EHRLICH: Thanks for that --  
18 that reassurance. You've indicated very few predicted  
19 impacts to -- to wildlife, probably because the site  
20 isn't used very heavily by wildlife, you've pointed out.  
21 One (1) of the few examples had to do with nesting  
22 raptors in some of the structure. I didn't read anything  
23 in there on the timing. Is it correct to assume that, if  
24 you have to demolish those structures, it will not be  
25 during the nesting season?

1 MS. LISA DYER: Lisa Dyer. Yes, we will  
2 avoid sensitive periods.

3 THE FACILITATOR EHRLICH: I do  
4 understand, in the event of a -- you know, a critical  
5 emergency, you're going to do whatever you've gotta do  
6 and all else be damned, but I -- I just was wondering,  
7 under normal conditions, if I can infer that from what  
8 I've read.

9 Other questions? Alternatives North has  
10 had its hand -- hand up for a while, and I think Kevin's  
11 arm's getting a bit tired there. Kevin, you want to go  
12 ahead?

13 MR. KEVIN O'REILLY: Thanks. Kevin  
14 O'Reilly, Alternatives North. Alan, I just wanted to ask  
15 one (1) quick question, if I can, to your -- what happens  
16 with the roaster complex.

17 On page 692 of the -- the DAR, there's a  
18 reference to a 2009 initial demolition assessment for the  
19 roaster complex. Is that in the DAR itself, or is there  
20 -- do we have a copy of that? If not, can we get one?

21

22 (BRIEF PAUSE)

23

24 MR. GORD WOOLLETT: Just to clarify --  
25 Gord Woollett -- is -- that clarification there, is that

1 the -- do you have a title of that document?

2 MR. KEVIN O'REILLY: Sorry. Kevin  
3 O'Reilly, Alternatives North. It's on page 6 -- it's  
4 referenced on 692 of the -- 6-92 of the DAR. I don't  
5 think it actually had a reference. So I'm going to  
6 furiously try to look it up.

7 MR. ALAN EHRLICH: Maybe I can buy Kevin  
8 a minute while he's looking it up by asking a different,  
9 fairly short, I think, question in -- in the meantime.

10 In the Developer's Assessment Report on  
11 the section on dust suppression, which is 6.6.3, the --  
12 the Giant team wrote -- you were talking about  
13 controlling fugitive dust from tailings disposal areas  
14 and that there's a product called soil cement which you  
15 mix with water and you can spray in the spring to -- to  
16 avoid fugitive dust emission. But you point out that  
17 many of the areas that produce dusting problems can't be  
18 reached during the wet and soft nature of the tailings at  
19 the time.

20 Have you explored airborne application of  
21 a dust suppressant?

22

23 (BRIEF PAUSE)

24

25 MS. JOANNA ANKERSMIT: Hi. We're just

1 trying to -- sorry, Joanna Ankersmit. Kevin, we're just  
2 trying to track down the exact document that you were  
3 referring to.

4                   Yeah, we'd be happy to share that with  
5 you, with the caveat that if there is a specific cost  
6 we'll have to strip those out and you understand why.  
7 That's perfect.

8                   So, yeah, we'll -- we -- just one second.  
9 I'm not sure if we can provide it this week, or whether  
10 it will be an undertaking.

11                   MR. KEVIN O'REILLY: Sorry. It's Kevin  
12 O'Reilly, Alternatives North. And the reason why I guess  
13 I'm interested in seeing this is I was at a big mine  
14 closure conference a few weeks ago and I understand this  
15 is really complex stuff. It may involve specialized  
16 scaffolding, guys in suits, negative air pressure, all of  
17 that stuff.

18                   So I just want to -- I think it would be  
19 really helpful for folks to better understand if there is  
20 a plan for how you're gonna do this and what it really  
21 involves because it -- it is very specialized work, as I  
22 understand it. Thanks.

23

24

(BRIEF PAUSE)

25

1 MS. JOANNA ANKERSMIT: Sorry, Kevin.  
2 We're just talking because we're -- just want to make  
3 sure that we understand, kind of, what you're expecting  
4 from the document. We can release it, but anything out  
5 of context on this project is always a concern.

6 Sorry, Joanna Ankersmit. I could feel the  
7 stare.

8 So that -- that's the only concern. We  
9 don't have a concern with sharing information, only that  
10 if it's taken out of context or we provide something  
11 that, given what you've just mentioned, if you're looking  
12 for -- if you're expecting a plan for the roaster  
13 building that's not what that document is about.

14 MR. KEVIN O'REILLY: Thanks. Kevin  
15 O'Reilly, Alternatives North. Well, I'm really curious  
16 to see it now. So provide it and then if, you know, we  
17 have any extra or additional stuff we want to know about  
18 it there's an avenue for us to ask an IR if we want. But  
19 I'm curious to see what's in there and if it can be  
20 provided it would be helpful. And if we have to ask  
21 other questions there's a way to do it. Thanks.

22 MR. MARK CRONK: Mark Cronk. Kevin, I  
23 had a significant role in the report that's being  
24 referred to. It was a highly specialized request and it  
25 wasn't a demolition plan for the roaster. At the time we

1 were trying to quantify for ourselves in preliminary  
2 design the volume of material that we might expect as  
3 highly contaminated material coming off the roaster to  
4 see if it would fit in Chamber 15 and it was designed to  
5 answer that question.

6 THE FACILITATOR PHILLPOT: And so, just  
7 to clarify then, you will be providing that document. Is  
8 that something you'll be providing this week or is that  
9 an undertaking for -- take it as an undertaking then for  
10 November 14th? So that will be provided to the Review  
11 Board at that time. Thank you.

