



MACKENZIE VALLEY ENVIRONMENTAL

IMPACT AND REVIEW BOARD

GIANT MINE REMEDIATION PROJECT

ENVIRONMENTAL ASSESSMENT HEARING

EA 0809-001

Mackenzie Valley Review Board:

Richard Edjericon	Chairperson
Danny Bayha	Member
John Curran	Member
Richard Mercredi	Member
James Wah-shee	Member
Percy Hardisty	Member
Rachel Crapeau	Member

HELD AT:

Tree of Peace

Yellowknife, NT

September 11, 2012

Day 2 of 5

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4	Simon Toogood)
5	Shannon Hayden)
6	Vern Christensen)
7	Alan Ehrlich)
8	Stacy Menzies)
9	Cailin Makin)
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11	John Donihee)Board counsel
12	Katherine Enns)Technical Advisor
13	Lukas Arenson)Technical Advisor
14	Franco Oboni)Technical Advisor
15	Dave Tyson)Technical Advisor
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18	Michael Nahir)AANDC
19	Adrian Paradis)
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23	Gordon Van Tighem) Yellowknife
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3 Todd Slack)

4 Alfred Baillangeon)

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6 Randy Freeman)

7 Jonas Sangris)

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9 Amy Sparks) Environment

10 Lisa Lowman) Canada

11 Margaret Fairburn (phonetic))

12

13 Sarah Olivier) DFO

14 Rick Walbourne)

15 Bev Ross)

16 Morag McPherson)

17

18

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1	TABLE OF CONTENTS	
2		Page No.
3	List of Exhibits	6
4	List of Undertakings	7
5	List of Commitments	8
6	Continued Questions for Developer -	
7	Freeze and Underground	11
8		
9	Continued Position Presentation	
10	by Alternatives North	28
11	Question Period	38
12		
13	Presentation by Developer - Water Treatment	
14	And Management	64
15	Question Period	89
16		
17	Position Presentation by YKDFN	240
18		
19	Position Presentation by Alternative North	256
20	Question Period	265
21	Evening Session:	
22	Opening Remarks and Introduction	278
23	Developer's Presentation - Developer Overview	287
24	Public comments	311
25	Certificate of Transcript	406

1	LIST OF EXHIBITS		
2	EXHIBIT NO.	DESCRIPTION	PAGE NO.
3	1	Northern Affairs Organization	
4		Contaminated Sites Program	
5		Performance Report for 2007/2008	63
6	2	Northern Affairs Organization	
7		Contaminated Sites Program	
8		Performance Report for 2008/2009	63
9			
10	3	Northern Affairs Organization	
11		Contaminated Sites Program	
12		Performance Report for 2009/2010	64
13			
14	4	Northern Affairs Organization	
15		Contaminated Sites Program	
16		Performance Report for 2010/2011	64
17			
18			
19			
20			
21			
22			
23			
24			
25			

1	LIST OF UNDERTAKINGS		
2	Number	Description	Page No.
3	1	Developer to provide answers to	
4		questions posed by Alternatives	
5		North, to be provided by	
6		September 25th, 2012.	27
7			
8	2	For the Developer to look at what	
9		records currently available on the	
10		Impact Review Board's website, and	
11		ensure that either Health Canada's	
12		comments are available currently.	
13		And if they are not available, to	
14		make them available for their	
15		comments the Developer received to	
16		date on our human health and	
17		ecological risk assessment and	
18		the Developer's assessment report.	
19		Due by September 25th, 2012.	233
20			
21			
22			
23			
24			
25			

1	LIST OF COMMITMENTS		
2	NO.	DESCRIPTION	PAGE NO.
3	2	Developer to provide more	
4		information about the relative	
5		sizes of those mixing zones	
6		by noon Friday	154
7	3	Developer to provide information	
8		regarding communication with the	
9		Yellowknife Fire Department about	
10		an ice thickness monitoring	
11		program by noon on Friday	168
12	4	Developer to provide information	
13		quantifying the benefits of a	
14		year-round water treatment plant	
15		that would create additional	
16		employment, to be provided by Friday	174
17			
18			
19			
20			
21			
22			
23			
24			
25			

1 --- Upon commencing at 8:43 a.m.

2

3 THE CHAIRPERSON: Good morning. Good

4 morning. I'll call the public hearing to order.

5 Before we -- I'm going to ask James Wah-shee to do the

6 opening prayer this morning.

7

8 (OPENING PRAYER)

9

10 THE CHAIRPERSON: Thank you, James Wah-

11 shee, for doing the opening prayer. Just a couple of

12 items here. One (1) is the -- the transcripts from

13 yesterday is officially online this morning at 9:00.

14 So if you want to look online, it's there.

15 Also yesterday we'd -- we didn't have a

16 chance to finish off a presentation. Kevin O'Reilly

17 was the last one to go for -- yesterday, but we're

18 going to do that first thing this morning. But before

19 I do that also there's -- I just want to mention that,

20 you know, your cell phones, if you could turn them off.

21 And -- and also on the agenda today we -

22 - I'll just quickly go through it again. This morning,

23 remarks -- prayer and remarks; 9:20, Developer's

24 presentation; health break; at 11:20, questions from

25 parties, response from Developer; 11:10, we're -- again

1 we're going to go into the parties' presentation on
2 water treatment and management.

3 According to the agenda, YKDFN has
4 fifteen (15) minutes, questions for YKDFN.
5 Alternatives North got fifteen (15) minutes, again
6 questions for -- and for Alternatives North. Then
7 lunch break. Lunch is not provided.

8 Parties' presentation on water treat --
9 treatment and management at 1:15. We're going to move
10 North Slave Metis down to the bottom of the list, so
11 we're going to go into cal -- sorry. Okay, the next
12 one (1) on the list I guess I have here is North Slave
13 Metis is moved down. So EC fifteen (15) minutes, and
14 that's Environment Canada, and then you got questions
15 for them. DFO, again, ten (10) minutes, and then you
16 got questions. And then the City of Yellowknife,
17 fifteen (15) minutes. And then the North Slave Metis,
18 five (5) minutes. Thereafter, then the public
19 comments. And then we'll wrap up.

20 And then this evening at 7:00 to 9:20 we
21 have community hearings here at the Tree of Peace. So
22 we'll continue on with that this evening. So with
23 that, I believe I'm going to allow three (3) questions.
24 We missed the -- somebody in the audience last night
25 when I was asking for public comments.

1 So I'm going to go to, I believe, a
2 fellow -- or sorry, a lady from YKDFN. If you could
3 just introduce yourself. And it's questions for -- to
4 the Developer. And then after that, we're going to go
5 right directly into the agenda.

6

7 CONTINUED QUESTIONS FOR THE DEVELOPER - FREEZE AND
8 UNDERGROUND:

9 MR. RANDY FREEMAN: Okay, thank you.
10 First I must apologize for not having these questions
11 ready for yesterday. We had a -- we had a change in
12 political direction, so we're now scrambling to -- to
13 make our points. I have a question for the Developer.
14 Right, sorry, I'm Randy Freeman, with the Yellowknives
15 Dene First Nation.

16 Now, the Developer selected the frozen
17 block method through an -- an assessment of risks
18 process. And frozen block was chosen based on which
19 remediation method posed the lowest worker health and
20 safety risk along with the probability of significant
21 arsenic release.

22 Now, this assessment, as far as we
23 understand it, did not include community input or -- or
24 community perception as a -- as a factor for
25 consideration. Now, we feel input -- community input

1 should have been given equal, if not more, weight to --
2 against these technical factors used in the selection
3 for this remediation method.

4 Now, given this and -- and that the
5 Yellowknives Dene have -- have been and will continue
6 to be the most impacted by Giant Mine, can the
7 Developer clarify how exactly was Yellowknives Dene
8 input considered and weighted in the selection process
9 for the frozen block?

10 THE CHAIRPERSON: Before I go to the
11 Developer, Randy Freeman, I said I believe he had three
12 (3) questions. So that would be one (1) of three (3)?

13 MR. RANDY FREEMAN: Three (3).

14 THE CHAIRPERSON: Okay, thank you.
15 I'll go to the Developer.

16

17 (BRIEF PAUSE)

18

19 MR. ADRIAN PARADIS: Adrian Paradis, on
20 behalf of the Giant Mine project team. There's a
21 couple different ways that the YKDFN and the community
22 as a whole was incorporated or included in the
23 selections of the frozen block method and the reviews
24 of the arsenic trioxide management plan.

25 I'm going to ask Daryl Hockley to review

1 basically kind of the steps that were incorporated to
2 bring into the -- that we came to -- that we used to
3 get to the frozen block method, yeah, because he was
4 primarily there and -- and most intensively involved
5 from the project team.

6 MR. DARYL HOCKLEY: Daryl Hockley
7 speaking. The co -- community input and -- and, in
8 particular, the input from the Yellowknives Dene, was -
9 - was part of the -- a very important part of the --
10 the process.

11 Yesterday I showed a slide that had --
12 it started with fifty-six (56) methods. And it had
13 some technical review. Then it had a public workshop.
14 That public workshop was attended by Yellowknives Dene.
15 If I recall correctly, there was even a table set aside
16 for Yellowknives Dene Elders and -- and -- to make sure
17 we had particular feedback from them. And there was
18 another table set aside for Yellowknives Dene younger
19 people, to -- to get feedback from them.

20 That -- that's the -- the workshop that
21 went from four (4) methods to sending the engineers
22 back to look at twelve (12) or fourteen (14) methods.
23 And there was a whole series of that.

24 There was another public workshop at
25 that point to -- to help us choose amongst those --

1 those twelve (12) methods when we had them all worked
2 out. And that narrowed it down, I think, to two (2)
3 methods, one (1) of which was put it in the ground and
4 keep it in the ground, one (1) was take it out of the
5 ground. That went to another workshop; again
6 significant feedback.

7 So in each of these cases, the
8 Yellowknives Dene were involved in -- in the workshop.
9 The -- there -- there was -- also while this was going
10 on there were, I think, something like forty (40)
11 public presentations. And I -- I -- we can look it up.
12 I don't know how many of those were to the -- to the
13 Yellowknives Dene. I -- I recall myself going to
14 Dettah, two (2) or three (3) times, let's say, in
15 N'Dilo maybe that -- two (2) or three (3) times. So --
16 so a number of those certainly were presentations in
17 the communities and -- and again, getting -- getting
18 feedback.

19 So there was a good deal of interaction,
20 although it -- it's true there was no criteria on our
21 chart that said public feedback. Our -- our strategy
22 was instead to get feedback into the actual things that
23 were on the chart. What -- what did the public think
24 about the risk? What did the public think about the --
25 the -- what -- the -- the various types of risk.

1 The last thing on that chart, if -- if
2 you can remember, was -- was we said we sent the thing
3 to an independent peer review panel, a completely
4 separate, independent peer review panel. The
5 Yellowknives Dene and -- and other groups within the
6 community were asked to nominate people to that
7 independent peer review panel. And my recollection is
8 that the Yellowknives Dene were the only group who did
9 nominate a person to that peer review panel. And that
10 person was Dr. Laurie Chan.

11 Dr. Laurie Chan is a -- one (1) of the
12 world's leading specialists in -- in the effect of
13 contamination on -- on traditional foods. And he had
14 been working with the Yellowknives Dene on -- on
15 arsenic contamination in medicinal teas and -- and
16 things like that, and doing very good work for them.
17 And they recommended that he join the peer review
18 party. And he -- he was a -- a very important part of
19 all of the -- of the peer review in that last line of -
20 - of my slide there.

21 THE CHAIRPERSON: I'm going back to the
22 Yellowknives Dene First Nation. Your second question?

23 MR. RANDY FREEMAN: First of all, thank
24 you for that answer. It's -- one (1) of the questions
25 that's often asked of me, you know, the comment being,

1 well we had no -- no in -- input. We had -- you know,
2 we don't want it, we don't -- and -- and that has
3 clarified, at least in my mind, some of the process
4 there.

5 Now the second issue with how the frozen
6 block method was selected is that this type of risk
7 assessment cannot account for indirect, or -- or
8 nonlinear relationships that characterize accidents in
9 complex systems. Now the assessment is al -- also did
10 not account for unexpected failure modes.

11 Now, the Pro -- the Developer has stated
12 that after the frozen block was selected, modelling was
13 completed to determine worst-case scenarios. But these
14 results should have been -- should have been formed in
15 the initial selection re -- process, not completed
16 after the fact.

17 Now can the Developer clarify, then, for
18 the Yellowknives Dene, how accidents and unexpected
19 failure modes events were considered when -- when
20 selecting the final remediation method? And, again,
21 this is a question that's often put to me by
22 Yellowknives Dene.

23 THE CHAIRPERSON: Thank you, I'll go to
24 the Developer.

25 MR. DARYL HOCKLEY: Yeah, the -- in --

1 in fact, we -- we did look at -- Daryl Hockley, yes.

2 In fact, we did look at failure -- the -
3 - the various modes of failure of -- of all the
4 different options; that was a document I referred to
5 yesterday. And I think Mr. O'Reilly was able to
6 pinpoint where it is on -- on the record. We can look
7 it up again for you, but it -- it was re-filed -- was
8 re-filed fairly recently with -- with your Board.

9 The one (1)-- one (1) reason why we --
10 we have this mis-communication is that that document
11 only ever appeared as an appendix to an appendix to one
12 (1) of our reports, but so it -- it perhaps didn't get
13 -- doesn't get the attention it deserves.

14 But, in fact, we -- we very definitely
15 did look at all of the different options under
16 conditions of long term -- long term lack of governance
17 or short term lack of funding. And -- and that was one
18 (1) of the things that led us to the frozen block. It
19 performed better than all the other options under --
20 under those extreme scenarios.

21 THE CHAIRPERSON: Okay, I'll go back to
22 the Yellowknives Dene First Nation. Have you got one
23 (1) more question?

24 MR. RANDY FREEMAN: Yes. Thank you for
25 that. Randy Freeman, with the Yellowknives Dene.

1 Now it seems -- really, I haven't been
2 involved all that long in this whole process, but it
3 seems there's been a shift from talking of the frozen
4 block as a forever scenario to a -- well, perhaps at
5 some point in the future there will be a solution, and
6 that you're -- the -- the Developer is now committing
7 to a, you know, a ten (10) year review of -- of new
8 technology.

9 One (1) of our concerns is that we're
10 dealing with a very unique situation at Giant Mine.
11 Nowhere else in the world are you going to have, you
12 know, gigantic blocks of frozen arsenic.

13 So we don't see that someone else in the
14 world -- somewhere there's going to be a group of
15 engineers and scientists who are -- who are studying
16 the problem and -- and coming up with perhaps a
17 solution that can be applied here.

18 So I think that, you know, because of
19 the unique nature of the situation, that the Developer
20 really does need to commit, on the record, to putting
21 in place some sort of program that looks at this unique
22 situation, a program of -- of research and -- and
23 development and continuously looking for a solution to
24 the problem of how to deal with the arsenic.

25 Because the Yellowknives Dene really do

1 think in a different time frame. I mean, it's -- it's
2 not ten (10) years or twenty (20) years or thirty (30)
3 years; it's a -- it's a thousand (1,000) years. And
4 they really don't want to see it there for, you know, a
5 thousand (1,000) years from now still -- still dealing
6 with the problem.

7 So, you know, it is -- you know, perhaps
8 you can tell me that it's not. I'm, you know, I'm just
9 imagining things here, but isn't it -- really it is a
10 very unique situation that requires -- will require a
11 unique solution.

12 So, for the record, perhaps the
13 Developer can make some sort of commitment to beginning
14 or undertaking some sort of program or research that
15 will look at future solutions.

16 THE CHAIRPERSON: Thank you. I'm
17 going to go to the Developer. The Yellowknives Dene
18 First Nation asked a question on a commitment to --
19 maybe respond to that. Thank you.

20

21 (BRIEF PAUSE)

22

23 THE CHAIRPERSON: Maybe -- I think that
24 question should go to the government instead of the
25 consultants. If the government could answer that,

1 please.

2

3 (BRIEF PAUSE)

4

5 MR. MICHAEL NAHIR: Thank you, Mr.
6 Chair. Mike Nahir. I'll -- I'll just provide a little
7 bit of background. The -- I -- I want -- I think it's
8 important that we understand that this option has been
9 very carefully studied and thought through. It is a
10 unique application of -- of a proven -- let's call it a
11 proven technology, meaning freezing.

12 Our -- our approach has been to look at
13 it as a long-term option, primarily because it needs to
14 be a long-term option in lieu of better options. I
15 think we've all agreed that this is the best option
16 that's available to us at this point and that we need
17 to view it in that perspective. But that's not to say
18 that in fifty (50) or -- or more years a better option
19 might not present itself.

20 There's been -- as I've said, there's
21 been thorough study. Others have said there's been
22 very thorough study. We're committing to a very
23 extensive review at specific points in time. We -- we
24 need to basically get on with this option and -- and
25 have the -- and we've planned a very exhaustive

1 monitoring program for it. And so our perspective is -
2 - is that this is a long-term option.

3 But as we've said, we've committed to
4 looking at technology as it moves forward and -- and
5 having very discrete periods, but we need to -- we need
6 to develop this approach right now.