12

13 --- UNDERTAKING NO. 7: Provide a copy of the 2009  
14 initial demolition assessment  
15 for the roaster complex

16

17 THE FACILITATOR PHILLPOT: Alan Ehrlich,  
18 did you have further questions or -- oh, actually, it was  
19 Alternatives North, sorry.

20 Kevin, did you want to continue with your  
21 line of questioning?

22 MR. KEVIN O'REILLY: Thanks. I don't  
23 have any other questions on that, but I have other  
24 questions if maybe I can sneak one (1) in or...

25 MR. ALAN EHRLICH: Is it a -- is it a

1 short question or a long question, do you think?

2 MR. KEVIN O'REILLY: Kevin O'Reilly,  
3 Alternatives North. I don't know anymore, but I had a  
4 question about the tailings cover, and I -- because you  
5 seemed to, Alan, start to go off onto some other areas,  
6 and I thought we were trying to get all of our questions  
7 together on certain areas, so.

8 MR. ALAN EHRLICH: Okay, go for it.

9 MR. KEVIN O'REILLY: Okay. Given that...  
10 This is in Alternatives North IR number 12, and it's on  
11 page 3 of this. Response number 2 talks -- this is where  
12 I guess we had raised some issues around trafficability  
13 of the tailings. And the response from the developer was  
14 that they were conducting a tailings -- or that they had  
15 tailings cover test plots that really may not have dealt  
16 with the issue of trafficability. But they did indicate  
17 here that the investigation report will be available  
18 prior to the technical session.

19 So presumably this is some sort of test  
20 covers you've got on the tailings. You probably have  
21 different layers or depths of layers, different kinds of  
22 material. You probably had some performance criteria in  
23 mind when you were laying these out, and you've got, I  
24 guess, three (3) years of data now.

25 Is there -- then it says here that the

1 investigation report is gonna be available prior to the  
2 technical sessions; I don't recall seeing it. Is it  
3 still -- what's -- where is at and can we see it? And --  
4 because I think it's very relevant to the kinds of  
5 questions that Lukas was asking earlier about what are  
6 you going to try to design for and what kind of  
7 experience do you have.

8                   You've got these test plots that have been  
9 there now for three (3) years. What's happening?  
10 Thanks.

11                   THE FACILITATOR PHILLPOT: Thank you,  
12 Kevin.

13                   Lisa, do you know who you want to answer  
14 that question from your team?

15                   MS. LISA DYER: Lisa Dyer. Yes, I would  
16 like Mark Cronk to answer this question.

17                   MR. MARK CRONK: Mark Cronk. And I'm  
18 going to answer a question with a question, Kevin.  
19 Trafficability, are you asking for trafficability during  
20 construction or trafficability after closure?

21                   MR. KEVIN O'REILLY: Thanks. Kevin  
22 O'Reilly -- O'Reilly, Alternatives North. Forget I even  
23 said the word "trafficability." Where -- where's the --  
24 the tailings cover test plot investigation report that  
25 was promised before the technical sessions? Thanks.

1 (BRIEF PAUSE)

2

3 MR. MARK CRONK: Mark Cronk. Sorry,  
4 Kevin. That IR had a couple of issues going on it and it  
5 was -- had to sort out where we were at.

6 There is a tailings cover trial that has  
7 been completed, and it was intended to look at technical  
8 issues associated with consolidation of the tailings,  
9 pour water issues and stuff like that.

10 The trafficability investigation, we have  
11 not done. Sorry.

12 MR. KEVIN O'REILLY: Where is the report?

13 MR. ALAN EHRLICH: So the -- the question  
14 that Kevin O'Reilly is asking is, where is the report?

15 MR. MARK CRONK: Sorry, Kevin. The  
16 trafficability report you're not looking for, you're  
17 looking for the tailings --

18 MR. ALAN EHRLICH: Yes.

19 MR. MARK CRONK: We -- sorry, just trying  
20 to get through it. We can provide that.

21 THE FACILITATOR EHRLICH: When you --  
22 when you say we can provide that, do you mean you'll be  
23 providing that during this week, or you'll be providing  
24 that electronically through the Review Board? Is this a  
25 -- is this an undertaking, or -- please elaborate.

1                   MR. ADRIAN PARADIS:   We'll provide it  
2 through an undertaking to the Board. We'll try and  
3 provide it by the 14th, but it will be in by the 14th.

4                   THE FACILITATOR:   Okay, Wendy, (phonetic)  
5 do you know what number undertaking we're on there?

6                   That will appear as undertaking number 8  
7 on the transcript. And Yellowknives Dene First Nation,  
8 has a question.

9

10 --- UNDERTAKING NO. 8:       Provide a copy of  
11                                    investigation report  
12                                    regarding tailings covers

13

14                   MR. LUKAS NOVY:   Hi there, it's Lukas  
15 Novy here, and just have a quick follow up question to  
16 the cover, because I know we've talked -- you talked  
17 about the geotextile and then there was some freezing,  
18 and I -- a key com -- performance criteria, or thing that  
19 -- that can be seen pretty quickly is the settlement.

20                   And I know that the -- a report is on it's  
21 way, but I was just wondering if you could provide some  
22 comments on what you guys have seen for the different  
23 alternatives the past three (3) years in terms of  
24 settlement?

25

1 (BRIEF PAUSE)

2

3 MR. DARYL HOCKLEY: I'm -- I'm not up to  
4 speed on the -- the findings of that report with respect  
5 to settlement. In any case, the -- those tests take  
6 place in a particular area of a particular pond. And I  
7 would think settlement will vary from area to area and  
8 pond to pond. So, it was in -- in -- by no means  
9 intended to be a universal settlement test. It was  
10 intended to look at the response of cover variance to  
11 settlement. And -- and that's -- that's I what I --  
12 that's I think what it does, so.

13 So is -- is there -- is it a uniform  
14 settlement? Is it non-uniform settlement? Does the  
15 settlement cause a boiling effect, those -- those are the  
16 sorts of things that it looked at.

17 MR. LUKAS NOVY: Lukas Novy. Yeah,  
18 that's understandable. It's just -- I'm -- I --  
19 differential sediment, especially in cold climates with  
20 different mechanisms to doing that, it's -- it's -- it is  
21 an issue of concern. And I guess it's just that I'm  
22 hoping that in the report there -- there is at least some  
23 sort of quantifiable value because it -- it's measured.  
24 So there -- and it's just the -- it's a -- it's a useful  
25 indicator for the potential performance of a cover and, I

1 -- I guess if you guys can't provide it at this time, and  
2 I'm hop -- I'm assuming it was something that would be in  
3 the report.

4 MR. DARYL HOCKLEY: Yeah. The -- the  
5 real problem is that that report was -- has been in --  
6 those of us who've read it read it quite a while ago and  
7 just aren't quite familiar with what it says. But --  
8 but, yeah, it was intended to look at that, so I -- I  
9 presume it will have what you're looking for there at --  
10 at some level anyhow.

11 MR. LUKAS NOVY: Lukas Novy. Thank you  
12 very much.

13 THE FACILITATOR EHRLICH: And it -- since  
14 that is the report that -- that the Giant team has  
15 offered to submit, you'll be able to -- to see it by  
16 November 14th, or on November 14th. So, hopefully  
17 that'll be okay.

18 I'd like to bring it back to a question  
19 that I asked while Kevin was looking for a reference. It  
20 had to do with fugitive dust emissions, your inability to  
21 get on to the area when it's wet, because you can't go  
22 over land, and I -- I was wondering if you've looked at  
23 airborne application of any dust suppressants?

24 MR. MARK CRONK: Alan, my apologies for  
25 not hearing your original version of your question.

1                   Are we talking currently under the, kind  
2 of, care and maintenance mode or during the remediation  
3 for final closure aspects? They will change my answer.

4                   THE FACILITATOR EHRLICH:   Although it was  
5 a while back and I don't have the DAR open to the right  
6 page anymore, I think it was during the early parts of  
7 the project.

8

9   (BRIEF PAUSE)

10

11                   MR. MARK CRONK:   Mark Cronk. Thank you,  
12 Alan. It will be a bit of a construction sequencing  
13 detail that we will look at. But, in general, the wet  
14 areas that are the most tricky for trafficability are  
15 generally not the fugitive dust issue. So I would expect  
16 that the dry tailings that produce the dust we will be  
17 able to get to and use a dust press similar to what we do  
18 now.

19                   MR. ALAN EHRLICH:   Okay. Thanks. I have  
20 a question. I was wondering if you could elaborate a  
21 little bit. In your response to the City of Yellowknife,  
22 IR number 2, one (1) of the things that the Giant team  
23 said was:

24   "Exposure of tailings is not expected  
25 to lead to broad human health and

1                   safety risks, but localized exposure  
2                   could compromise some uses."

3                   And I read it over and I couldn't quite  
4 figure out what kind of uses you were talking about.  
5 What did you have in mind when you said localized  
6 exposure to tailings could compromise some uses. Or you  
7 said localized exposure could compromise some uses.

8                   This was in the context of a question  
9 about -- well, actually, it looks like you've got it in  
10 front of you there, so I'll -- I'll let you read the IR  
11 for yourself. But I was just wondering if you can  
12 elaborate a little bit on what you mean when you say that  
13 localized exposure could compromise some uses?

14

15   (BRIEF PAUSE)

16

17                   MR. ALAN EHRLICH:    This is SN IR Response  
18 number 2. I'm reading page 2 of 5, the third paragraph  
19 down of the summary.

20

21   (BRIEF PAUSE)

22

23                   MR. DARYL HOCKLEY:    IR number...?

24                   MR. ALAN EHRLICH:    City of Yellowknife  
25 Information Request number 2, page 205. In the middle of

1 page 205 you'll see a summary. The third paragraph down  
2 in that summary says that. I -- yep, there you go.

3

4

(BRIEF PAUSE)

5

6 MR. ALAN EHRLICH: So to repeat again, my  
7 -- my question was, you're saying that exposure to  
8 tailings is not expected to lead to broad human health  
9 and safety risks, but localized exposure could compromise  
10 some uses. And I looked in the rest of it and I couldn't  
11 quite put my finger on -- on what would be included  
12 there.

13

14

(BRIEF PAUSE)

15

16 MR. DARYL HOCKLEY: The -- the question  
17 was about what factors were considered in the design.

18

19

20

MR. ALAN EHRLICH: My question is what  
kind of uses are you talking about when you say could  
compromise some uses?

21

22

23

24

25

MR. DARYL HOCKLEY: Yeah. Sorry, Daryl  
Hockley. The -- but the Information Request was about  
what was considered in the design, and so in the  
consideration of the design we -- we -- the risk  
assessment showed that -- well, in the con -- in the

1 design considerations we seek to avoid even localized  
2 exposures, because even localized exposures could  
3 compromise some uses.

4           And -- and an example of such a use, if  
5 that localized exposure happened to be in an area that  
6 was particularly attractive to a plant that had some use,  
7 and people were to come and pick that plant that -- that  
8 could constitute a local risk that would not be picked  
9 up, say, in the broad regional risk assessment. That --  
10 that -- so that was the thinking.

11           MR. ALAN EHRLICH: Okay. Thanks for that  
12 clarification. I believe the -- that Doug Ramsey, who's  
13 an expert consultant for the Review Board has a question  
14 regarding the tailings cover.

15           MR. DOUG RAMSEY: Doug Ramsey. This  
16 question has a rather long preamble but I do intend to  
17 get to what amounts to a fairly short question at the  
18 end.