7 I hope that answers your question.

8 Thanks.

9 THE CHAIRPERSON: Randy Freeman, do
10 you want to have a follow-up question?

11 MR. RANDY FREEMAN: No, I don't have a
12 -- a follow-up question, but other than, you know,
13 that's a little -- it's a little disappointing, I
14 guess, in that, you know, the Yellowknives Dene really
15 have, over the years, expressed their concern of the
16 frozen block and -- and their dislike of the whole
17 concept of having, you know, under their -- under their
18 land this -- these -- these blocks of -- of frozen
19 arsenic.

20 So having -- having the government step
21 forward and say, Well, yeah, we're -- we're committed
22 to getting it out of the ground too, I don't really
23 hear that -- hear that commitment. It's -- well,
24 unfortunate.

25 Can I ask one (1) more question? Okay.

1 It's con -- concerning future involvement of the
2 Yellowknives Dene in -- in the -- the entire process.
3 Now, we have, as you are aware, funding from the
4 federal government for a committee that deals with
5 Giant Mine, looks at Giant Mine. And -- and I guess
6 what I want to hear on the -- put on the record is
7 that, you know, once this environmental assessment is
8 finished that we don't have the -- the government say,
9 Well, we're done.

10 You know, we're -- we're done -- we're -
11 - we don't need the Yellowknives Dene to have their
12 say, or their input in there. So I guess I would like
13 to hear for the record is that there is a -- there is a
14 commitment into the future to continue to fund the
15 Yellowknives Dene, to continue to listen to what the
16 Yellowknives Dene have to say about what's going on at
17 -- at Giant Mine, and in the -- what's going to be a
18 very long remediation process.

19 You know, we just don't want to be left
20 behind in this process.

21 THE CHAIRPERSON: Okay. Thank you for
22 your final question. I'm going to go to -- to the
23 Developer and probably the government representative.

24

25 (BRIEF PAUSE)

1

2

MR. ADRIAN PARADIS: Adrian Paradis

3 from -- on behalf of the Giant Mine project team.

4 There's been a -- there's a commitment to -- and a --

5 and a -- there's a commitment from the project team and

6 from the Government of Canada to -- for an ongoing and

7 continuous engagement. That's not going to go away,

8 and that's not going to diminish over time.

9

The implementation of the frozen block

10 does not diminish our require -- our requirements for,

11 or our commitment to continuing to engage the YKDFN.

12 That's not going to go away. So a long-term

13 engagement, a long-term strategy that we are trying to

14 work with the YKDFN to establish, and to try and to

15 maintain, yes, there is one (1), and it will hopefully

16 continue to grow.

17

And I think that's the best we can offer

18 at this time is that, yes, there is a commitment to

19 continue to engage and bring the YKDFN values into the

20 design and monitoring of the project going forward.

21

THE CHAIRPERSON: Okay. Thank you.

22 We're going to hold off any more questions now. If

23 there's further questions from YKDFN, we probably could

24 do it maybe this -- later on this evening here at the

25 Tree of Peace. And we're also going to be in Dettah as

1 well tomorrow, but as a party you could ask anybody
2 questions that were -- that's on the list as we go
3 through today. Before I go to the presentation of --
4 to -- for Kevin O'Reilly from yesterday, I think
5 there's one (1) housekeeping item I want to talk to. I
6 guess maybe I'll turn it over to Kevin O'Reilly on --
7 on the -- a question put forward to Indian Affairs --
8 sorry, the Developer yesterday.

9 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
10 It's Kevin O'Reilly here. Yesterday we'd asked some
11 questions about the socioeconomic track record of the
12 Developer with regard to the Giant Mine.

13 And Mr. Donihee kindly provided copies
14 of the most recent Northern Contaminants Program
15 performance reports for 2007/'08, 2008/'09, 2009/'10.
16 These were passed along by the Developer. They're not
17 on the -- the website.

18 These reports are interesting, and they
19 provided aggregated data, so altogether for the entire
20 Northwest Territories, Nunavut, and Yukon Territories,
21 in terms of Northern spending and employment, and so
22 on, from the Northern contaminants -- contaminated
23 sites program within the department.

24 So we'd like to see that data, but
25 broken out just for the Giant Mine, and I think this

1 would help support the Developer's claim that the --
2 the remediation project is going to create jobs and
3 help local businesses. So we'd like to request that
4 the following information be provided to the Review
5 Board. And it's consistent with the way it's reported
6 in those performance reports, but just for the Giant
7 Mine.

8 So number 1, the definitions used by
9 AANDC for "Aboriginal" and "Northern".

10 Two (2), annual performance figures for
11 the Giant Mine from 1999 to present, or however far
12 back they can go for the following types of data:
13 total, Northern, Northern Aboriginal, and Southern
14 Aboriginal employment by number of persons and person
15 hours; total training, Northern training, Northern
16 Aboriginal training by number of persons and duration
17 and hours; purchase of goods and services by Northern
18 suppliers, including Aboriginal, and Northern
19 Aboriginal suppliers by the number of suppliers and the
20 dollars expended.

21 Number 3, propose targets for the
22 indicators identified in number 2 above for the
23 remainder of the Giant Mine Remediation Project.

24 Number 4, whether and how the Developer
25 intends to report these socioeconomic indicators for

1 the Giant Mine on an annual basis.

2 And I did provide a copy of this to your
3 legal counsel and chatted with John about it. And I
4 did provide a copy to the Developer. And I think
5 they're prepared to accept this as an undertaking, but
6 I'll let them speak to it. Thank you, Mr. Chair.

7 THE CHAIRPERSON: Thank you. I'm going
8 to go to the Developer for this request, for an
9 Undertaking number 1. And then I'm going to ask a
10 question to the Developer, if you're able to provide
11 this information to the Review Board, what's the
12 earliest you could do it and if we could agree on a
13 date.

14 I'm going to go back to the -- to the
15 Developer to the question.

16 MS. JOANNA ANKERSMIT: Thank you, Mr.
17 Chair. Joanna Ankersmit. We are -- we will be able to
18 provide this information. The indicators that we have
19 been reporting on, essentially, flowed out of the 2002
20 contaminated sites management policy that the
21 department adopted.

22 Those are the indicators that we have
23 been tracking. And it will take a bit of time. I'd
24 ask for two (2) weeks to be able to extrapolate the
25 data and provide meaningful summaries to the Board.

1 THE CHAIRPERSON: Okay, thank you.

2 Okay, so then we'll give you two (2) weeks, so --
3 business days. We'll come back. If you could have
4 that information to us by September 25th, probably by
5 four o'clock.

6

7 --- UNDERTAKING NO. 1: Developer to provide
8 answers to questions posed
9 by Alternatives North, to
10 be provided by September
11 25th, 2012.

12

13 THE CHAIRPERSON: Okay. So we'll move
14 on. Yesterday, before we closed off, there was still a
15 twenty (20) minute presentation, so if Mr. O'Reilly
16 could go through it. And then maybe if you could help
17 us -- maybe you could help us move it up a little
18 quicker; that would be great. Thank you.

19 And, Kevin, if you could use the podium
20 to do your presentation from, and turn the mic on.

21

22 (BRIEF PAUSE)

23

24 THE CHAIRPERSON: Okay, Kevin, if you
25 could just use the other mic, that would be fine.

1 We'll find the tech.

2

3 CONTINUED POSITION PRESENTATION BY ALTERNATIVES NORTH -
4 FREEZE AND UNDERGROUND:

5 MR. KEVIN O'REILLY: Yeah, okay.

6 Thanks for your patience. Kevin O'Reilly, with
7 Alternatives North. I just wanted to offer a quick
8 comment on Joan Kuyek's presentation yesterday on --
9 the case studies on perpetual care and lessons learned.

10 That report that she did, we worked with
11 the Yellowknives Dene First Nation, and we put on a
12 workshop in Dettah, Chief Drygeese sent her to talk
13 about perpetual care. The Developer was there, the
14 City, a number of parties. And we had Danny Gaudet
15 come down and talk to us about Port Radium as well.

16 And there was a report from that
17 workshop produced jointly with the Yellowknives Dene
18 First Nation, and it's document number 362 on your
19 public registry. So I just wanted to point out that
20 Joan's work, we actually took that and worked with the
21 Yellowknives to come up with some interesting ideas and
22 suggestions on perpetual care. And we think the
23 Developer has started to adopt some of that.

24 But I want to move forward now with the
25 presentation on frozen block and underground that we

1 intend to give. Okay, thanks.

2 So here's the -- an outline of what I'd
3 like to talk about today. I want to talk about the
4 tradeoff that's involved in adopting the frozen block
5 method, some unresolved technical issues to our mind,
6 the question of community involvement, and then we draw
7 some conclusions at the end.

8 So I -- I think from the discussion that
9 -- that we've heard and the advice of the technical ex
10 -- experts that we have, EBA Engineering, I think
11 there's little doubt that the frozen block method will
12 help contain the arsenic and that it can be made to
13 work. I think there's still some design and technical
14 issues to be worked out, but I think it -- it can be
15 made to work. That's not to say it's perhaps the best
16 solution or the only solution, but it can be made to
17 work.

18 So what kind of tradeoff is involved in
19 -- in adopting this? Well, it will re -- the frozen
20 block will require human monitoring and management
21 forever and it really represents a transfer of risk
22 from us, the current generation, to future generations.

23 And as -- as we do that though, there's
24 no perpetual care plan in place to do that. I guess
25 the Developer has now made a commitment to put one (1)

1 together, but here we are eight (8) years after
2 developing the -- the remediation plan, four (4) years
3 into the environmental assessment, and there's still no
4 perpetual care plan.

5 And it's our view that this is not a
6 permanent solution. So some of the unresolved issues,
7 there's been some discussion about the effects of
8 wetting and what that might do to the integrity of the
9 chambers. The Developer has done some -- started to do
10 some work on this.

11 There were some concerns around cracking
12 of the walls and ceiling of the chambers if water is
13 added in, because it would of course expand. There's
14 also -- concerns have been raised around reversibility
15 of the frozen block method with wetting.

16 We've seen some good news though, I
17 think, from the freeze optimization study that wetting
18 may not be necessary and that the hybrid thermosyphons
19 may work without an active freezing system. And we
20 think that's all good news.

21 I want to turn though to the issue of
22 community involvement. And we've heard quite a bit of
23 discussion around this both yesterday and today. And I
24 want to offer you a different perspective.

25 When I look around the room, Daryl and

1 I, and I think Fred Sangris is here, or was here
2 earlier, there may be one (1) or two (2) others, we all
3 lived in tho -- through those workshops back in the
4 early 2000s.

5 There's not many of us that are in the
6 room that -- that did that, that were there. And I
7 think it's important to understand how that was done
8 and the fact that there was no participant funding
9 offered, no independent resources provided to the
10 people and the organizations that were attending those.

11

12 There was very little involvement in the
13 selection or application of the evaluation criteria
14 that ended up in the selection of the frozen block.
15 And why I say that is -- and I'm going to give you my
16 personal impression -- was that we would get to these
17 workshops, a lot of work had been done in between by
18 the government and its consultants, and we'd be
19 presented with their findings.

20 And most of the workshop was then a
21 situation of the government and its consultants
22 defending and justifying the decisions that had been
23 made before we got to the workshop. And it's -- it
24 wasn't a very collaborative or cooperative process, in
25 my personal view. And I think we -- that's been

1 substantiated by the North Slave Metis Alliance, by the
2 Yellowknives Dene First Nation.

3 And I think the kind of process that we
4 led -- went through has resulted in not a very good
5 working relationship amongst us all and really a lack
6 of trust and, I think, significant public concern with
7 this project. Not with the Giant -- well, there is
8 still significant public concern around what happened
9 at Giant, but there's significant public concern with
10 this project.

11 And I want to contrast that with the way
12 in which this depa -- same department approached
13 remediation at the Colomac Mine and at Port Radium. I
14 know people in Deline had to work very hard to get the
15 government to the table finally, but they jointly
16 developed an action plan to try to move forward with
17 healing and scientific research on Port Radium; a very
18 different approach, a collaborative approach.

19 The same thing with Colomac. The Tlicho
20 Government and communities worked closely with DIAND at
21 the time, and it was so successful that there was no
22 environmental assessment done for that cleanup project.
23 And when it came to a water licence hearing, nobody
24 wanted a hearing, because everybody agreed on what
25 needed to be done.

1 So I want to contrast that with the way
2 that Giant was done. Not very well, in -- in my
3 opinion. But -- and I still think that there are
4 opportunities for us to work together. But I'm less
5 optimistic than I was at the beginning of this four (4)
6 year process.

7 But I think if we all work together --
8 and I -- I think some of the issues are with some of
9 the senior decision-makers, perhaps, in the Department
10 not understanding this and not wanting to spend money
11 or whatever. But I still think there are ways for us
12 to work together if we can get the City, the
13 Yellowknives Dene First Nation, and the staff people
14 and some members of the public together to work
15 together on this and take it to the decision-makers to
16 say, This is the way in which we can move forward on
17 this project.

18 So, in any event, I think there's been
19 some poor communications of the results of the freeze
20 optimization study. We've heard a commitment now to
21 work together with the parties to look at the final
22 design of this, and I think that's some good progress.

23 So how -- how do we want to be involved
24 in the final design work for the freeze optimization
25 study and the -- the frozen block? We think that these

1 sort of things in green on this slide -- reversibility,
2 minimizing energy needs, using the lowest technology
3 that we have, minimizing perpetual care requirements --
4 those are the things that need to drive the design
5 decisions. And we would like to have input into those.

6 We also have to work on how we're going
7 to report the results of the monitoring of the frozen
8 blocks. And I think it would be really good if we
9 could have access to the live data. Somebody could go
10 online and actually see that this stuff is frozen.
11 That's the sort of thing that I think will start to
12 build some public confidence in -- in this particular
13 method. But we don't have that -- those details in
14 place yet.

15 So I want to talk a little bit about
16 those performance criteria, the measures of success.
17 We don't have a final design. We need to work together
18 on what those criteria start to look like. We do have
19 this environmental management working group that's set
20 up. We've met three (3) times, but most of the time
21 has been trying to work through the -- the framework
22 for this and convincing the -- the government they
23 should follow their own guidelines for how closure
24 plans for mines should be prepared. And -- but we view
25 -- think that the frozen block should be the priority

1 work of that -- that group.

2 And whatever rep -- monitoring systems
3 we come up with should be comprehensive, but they
4 should also be easy to understand. And they should
5 provide an early warning to the community if
6 something's going wrong. We want to know as early as
7 possible what's going wrong and how do we fix it.

8 I want to turn now to this idea that
9 this is the full and permanent solution for the
10 underground arsenic. It is not a permanent solution,
11 freezing it underground. And we raised this issue
12 yesterday and we heard the Yellowknives Dene First
13 Nation again raise it, this need for a proactive
14 research and development program into a more permanent
15 solution than just trying to freeze this stuff
16 underground forever. And we -- I call this the "freeze
17 it and forget it" approach, and it's just not
18 acceptable to this community.

19 We've heard that the Developer is
20 prepared to undertake a ten (10) year technical review,
21 but that just makes us sit back and wait for something
22 better to come along. And I don't think it really
23 shows a strong commitment to future generations.

24 And I think what we should be doing is
25 looking at reviewing the technologies, or whatever gaps

1 might be out there, again, in a more collaborative way,
2 identifying where those gaps are, and allocating some
3 funding, maybe even through a competitive bid process
4 for people to apply for the money, to come up with
5 something better.

6 And we do have some models for how this
7 can work, actually, in the North. There was the West
8 Kitikmeot/Slave Study that was put together with some
9 funding from industry, from the government. They
10 produced a state of the environment report. They
11 identified information gaps that were out there on the
12 -- this area between Yellowknife and the Arctic coast.
13 It was a multi-stakeholder process. It was
14 collaborative. And then research was commissioned to
15 try to fill those gaps over a five (5) year period.
16 And I think that's the kind of collaborative approach
17 that we should be using for research in this.

18 Where the government gets the money for
19 it is maybe an issue, but I think if we work together
20 with the government and the -- the folks at this table
21 to convince the decision-makers that this is something
22 necessary to move forward, maybe it can be done.

23 So the conclusions I want to draw for
24 you are that it's our view that there is still
25 significant public concern with the frozen block

1 method. And I think that's indisputable at this point.
2 We need to start to think about the frozen block method
3 as an interim solution. It's not a full and permanent
4 solution.

5 It's a good interim solution in terms of
6 stopping the arsenic from getting out into the water,
7 but that's all it is at this point. And we need to
8 have a perpetual care plan to monitor and manage this
9 for the long term, which we don't have.

10 So how can we start to work together, I
11 think, on -- on this in a better way. We need to --
12 the Developer needs to involve the community in better
13 ways in the final design of the frozen block, designing
14 the public reporting and monitoring results, setting
15 those performance criteria, how we measure success, and
16 what the early warning system is going to look like.

17 And we also need that proactive research
18 and development program into something that's more
19 permanent. And it's our view that the way in which we
20 can do these things, and formalize an arrangement to do
21 it, is through an environmental agreement.

22 And there was a working group
23 established on oversight. We -- we developed a draft
24 environmental agreement. And we're ready to -- to work
25 on that. We're ready to move forward with it. The

1 government's not quite there, and we'll talk more about
2 this on Friday, but that's the way in which we can
3 formalize these sorts of arrangements and move forward
4 together. Thank you very much.