19           As advisors to the Board, we're ultimately  
20 charged with having to make a recommendation to them  
21 regarding whether there's a potential for a significant  
22 adverse enviro -- effect to the environment or hu --  
23 human health.

24           And we're looking at a project that, as  
25 has been discussed over and over the past several days,

1 is a project -- a -- a remediation in perpetuity. And to  
2 perhaps put human -- more human terms to the definition  
3 of perpetuity, we're looking at something that extends  
4 well beyond -- beyond the several hundred years of  
5 European occupation of -- of North America, and even  
6 beyond the several thousand years of settlement by  
7 Aboriginal peoples. And we're looking at the potential  
8 for significant adverse effects at this stage anyway over  
9 that entire period.

10           After sitting here for a couple -- two and  
11 a half (2 1/2) days now, it seems evident that the design  
12 concept surrounding the frozen block has been fairly well  
13 considered -- and extensively considered, suggesting that  
14 certainly the -- the project team sees that as being the  
15 primary hazard to be managed.

16           But that said, it's not the only hazard to  
17 be managed. And over the last day and a half we've seen  
18 more coverage of some of the peripheral aspects of the  
19 project, the things on surface, the water management,  
20 aspects like that.

21           And repeatedly the answers to questions  
22 are coming -- are, We don't know, we haven't taken the  
23 design that far, that will be decided some time in the  
24 future. And some of that relates, for example, to the  
25 tailings. We've got what seems to be a conceptual

1 design, but it's not clear what the design objectives are  
2 for that design.

3                   It's a design to have -- and we're -- when  
4 I'm talking about design objectives, it's less about  
5 details about how these are going to be achieved, but  
6 what needs to be achieved for -- as -- as a simple  
7 example, I want to design a cover so that the vegetation  
8 roots don't penetrate into the tailings.

9                   That's a design objective. It can be  
10 achieved in a number of different ways. You can have the  
11 -- the rock layer that can -- that can help with that.  
12 You can have that in addition to a thicker layer of  
13 overburden cover, for example.

14                   But it seems that at the environmental  
15 assessment stage, to have clearly stated design  
16 objectives is particularly helpful to understand what the  
17 potential environmental effects, or potential failures of  
18 different parts of -- of the project are.

19                   Another example, and moving a little bit  
20 away from tailings for example, is whether or not there  
21 are going to be pit lakes on the site at some time in the  
22 future. That's related to whether or not, and when, the  
23 underground is -- is flooded, and then whether or not the  
24 pits themselves are backfilled.

25                   If there are pit lakes, there is the

1 potential for them to be contaminated. And if there are  
2 pit lakes and they're contaminated, there is the  
3 potential for them to interact with other components of  
4 the surface water management system, if only during  
5 extreme design events.

6           And much as it may not be possible to  
7 explicitly state that something will or will not be done,  
8 if there is a maybe/maybe not, it should still be  
9 possible at this stage to articulate what the design  
10 objectives would be in making that consideration at some  
11 time in the future. Because at this stage there are some  
12 things, like whether or not there's going to be a pit  
13 lake, that basically falls in the category of, Trust us,  
14 we'll figure it out later.

15           At the same time the Board still needs to  
16 make a decision about whether or not there's the  
17 potential for significant adverse effect, without knowing  
18 what criteria are going to be considered in that decision  
19 some time in the future.

20           We know lots of things will change, but  
21 one (1) of the things to look at, along with having these  
22 clearly stated design objectives, and it's not necessary  
23 to have the detailed designs, but to have the clearly  
24 stated design objectives for these different elements, is  
25 to have some statement of expectation of how various

1 components of the surface works, for example, can be  
2 expected to evolve over time.

3                   And this comes down to the questions of  
4 whether or not it matters if the geotextile stands up for  
5 more than a couple of hundred years, or not. Because as  
6 the underlying tailings consolidate, how are those going  
7 to change? We typically don't look at that in too much  
8 detail in environmental assessments for new projects but,  
9 again, we're looking at something here that is being  
10 presented as remediation for perpetuity.

11                   Now, getting down to my question, it's:  
12 Is it possible for the project team to provi -- to  
13 clearly articulate their design objectives for these  
14 different components of the surface development as a part  
15 of this environmental assessment?

16

17                   (BRIEF PAUSE)

18

19                   MR. ADRIAN PARADIS: Adrian Paradis for  
20 the Giant Mine project team. If you can excuse us for  
21 half a sec.

22

23                   (BRIEF PAUSE)

24

25                   MS. LISA DYER: Lisa Dyer. We just want

1 to -- we're going back through the DAR so that we can  
2 refer to the objectives that have been stated in the  
3 document, so I just want to give Daryl a little bit of  
4 time to find those. But we will be referring back to the  
5 documentation that we presented. Thank you.

6

7

(BRIEF PAUSE)

8

9 MR. DARYL HOCKLEY: I think there's a --  
10 there -- there are some good points there, Doug, in that  
11 certainly we -- we have long discussions of these things  
12 sometimes, and it's -- and it causes more confusion than  
13 good. But I have to object a bit to -- to the -- to the  
14 sentiment that -- that we -- we don't understand our  
15 objectives or that we're being wilfully confusing.

16 On the issue of pit lakes, for example, it  
17 is -- has -- has been absolutely clear to this project  
18 team for most of the time that I've been part of it that  
19 we are not proposing pit lakes, and I am quite sure we  
20 have said that over and over and over again in public  
21 meetings.

22 There were some documents on the record  
23 even prior to there being a Giant Mine project team that  
24 had lovely pictures of pit lakes. They were lovely  
25 pictures of pit lakes, and I think that has stuck in

1 people's heads all this time. So we get questions at  
2 public hearings. They keep coming back, but I assure you  
3 that we -- we have been very clear that -- that this --  
4 this -- that they are not part of our plan.