5 THE CHAIRPERSON: Thank you, Kevin, for
6 your presentation. I'm going to go to questions.
7 Right now the way I have it now is the -- on the list I
8 have is -- you did your presentation, so I'm going to
9 go to the bottom of the list.

10 Is there questions from Department of
11 Fisheries and Oceans for Mr. O'Reilly on his
12 presentation? Can you come to the mic so that we have
13 that for the record?

14

15 QUESTION PERIOD:

16 MS. BEV ROSS: Bev Ross, Fisheries and
17 Oceans Canada. No questions, Mr. Chair.

18 THE CHAIRPERSON: Okay, thank you. I'm
19 going to go to Environment Canada.

20 MS. AMY SPARKS: Amy Sparks,
21 Environment Canada. Thank you, Chair. There's no
22 questions at this time.

23 THE CHAIRPERSON: Thank you. North
24 Slave Metis Alliance, any questions for Kevin O'Reilly
25 on his presentation?

1 (BRIEF PAUSE)

2

3 MS. SUSAN ENGE: I'm just wondering if
4 the Alternatives North can expand a bit on the
5 perception they have about the lack of trust in working
6 with the Developer given the fact that they are much
7 more involved than the Metis Alliance. Susan Enge,
8 Metis Alliance.

9 THE CHAIRPERSON: Thank you. Mr.
10 O'Reilly...?

11 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
12 It's Kevin O'Reilly here. I -- I'm just pausing
13 because we had a lot of discussion about the issue of
14 trust at the week-long technical sessions in October of
15 last year. And I -- I'm not sure I sort of want to
16 drag everyone through the mud on that again.

17 You know, I think it's fair to say that
18 this site has a lot of legacy issues culturally,
19 economically, socially in this community. We've heard
20 from the Yellowknives Dene First Nation. We know it
21 was the -- the subject of a terrible labour dispute.
22 It's left a tremendous environmental legacy that we're
23 here to try to work through, and resolve in some way.

24 And I think there's a lot of resentment,
25 a sense of betrayal in the community about how this was

1 allowed to happen, and so on. But -- and I think part
2 of the way in which we can begin to better work
3 together on this, and people have talked about this, is
4 through an apology and compensation to those that were
5 most affected. And I think that's really required to
6 begin to build a better basis for trust.

7 There -- but I think some of the
8 suggestions that we've come forward with in our
9 presentations, we're trying to build a way that we can
10 move forward on this project together. And,
11 unfortunately, eight (8) years of developing this
12 remediation plan and four (4) years of an environmental
13 assessment, we haven't made as much process (sic) I --
14 as I think we should have.

15 But we've put forward, I think, some
16 positive suggestions on how we can begin to work
17 together on this. And we're prepared to meet and talk
18 with the Developer at any time to try to work this
19 stuff through. But we've come here. We're sort of at
20 the end of the road now. And I don't know what else we
21 can do to try to move this forward.

22 So we're sort of relying on the Review
23 Board, somebody outside looking at this, to give its
24 views and -- and find ways that we can move forward
25 together on this. Thanks.

1 THE CHAIRPERSON: Thank you. I'm going
2 to go back to North Slave Metis. Is there any further
3 questions?

4 MS. SUSAN ENGE: Thank you for that,
5 Mr. O'Reilly. Susan Enge, Metis Alliance. I'm just
6 wondering if Alternatives North, in your discussion
7 with the Developer and the YKDFN, have considered an
8 alternate solution aside from the frozen block method
9 that you think would be much more suitable to the
10 interests of Northerners and, in particular, Aboriginal
11 people.

12 I think we expressed yesterday that we -
13 - and I heard the Chief say this yesterday, that we're
14 not interested in seeing the Developer freeze it and
15 forget it. Rather, to remove it is -- is what the
16 Metis Alliance has made clear we support.

17 And I'm wondering if you've made that
18 clear to the Developer in your private discussions with
19 them and what their response was to your -- to your
20 concern about that.

21 THE CHAIRPERSON: Thank you. Kevin
22 O'Reilly...?

23 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
24 Kevin O'Reilly, with Alternatives North. You know, I -
25 - I'm -- I'm mindful of the fact that the scope of the

1 environmental assessment really doesn't include the
2 alternatives to the frozen block method.

3 So we've actually had a lot more
4 discussion of it today and yesterday than I -- I
5 thought that we might. But, you know, it's not my own
6 personal selection of -- or -- of what I would like to
7 see happen with the arsenic, but I -- I would be
8 willing to accept it with the kinds of checks and
9 balances that I think have been put forward in terms of
10 independent oversight, ongoing research and
11 development, an environmental agreement, the sort of
12 things that we talked about in our technical report.

13 And I think there is a way to get back
14 and look at some of the -- the alternatives if we can
15 work together on a -- on a program of ongoing research
16 and development. But I think there is some urgency to
17 do some work out at the site very soon, to contain the
18 arsenic and -- and do some of the work that's
19 necessary.

20 So I think there are ways to look at the
21 alternatives and continue to do that. But I -- I
22 understand the urgency of moving forward with some of
23 the -- the work at the site, but -- so I -- I'm not
24 sure I'm really making much sense anymore, but thanks.

25 THE CHAIRPERSON: Thank you. North

1 Slave Metis Alliance...?

2 MS. SUSAN ENGE: Susan Enge, Metis
3 Alliance. No further questions. Thank you.

4 THE CHAIRPERSON: Okay, thank you. I'm
5 going to go to the Yellowknives Dene First Nation. Any
6 questions for the Alternatives North on their
7 presentation?

8 MR. RANDY FREEMAN: It's Randy Freeman,
9 with the Yellowknives Dene. No, we have no questions.

10 THE CHAIRPERSON: Thank you. The City
11 of Yellowknife...?

12 MR. DENNIS KEFALAS: Dennis Kefalas,
13 with the City of Yellowknife. We have no questions at
14 this time.

15 THE CHAIRPERSON: Okay, thank you. I'm
16 going to go back to the Developer again. I'll mention
17 this morning that the Developer in this case is the
18 Aboriginal Affairs and Northern Development Canada, and
19 the Government of Northwest Territories, AANDC and
20 GNWT.

21 MS. JOANNA ANKERSMIT: Thank you, Mr.
22 Chair. Just to -- to pick up on a point that Kevin
23 made, that this is the end of the road, I would argue
24 that it's absolutely not. That it's actually the
25 beginning of a long journey.

1 It's going to take time to implement
2 this plan, a plan that we know, and I think we're all
3 agreeing for today, for the people that live here
4 today, is the best alternative that we have.

5 The challenge for us, to be quite
6 honest, is that we have a site that has real risk. We
7 have focussed a tremendous amount of our efforts in the
8 science and technology that is required to know that we
9 have a plan that will make this place safe. We
10 absolutely have focussed our energy on that.

11 We've worked with the parties throughout
12 the environmental assessment, and I think you'll see in
13 a number of our presentations that we think a lot of
14 those ideas have been good ones. We think that there's
15 time for us to continue to work together. I think that
16 there's more trust today than there was -- excuse me --
17 a few years ago. And I think that that trust is going
18 to take time to build. We're committed to that.

19 We're putting -- you keep hearing about
20 this environmental management system. It's not magic.
21 The system itself is not magic. It's going to take the
22 participation of all the parties, and that's the
23 parties to the EA, but it's bigger than that. That's
24 members of the community that we may not be hearing
25 from in this environmental assessment.

1 We want to be inclusive with all of
2 those people. Those things take time. So we are
3 trying to balance the need to implement a solution that
4 will protect people today, while finding time to build
5 trust and work with the members of the community.

6
7 I don't have a magic answer for that,
8 but that really is the -- the challenge before us, to
9 be able to be getting on with this project, to
10 implement a solution that will make the environment
11 safe, will be protective of the people, and at the same
12 time working together to make sure that that system has
13 longevity, has measures, has transparency. And we're
14 committed to doing that with people but it will take
15 time.

16 THE CHAIRPERSON: Thank you. So that's
17 a comment, so there's no questions to Mr. O'Reilly's
18 presentation?

19 MS. JOANNA ANKERSMIT: No questions.

20 THE CHAIRPERSON: Okay. Thank you.
21 I'm going to go to the Board's technical advisors. Any
22 questions for Mr. O'Reilly on his presentation?

23 MR. ALAN EHRLICH: Mr. Chair, the
24 Board's technical advisors don't have any questions or
25 comments, and Board staff don't either.

1 THE CHAIRPERSON: Legal counsel, John
2 Donihee...?

3 MR. JOHN DONIHEE: Thank you, Mr.
4 Chairman. John Donihee, Board counsel. Mr. O'Reilly,
5 I -- I just have one (1) question. And it's in
6 reference to your indication that -- of course that
7 you're willing to work together with the Developers and
8 try to work these problems out.

9 The -- there's a letter filed by the
10 Giant Mine remediation team on August 31st which talks
11 about a new commitment to an environmental monitoring
12 and advisory committee. Now, I -- I don't want to get
13 too far into that just today, but -- because I assume
14 that we're going to hear about that more in your
15 oversight presentation later in the week.

16 But my reading of the -- the language in
17 the letter is that it's very carefully qualified, and
18 that it's really only talking about involvement in
19 environmental monitoring. And what I heard you saying
20 today seemed to be -- to be suggesting that the need
21 for involvement was broader than just, you know, post -
22 - post-design monitoring exercises.

23 I -- I wonder if you'd just talk about -
24 - or clarify, I suppose, the scope of what you've
25 called for in this presentation in relation to that

1 particular commitment that the Developer has made.

2 THE CHAIRPERSON: Thank you, Mr.

3 Donihee. Kevin O'Reilly...?

4 MR. KEVIN O'REILLY: Thanks, Mr. Chair.

5 Kevin O'Reilly for Alternatives North. I -- I'm going
6 to try to chose my words pretty carefully. I did look
7 at the letter dated August 31st, and I think it's fair
8 to say that we were disappointed. We felt that we had
9 made a lot more progress through the oversight working
10 group than I think the letter had reflected, perhaps.

11 But I understand that's sort of where
12 the Developer is at, in terms of seeking approval and
13 so on from their senior management. But certainly our
14 organization is -- is more interested than just being
15 involved in the environmental management system working
16 group.

17 I think that's an important venue to
18 look at the design of the monitoring programs, perhaps
19 get updated on the design aspects of the -- the
20 project. And I -- I know that this -- we actually
21 suggested this to the Developer, the Yellowknives Dene
22 First Nation and ourselves, as a -- as a way in which
23 we could start to work together on environmental -- the
24 environmental management plans, because we were used to
25 working together like that during the -- the closure

1 plans for some of the diamond mines. And that's how
2 the Mackenzie Valley Land and Water Board does its work
3 on environmental management plans.

4 But we're interested in much broader
5 involvement than just the environmental management plan
6 stuff. We'd like to have some level of independent
7 oversight of this project. We'd like to see the -- the
8 reporting that the government has -- has committed to
9 do, formalized in -- in a legally binding arrangement.

10 A number of the commitments that they've
11 made, we think they need to be in a legally binding
12 arrangement, because personnel, priorities change.
13 None of us are going to be in this room perhaps twenty
14 (20) years from now, and this stuff has to stay frozen
15 forever.

16 So we need to have a legally binding
17 arrangement to lay out what those relationships are,
18 the reporting, the independent oversight, the ongoing
19 research and development. And we think the instrument,
20 the way to do that is through a legally binding
21 environmental agreement where we say, This is how we're
22 going to work together and move forward.

23 But it's much broader than just the
24 environmental management plans and the monitoring. And
25 I -- I'll certainly be talking a lot more about this on

1 Friday. Thank you.

2 THE CHAIRPERSON: Thank you. Mr.

3 Donihee...?

4 MR. JOHN DONIHEE: Thank you, Mr.

5 Chairman. John Donihee. I'll -- I'll return to this
6 with both parties later in the week. That's it for
7 now, sir.

8 THE CHAIRPERSON: Okay. Thank you,
9 Mr. Donihee. And we'll go to Board members. I'm going
10 to go to my far left, Mr. John Curran...?

11 MR. JOHN CURRAN: Thank you, Mr.
12 Chairman. Mr. O'Reilly, just picking up on something
13 that you said there at the end of your response, you
14 said, This stuff needs to be frozen forever.

15 And going back to your presentation, I
16 think one of the conclusions that you drew was that we
17 need to start thinking of the frozen block method as an
18 interim solution.

19 Those two (2) points seem to be in
20 conflict, and it seems like we're bouncing back and
21 forth between interim solution, perpetual care. And I
22 -- you know, personally, I don't relish the idea of
23 making a decision that binds generations and
24 generations and generations to come.

25 What should it be here, sir? Is it

1 interim solution, or is it that it needs to stay frozen
2 forever?

3 THE CHAIRPERSON: Thank you. Kevin
4 O'Reilly...?

5 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
6 And I'd like to thank Mr. Curran for his question. I'm
7 sorry, it -- it might have appeared confusing. It's
8 certainly our view as Alternatives North that -- that
9 frozen block is an interim solution.

10 But it is being proposed by the
11 Developer as the full and final solution, other than
12 the ten (10) technology review. And if that is the
13 full and final solution and it were to be carried
14 forward, it will need to be monitored and maintained
15 forever, if -- if that's the chosen method and that's
16 the way it's -- it proceeds.

17 We prefer to think of it as an interim
18 solution and we think the Developer should begin to
19 think of it as -- as an interim solution. It -- I said
20 earlier that we think it'll work. It -- it will
21 contain the arsenic. But it will require human
22 intervention forever.

23 And it's a transfer of risk to future
24 generations. And we think that there needs to be some
25 checks and balances in moving forward with that that

1 are just not in place right now. Thanks.

2 THE CHAIRPERSON: Thank you. John
3 Curran...?

4 MR. JOHN CURRAN: Thank you. I think
5 that's all I have for now, Mr. Chair.

6 THE CHAIRPERSON: Thank you. Board
7 member Percy Hardisty...?

8 MR. PERCY HARDISTY: Mahsi, Mr. Chair.
9 I -- I don't have any questions.

10 THE CHAIRPERSON: Thank you. Board
11 member James Wah-shee...?

12 MR. JAMES WAH-SHEE: Mr. Chair, I -- I
13 don't have any questions. Thank you.

14 THE CHAIRPERSON: Thank you. Board
15 member Richard Mercredi...?

16 MR. RICHARD MERCREDI: Thank you, Mr.
17 Chair. No questions at this time.

18 THE CHAIRPERSON: Board member Rachel
19 Crapeau...?

20 MS. RACHEL CRAPEAU: Thank you, Mr.
21 Chair. No questions at the moment.

22 THE CHAIRPERSON: Board member Danny
23 Bayha...?

24 MR. DANNY BAYHA: Thank you, Mr. Chair.
25 I just had a few -- couple questions, if I may.

1 Earlier -- it's -- it's good to start to
2 get the -- the willingness and the -- the candid
3 comments back and forth. Obviously, the Developer said
4 they're willing to work with communities. Well -- and
5 yourselves. You're willing to sit down and work.

6 I guess one of my issues is: How do we
7 get there? We can say all we want but we need to get
8 there in concrete steps and mechanisms, frameworks of
9 doing that.

10 So I just wanted to ask Alternatives
11 North, What will your first step -- and once maybe the
12 CA is done, what will be one (1) of your -- what would
13 you wish for this to happen to move forward in your
14 mind?

15 THE CHAIRPERSON: Thank you. I'm going
16 to go to Kevin O'Reilly.

17 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
18 Kevin O'Reilly here, and I want to thank Mr. Bayha for
19 his question.

20 Yeah, I've been thinking a lot about
21 this over the last year or more. And I think that we -
22 - we started, I think, towards the first step of where
23 we should be going back in March of this year, when we
24 all agreed that we would form a working group to look
25 at this idea of independent oversight. The City was

1 involved in that; the Yellowknives Dene First Nation;
2 ourselves, Alternatives North; the federal government;
3 and the territorial governments.

4 And we've been talking about this for
5 six (6) months now. And we came up with six (6) drafts
6 of a discussion paper, which we then took back to our
7 respective leaderships and got agreement that we should
8 continue to talk.

9 We even came to -- or we -- we were
10 drafting an environmental agreement. We went through
11 eight (8) versions of a draft environmental agreement
12 that, I think, laid out how we can work together, and
13 the roles and responsibilities firmed up the
14 commitments that were made by the Developer to date.

15 And I think it's fair to say -- and they
16 can -- they'll have to speak to this perhaps on Friday
17 -- that they may not have agreed with all of that. But
18 I think it was a way to move forward. Unfortunately we
19 -- we got the letter dated August 31st, where they're
20 prepared to go so far and they're prepared to continue
21 to talk about it.

22 But -- and what I said earlier about
23 we've sort of come to the end, we come -- we're getting
24 close to the end of this process and your ability as a
25 Review Board to help influence and shake how this moves

1 forward.

2 So I'm hoping, we're hoping, that --
3 that you -- if we can't -- well, we haven't been able
4 to reach a legally binding arrangement to move forward,
5 that you will suggest that or recommend that as a
6 binding measure for this project moving forward, that
7 there has to be an environmental agreement amongst the
8 -- the interested parties on how they're going to work
9 together into the future to do a number of these
10 things.

11 So that -- and that's coming straight
12 out of our technical report. What we recommended is
13 that you make a binding measure that there needs to be
14 an environmental agreement for this project to go
15 forward, and we've even suggested in our technical
16 report what it should start to look like and contain.