5           Given that some people really like -- like  
6 to -- like to see them, we -- we do at times say, We are  
7 not ruling out the possibility that in future you might  
8 want to turn these things into a pit lake, but it is  
9 certainly not part of our -- our plan in any way, shape,  
10 or form. So it's -- it's something that, in -- in two  
11 (2) or three hundred (300) years, when it's absolutely  
12 clear there's no contamination, et cetera, et cetera, the  
13 future public might want to have pit lakes. We say,  
14 Fine, you can talk about that in a couple hundred years,  
15 but it's in no way, shape, or form part of this plan.  
16 And, in fact, on the contrary, we say to people, Don't  
17 count on going swimming in these pit lakes at any time,  
18 because, in our opinion, they'll never be there.

19           So that's what we're trying to -- you can  
20 see how we're trying to get our -- our message clear, and  
21 it's...

22           MR. DOUG RAMSEY: Doug Ramsey. Thank  
23 you. I just want to make it clear I'm not suggesting in  
24 any way, shape, or form that there's any attempt to  
25 wilfully mislead. I understand that it's a very complex

1 project and questions do keep coming up.

2                   And even as an example, in your answer to  
3 my question there, it was -- could be interpreted as, We  
4 have no plans at this time for pit lakes, but they could  
5 appear in the future, which, when we're looking at a  
6 project in perpetuity again, introduces the possibility  
7 in the absence of a design objective for that possibility  
8 that you could say, Well, we don't plan on having pit  
9 lakes. If somebody in the future would like to, these  
10 are the kinds of design objectives they're going to have  
11 to look at.

12                   MR. DARYL HOCKLEY: Yeah, and I can see  
13 it would be helpful for us to lay those things out, but -  
14 - but for us to do that is then to raise the hope that we  
15 don't particularly believe in. We could then be accused  
16 of trying to sell people on an option when we don't  
17 believe in it. That -- that's the struggle we have. And  
18 -- and I think, if you -- if you read the text, it is  
19 very carefully worded, and I'm quite sure I should have -  
20 - maybe I should just have read you the text, because  
21 there it makes it very, very clear our position on these  
22 things.

23                   So -- but I can turn to your question  
24 about the covers now, because the objectives for the  
25 covers, I think, are also fairly clearly stated. There

1 are overall site-wide objectives that are in the start of  
2 chapter 6, in 6.1, and they talk about possible future  
3 uses of the site, making it available for future uses of  
4 the site. And that's carefully chosen words. We don't  
5 intend to tell people what the future uses should be, we  
6 want to make it available for future uses, which need to  
7 be discussed with the communities.

8           We then talk -- translate those into  
9 functions of each of the layers, and now I've turned the  
10 pages, 667 I think it was. The design concept proposes a  
11 two (2) layer cover. The bottom layer will serve three  
12 (3) functions: number 1, act as a robust, physical  
13 barrier, et cetera, et cetera. The upper layer will  
14 serve four (4) functions: number 1, act as a clean  
15 surface that will shed runoff, et cetera, et cetera.

16           These are as precise as I have ever seen  
17 cover -- cover functions defined anywhere, and I've dealt  
18 with lots of covers. One (1) thing you won't find in  
19 here is -- is a lot of quantification, and that's partly  
20 because I've built lots of covers, and I -- I've never  
21 really seen an adequate quantification of them. I'm --  
22 I'm highly suspicious of -- of cover designers who tell  
23 me they're going to achieve 3 1/2 percent infiltration.  
24 So -- so I always encourage my clients to avoid those  
25 type of quantitative things, and instead talk in terms of

1 functions.

2 I believe those can still be turned into  
3 mon -- monitorable and verifiable performance. It's  
4 maybe not as easy as picking a single number, though, and  
5 it probably is a question of -- of the sorts of dialogue  
6 that we're talking about in the -- in terms of EMPs,  
7 things like that.

8 MR. DOUG RAMSEY: Doug Ramsey. No, I --  
9 I appreciate the difficulty in picking a single number.  
10 I do think it would be helpful if it would be able -- if  
11 you would be able to, for example, indicate a range.  
12 Like 3 1/2 percent infiltration, that's very difficult to  
13 -- to justify, even -- even in a very detailed design  
14 scenario, but indicate that there's good reason to  
15 believe it'll be less than twenty (20) and more than ten  
16 (10)?

17 MR. DARYL HOCKLEY: Yeah. The -- even  
18 that is -- is harder than you think sometimes, but the  
19 fact is, in this case, infiltration is -- is the only  
20 quantifiable objective, really. And -- and it's -- it's  
21 frankly irrelevant, because any water that -- that  
22 infiltrates through this cover is -- is going into the  
23 capture system for the minewater and will be treated  
24 there. It will be less contaminated than the water that  
25 flows through the underground tailings.

1                   So -- so we normally talk about this --  
2 this cover. We believe there will be a reduction in  
3 infiltration, but at no time have we promised it to be  
4 any significant effect on infiltration. The more  
5 important objectives, in my opinion, are things like  
6 facilitating future land use. And how do we quantify  
7 that? Well, we could, in theory, do that, but it would  
8 be presumptuous for INAC to start doing that without  
9 talking to the communities and the -- and the  
10 Yellowknives Dene about what they see as future land  
11 uses. So -- so I think we agree in principle, it's just  
12 a little bit harder to get there than -- than it might be  
13 in some -- some simpler projects, I guess.

14                   MR. DOUG RAMSEY: Doug Ramsey. Thank  
15 you. I'm not suggesting that it's -- it's a simple place  
16 to get to because this is by no means a simple project.  
17 I would suggest though that it is relevant, for example,  
18 to consider, at least in general terms, the quantity of  
19 infiltration at this time because, again, we're not  
20 looking at a short-term treatment scenario.