17 So I think that's what we're hoping will
18 come out of this, and we're hoping that you can help
19 guide that work. Thanks.

20 THE CHAIRPERSON: Mr. Bayha...?

21 MR. DANNY BAYHA: Thank you, Mr. Chair.
22 I just had a final question, if I may. For meaningful
23 participation, funding is always an issue.

24 In this case, because of the technical
25 nature of this method that's proposed by the Developer,

1 would you say that participant funding is -- is very
2 necessary? It has to be there for partici --
3 participation? Thank you.

4 THE CHAIRPERSON: Thank you. Kevin
5 O'Reilly...?

6 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
7 Kevin O'Reilly for Alternatives North. I want to go at
8 this maybe a couple of different ways.

9 I think certainly in our written
10 submission, and probably I think it was even in our --
11 in our opening remarks presentation yesterday, we did
12 recognize the fact that Aboriginal Affairs and Northern
13 Development Canada actually provided participant
14 funding for this environmental assessment.

15 This is the very first time they have
16 ever done that in the Mackenzie Valley, and it sort of
17 makes us equal to how other Canadians are treated with
18 -- with regard to federal environmental assessment, or
19 at least until fairly recently, where we can -- they've
20 actually provided participant funding. It's allowed us
21 to actually bring forward people like Joan Kuyek that
22 you heard yesterday, and some of the -- the other
23 experts that -- that we've brought forward and
24 submitted papers from.

25 I think that's the kind of value that

1 participant funding can bring to an environmental
2 assessment. And we're very grateful for that and I
3 think it's actually brought a lot of value to this
4 environmental assessment. And I don't want to speak
5 for the Yellowknives Dene First Nation, or for the
6 North Slave Metis Alliance, but I know that they also
7 received participant funding for this environmental
8 assessment.

9 So it brings extra value. I -- I think
10 it starts to even the playing field. I wish we had
11 access to that sort of resources and so on when we were
12 evaluating all of the options for what to do with the
13 frozen arsenic, or sorry, the arsenic. But it's
14 certainly, I think, helped move this project forward in
15 -- in various ways, so that's important.

16 Moving forward, I -- I have no -- the
17 Developer has actually provided us with a contribution
18 agreement for our participation in the environmental
19 management working group. That's a positive step. We
20 said, you know, look, most of us work, and if you would
21 like us to provide our advice and participate, some
22 resources to help us do that would be really helpful.
23 And they -- so they -- they have a contribution
24 agreement for our participation in the working group.

25 Moving forward, funding -- if there is

1 an independent oversight body, there should be funding
2 for that body to carry out its work and it should come
3 from the Developer.

4 So, sorry, that's a long, rambling
5 response about participant funding, but -- and in our
6 technical report we actually made a suggestion, and I
7 know that you folks have made this observation before
8 about the value of participant funding for
9 environmental assessment in the Mackenzie Valley. And
10 I think this is a -- a clear demonstration of the value
11 of it. We hope that you would make another suggestion
12 that this should be done on a regular basis, but thank
13 you.

14 THE CHAIRPERSON: Thank you. Board
15 member Danny Bayha...?

16 MR. DANNY BAYHA: Thank you, Mr. Chair.
17 That's all I had.

18 THE CHAIRPERSON: Okay, thank you. I -
19 - I just maybe want some clarification. I just had,
20 maybe, a couple of questions, maybe, for Mr. O'Reilly.
21 In -- in your presentation, you mentioned that there is
22 no perpetual plan. Can you -- can you elaborate a
23 little bit on that for me?

24 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
25 Kevin O'Reilly with Alternatives North. We're going to

1 be talking a lot more about this on Thursday. We've
2 got a -- a presentation about it. But I'll just try to
3 give you a -- a snapshot, I think, for what we're
4 really meaning here.

5 The Developer has proposed the frozen
6 block as, more or less, the full and final solution.
7 And it will require man -- monitoring and maintenance
8 forever. So where -- we've always said, where's the
9 plan to do that?

10 You know, where is the -- the long-term
11 funding to make sure that happens? How are we going to
12 take care of the records at the site and make sure that
13 they're available for future generations? How do we
14 communicate with future generations what we've done to
15 the site? Do we leave markers on the site, like what
16 Joan was talking about yesterday? How do we make sure
17 that future generations remember what we did and the
18 lessons that -- that we tried to learn from that and so
19 on? How do we make sure that we've got the right
20 number of people, skill sets, to make sure that future
21 people know how to take care of this site forever?

22 That kind of plan, if -- if the proposal
23 is to do something forever, where's the plan to get us
24 from here to there? There is no plan. There's now a
25 commitment to develop that, and that's an improvement

1 from where we started in this process. But, you know,
2 after eight (8) years of developing the plan, four (4)
3 years of an environmental assessment, we still don't
4 have a perpetual care plan that should be part of
5 moving this project forward.

6 We're glad there's a commitment now to
7 do that, but -- and we're -- we'll make some specific
8 suggestions on what that should start to look like on
9 Thursday. Thanks.

10 THE CHAIRPERSON: Okay, thank you. And
11 a little bit earlier -- you also, in your presentation,
12 you talked about work that has been undertaken with
13 Danny Gadet (phonetic) and Port Radium and their clean
14 up, et cetera. And the involvement that the -- that
15 the -- when they are cleaning up that mine over there,
16 they -- there were involvements, my understanding, and
17 -- and there was no need to go to an EA because they
18 already knew what they wanted.

19 So I guess going forward, I'm just
20 wondering, you know, you elaborated a little bit about
21 the trust. That's really a big word. You know, it's
22 almost like sacred. If you wouldn't mind, maybe just
23 touch on that a little bit so -- based on what you have
24 seen in Deline and what's happening over here.

25 MR. KEVIN O'REILLY: Thanks, Mr. Chair.

1 Kevin O'Reilly here. I guess we did file -- or I did
2 file early on in this environmental assessment a copy
3 of the action plan that Deline negotiated and worked
4 out with the Department of Indian Affairs and Northern
5 Development.

6 I think it was about 2003 or '05. I may
7 not get the wor -- the date right, but that agreement
8 and arrangement provided the community with over \$6
9 million of funding so that they could do their own
10 scientific research. They could do their own healing
11 around what happened at Port Radium. And it helped, as
12 I understand it, build capacity within the community to
13 start to deal with some of those effects.

14 And, as I understand it, it also helped
15 them get better prepared for their self-government
16 negotiations and so on. And that's what Danny talked
17 to us about at the workshop that we had in Dettah back
18 in September.

19 And Danny's comments are -- are captured
20 in the -- the workshop report. And I don't want to
21 speak for Danny. He's very articulate. And I think it
22 -- it would probably be worth your while to check out
23 what he said there.

24 But it was the kind of collaborative and
25 cooperative arrangement that I think the Developer has

1 shown in other projects, but, for whatever reason, it
2 didn't happen here. And I just never really understood
3 that. But I think there is still ways for us to try to
4 work together even at this late date and try to move
5 this forward and start to build some trust with the
6 terrible legacies that this project's left in our
7 community. Thanks.

8 THE CHAIRPERSON: Okay. Yeah, thank
9 you for that. And I guess that's our concern, too,
10 because we're now officiating the environmental
11 assessment for Giant Mine, and so at least we know --
12 we hear what you're saying. And it's on record. Thank
13 you.

14 What I'll do now is that we're going to
15 take a ten (10) minute break. Prior to taking a ten
16 (10) minute break though I just want to maybe mention
17 that -- I also wanted to recognize somebody, but he's
18 gone. But anyways it's -- we are going to go into the
19 presentation, Developer's presentation on water
20 treatment and management.

21 So we'll do that, maybe we'll -- after
22 we get a ten (10) minute break so you guys could set up
23 for that. Thank you.

24

25 --- Upon recessing at 9:54 a.m.

1 --- Upon resuming at 10:15 a.m.

2

3 THE CHAIRPERSON: Okay, good morning.

4 We'll continue on with the agenda for today. Next we

5 have is the -- on the agenda is the developer's

6 presentation on water treatment and management. So

7 we'll continue on with that now.

8

9 (BRIEF PAUSE)

10

11 MR. JOHN DONIHEE: Mr. Chairman, it's -

12 - Mr. Chairman...?

13 THE CHAIRPERSON: Sorry, Mr. Donihee,

14 sorry.

15 MR. JOHN DONIHEE: Thank you, sir.

16 While the Developer is setting up for their

17 presentation I wonder if I could take care of a

18 housekeeping item?

19 THE CHAIRPERSON: Please proceed.

20 MR. JOHN DONIHEE: Thank you, sir.

21 Late yesterday, counsel for the Developer provided me

22 with three (3) reports which have been referred to by

23 Mr. O'Reilly. I got one (1) more this morning.

24 I -- I'd like to file them on the record

25 as exhibits, and I -- subject to any concerns that

1 might be raised by any of the other parties, I propose
2 to file the Northern Affairs Organization Contaminated
3 Sites Program Performance Report for 2007 and 2008 as
4 Exhibit 1. The same report with the same title for
5 2008/2009 as Exhibit 2. The -- and the Northern
6 Contaminated Sites Program Performance Report for
7 2009/'10 as Exhibit 3. And the similar document with
8 the same title for 2010/'11 as Exhibit 4.

9 So unless any of the parties have any
10 concerns about that, Mr. Chairman, we'll -- we'll take
11 steps to place these documents on the record. I
12 realize they're not exactly what Mr. O'Reilly was
13 looking for. We have an undertaking to address that
14 concern, but I want to suggest these should be on the
15 record in any event, sir.

16 THE CHAIRPERSON: Thank you. So it's
17 duly noted. It's on record. So -- and we already have
18 an undertaking as well, so.

19

20 --- EXHIBIT NO. 1: Northern Affairs
21 Organization Contaminated
22 Sites Program Performance
23 Report for 2007/2008

24

25 --- EXHIBIT NO. 2: Northern Affairs

1 Organization Contaminated
2 Sites Program Performance
3 Report for 2008/2009
4

5 --- EXHIBIT NO. 3: Northern Affairs
6 Organization Contaminated
7 Sites Program Performance
8 Report for 2009/2010
9

10 --- EXHIBIT NO. 4: Northern Affairs
11 Organization Contaminated
12 Sites Program Performance
13 Report for 2010/2011
14

15 THE CHAIRPERSON: Okay, we're going to
16 move on, and I'm going to go to the presenters to come
17 up to the podium. Again, just introduce yourself.
18

19 PRESENTATION BY THE DEVELOPER - WATER TREATMENT AND
20 MANAGEMENT:

21 MR. MICHAEL NAHIR: Thank you, Mr. --
22 thank you, Mr. Chair. My name is Mike Nahir. I
23 introduced myself yesterday, and right now I'd like to
24 introduce the section on water treatment and
25 management. I gave a general overview yesterday, and

1 today we're going to have more specific technical
2 presentations on the remediation plan related to water
3 treatment and management.

4 First I'd like to introduce the ex --
5 our experts who will be giving the presentations.
6 First, on my right there is Bruce Halbert. He's a
7 principle in SENES Consulting Limited, and holds a
8 master's in environmental health engineering. He has
9 over forty (40) years consulting experience
10 specializing in environmental matters noted to mine --
11 related to mining industry and the cleanup of
12 contaminated sites. He's been on the technical
13 advisory team for the Giant Mine remediation since
14 2000, and has participated in many human health and
15 ecological risk assessments on northern projects.

16 To his right is Rudy Schmidtke. He's an
17 associate vice president with AECOM. He is responsible
18 for the financial and technical management
19 environmental department in the Alberta and NWT
20 district. Rudy is a geological engineer with a
21 master's of science degree, focussing on rock mechanics
22 and engineering geology. He has over twenty-eight (28)
23 years' experience in engine -- in environmental
24 engineering, and has been active in remediation of
25 former military and mine sites in the Canadian arctic

1 since '97.

2 On the Giant Mine remediation team, Rudy
3 is the AECOM/Golder senior project manager for the
4 preliminary design activities. His main duties are to
5 integrate the design disciplines and provide
6 engineering support for the mine. He'll be presenting
7 key components of the water treatment plan.

8 To his right is John Hull. Mr. Hull is
9 a principal and senior geotechnical engineer at Golder
10 Associates in Vancouver. He has over thirty (30)
11 years' experience in geotechnical engineering and a
12 wide variety of projects in Canada, the United -- the
13 United States, and abroad.

14 He's prepared designs for tailings
15 disposal facilities closure plans for mining operations
16 for the last twelve (12) years in Canada and the United
17 States. Mr. Hull acted as the project engineer for the
18 development of the 2001 abandonment and restoration
19 plan for Giant Mine when the mine operation was under
20 the management of Miramar.

21 He has also completed annual inspections
22 of the tailings containment area since 2000, and
23 provided engineering input to dam repairs on the site.
24 He is currently acting as the project director for
25 several tasks that are part of the preliminary design

1 effort for the closure and recla -- reclamation
2 planning being managed by -- by Public Works and
3 government services at present.

4 And finally I'd like to introduce Bob
5 Boone. Bob Boone has thirty-five (35) years of active
6 design experience in cold regions engineering. Bob
7 undertook the design, or has lead design teams on
8 numerous projects throughout the NWT and Nunavut, many
9 of which involve the storage, treatment, and movement
10 of water.

11 These projects included Northern
12 communities, governments, agencies, and mining firms.
13 Bob was a resident of Yellowknife for twenty-seven (27)
14 years from '97 to 2004, and has since relocated to
15 Edmonton and continues to undertake design work on many
16 Northern projects.

17 Bob is a founding member of the NWT
18 Association of Engineers and Geoscientists, as well as
19 past president of NAPEG. He received an award of merit
20 from NAPEG in '95 for his work on various NWT projects
21 and a distinguished life membership from NAPEG in 2011.

22 I'd like to now turn this over the Bruce
23 Halbert. Thank you, Mr. Chair.

24

25 (BRIEF PAUSE)

1

2

MR. BRUCE HALBERT: Thank you, Mike.

3

Mr. Chair, members of the Board, my name is Bruce

4

Halbert, for the record. I'm going to begin the

5

presentation by presenting an overview of the overall

6

water management strategy that's been proposed for the

7

site and also discuss the approach to setting

8

objectives.

9

I'm then going to turn the floor over to

10

Rudy Schmidtke, who will talk about the water treatment

11

design aspects. John Hull will follow with a

12

discussion on the pipeline and diffuser design aspects.

13

And I will wrap up with an over -- discussion of the

14

monitoring plans moving forward and a summary of the

15

benefits of the proposed scheme.

16

Slide 3, please. To begin, I'm going to

17

describe the existing, or current, system that is in

18

place. It involves pumping mine water to ponds on the

19

tailings areas for interim storage.

20

The ponds also collect contaminated

21

drainage from the tailings areas, all of which is

22

pumped on a see -- seasonal basis to the existing water

23

treatment plant that's been mentioned previously.

24

The effluent from that chemical

25

treatment system enters sedimentation ponds for

1 clarification, and its treated discharge is then
2 allowed to flow into Baker Creek. This activity has
3 occurred -- occurs mainly during the late summer and
4 fall.

5 Slide 4, please. The proposed system
6 will eliminate surface ponds through storage of the
7 mine water underground. The capping of the tailings
8 areas will also elimin -- eliminate contaminated
9 drainage on surface that is currently processed through
10 the existing system.

11 The process -- pro -- program also
12 eliminates sedimentation ponds that are -- are
13 currently on surface through the construction of the
14 new water treatment plant. It will involve operation
15 of a new water treatment plant year round as opposed to
16 seasonal treatment that is currently practised.

17 And finally, the discharge will be
18 directed to Yellowknife Bay through an outfall -- a new
19 outfall pipe and diffuser system.

20 Next slide, please. The positive
21 effects of the pro -- proposed project as described is
22 a reduction in the arsenic loading in the untreated
23 mine water from its estimated level of approximately
24 20,000 kilograms per year.

25 The current system reduces that load to

1 about 290 kilograms per year. The proposed treatment
2 system with improved effluent quality would further
3 reduce that to at least 150 kilokrams -- kilograms per
4 year and most likely even lower again.

5 The system as proposed will result in a
6 reduction in the arsenic loading to Baker Creek by --
7 by the 290 kilograms per year as a result of
8 redirecting the effluent discharge to Yellowknife Bay.

9 And we'll also see an overall reduction
10 in the arsenic loading to Yellowknife Bay of 140
11 kilograms per year. There will be enhancement of the
12 treated effluent mixing with lake water as a result of
13 the discharge through a new outfall diffuser.

14 That contrasts with the current system,
15 which involves release to Baker Creek and at times of
16 very little flow in the creek. So the water flows
17 through the creek undiluted at times of the year and
18 enters the Back Bay at the mouth of Baker Creek.

19 The proposed system will also eliminate
20 the surface ponds that -- and will result in a
21 reduction in risks to waterfowl and wild -- wildlife
22 that currently use those -- those areas.

23 Next slide, please. The overall
24 approach adopted for the assessment was, first and
25 foremost, focussed on protection of water quality in

1 Yellowknife Bay to support all beneficial uses.

2 This includes providing a healthy
3 environment for -- for all aquatic life, including
4 fish; protecting the water as -- as a potential source
5 of drinking water for the City of Yellowknife; and also
6 protecting the uses of the Yellowknife Bay area for all
7 recreational pursuits, whether that be boating,
8 swimming, or diving, or other uses.

9 To achieve this overall objective, we
10 selected the Canadian Water Quality Guidelines for
11 Protection of Freshwater Aquatic Life as the
12 appropriate objectives in this particular case, as they
13 are more stringent than the objectives and guidelines
14 for all other beneficial uses.

15 Next slide, please. The overall
16 approach taken to achieve this objective is -- is
17 outlined here. It involves, first and foremost,
18 meeting the -- the objective -- the Canadian Freshwater
19 Aquatic Life Objective at the edge of the near field
20 mixing zone. As John Hull will describe, that zone is
21 limited to an area of approximately 80 metres by 15
22 metres wide. And it's quite -- will occupy a very
23 small portion of the bay.

24 The objective we're -- we're aiming to
25 meet at the edge of the mixing zone is 5 micrograms per

1 litre, based again on this Canadian Water Quality
2 Objective for Freshwater Aquatic Life. The assessment
3 is based on an effluent treatment discharge level of
4 200 micrograms per litre. You see I've also reported
5 it here as .2 milligrams per litre, as we often bounce
6 between these units. I'm going to speak mainly to
7 micrograms per litre. But also recognizing there may
8 be short-term upsets where the effluent discharge level
9 could reach 400 micrograms per litre.

10 And finally, the analysis also takes
11 into consideration the fact that we have arsenic
12 present in Yellowknife Bay. Recent monitoring data
13 suggests that that level is in the order of .9
14 micrograms per litre.

15 Considering these factors, we set an
16 overall dilution target for the outfall diffuser of
17 100:1. What that means, simply stated, is that for
18 every litre of effluent discharged, we're looking to
19 mix that with a hundred litres of ambient water, or
20 lake -- lake water, within that near-field mixing zone
21 to achieve the objective as stated.

22 Next slide, please. The results of the
23 analysis are presented on this particular slide. I'm
24 going to focus mainly on the -- on the line here that's
25 shown in blue, with arsenic. But just to go through

1 this, arsenic, the ambient objective, as stated, is .9
2 -- or ambient level, currently, in the bay is .9
3 micrograms per litre. The effluent target is 200
4 micrograms per litre or better.

5 Taking into account a 100:1 dilution,
6 that would result in a combined effluent con -- or,
7 concentration at the edge of the mixing zone, of 2.9
8 micrograms per litre, which is below this target of
9 five (5) that I mentioned previously.

10 Considering that we may have con --
11 occasions when the effluent level is at 400 micrograms
12 per litre, the concentration at the edge of the mixing
13 zone would be 4.9 micrograms per litre, again, which is
14 below the objective of five (5).

15 We also included in this table other
16 parameters that are routinely measured on the effluent,
17 particularly metals. We have copper, lead, nickel, and
18 zinc. These are routinely monitored. The ambient
19 levels, again, here in the -- in the bay are reported
20 in the opposite, in this third column. The next column
21 identifies the levels that are currently achieved by
22 the existing treatment system. And these are upper
23 bound levels.

24 We expect the -- the proposed system
25 will -- will meet these objectives or even lower, but

1 for the sake of this analysis we've used the current
2 levels. So for copper, for example, the effluent
3 discharge currently reaches a maximum of about 16
4 micrograms per litre. With -- at the edge of the
5 mixing zone, then, the resulting concentration,
6 including background, is 1.1 micrograms per litre, as
7 compared to the ob -- the surface water quality
8 objective of 2 micrograms per litre.

9 So just going down this table, you'll
10 see in every case the pro -- the -- the level or -- or
11 con -- predicted concentration at the edge of the
12 mixing zone is well below the guideline objectives that
13 we have selected here.

14 At the bottom of this table, we've also
15 shown three (3) other parameters that are often of
16 interest, ammonia and nitrate being two (2) that are
17 associated with residuals from use of explosives in the
18 mining activities underground. Again, we have the
19 baseline levels shown here in Back -- in Yellowknife
20 Bay.

21 The measured concentration in the waters
22 pumped out of the mine are -- peak out around 5.3
23 micrograms -- or, milligrams per litre. In this case,
24 we're in different units. Resulting concentrations,
25 again, at the edge of the mixing zone are seen in the

1 fifth column. As compared to the objectives, again,
2 far below the objectives.

3 The bottom-line point I would make here
4 is that the system as designed will result in no
5 adverse effects in water quality, certainly beyond the
6 mixing zone, and even within the mixing zone.

7 Ongoing toxicity testing undertaken on
8 the existing discharge is showing that effluent is not
9 accu -- cutely toxic to fish or other aquatic life.
10 With that, I'll turn the presentation over to Rudy
11 Schmidtke.

12 MR. RUDY SCHMIDTKE: Thank you, Mr.
13 Halbert. Rudy Schmidtke, for the record. Could I have
14 slide 9, please?

15 So Bruce has outlined the water system
16 and our objectives at the edge of the mixing zone. We
17 need to be able to deliver an effluent to satisfy that
18 requirement. My presentation here, I'll just focus on
19 this system in here. Bruce has talked about the
20 receiving environment here.

21 One of the benefits of -- of this system
22 is that we eliminate the surface ponds, as -- as Bruce
23 has mentioned. The -- the intent now is to store all
24 of the water underground and use that as our storage
25 basin. We also are keeping the water level below Great

1 Slave Lake so that we create an inward gradient,
2 thereby capturing a lot of the groundwater.

3 Why treat? Well, we need to treat
4 because the -- the water in the mine is not acceptable
5 for direct discharge.

6 Slide 10, please. The data that we have
7 to date suggests that we have arsenic up to 280 gri --
8 80 milligrams per litre. Daryl Hockley showed the
9 other day that you could reach nine thousand (9,000).
10 So you can see that this is not quite what we expect at
11 the nine thousand (9,000). So this is -- these are
12 actual conditions today. But we need to treat that 280
13 milligrams per litre before we discharge.

14 The target to meet CCME guidelines at
15 the mixing zone was point two (.2). This is what Bruce
16 ha -- and his team has modelled. We have taken that
17 information to our design engineers and have designed -
18 - ple -- completed a preliminary design on a plant that
19 would deliver that point two (.2). Additional testing
20 has been done in the past couple months where we did
21 some bench scale testing. And the results there
22 indicate that we can do much better.

23 The concentration -- the average
24 concentration that the plant is designed for is around
25 77 milligrams per litre. Like I mentioned before, the

1 design intent is the point two (.2), but we can do
2 better than point two (.2).

3 Slide 11, please. This slide is
4 presented just to give people an idea of -- of the
5 volume of water that we are planning to treat. In the
6 DAR, I believe we have a volume of 630,000 cubic metres
7 per year. In our designs, we've looked at a little bit
8 more volume of water to provide some additional
9 conservatism in the design.

10 Once the freeze program is implemented,
11 we expect a reduction in the volume of water that needs
12 to be treated.

13 Slide 12, please. Again we had a total
14 volume that we showed that we would treat on an annual
15 basis, year round. This slide just puts some values
16 into context, where the design is based on around 34
17 litres per second, which is around 480, 500 gallons per
18 minute, just to put that into some context.

19 And you can see that we are anticipating
20 that the volume of water will decrease once remediation
21 is imple -- implemented, not only just with the frozen
22 block, but all the other good work that we'll be doing
23 in the capping of the tailings and the management of
24 surface water.

25 Slide 13, please. The intake to the

1 water treatment plant will be through the mine
2 workings. Currently we have the pump set below the
3 750-foot level, which is about 250 metres below ground
4 surface. The intake will be designed for flexibility.

5 Currently we are looking at two (2)
6 wells feeding the water plant drilled to the nine-fifty
7 (950) level, with pumps set at around 25 metres below
8 the seven-fifty (750) level. We have the flexibility
9 in this system to raise the pumps to allow the water
10 levels to increase over time, should we allow them to
11 or should we want them to.

12 Slide 13, please -- or, 14, sorry. This
13 slide just shows a quick schematic of the new water
14 treatment plant. The technology that we are propose --
15 proposing is the conventional. It's similar to the
16 process that we have currently at Giant. It's also
17 similar to the process that Con Mine is implementing.
18 The building has been designed with room for expansion,
19 and it provides office space and a control room for the
20 freeze program.

21 Mr. Chair, we also looked at other
22 technologies, such as reverse osmosis, ion exchange,
23 absorption. All of these processes can meet the -- the
24 requirements at the edge of the mixing zone. We
25 certainly consider the -- the conventional process, as

1 -- as designed currently, to be the best technology at
2 Giant.

3 This process is efficient, less complex,
4 and has better value than other options for the Giant
5 Mine case. In addition, currently Yellowknifers
6 operate these systems, which is an advantage for the
7 people.

8 We've heard a lot about perpetual care.
9 The plant will have to be replaced many times. Each
10 time there will be an opportunity to incorporate the
11 latest technology. We have room to upgrade the system
12 as we gain more knowledge in the operation of that
13 treatment plant.

14 Slide 15, please. The location of the
15 treatment plant is planned within the existing mine
16 area. It's located in a previously disturbed area. We
17 do not intend to disturb additional pristine lands to
18 site that building. And we can also utilize the
19 existing road infrastructure to access the plant that
20 is currently there already, again minimizing the
21 footprint of the water treatment plant.

22 With this, I'd like to pass it over to
23 John Hull to talk about the diffuser.

24 MR. JOHN HULL: Mr. Chairman, John
25 Hull. Slide 16. The diffuser has been designed based

1 on current industry practice and satisfies the new NWT
2 guidelines for diffusers.

3 The modelling that was done was using a
4 core mix model, computer model, which satisfies the
5 near-field mixing for the effluent that's in this --
6 this area. The next phase of the modelling, which
7 would consider the far field, or the bigger area,
8 requires -- is a 2-D model or a 3-D model. The -- the
9 diffuser is located some 1,500 metres off shore in some
10 9 metres of water, and it's just north of Latham
11 Island.

12 On shore, from the treatment plant to
13 the shoreline, the pipeline would be buried and
14 insulated. It would also be buried and protected at
15 the shoreline from ice and other impacts. Across the
16 bottom of the Bay there would be anchors, either
17 concrete anchors to anchor the diffuser in -- in place
18 and/or, at regular intervals, gravel to hold it down,
19 which would be more long term and would not -- the
20 concrete would not deteriorate -- or, would not im --
21 be impacted by deterior conc -- deteriorating concrete.

22 The diffuser pipe is some 27 centimetres
23 in diameter, and the vertical sections would be 50
24 millimetres, and the actual nozzles are 13 millimetres.
25 There's a model of the diffuser, a one (1) diffuser

1 pipe port, at the rear of the -- the -- this -- this
2 room if you wish to look it and -- and identify the
3 size that would be -- of the diffusers at each
4 location.

5 At present, studies have started to
6 collect data for the next phase in the detailed
7 modelling. Those studies include collecting currents,
8 sediments. And that would allow for the design for the
9 next phase, as I indicated earlier, from the near
10 field to the far field in -- in the bay.

11 May I have slide 17, please? The
12 diffuser is located, as I said, some 1,500 metres off
13 of the boat ramp at the shore, and Latham Island is
14 just to the south of this area. The diffuser zone, as
15 shown in green, is some 83 metres long and about 15
16 metres wide. To put that in perspective, that would be
17 from -- the width of 52nd Street, from the centre of
18 Franklin Avenue, to the front door of this building.
19 So it's a fairly small area.

20 Slide 18, please. The diffuser has been
21 designed to be efficient in a small mixing zone, a
22 design that assumes a cool water discharge, unlike the
23 power plant which has a warm or hot water discharge and
24 has a bigger impact on a larger area. The mixing zone
25 on -- is some -- is 6 to 7 metres on each side of the

1 pipe and, again, about 15 metres wide.

2 While we have not done a detailed
3 thermal model at the present time, if we anticipated or
4 assumed that at the end of the pipe the water
5 temperature would be 5 degrees centigrade, which is in
6 the range that would be discharged from the treatment
7 plant. And we assume and anticipate for the design
8 that the mixing zone was 1:100. At the edge of the
9 near-field, the increase in the water temperature in
10 the bay would be .05 degrees C.

11 Based on temperature data that was
12 collected this March and February, the water
13 temperature at depth at the proposed diffuser location
14 was about plus 5 C. So the new -- the temperature
15 increase would be minor. The temperature would
16 potentially rise to point -- 0.55 C, a very minor
17 increase.

18 As I noted, there -- there is now
19 monitoring underway to collect the data for the
20 baseline information on water quality, ice thickness,
21 sediments. There is additional work being carried out,
22 or will be carried out this fall and winter, to collect
23 hydrometric and hydrodynamic data, which includes
24 currents, temperature, and during the open ice -- open
25 water periods, wave action. That would be collected on

1 a ongoing basis with sensors that would be installed in
2 the bay bottom at a approximately -- the approximate
3 location proposed for the diffuser.

4 There would also be additional
5 bathymetry data collected along the diffuser alignment,
6 which would be allow -- which would allow for detail
7 design and moving forward with the modelling effort.
8 There's also -- the pro -- program includes collecting
9 fish that would provide information for the DFO
10 authorization.

11 Finally, the Giant team would pull all
12 of this information together, specifically for the ice
13 and ice cover, to coordinate a plan to match and
14 connect with the department -- the fire department's
15 monitoring of ice thickness each fall and spring.

16 Next slide, please, 19. Again, the
17 locations of the ice thickness samples we -- that were
18 collected this winter in February and March are shown.
19 The diffuser is at approximately this point, which is
20 sample 3 in the -- the package that was provided to the
21 Review Board.

22 In February the ice thickness at that
23 point was .9 metres -- or, no, I'm sorry -- yes. And
24 in March, the thickness was 1.06 metres. The average
25 temperature in that area, as I noted before, was about

1 .5 degrees C. It varied between point four (.4) and
2 point six (.6).

3 The next slide, please, nine -- twenty
4 (20). The diffuser is designed also to minimize
5 disturbance to the -- the bottom sediments. A design
6 with a 13-millimetre diffuser nozzle which would be
7 located approximately a metre off the bottom is
8 intended to minimize any disturbance of local sediments
9 at that location.

10 As I noted before, there's studies
11 underway to collect the sediments at that location in
12 the benthics to define the fish -- the information
13 required for fish authorization.

14 The detailed design will move forward to
15 consider the -- the full far-field area and effect on
16 the bay, which has anticipated the design would have no
17 impact on the -- the bay water beyond the mixing zone.

18 With that, I would like to pass this
19 presentation back to Mr. Halbert. Thank you.

20 MR. BRUCE HALBERT: Bruce Halbert, for
21 the record. Slide 20 -- 21 identifies the -- the start
22 of the proposed monitoring program for -- that's a plan
23 moving forward.

24 There is quite an extensive program that
25 is proposed. It includes continuation of the existing

1 surveillance network which is focussed on Baker Creek
2 and Trapper Creek, which is upstream of Baker Creek.

3 There are two (2) locations on Baker
4 Creek, six (6) on -- on ba -- on -- sorry, six (6) on
5 Baker Creek, two (2) in Trapper Creek. These loc --
6 locations are stretched from the mouth of Baker Creek
7 up -- to upstream of the Giant Mine site.

8 In addition, we proposed to enhance that
9 program with establishment of a program in Great Slave
10 Lake, specifically, Back Bay and Yellowknife Bay, with
11 three (3) locations in Back Bay and four (4) in
12 Yellowknife Bay. And I'll show that on the map just
13 very shortly.

14 The proposed monitoring program would
15 also include sampling of any seeps that are noticed on
16 site in the area of dams, et cetera, and identify
17 whether they need to be directed underground for
18 collection or treatment, or can be released to the
19 environment.

20 Slide 22, please. This slide shows the
21 locations or approximate locations of the proposed
22 monitoring in Back Bay and Yellowknife Bay. As
23 mentioned, we have three (3) in Ye -- in Back Bay, two
24 (2) between the mouth of Baker Creek and the outflow
25 diffuser location, one (1) adjacent to Latham Island.

1 In the Yellowknife Bay area itself, we
2 have one (1) at the top end that Yel -- at Yellowknife
3 River inflow, again, in the area of the proposed
4 outflow and diffuser location opposite the City of
5 Yellowknife. And one (1) further south towards --
6 towards Dettah.

7 Slide 23, please. In addition to
8 monitoring surface water quality, of course, there are
9 many other components that need to be in --
10 investigated as well. We have proposed fish monitoring
11 to be undertaken in Baker Creek and Yellowknife Bay
12 every three (3) years to assess both fish health and
13 fish chemistry tissue -- tissue chemistry.

14 Aquatic effects monitoring is also
15 proposed to be undertaken every three (3) years in the
16 area of the outfall diffuser as well as in reference
17 areas, again, to establish what effects, if any, the
18 outfall discharge is having.

19 Lastly, we're also con -- proposing that
20 benthic invertebrates and aquatic vegetation and
21 sediment monitoring be undertaken in Baker Creek every
22 three (3) years to determine how recovery is
23 progressing in that system.

24 Slide 25, please. The -- in addition to
25 those programs, there's also, of course, the need to --

1 to monitor ice thickness as this has -- has been
2 identified certainly as an area of concern.

3 The monitoring program will be put in
4 place to measure the effects of the discharge on ice
5 formation. As John mentioned, there's a program be --
6 being initiated now to monitor ice thickness there in
7 that area on a continu -- continuous basis this coming
8 winter.