21                   MR. DARYL HOCKLEY: Yeah, the -- the  
22 amount coming through the coverage is pretty  
23 insignificant compared to the water we're going to be  
24 capturing in the -- in -- in the mine water system and is  
25 going to flow through the -- the contaminated tailings

1 underground.

2                   But look, it's -- it's not -- it's not  
3 hard to put a range on these numbers. There's -- there's  
4 a natural infiltration in the -- in the range, and we --  
5 we can certainly do that. I just don't think that that  
6 actually meets the needs of our performance criteria  
7 because that -- that range is going to be so wide it's  
8 going to be -- it's not going to be something that the  
9 inspector is going to be able to usefully use.

10                   I think we have to work a little longer  
11 and a little harder and -- and crystalize the more  
12 important objectives in terms of something verifiable.

13                   THE FACILITATOR EHRLICH: Does anyone  
14 have any other questions for the developers? We're  
15 getting near our wrap-up time.

16                   And I see Environment Canada, Amy Sparks,  
17 has got a question regarding surface use and surface  
18 remediation?

19                   MS. AMY SPARKS: Thanks. Amy Sparks,  
20 Environment Canada. I'm wondering about the depth of  
21 covers, not on tailings, but over the excavations. And  
22 the reason I ask is that to meet those soil quality  
23 objectives, if you dig down 2 metres but only put half a  
24 metre on top and leave some contaminated material, you're  
25 not meeting those objectives because you're not removing

1 those pathways.

2                   So I was wondering about the depth of  
3 those covers, and I know that might vary, but maybe what  
4 the goal is for the covers?

5                   MR. ARTHUR COLE:    It's Arthur Cole.  The  
6 covers within the Class 3 and Class 2 pocket areas, they  
7 are very similar to what's proposed for the tailings.  So  
8 it's the same design essentially.

9                   MS. AMY SPARKS:    Amy Sparks, Environment  
10 Canada.  Yeah, and I can see that from the diagrams.  But  
11 again, there's no real depth on the tailings covers, and  
12 I understand that's because of availability of bore  
13 materials, et cetera.

14                   Can you speak any more to that?  Is there  
15 -- is there a goal for that depth to be on top of those  
16 excavations or is it really based on material?

17

18                                       (BRIEF PAUSE)

19

20                   MR. ARTHUR COLE:    The thickness, Arthur  
21 Cole, will be consistent with the numbers in the DAR, but  
22 we haven't finalized that design yet, so we don't have  
23 that information right now.

24                   MS. AMY DYER:    Art, can you clarify what  
25 the numbers are in the DAR just so it's on the record?

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(BRIEF PAUSE)

MS. AMY DYER: Sorry, John, I caught you off guard.

(BRIEF PAUSE)

MR. JOHN HULL: John Hull. The numbers that have -- identified in the DAR, and which we are working in this range. The vegetative soil layer would -- would potentially range from 30 centimetres to 70 centimetres. The coarse gravel layer would range from 15 centimetres to 60 centimetres, and those numbers are to be confirmed.

The re -- the availability of material on site would not restrict or -- or identify a limit. We would find the material or make it work with what the design needs for protecting the tailings and isolating them from the environment.

MS. AMY SPARKS: Amy Sparks. So, I just want to -- and not in terms of the tailings, but in terms of, for example, the petroleum hydrocarbon contaminated soil. That wouldn't actually meet the industrial soil quality objectives that are laid out in the CCME, because

1 you're required to be deeper than that to have higher  
2 numbers. So, ultimately, if we placed a meter on top of  
3 the contaminated soil, you're not actually meeting those  
4 objectives.

5 MR. ARTHUR COLE: It's Arthur Cole. All  
6 of the petroleum hydrocarbon affected materials will be  
7 excavated and will be de -- disposed of on site. So that  
8 -- sorry -- excuse me, will be land firmed on site.

9 THE FACILITATOR EHRLICH: We're getting  
10 close to the wrap up. I see that Alternatives North has  
11 another question.

12 MR. KEVIN O'REILLY: Kevin O'Reilly,  
13 Alternatives North.

14 I guess in -- in several places in the --  
15 in the presentation, in the Information Request  
16 responses, and in the DAR itself, the developer says that  
17 there's going to be site maps prepared to prevent  
18 accidental excavation of the contaminated material in the  
19 future.

20 So I'm just trying to figure out in my own  
21 mind, what are these -- are they going to be paper maps?  
22 Who is going to have access to them, where they're going  
23 to be stored, what is the land use control that's going  
24 to be put in place forever to make sure that people don't  
25 go around there and start digging up stuff?

1                   And -- and I know this flows over into  
2 some of the discussion I certainly want to have on  
3 Friday, about document control and preservation of  
4 documents forever, so I -- I just wanted to get it out in  
5 the context of this slide, I guess, which was on the --  
6 excavating contaminated materials, so. Thanks.

7                   MS. LISA DYER: Kevin, I know this is an  
8 area that you are passionate about, and I know that from  
9 being at the perpetual care workshop. So, I am going to  
10 ask the question of you, knowing that you spend a lot of  
11 time on these issues, what do you think is necessary so  
12 that we underspan -- understand your concerns further?

13                   And if you want to kind of deal with this  
14 more on Friday, I am open to it too. But obviously, this  
15 is a concern, so I -- I'd like to hear, you know, what  
16 you see as necessary.

17                   MR. KEVIN O'REILLY: Thanks. Kevin  
18 O'Reilly. Well, I'm not quite sure I can be much clearer  
19 but you folks are going to excavate some areas. You're  
20 going to have covers on nasty stuff out there. How do we  
21 make sure that somebody doesn't go and dig that stuff up  
22 into the -- that stuff up, or dig into those areas in the  
23 future, forever?