9 The monitoring program will be
10 coordinated with the -- the program administered with
11 the -- by the Yellowknife Fire Department who report
12 ice thickness routinely on a website. The area of the
13 outfall would also be marked, in initial years at
14 least, to identify it so that people would avoid that
15 area until it's shown that there are no adverse effects
16 on ice thickness.

17 In the event that the discharge is shown
18 to have a negative effect there are mitigative --
19 mitigative measures that can be taken -- or
20 implemented.

21 The next slide, please. Slide 25 lists
22 some of the benefits of the proposed program and system
23 in its entirety. This -- this includes significant re
24 -- reduction in the -- in the arsenic loading to Baker
25 Creek and North Yellowknife Bay, elimination of the

1 sour -- surface storage ponds where contaminated water
2 is currently stored, and a reduce -- reduction in the
3 associated risk to water life -- wildlife and
4 waterfowl.

5 We're applying well-proven and robust
6 treatment methods to reduce arsenic below current
7 treatment levels. We're also looking to use well-
8 understood diffuser technology to minimize the size of
9 the mixing zone and enhance the mixing so it will have
10 minimal effect on the receiving environment.

11 We're also looking to eliminate seasonal
12 fluctuations by the continuous operation year round of
13 the treatment system. This proposed system is also
14 quite vulnerable and adaptable over the long-term.

15 Next slide, please. The new trat --
16 water treatment plant will use conventional technology
17 as -- as Rudy mentioned is familiar to operators in the
18 Yellowknife area and will operate year round op -- as
19 well as op -- op -- offering an opportunity for
20 continuous employment.

21 Proposed outfall diffuser to North
22 Yellowknife Bay will achieve rapid mixing of the
23 treated effluent with lake water, have no adverse
24 impacts on arsenic levels in the bay beyond a very
25 small initial mixing zone and, as I mentioned, will

1 have no adverse effects on aquatic biota, and will have
2 -- and will have minimal impact on the ice thickness,
3 to be proven, of course, by detailed modelling yet to
4 be undertaken.

5 Next slide, please. Consistent with its
6 overall objective the remediation project will result
7 in an overall improvement in the quality of the surface
8 water environment.

9 It will protect all beneficial uses in
10 Yellowknife Bay. And to confirm these conclusions and
11 identify any adaptations that may be required, a
12 comprehensive environmental monitoring program will be
13 put in place.

14 And as a final note I would state that
15 the water management system will not result in
16 significant adverse impacts on the aquatic environment.
17 Thank you very much for your attention.

18

19 (BRIEF PAUSE)

20

21

22 THE CHAIRPERSON: Thank you for your
23 presentation. We have again a list of orders to
24 question your presentation so I -- the next on my list
25 is the City of Yellowknife. Is there any questions for

1 -- to the Developer on their presentation. State your
2 name again.

3

4 (BRIEF PAUSE)

5

6 QUESTION PERIOD:

7 MR. DENNIS KEFALAS: Thank you, Mr.

8 Chair. It's Dennis Kefalas with the City of

9 Yellowknife. I think our first question is regarding
10 the diffuser. Part of the presentation says some
11 mitigated measures would be taken should the diffuser
12 result in icing during the wintertime, but it's unclear
13 on what those measures would be.

14 If the Proponent or Developer could
15 maybe give us examples of what mitigative measures
16 would be taken should the diffuser pose a problem to
17 the safety of our residents.

18 THE CHAIRPERSON: Thank you for your
19 question. We're going to go to the Developer to the
20 question.

21 MR. JOHN HULL: Mr. Chairman, John
22 Hull. The measures that would be identified would be
23 to modify the angle of the -- the diffuser port which
24 would reduce the angle which the plume would move
25 towards -- or the mixing zone would move towards the

1 surface.

2 There would also be a program to modify
3 the temperature of the water that would be controlled
4 water as it hits the end of the pipe such that it would
5 be closer to the natural bay water during the -- the
6 winter period.

7 There's also a potential and a detailed
8 design in the modelling for the -- the -- for a region
9 of the bay on the North Yellowknife Bay area to move
10 the diffuser to a better location if the modelling
11 suggests that would be prudent. The expectation is if
12 there would be a move -- a change in location it would
13 be minor in that general area. Thank you.

14 THE CHAIRPERSON: Okay. Thank you.
15 I'll go back to the City of Yellowknife.

16 MR. DENNIS KEFALAS: Thank you, Mr.
17 Chair. The next few questions will be regarding water
18 quality and our concerns. I guess one (1) question
19 that we can ask, based on the proposed treatment
20 process, does the -- can the Developer confirm that the
21 actual bay water or portions of Yellowknife Bay will
22 form part of the treatment process?

23 THE CHAIRPERSON: Thank you, I'll go
24 back to the Developer to the question.

25 MR. MICHAEL NAHIR: Mr. Chair, Mike

1 Nahir. I -- I'm wondering if we can have a restatement
2 of the question? We -- we didn't quite understand it.
3 Thank you.

4 THE CHAIRPERSON: Thank you, I'll go
5 back to the City of Yellowknife.

6 MR. DENNIS KEFALAS: Thank you, Mr.
7 Chair. Dennis Kefalas with the City of Yellowknife.
8 You indicated during the -- your presentation that
9 there will be a mixing zone as part of Yellowknife Bay.

10

11 And given this, I guess, aspect or
12 portion of your treatment process, would you consider
13 that the bay becomes part of your treatment process?

14 THE CHAIRPERSON: Thank you, I'll go to
15 the Developer to the question.

16 MR. BRUCE HALBERT: Bruce Halbert, Mr.
17 Chair. No, we're not considering the bay to be part of
18 the treatment process. Any discharge system is --
19 recognizes that we have a mixing zone in which effluent
20 is -- is mixed with the lake water.

21 We -- we focussed our discussion here on
22 this near-field mixing zone, which is, as John has
23 indicated, is estimated to occupy a space of about 80
24 metres by about 15 metres. Beyond that, continued
25 dilution would occur within the lake, achieving higher

1 levels.

2 The predicted measured water quality
3 currently is -- is around .9 micrograms per litre of
4 arsenic, as I -- as I mentioned. And we would expect
5 as that plume, if you will, moves away down through the
6 lake that that -- the resulting concentration in the
7 lake will move towards -- towards that point nine (.9).

8 THE CHAIRPERSON: Thank you. City of
9 Yellowknife?

10 MR. DENNIS KEFALAS: So you're relying
11 -- excuse me, City of Yellowknife, Dennis Kefalas. So
12 you're relying on the lake to help dilute your
13 effluent.

14 Am I correct in saying that?

15 THE CHAIRPERSON: Thank you, I'll go
16 back to the Developer.

17

18 (BRIEF PAUSE)

19

20 MR. BRUCE HALBERT: Bruce Halbert, Mr.
21 Chair. I guess there's a couple of points I should try
22 to make here. One (1) is that we're not relying on --
23 on the lake for treatment. The treatment is achieved
24 in the treatment plant. In any discharge, there is
25 dilution that occurs within the receiving environment.

1 We have undertaken, as part of the risk assessment work
2 that was undertaken initially back in 2000/2001 and
3 then updated several steps along the way, detailed
4 modelling within the -- within Back Bay and Yellowknife
5 Bay.

6 That modelling took into account both
7 the effects of input from drainages coming into the
8 system through Baker Creek and Yellowknife River, et
9 cetera, as well as the his -- the historic effects of
10 buildup of contaminants ini -- from the early years of
11 operation of the mine on arsenic levels in the
12 sediments. So there's geochemical processes involved
13 here.

14 Over the years, water quality within the
15 bay has been shown to improve substantially, dropping
16 from levels of -- in Back Bay, for example, in --in the
17 order of 20 to 30 micrograms per litre back in the
18 1970s. It's currently down to -- in the order of 1
19 microgram per litre. That improvement is expected.

20 The -- the discharge from this treatment
21 system is not going to have any impact beyond what
22 we've already seen in the -- in the bay historically.
23 And as I indicated, we're going to see a reduction in
24 the load to the bay as a result of this new system.

25 THE CHAIRPERSON: Okay, thank you, I'll

1 go back to the City of Yellowknife.

2 MR. DENNIS KEFALAS: Thank you, Mr.
3 Chair. Dennis Kefalas with the City.

4 Given that the system -- or , looking at
5 the system, we see very little redundancy in the
6 system. And as such, will the Developer agree to cover
7 the expenses of reconstructing the pipeline to address
8 the public concerns regarding the water quality of
9 Yellowknife Bay as a result of the remediation plan?

10 I'd just like to clarify something, too,
11 that was submitted in the letter from the Board to the
12 City, their letter. When we asked for a change in the
13 scope of the project to include the pipeline, the
14 letter indicated that this cannot be included in the
15 scope of the project because the City chose to use the
16 Yellowknife River as its water source.

17 It was actually the Department of Public
18 Health and Social Services -- I believe that's what it
19 was called at the time -- the federal government, that
20 chose to use the Yellowknife River as its water source
21 -- potable water source for the City of Yellowknife.

22 THE CHAIRPERSON: And thank you. I'm
23 going to go John Donihee.

24 MR. JOHN DONIHEE: Thank you, Mr.
25 Chairman. John Donihee, Board counsel. I -- I take it

1 that's just a -- a note for the purpose of correcting
2 the record. And we could certainly -- your -- your
3 comment is on the record, and we can note it
4 accordingly.

5 THE CHAIRPERSON: Thank you. Any
6 further comments to the City of Yellowknife --
7 questions?

8 MR. DENNIS KEFALAS: Thank you. That
9 was a note for -- for -- to clear the record.

10 But the actual question is to the
11 Developer, whether or not they would consider re -- re
12 -- I guess, reinstalling it and replacing that existing
13 pipeline as a redundancy to their project.

14 THE CHAIRPERSON: Okay, thank you. I'm
15 going to go to the Developer to the question.

16

17 (BRIEF PAUSE)

18

19 MR. ADRIAN PARADIS: Adrian Paradis, on
20 behalf of the project team. As previously stated,
21 we're willing to work with the City to help properly
22 locate and coincide our activities. But, no, it is not
23 within the scope of this project to replace the City
24 waterline, nor is it within the scope of the -- of this
25 project or department. Thank you.

1 THE CHAIRPERSON: Thank you. Any
2 further questions from the City of Yellowknife?

3 MR. DENNIS KEFALAS: Thank you, Mr.
4 Chair. We have one (1) additional question. Dennis
5 Kefalas, with the City of Yellowknife.

6 Will the Developer agree to cover the
7 expenses associated with treatment processes required
8 to address potential spills in Yellowknife Bay to
9 ensure drinking water quality standards are achieved if
10 the City chooses to use Yellowknife Bay as its potable
11 water source?

12 THE CHAIRPERSON: Okay, thank you. I'm
13 going to go to the Developer.

14 MR. ADRIAN PARADIS: Giant Mine
15 Reclamation Project team, Adrian Paradis speaking. No,
16 the -- there's not a commitment to cover the associated
17 costs with -- for the City to cover those costs. Thank
18 you very much.

19 THE CHAIRPERSON: Any further questions
20 from the City of Yellowknife?

21 MR. DENNIS KEFALAS: No, Mr. Chair.
22 Thank you very much for this opportunity to allow us to
23 ask our questions regarding these matters.

24 MR. ADRIAN PARADIS: Mr. Chair, may I
25 please clarify one (1) comment here?

1 THE CHAIRPERSON: Yes, please. Go
2 ahead.

3 MR. ADRIAN PARADIS: The project team
4 has previously committed to covering costs associated
5 with accidental spills as part of the remediation plan.
6 That's costs associated with the cleanup of those
7 spills. It's not the costs associated with
8 infrastructure for the City.

9 THE CHAIRPERSON: Okay, thank you. I'm
10 going to go to Board technical advisors. Any
11 questions?

12 MR. ALAN EHRLICH: Mr. Chair, we have a
13 question from Katherine Enns, advisor to the Board.
14 Correction, we have a few questions from Katherine
15 Enns, advisor to the Board.

16 THE CHAIRPERSON: Okay, thank you.
17 Please proceed.

18

19 (BRIEF PAUSE)

20

21 MS. KATHERINE ENNS: Thank you for
22 allowing me to ask this question. I have many
23 questions, of course, but I guess I have to start where
24 you are and ask this question.

25 You state that -- that you will

1 eliminate surface bonding in the -- in the water course
2 around the -- the treatment area. And I'm wondering if
3 you have considered two (2) things and what you will do
4 with this suggestion, if you have considered to
5 completely rerouting the creek and if you believe that
6 would reduce risk to your operations. That's my first
7 question.

8 And second question is if you had
9 considered the development of a heavy metals water
10 treatment program using treatment wetlands in the
11 existing channel of Baker Creek as a potential to
12 reduce the amount of metals loading to water, to reduce
13 some of the engineering concerns regarding the outfall.

14 I'm not expecting you to come up with a
15 design or an answer to this question immediately. But
16 I would like to see that idea evaluated and considered,
17 because I haven't seen any indication of bioremediation
18 being discussed anywhere in the DAR or in any of -- of
19 the other documents.

20 And our experience in Trail with
21 bioremediation has been very successful. It has
22 reduced concentrations of arsenic in water from the
23 arsenic dome to the treatment site to -- from, I think,
24 1,300 parts per million in inflow to .02 parts per
25 million in the outflow. And it is a very successful

1 and very well thought of remediation technique.

2 It is actively used in the Arctic. Many
3 of those are septic biotreatment sites, but they also
4 scavenge metals. So I would like to ask the question:
5 Have you considered those two (2) aspects? And they're
6 quite broad sweeping.

7 The realignment of the creek in its --
8 in -- in its current channel in order to meet your
9 objective of reducing ponding and all of the other
10 subsequent risk associated with the risk the creek
11 presents to the project, and the risk that the project
12 presents to the creek, and all of the toxicological
13 underpinnings of that.

14 And then the second question again is
15 regarding whether or not you have considered the use of
16 treatment wetlands in your design. Thank you.

17 THE CHAIRPERSON: Thank you for your
18 question. I'm going to go to the Developer to the
19 question.

20 MR. MICHAEL NAHIR: Thank you, Mr.
21 Chair. It's Mike Nahir. With -- with respect to
22 whether the risks in Baker Creek are adequately managed
23 through the remediation plan as we've played out, our -
24 - our answer is, yes, that they are adequately managed.

25 We've done that assessment, and we've

1 come to that conclusion. We've -- we've even looked at
2 failure modes and we've -- we've come to that same
3 conclusion. So I'll -- I'll say that unequivocally.
4 That's -- that's part 1. And -- and there's a --
5 probably a much lar -- longer answer to that, but that
6 -- that's the short answer.

7 With respect to wetlands, I'll -- I'll
8 probably pass this over to somebody here, but I just
9 wanted to make a first statement by saying that we've
10 chosen to go with an option that requires year-round
11 treatment in -- in the North, and that's for a variety
12 of reasons, one (1) of which is we wanted to reduce
13 surface water ponding.

14 Right now the water is stored in the
15 northwest pond, and we wanted to eliminate that surface
16 water, as we saw that as a hazard. And so we want to
17 store the water in the mine itself, and that lends
18 itself as well to year-round treatment. Also for
19 benefits of employment and local participation, we
20 thought year-round treatment was -- was a better
21 process.

22 So all that I'm saying that -- that
23 doesn't really lend itself to wetland treatment in --
24 in Yellowknife, but I -- I'll -- I'll see if somebody
25 from the team can comment on that specific -- you know,

1 whether we looked at that specifically and what the
2 results of that were beyond that.

3

4 (BRIEF PAUSE)

5

6 MS. KATHERINE ENNS: Am I permitted to
7 ask a question and make a clarifying statement before
8 we go ahead? I gather the answer to that is yes.

9 THE CHAIRPERSON: Thank you.

10 MS. KATHERINE ENNS: I didn't intend
11 that my question regarding treatment wetlands should
12 preclude the use of a water treatment plant.

13 I -- I -- I'm suggesting that you
14 consider -- or, answer the question: Have you
15 considered including a treatment wetland along with the
16 water treatment plant, simply because of the
17 extenuating circumstances of the high concentrations in
18 sediments existing and the fact that you have such a
19 shallow bay with a design that you're going to modify,
20 presumably, if there are some impacts?

21 But you -- that's kind of an end-of-pipe
22 solution, you know. So I'm wondering, to be proactive,
23 if -- if you would actually consider using a treatment
24 wetland in that long, lovely stretch of -- of Baker
25 Creek that is -- has great potential for a treatment

1 wetland, and also potential for employment for the
2 people of Yellowknife.

3 THE CHAIRPERSON: Thank you. We'll go
4 back to the Developer.

5 MR. MICHAEL NAHIR: It's -- it's Mike
6 Nahir. I would just like a minute to talk to the staff
7 here, please. Thanks.

8

9 (BRIEF PAUSE)

10

11 THE CHAIRPERSON: Okay. I'll call --
12 we'll continue on, please. Get a point of order and
13 get some quietness in here, please. I'm going back to
14 the Developer to the question.

15 MR. MICHAEL NAHIR: Thank you, Mr.
16 Chair. Mike Nahir. I'm going to ask Bruce Halbert to
17 respond to that.

18 MR. BRUCE HALBERT: Bruce Halbert, Mr.
19 Chair. There are several points, I think, to be made
20 here. Is -- one (1) is that we are going to be dealing
21 with the surface aspects tomorrow, and we'll be talking
22 in greater detail about Baker Creek at that point in
23 time and the challenges it offers and the opportunities
24 it offers.