24                   We're going to have, maybe, some paper  
25 maps, we're going to have maps that are going to be on --

1 as a -- stored as electronic files, but how do we make  
2 sure that tho -- that information is conveyed to a future  
3 generation five thousand (5,000) years from now? And  
4 what sort of institutional land controls are there to  
5 make sure that people don't go and live on top of a  
6 tailings pile out there that's -- doesn't have proper  
7 cover, and so on.

8                   So, presumable one (1) -- one (1) way is  
9 to try to work with the City to get the proper zoning out  
10 there, so that you don't have the opportunity to develop  
11 some of those areas. But that's only as good as long as  
12 there's a -- a city council here.

13                   What about registering this -- a -- a  
14 caveat or something on the -- the land title; GNWT  
15 withdrawing the -- the surface of the area from any  
16 further disposition? This kind of information is nowhere  
17 in the DAR, that I can see.

18                   And then how do we -- how do you make  
19 those maps available to other authorities, other people,  
20 future generations in a way that they can be used so that  
21 people don't harm themselves?

22                   So, I don't know, there's a few ideas  
23 there, but I -- I honestly don't see any of that kind of  
24 thinking in the DAR. And we have to be thinking about  
25 this forever.

1                   So, I'll just leave it at that for now and  
2 see if you folks have any further ideas around this, but  
3 it's something that's bubbling away in the back of my  
4 mind, as you well know. Thanks.

5                   THE FACILITATOR EHRLICH:   Okay, Kevin,  
6 thanks for that. You're right that -- that perpetuity  
7 issues are going to be dealt with over the next couple of  
8 days. It's a good segue into the wrap up here.

9                   Perpetual care is one (1) of the things  
10 that's so closely related to risk, with risk being a  
11 function of likelihood versus -- times severity. I mean,  
12 it's hard to deal with likelihood without considering  
13 time at the same time. So, we did put perpetual care  
14 under the risk assessment side of things, which is  
15 tomorrow.

16                   But I understand what you're saying; long-  
17 term monitoring evaluation of management which is Friday,  
18 obviously the temporal scope of this project, not of the  
19 EA, but of the project, is something that's going to need  
20 to come up then as well, because I don't know how you  
21 could deal with adaptive management for a project  
22 proposed for forever without considering what that really  
23 means.

24                   So, I -- what I didn't see today that I  
25 did see in the last two (2) days, I didn't see a whole

1 pile of hands going up near the end, 'cause we had a  
2 whole pile of questions left over. There'll still be an  
3 opportunity at the beginning of tomorrow if people have  
4 any questions after sleeping on it that they want to  
5 address -- well, first let's find out, is the -- the  
6 Giant Team going to have people here tomorrow that are  
7 familiar with surface remediation?

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(BRIEF PAUSE)

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THE FACILITATOR EHRLICH: She -- so,  
she's smiling and nodding. Are -- if the right people  
are here we'll allow -- if people realize they had a  
couple questions that they missed during today and they -  
- they really want to get them on before we move onto the  
next subject, we'll allow them early tomorrow morning,  
remembering that if we don't get to where we want to be  
by tomorrow at 5:00, we're just going to keep on trucking  
into the evening. So -- and I appreciate all the party's  
willingness to do that, as indicated this morning when I  
asked.

But I -- I -- I think that we did a pretty  
good job of -- of getting caught up, while still giving  
everyone the opportunity to asks questions they've needed  
to this point.

1                   There's a -- a question -- is it a  
2 question or a comment from Kevin?

3                   MR. KEVIN O'REILLY:   Thanks.   Kevin  
4 O'Reilly.   I can tell you, Alan, right now I've got four  
5 (4) other lines of questioning, or questions, maybe, that  
6 I can tell you about right now if that's of any help to  
7 the -- the Giant team, because we're not going to get to  
8 it today.

9                   Shall I just go ahead?

10                  THE FACILITATOR EHRLICH:   If you can do  
11 it rapidly, yes.

12                  MR. KEVIN O'REILLY:   Yeah.   I want to ask  
13 some questions around the revegetation studies or plans.  
14 I want to know what's happening with that.   I want to  
15 know how big the treated water storage pond is going to  
16 be.   And that -- that's an IR that was in today's stuff.

17                  I want to look at cost of fencing versus  
18 backfilling over the long-term, and when the CALPUFF  
19 modelling for Jackfish is going to be done, because  
20 that's absolutely essentially to a proper cumulative  
21 effects assessment.   So I'll just -- that's what I want  
22 to know.   Thanks.

23                  THE FACILITATOR EHRLICH:   Is CALPUFF  
24 related -- something related to air quality?   I don't  
25 remember the acronym.

1 MR. KEVIN O'REILLY: Yes, it is. Thank  
2 you.

3 THE FACILITATOR EHRLICH: I thought you  
4 were using strong language for a minute there, but now I  
5 realize that you -- no -- no stronger than usual anyway.

6 No, and, you know, I have no doubt the  
7 Giant team appreciates the heads up. Does anyone else  
8 want to just let the Giant team know what might lie ahead  
9 for tomorrow morning in the interest of efficient  
10 progress there?

11 Todd Slack of the Yellowknives...?

12 MR. TODD SLACK: Todd Slack, YKDFN.  
13 Sorry, I meant to ask this earlier, and the question is:  
14 In terms of air quality is GNWT a regulator for projects  
15 on the commissioner's lan -- within the commissioner's  
16 land?

17 THE FACILITATOR EHRLICH: If it's a  
18 simple yes/no you're looking for, and if the Giant team  
19 is prepared to give it now, we can -- maybe we can  
20 resolve it very quickly.

21 Or is this something that you need to go  
22 back and look into? You want to -- you want to deal with  
23 it now? Okay, to the Giant team.