25 But one (1) -- one (1) additional

1 insight though I think we would bring to the table here
2 is that water flowing in Baker Creek onto the site from
3 upstream comes through a fairly large watershed with a
4 fair number of wetlands in it.

5 The water flowing onto this site has an
6 arsenic content of around 20 to 60 micrograms per
7 litre, even after -- after having come through that
8 type of an environment. And that is likely a
9 reflection of the stored deposition from the early
10 years of operation, with high arsenic loa -- loads
11 discharged through the stacks from the roaster complex.

12 So in the contact -- in the context of a
13 wetland application on this particular site, we don't
14 see it as -- at this point in time, certainly as being
15 a viable oppor -- opportunity.

16 And given that we want to move to a
17 year-round discharge as opposed to a seasonal
18 discharge, I think a wetland system in a Northern
19 climate is really limited to more providing effective
20 treatment in the -- in the warmer part of the year, not
21 -- not year round.

22 THE CHAIRPERSON: Okay. Thank you.
23 I'll go to the Review Board technical advisor.

24 MS. KATHERINE ENNS: Only that I just
25 ask you to consider that year-round wetland treatments

1 do exist in arctic environments for heavy metals, and
2 they -- they have good capability.

3 I ask: Have you considered whether or
4 not, in addition to your treatment plant, given the
5 economic viability of a wetland system if that might
6 assist in some of the expense of the outfall, for
7 example, or perhaps maybe other aspects of your
8 treatment program?

9 THE CHAIRPERSON: Okay. Thank you.
10 I'll go back to the Developer.

11 MR. MICHAEL NAHIR: Thank you, Mr.
12 Chair. Mike Nahir. The answer is: We have not looked
13 at that. Thank you.

14 THE CHAIRPERSON: Okay, thank you. I'm
15 going to go back to the Board's technical advisor.

16 MS. KATHERINE ENNS: Are you willing to
17 consider it?

18 THE CHAIRPERSON: Thank you. To the
19 Developer.

20 MS. KATHERINE ENNS: To the Developer.
21 My question to the Developer: Are you willing to
22 consider it?

23 THE CHAIRPERSON: Thank you.

24 MR. MICHAEL NAHIR: Thank you, Mr.
25 Chair. I will need another minute, please. Sorry.

1 (BRIEF PAUSE)

2

3 THE CHAIRPERSON: Okay, thank you.

4 We'll get some order and get back into this. I'll go
5 back to the Developer.

6 MR. MICHAEL NAHIR: Thank you, Mr.

7 Chair. Mike Nahir. The -- we -- we want to note, and
8 -- and we'll discuss this tomorrow, that -- that Baker
9 Creek has a variety of other uses that are of value to
10 the community. So converting it to a wetland is -- is
11 a new option that we hadn't -- we hadn't put on the
12 table.

13 Whether we're open to looking at
14 wetlands in principle, the answer is: Yes, we could.
15 We -- we see a variety of problems with it, but we're
16 not necessarily opposed to that as a -- as a -- in --
17 as a possible technology, appreciating that it's --
18 that it needs to be applied to Giant Mine and that
19 there's many constraints that we see, but -- which is
20 why it didn't show up as an initial option and doesn't
21 -- and does not show up in our development. Thank you,
22 Mr. Chair.

23 THE CHAIRPERSON: Okay, thank you.

24 I'll go back to the Review Board technical advisor.

25 MR. ALAN EHRLICH: Mr. Chair, our next

1 question from a technical advisor is from Dr. Franco
2 Oboni.

3 DR. FRANCO OBONI: Thank you. We're
4 going to show you, as a support to three (3) questions,
5 a few slides and a short movie. The first slide will
6 come in a second. Okay.

7 The first slide shows an example. It's
8 the only example I've found documented on public
9 records. As you can see, there is a YouTube link there
10 to a flooding that has occurred in a mine. It's an
11 active mine that was protected by a dike. It's an
12 open-pit mine. And the dike was protected by a mining
13 standards engineered dike.

14 It failed in early 2010, and you are
15 going to see now what it looks like when a flooding
16 enters a pit. Mind you, it is not the same size river;
17 it is not the same size pit. However, It's an example
18 of what could happen during a flooding.

19 It's only thirty-two (32) seconds. You
20 can see equipment in the pit. You can see the water
21 coming down from the side. And you can see the water
22 flowing in from the breached dike.

23 I have, myself, seen smaller events than
24 this one. And as you can all imagine, it doesn't
25 require it to be a big river to create a lot of damage

1 with the force of water.

2 What is interesting, and the reason why
3 I'm bringing this up to you today, is that an operating
4 mine has still the pit underwater two (2) years after.
5 I've been there a couple of weeks ago. The new dike
6 has now been designed with a one (1) in one thousand
7 (1,000) return criteria. I read from the documents
8 that Giant Mine is now designed -- Baker Creek is
9 designed for one (1) in five hundred (500) years.

10 My question is: Why are we designing a
11 project that will last for perpetuity, with such a
12 short return, which sounds more like a mining return
13 period, active mining return period, than a hydro
14 period or a long-term period? That's my first
15 question.

16 THE CHAIRPERSON: Thank you, I'll go
17 back to the Developer.

18 MR. MICHAEL NAHIR: Thank you, Mr.
19 Chair. Mike Nahir. I just want to point out that the
20 -- according to the schedule, the discussion of Baker
21 Creek is scheduled for tomorrow, which would allow us
22 to give our presentation in advance of the questions on
23 Baker Creek. So I'm -- I'm wondering if I can indulge
24 the Board to allow us to de -- deliver our
25 presentation, and maybe we'll have some YouTube videos

1 of many dikes that have -- that are successful.

2 But -- but I'd like to say that -- that
3 the -- that that topic is for tomorrow. We -- we would
4 prefer to discuss that tomorrow, if -- if the Board
5 would allow. Thank you.

6 MR. JOHN DONIHEE: Mr. Chairman. John
7 Donihee, Board counsel. Yes, we did give the -- that
8 material to the Developer, but only this morning. And,
9 to be fair, I think we're happy to have the answer to
10 that question and -- and the others that were included
11 in the materials that we provided them this morning,
12 tomorrow.

13 I -- I'm wondering, if it -- in order to
14 avoid -- to facilitate the questioning over the next
15 day or so, if perhaps at the next break, Dr. Oboni
16 could -- could speak with representatives of the
17 Developer?

18 We just want to make sure that we have a
19 full list of the -- the risk assessment documents that
20 -- there have been a lot of references to risk
21 assessments being done, not -- I don't believe all of
22 them have been filed on the record. Some of them may
23 have been part of design, or...

24 But I -- I think from Dr. Oboni's
25 standpoint, it would be of assistance to us if we could

1 get a -- at least a full list. And, if possible, I'll
2 -- I'll let him speak to them, but when he -- when you
3 show him the list. But, if possible, then -- I'm sure
4 you must have most of them electronically. Perhaps we
5 could -- we could arrange to have him look at the ones
6 that will be of interest. And I -- I suspect that will
7 make the whole process more efficient.

8 So would -- would the Developer assist
9 us in -- in talking with Dr. Oboni and doing that,
10 please?

11 THE CHAIRPERSON: Thank you, Mr.
12 Donihee. I'll go to the -- the Developer.

13 MR. MICHAEL NAHIR: Thank you, Mr.
14 Chair. Mike Nahir. That sounds like -- acceptable for
15 us. I -- I will point out that all of the risk
16 assessments that we are -- have published are on the --
17 are on the site. But we -- we are more than happy to
18 point through what risk assessment was for what
19 purpose. And we'd be happy to do that. Thank you.

20 THE CHAIRPERSON: Thank you. Mr.
21 Donihee...?

22 MR. JOHN DONIHEE: Sorry. Thank you,
23 Mr. Chairman. I -- I do believe that Dr. Oboni has a -
24 - a question separate from the one (1) that you -- we
25 just deferred. So I'll -- I'll pass it back over to

1 him.

2 DR. FRANCO OBONI: So in follow-up to
3 what I just asked, for this particular example I would
4 like you to please give us a detailed understanding of
5 what the consequences of such flooding in the pit would
6 be at Giant Mine, when it will occur, because it will
7 occur, of course.

8 THE CHAIRPERSON: Thank you.

9 DR. FRANCO OBONI: Now I would like to
10 go to the next slide, please.

11 Oh, thank you. This is a picture I took
12 in 2004 after a flood from a creek in Northwestern
13 Italy. What you see here are trees that are now
14 standing on naked roots. All the sediments, all the
15 topsoil in which these trees were rooted has been
16 removed by the strength of water.

17 The question is: Has such a scenario
18 been considered at Giant Mine and what would be the
19 fate of contaminated sediment that will be taken away
20 by such a flooding?

21 THE CHAIRPERSON: Thank you. I'll go
22 to the Developer to the question.

23 MR. MICHAEL NAHIR: Thank you, Mr.
24 Chair. Once again, I'd like to point out that this is
25 a subject that will be discussed in the presentation on

1 Baker Creek tomorrow and that we feel that this would
2 be more appropriately addressed in the context of the
3 Baker Creek discussions that -- that we will be having
4 tomorrow. I hope that's of help.

5 THE CHAIRPERSON: And for the record,
6 the Developer -- then what you're saying then is that -
7 - to the question, those questions are going to be
8 answered tomorrow?

9 MR. MICHAEL NAHIR: Thank you, Mr.
10 Chair. Mike Nahir. Yes, that's -- that's correct.

11 THE CHAIRPERSON: Okay. And two (2)
12 other questions that were put forward as well.

13 MR. MICHAEL NAHIR: Yeah. So I have a
14 total of two (2) questions here that I've heard from --
15 and -- and I think that those can be addressed
16 tomorrow.

17 THE CHAIRPERSON: Thank you. I'll go
18 back to technical advisor.

19 MR. JOHN DONIHEE: Thank you, Mr.
20 Chairman. I -- I don't want the Developer to -- the
21 session today, of course, was entitled "Water
22 Management," I guess. And that's why we -- we've
23 raised these questions here. But it's perfectly
24 acceptable to -- to -- if it -- if it works better for
25 the Developer to talk about them in the context of the

1 Baker Creek discussion, then that's perfectly all
2 right.

3 There is one (1) more question. Maybe
4 we'll try this one (1) and see if we can get it through
5 -- we'll get it through today. But if nothing else, at
6 -- at least there'll be a more than adequate warning
7 for tomorrow's session. But I'll -- I'll turn it back
8 over to Dr. Oboni.

9 DR. FRANCO OBONI: Thank you. The next
10 slide, please. Balangero was a -- well, the largest
11 asbestos mine -- asbestos mine in Western Europe. It's
12 located 30 kilometres away from Turin, which is past 1
13 million inhabitants.

14 It's left behind the legacy -- of
15 course, when it went bankrupt, like many asbestos mines
16 in the world, it left behind the legacy of 120 million
17 tonnes of dry tailings in the very proximity of
18 residences and the town. It is considered one (1) of
19 the contaminated top five (5) sites in Italy.

20 The environmental rehabilitation was
21 designed through a international competition.
22 Contaminants were only partially removed because of
23 side effect risks. So you can see there a lot of
24 similarity, although we're not talking about the same
25 contaminants, we're not talking about the same volumes,

1 but there are a lot of similarities with the concept of
2 Giant Mine.

3 Water drainage was dealt as a top
4 priority as a result of formalistic risk assessment.
5 And risk-based decision-making also helped defining
6 transportation modes to minimize possible contamination
7 as a side effect.

8 The next slide, please. Here you have,
9 on the left-hand side, the slope. It's deformed
10 picture, but it's -- it's how it looked before. On the
11 right-hand side you have the beginning of the
12 restoration where all efforts have been made to fix the
13 soil and avoid dusting or whatever erosion could happen
14 on that slope.

15 And finally, at the bottom, you see a
16 cable tramway that was used to remove the material that
17 was actually removed from the site by minimizing
18 transportation dust and so forth.

19 So the question here is: How far does
20 the Giant Mine project intend to go into stabilizing
21 and avoiding dusting, erosion, and so forth on the
22 overall site? Thank you.

23 THE CHAIRPERSON: Thank you. I'm
24 going to go back to the Developer to the question.

25 MR. MICHAEL NAHIR: Thank you, Mr.

1 Chair, Mike Nahir. I -- I'm not a big baseball fan,
2 but I -- I think we struck out for today. I've -- I've
3 -- again, this is a surface -- a question regarding the
4 surface and again, we have a presentation -- a full
5 presentation on Baker Creek and the surface part of our
6 plan tomorrow.

7 And I would indulge the Board, if we
8 could hold on this question until tomorrow when -- when
9 we'll be pleased to answer that question. Thank you,
10 Mr. Chair.

11 THE CHAIRPERSON: Okay. Thank you.
12 Mr. Donihee...?

13 MR. JOHN DONIHEE: Thank you. Thank
14 you, Mr. Chairman. John Donihee. Mr. Ehrlich has a
15 couple of questions as well, sir.

16 MR. ALAN EHRLICH: Thank you. It's
17 Alan Ehrlich for the Review Board. Your diffuser is
18 going to release treated water, arsenic, other
19 contaminants, and heat. And I am -- and from the sound
20 of it, other people in the room are working to
21 understand the role of a mixing zone in your management
22 of effluent quality and how that relates to the water
23 treatment process. In other words, putting those
24 pieces together to -- to grab the big picture.

25 You have some control over the amount of

1 arsenic leaving your water treatment plant and going
2 into the lake. If you did less water treatment -- you
3 have some control over the water treatment and that
4 water treatment determines the amount of arsenic and
5 other contaminants going into the lake to an extent.

6 So if you were to choose to treat water
7 less than is proposed and you were to do so to a point
8 that doubled the amount of arsenic at the release point
9 of your diffuser, not the edge of the mixing zone but
10 at the last mechanical touch you've got on that water.

11 And if you then correspondingly expanded
12 the part of Yellowknife Bay that you're calling the
13 mixing zone, you expanded it enough, is it fair to say
14 that the levels of contaminants at the edge of that
15 mixing zone would still meet your standards?

16 THE CHAIRPERSON: Thank you. I'm
17 going to go to the Developer to the question.

18 MR. MICHAEL NAHIR: Thank you, Mr.
19 Chair. I'm just going to have a brief discussion and
20 I'll get right back.

21

22 (BRIEF PAUSE)

23

24 MR. MICHAEL NAHIR: Thank you. Thank
25 you, Mr. Chair. Mike Nahir. I -- I want to indicate

1 that we have laid out a plan that provided the design
2 basics. And so the -- the question assumes a number of
3 hypothetical situations which I -- I appreciate are --
4 are variances to the design.

5 I just want to indicate that what --
6 what we have done is laid out a plan. I'm going to ask
7 Bruce to answer specifically to your -- those -- those
8 hypothetical questions.

9 MR. BRUCE HALBERT: Bruce Halbert, Mr.
10 Chair. The approach that we've -- we've taken here is
11 to use state of the art technology in the case of the
12 effluent treatment, and -- and for the diffuser design
13 in order -- in order to minimize the impacts on
14 Yellowknife Bay.

15 It is a large body -- water body, and
16 one could find a different approach where you did less
17 than that, but that's not our approach. Our approach
18 is to optimize the overall system so we minimize
19 impacts. And that is achieved through using an --
20 state of the art treatment system, and using an
21 effective diffuser design to ensure that the water is
22 mixed thoroughly in the Bay, and we don't end up with a
23 plume moving down into lower regions, and et cetera,
24 that has been experienced at some sites.

25 THE CHAIRPERSON: Okay, thank you.

1 I'll go back to the Review Board staff.

2 MR. ALAN EHRLICH: Mr. Chair, I'll try
3 and clarify where the question is coming from. I'm
4 trying to understand the model that relates the kind of
5 water treatment plant and the resources you have to put
6 into that water treatment plant with the diffuser and
7 the relationship to the mixing zone.

8 So the model about the way the whole
9 thing is set up. That's why I'm exploring it. I
10 understand that you're not proposing to release double
11 the amount of arsenic you've described, right, through
12 the diffuser.

13 I'm saying if you did decide -- if the
14 water treatment plant was putting out water with twice
15 the levels of contaminants, and you still wanted to
16 meet standards, could you simply expand the size of the
17 part of Great Slave Lake you're calling the "mixing
18 zone" until it meets standards?

19 Could you still meet standards at the
20 edge of a mixing zone if you expanded the mixing zone
21 enough?

22 THE CHAIRPERSON: Okay, thank you. I'm
23 going to go to the Developer to the question.

24

25 (BRIEF PAUSE)

1 MR. BRUCE HALBERT: Bruce Halbert, Mr.
2 Chair. Thank you for your patience. The reality is,
3 is that the size of the mixing zone, in effect the
4 near-field mixing zone where you have turbulent mixing
5 occurring, is limited by hydraulic considerations.

6 It's not just that we want to double the
7 size so we can meet 5 micrograms per litre at a
8 different -- different point in space. There are
9 hydraulic limitations on the design itself.