24 DR. RAY CASE: No, we'll -- we'll address  
25 things in the morning, keep things moving here.

1                   THE FACILITATOR EHRLICH:    Okay.  Great.  
2    So that wraps up the discussion on surface remediation  
3    for today, but we've got some undertakings.

4                   And I'm going to need a little bit of help  
5    to get these right, because it's hard to facilitate and  
6    simultaneously keep track of all this stuff.

7                   We know that DFO is looking for additional  
8    information on an emergency scenario in which Baker Creek  
9    -- or emergency scenarios in which Baker Creek would need  
10   to be rerouted.

11                  And I remember my -- my point before.  If  
12   you look at the undertakings, and you look in the  
13   transcript, please go back to the original discussion to  
14   remember the full context of the undertaking.

15                  But emergency scenarios.  That was -- it  
16   sounds like that information has already been provided in  
17   writing from DFO to the Giant team.  They've already  
18   provided in writing their details regarding the question.

19

20   (BRIEF PAUSE)

21

22                  THE FACILITATOR EHRLICH:    An add-on to  
23   that was a request from the Yellowknives to -- to add  
24   information regarding the possibility of back flow from  
25   Yellowknife Bay into the Yellowknife River.

1 (BRIEF PAUSE)

2

3 MS. LISA DYER: Alan, Lisa Dyer for the  
4 record. We have diligently recorded it. I want to thank  
5 Katherine Silcock for doing that. And I can read off  
6 what we got.

7 THE FACILITATOR EHRLICH: Please go  
8 ahead.

9 MS. LISA DYER: Okay. I'm going to try  
10 and do this with a computer screen. So we have  
11 Undertaking 5, is -- and it's:

12 "Provide clarification to the group on  
13 how we see the Baker Creek north  
14 diversion being deployed as a  
15 contingency. Provide the current  
16 thinking and outline an approach to the  
17 current thinking that the project  
18 requires quick summary of the process  
19 that would be followed for any  
20 authorizations for contingencies. How  
21 -- how would we go about following the  
22 directive from the inspector for this  
23 work. Include a discussion on the  
24 backwater flow from the diversion entry  
25 into YK Bay by November 15th."

1                   So that -- 14th, sorry. So that's  
2 Undertaking 5. Next we have a task, and this is to  
3 provide information on the alternative methods for  
4 stratification sampling. And we will do that in the --  
5 have we don't that? No, we haven't. Provide information  
6 on the alternatives methods for stratification sampling.

7                   Within the mine. Okay, so that's a task.

8                   We made a commitment to provide  
9 information on the thinking surrounding the diversion as  
10 it relates to reduction in arsenic loading to YK Bay, and  
11 when it comes available. So this is when it becomes  
12 available, this is not as an undertaking.

13                   THE FACILITATOR EHRLICH: But as I  
14 recall, you were hoping to be able to do that during the  
15 environmental assessment, in other words, hopefully prior  
16 to closure of the public record that precedes hearings.  
17 Is that right?

18                   MS. LISA DYER: Well, we said as and when  
19 it becomes available is what we agreed to.

20                   THE FACILITATOR EHRLICH: And what I'm  
21 asking is: Do you think you will be able to do it in the  
22 environmental assessment in a time that's still  
23 meaningful for parties, which means before the public  
24 record closes prehearings. That would put it, I think,  
25 around the end of February.

1 MS. LISA DYER: I will continue reading,  
2 and ask people to get back to me on that. I'm looking  
3 specifically at Bruce Halbert to give us some indication  
4 on that.

5 The next one is an internal commitment to  
6 GNWT to provide contact information -- information to the  
7 City, to discuss standards being used in the town site  
8 remediation. GNWT committed to follow-up with the City  
9 if they did not contact those people. So, that's outside  
10 the process.

11 THE FACILITATOR EHRLICH: We think that  
12 we have as Undertaking Number 6, that the City will  
13 provide its current standards for its landfill for the  
14 public registry.

15 MS. LISA DYER: Yeah, that's -- I'm --  
16 I'm getting to that.

17 Okay. So, Undertaking 6 is the City to  
18 provide landfill standards they're using for non-  
19 hazardous landfills. So, that's Undertaking 6.

20 Undertaking 7 is provide document referred  
21 to on page 90 -- 692 of the DAR. It's the demolition  
22 assistant -- assessment for the roaster. So, that's  
23 November 14th, but costs will be removed from that  
24 document.

25 Undertaking 8 is provide the report on the

1 tailings cover trial test plot by November 14th. And  
2 that is the undertakings I have, and that is an interim  
3 report that we will be providing.

4 THE FACILITATOR EHRLICH: Thanks, Lisa,  
5 that matches perfectly the list that we have here as  
6 well. And so that's -- it's quite helpful. I'd like to  
7 thank again the fact that everyone here has been very  
8 forthcoming and trying to be really, you know,  
9 constructive in answering what are some challenging  
10 questions and -- and that you've also brought together a  
11 team that's able to deal with these kinds of questions;  
12 it's quite impressive when you consider the -- the  
13 breadth of what we're dealing with here.

14 I think it's been another successful day.  
15 I think we know a lot more about what's happening on the  
16 surface now than we did this morning. We being everyone  
17 besides the Giant Team; you guys already knew it. And  
18 we'll try and keep the amount of tomorrow devoted to the  
19 surface remediation quite limited, because we've got  
20 quite a meaty subject for the rest of the day as well,  
21 that Risk Assessment.

22 I'll repeat as I always do, please take  
23 your books and papers off the table and put them on your  
24 chairs, so they can clean up the tables and we'll see you  
25 again at nine o'clock tomorrow morning. Thank you.

1 --- Upon adjourning at 4:55 p.m.

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3 Certified Correct,

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7 Wendy Warnock, Ms.

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