10 THE CHAIRPERSON: Okay, thank you. I'm
11 going to go back to the Review Board staff.

12 MR. ALAN EHRLICH: Thank you. So in
13 that case is it fair to say that the size of the mixing
14 zone is determined, at least to a large extent, by the
15 quality of your water treatment?

16 THE CHAIRPERSON: Thank you. I'll go
17 back to the Developer to the question.

18 MR. BRUCE HALBERT: Bruce Halbert, Mr.
19 Chair. No, the size of the mixing zone is not estab --
20 not based on the quality of the effluent discharge.
21 It's based on hydraulics.

22 So if we're putting out a certain volume
23 of water, we want to achieve a certain level of
24 hydraulic mixing, there's limitations on that. So it's
25 a hydraulic consideration. We've selected 100 to 1 as

1 being the design objective. The diffuser has been
2 designed to achieve that.

3 Of course it does extend some in the
4 process of doing that, but that's not -- we're not
5 trying to use more space. We're trying to ensure we
6 have optimum mixing occurring within the lake.

7 THE CHAIRPERSON: Okay, thank you.
8 Review Board staff...?

9 MR. ALAN EHRLICH: In that case, let me
10 try a different approach. What would it take in terms
11 of water treatment to cut in half the amount of
12 contaminants that are coming out of the end point of
13 your diffuser?

14 THE CHAIRPERSON: Thank you. Back to
15 the Developer to the question.

16 MR. BOB BOONE: The -- the way the
17 plant has been designed -- sorry, Bob Boone for the
18 record. The plant has been designed to achieve a
19 certain level at the end of the plant, end of pipe, if
20 you like.

21 If you want to achieve less arsenic in
22 that end of plant, then we have to add plant process.

23 THE CHAIRPERSON: Thank you. I'll go
24 back to the Review Board staff.

25 MR. ALAN EHRLICH: And -- and thank you

1 for that, sir. So what I've heard from the party's
2 statements to this point is that not everyone agrees
3 with the proposed release of the amount of arsenic and
4 other contaminants the project has described for -- in
5 -- into Yellowknife Bay at the -- the point of the
6 diffuser.

7 You say it would take more treatment.
8 What are the limiting variables that have -- that --
9 that would prevent you from cutting it in half? Is
10 this a question of money? Is it a question of the
11 space available on site?

12 I mean, can you give me some sense as to
13 what are the constraints that you face when choosing
14 the appropriate level of contaminants coming out of the
15 end of that diffuser? Thank you.

16 THE CHAIRPERSON: Okay, thank you.
17 I'll go back to the Developer to the question.

18 MR. MICHAEL NAHIR: Thank you, Mr.
19 Chair. Mike Nahir. Our objectives were to meet a
20 higher quality stand -- water quality standard, as
21 we've laid out. So what we said was that we are going
22 to meet a standard that is supporting the community's
23 interests, which we've heard back from the community.

24 What we're saying is, is we're able to
25 meet that, and that is our objective, and that's our

1 commitment that we've laid out in the DAR. Thank you.

2 THE CHAIRPERSON: Okay, thank you.

3 I'll go back to the Review Board staff.

4 MR. ALAN EHRLICH: Okay. Thanks, Mr.

5 Chair. I think I'm going to move to a totally

6 different line of questioning now. And I -- I

7 appreciate your trying to work with it. I know that

8 explaining the way this whole system works to someone

9 who's not a water specialist is challenging. And I

10 appreciate the Developer bearing with me as well.

11 Regarding the ice thickness, we've heard

12 a number of parties point out that ice thickness in

13 Yellowknife Bay is something that they're thinking a

14 lot about. You've mentioned that your ice thickness

15 samples were collected in February.

16 I've spent many years crossing the ice

17 in Yellowknife Bay. I notice that, and have seen

18 firsthand, ample evidence that people go on the ice as

19 soon as it's thick enough to hold people. The times

20 they're a little bit nervous about it are not in mid-

21 February; it's at the beginning or middle of October.

22 It's at the middle or the end of May.

23 People are on the ice in abundance.

24 Everyone who's in town here has seen this and you'll

25 hear it from the Yellowknives. But the part that I

1 don't understand is why are you focussing on ice
2 thickness in the middle of winter, when the ice is
3 plenty thick, when the times that people -- the ice is
4 more hazardous and thinning of the ice would be more
5 hazardous is when it is just thick enough to hold
6 people, in the shoulder season, that the Yellowknives
7 and others have clearly indicated they use it -- the
8 times they use it in, and they use it in a variety of
9 different ways?

10 So is the -- the timing of the
11 consideration of the shoulder season, that's what I'm -
12 - I'm trying to get at. Thank you.

13 THE CHAIRPERSON: Thank you. I'll go
14 back to the Developer.

15 MR. MICHAEL NAHIR: Thank you, Mr.
16 Chair. Mike Nahir. I'll -- I'll start. And I'll ask
17 John Hull to -- to follow up with a bit more detail.
18 The -- we appreciate the point that the data is limited
19 right now. We -- we have some data. We've done some
20 preliminary modelling.

21 We -- we know that we have to do more.
22 We have plans to do more. In fact, we -- our plan is
23 to do a very substantial assessment of that to verify
24 our models that we've -- that we've proposed.

25 We are ensuring -- we are committing to

1 ensuring the safety of that system. And we have
2 outlined a few mitigative measures that are -- would --
3 so -- so that coupled with monitoring from -- by way of
4 verification and with mitigation, we feel we have a
5 proper system. So that -- I think that's -- I think
6 that's part of the answer.

7 And -- and I'll ask John to discuss a
8 little bit more about the plan for doing further
9 assessment as well as the monitoring, just add a little
10 bit more detail to that. I hope I'm answering your
11 question.

12 MR. JOHN HULL: Mr. Chairman, John
13 Hull. To expand on what Michael has said, the
14 information collected in March and February was the
15 start of the data needed for the overall evaluation of
16 -- and modelling of the diffuser.

17 The plan which has now started is to
18 collect information in August and September. Again,
19 that is also required for the modelling. It includes
20 the water temperature, currents, wave action. That
21 plan, moving forward, includes placing Doppler sonar
22 under the -- on the bay bottom in the area of the
23 diffuser, so that this winter starting, as the ice
24 forms, they will -- we will collect data on the ice
25 thickness. We will compare that ma -- development of

1 the ice in the diffuser with the monitoring that would
2 be done near shore by the fire department.

3 It would also collect information on
4 currents at the same time. That would be a continuous
5 reading over the course of the winter. The
6 anticipation, expectation and plan is to go out at
7 least once or twice, check the battery, so that it
8 doesn't run down, download the data, and then pull the
9 monitoring unit out of the bay next summer, after we
10 have a year's data.

11 The plan would probably be, moving
12 forward, to expand that program and get several years
13 of information. Thus we have started on addressing the
14 shoulder season, which is critical for health and
15 safety, and access for people either on snow machines
16 or walking across the north Yellowknife Bay.

17 So, yes, we just have limited data to
18 start. We've now expanded the program and will be
19 collecting a reasonable amount to answer those
20 questions.

21 THE CHAIRPERSON: Thank you, I want to
22 go back to Review Board staff.

23 MR. ALAN EHRLICH: Thank you, Mr.
24 Chair. It's Alan Ehrlich again for the Review Board.
25 You've mentioned that you plan to do a thorough

1 assessment of your ice modelling and described some of
2 the things you'll be doing over the winter. Can you
3 please describe the current uncertainties that stop you
4 from conducting that assessment now?

5 THE CHAIRPERSON: Thank you. To the
6 Developer to the question.

7 MR. ALAN EHRLICH: If -- if I may
8 clarify? Is it simply a lack of the data that you have
9 just described about the field season coming up that
10 presents the uncertainties that you have? Just you
11 haven't done the field work, yet?

12 Or, are there other unc -- types of
13 uncertainties that are separate?

14 THE CHAIRPERSON: Thank you, I'm going
15 to go to the Review Board -- sorry, the Developer, to
16 the question.

17 MR. JOHN HULL: Mr. Chair, John Hull.
18 The only limitation at the moment is not having
19 collected the data. We've completed the preliminary
20 design, which has been presented. And we're now moving
21 into the detailed design. And that is -- very clearly
22 required, the information I just mentioned. And that -
23 - we've started to collect that so that we can move to
24 the detailed design.

25 MR. ALAN EHRLICH: Thank you, Mr.

1 Chair. With your permission, may I move to a different
2 line of questioning?

3 THE CHAIRPERSON: Yes.

4 MR. ALAN EHRLICH: As I recall, there
5 were originally three (3) locations being considered in
6 Back Bay for the diffuser location. I can't remember
7 off the top of my head when you selected the preferred
8 location that you've described here.

9 When was that?

10 THE CHAIRPERSON: Thank you. To the
11 Developer to the question.

12 MR. JOHN HULL: Mr. Chair, John Hull.
13 There were three (3) locations proposed. One (1) was
14 just off of the marina, much closer to the shore.
15 There was another location a little further out, about
16 a thousand metres out. And then the one (1) that has
17 now been identified as -- at 1,500 metres.

18 The selection of the present location
19 was picked after doing detailed bathymetry through the
20 North Yellowknife Bay area to get a better
21 understanding of the bottom contours. Based on that
22 information, the site that we've selected, which was
23 close -- or, is near the third site, which is further
24 into the bay, was the one (1) that we have identified
25 in the initial work as the best site.

1 THE CHAIRPERSON: Okay, thank you.
2 Review Board staff...?

3 MR. ALAN EHRLICH: I -- I appreciate
4 the answer. My question wasn't why did you select the
5 site; it was: When did you select the site?

6 THE CHAIRPERSON: Thank you. To the --
7 the Developer to the question.

8 MR. JOHN HULL: John Hull. Thank you,
9 Mr. Chair. John Hull. The location was selected this
10 time last year.

11 THE CHAIRPERSON: Okay, thank you. If
12 you wish --

13 MR. ADRIAN PARADIS: May I, Mr. Chair?

14 THE CHAIRPERSON: Sorry.

15 MR. ADRIAN PARADIS: Just to put that
16 into context, I think -- Adrian Paradis on behalf of
17 the Giant project team. To put that into context, I
18 think the original proposals or the original locations
19 were first addressed or first circulated to the parties
20 to the EA through the first round of IRs.

21 There was subsequent discussions during
22 the October workshop of last year. And I think just
23 before that workshop, we provided a map to the parties
24 of the EA during the pre-tech -- at the technical
25 workshops. I think that's where the timing comes in --

1 into play there.

2 THE CHAIRPERSON: Thank you. Review
3 Board staff...?

4 MR. ALAN EHRLICH: Adrian, just to
5 clarify, when you speak of the workshops, are you refer
6 -- referring to the technical sessions held by the
7 Review Board last, I think it was, November?

8 THE CHAIRPERSON: Thank you.

9 MR. ADRIAN PARADIS: October of 2011 --
10 Adrian Paradis; I apologize, Mr. Chair. October '11 of
11 -- yes, there was an original proposal put in the
12 Developer's assessment report which was submitted in
13 October 2010.

14 There was further clarifications that
15 were requested or asked during the IRs of early 2011.
16 The clarifications that were coming from Mr. Hull came
17 out during -- just before, I believe, the October 2011
18 technical workshops held by the Review Board.

19 THE CHAIRPERSON: Thank you. Review
20 Board staff...?

21 MR. ALAN EHRLICH: To -- to whoever on
22 the Giant team wants to respond to this, the Developer
23 originally proposed studying the currents in
24 Yellowknife Bay and Back Bay. As I recall, there was
25 supposed to be a study last fall. And to my

1 recollection, based on the technical workshop held this
2 summer, that study didn't happen, and is now proposed
3 for this fall.

4 Is that right?

5 THE CHAIRPERSON: Thank you. To the
6 Developer...?

7

8 (BRIEF PAUSE)

9

10 MR. ADRIAN PARADIS: Mr. Chair, Adrian
11 Paradis, on behalf of the project team. I'll ask Mr.
12 Hull to speak to this. Thank you for your indulgence
13 and the -- the time in there. We were just trying to
14 figure out exactly where the dates coinci -- coin --
15 coincided with environmental assessment, and -- and
16 some of the work.

17 So, Mr. Hull, can you please elaborate?

18 MR. JOHN HULL: Mr. Chair, John Hull.
19 The timing was -- the selection of the preferred site,
20 or the selected site, was around the time of the
21 workshops last October. It was generally accepted and
22 agreed with the Giant team that it was a good location.

23 Trying to arrange/organize a monitoring
24 program last fall, there was not enough time to get out
25 and get it organized, which is why we started with the

1 work as soon as practical, which was the February/March
2 time line. And now the program is expanding, as I
3 explained, is now ongoing and will continue this --
4 this winter.

5 THE CHAIRPERSON: Thank you. I'll go
6 back to the Review Board staff.

7 MR. ALAN EHRLICH: Thank you, Mr.
8 Chair. So without a detailed understanding of the
9 currents in Back Bay, the question I have is: I'm
10 thinking about your slide where you said you're
11 proposing four (4) monitoring sites for Yellowknife Bay
12 and three (3) monitoring sites for Back Bay.

13 This seems to me to be -- considering
14 the kinds of concerns you've heard having to do with
15 accumulation of arsenic in sediment, as well as ice
16 thinning and other things that relate to the diffuser,
17 why do you think that this small number of monitoring
18 sites is adequate when you do not yet have a detailed
19 understanding of how currents will move through the
20 area, and potential, I -- I assume, potential
21 accumulations as a result?

22 THE CHAIRPERSON: Thank you. I'll go
23 back to the Developer to the question.

24 MR. BRUCE HALBERT: Bruce Halbert, Mr.
25 Chair. The program that I laid out is for the long-

1 term monitoring aspect of the project, if you will, in
2 -- in the big picture. There are going to be a number
3 of specialized investigations undertaken, as John
4 discussed. There's a lot more stations involved in --
5 in this detailed work that's going on. But in the
6 longer term, there's no need to have fifteen (15)
7 stations out there.

8 So what I laid out is the long term, and
9 recognizing -- or I should make a point to the Board
10 that there are going to be other special investigations
11 for various purposes.

12 THE CHAIRPERSON: Thank you. Review
13 Board staff...?

14 MR. ALAN EHRLICH: Thank you. So that
15 means that the number of stations may actually depend
16 on the results of the current study -- the studies of
17 currents that you're planning for the next winter.

18 Is that -- do I have that right?

19 THE CHAIRPERSON: To the Developer...?

20 MR. BRUCE HALBERT: Bruce Halbert, Mr.
21 Chair. Yes, I think adaptive management is part of the
22 package, and things will change over time as -- as our
23 understanding of the situation changes.

24 MR. ALAN EHRLICH: Thank you, Bruce.
25 It's Alan Ehrlich for the Review Board. That -- that

1 certainly helps me understand more about your proposal.

2

3 I was wondering if you could direct me
4 to documents where the Developer has looked at detail
5 at risks for diffuser pipeline failure.

6 THE CHAIRPERSON: Okay. Thank you.
7 Back to the Developer.

8 MR. MICHAEL NAHIR: Thank you, Mr.
9 Chair. It's Mike Nahir. We don't -- I don't have that
10 readily hand -- available, but I will try to get that
11 to you as soon as I can today here.

12 MR. ALAN EHRLICH: That would be just
13 fine. And, Mr. Chair, with your permission, the
14 Board's technical expert, Katherine Enns, has a
15 question related to the line of questions that I have
16 about the diffuser just before we -- we get on past the
17 staff and experts portion of the questioning.

18 THE CHAIRPERSON: It's just about
19 lunchtime here, so can we come back at 1:15 and -- and
20 put the question out then? Would that be fine? Okay.
21 She's -- she'd nodding yes, so we'll stop here.

22 MR. ALAN EHRLICH: Thank you, Mr.
23 Chair.

24 THE CHAIRPERSON: We'll come back at
25 1:15, and then we'll continue on the questions. Thank

1 you.

2

3 --- Upon recessing at 11:58 a.m.

4 --- Upon resuming at 1:18 p.m.

5

6 THE CHAIRPERSON: Okay, I'd like to
7 continue on with the public hearing for Giant Mine.
8 Before we took off for lunch here, we were still asking
9 questions of the -- to the developer. And there's
10 still -- my understanding, there's a few more
11 questions. So we'll go to that. I'm going to go back
12 to the -- to the Review Board to put forward further
13 questions. Thank you.

14 MS. KATHERINE ENNS: Good afternoon.
15 Thank you again for taking my questions. My name is
16 Katherine Enns. I was very heartened to hear you
17 mention fish health studies to be done and sediment
18 monitoring and fish body burdens and so on.

19 I realize this was part of the original
20 Tier 2 ERA and that -- and that this is an -- I guess,
21 an endpoint to monitoring the effects of the -- of
22 arsenic in the environment and the effect of the
23 outfall on the environment.

24 I have not been able to find any recent
25 fish health in response to arsenic or any other

1 contaminants of concern in the literature. I've found
2 lots of body burden data and sediment concentration
3 data. But I haven't seen any actual fish health
4 studies like what Golder did for Trail in their ERA.

5 So I believe that, so far, the use of
6 risk assessment to evaluate the potential for
7 environmental health is -- is a standard process. And
8 I'm just going to say a few things about that because
9 it leads into my question.

10 The method that was done to use these
11 published studies, Peddlar et al and Rosemond et al on
12 sediments and poor water concentrations like from
13 Bright, et cetera. And they took all of that data, and
14 it was fed into the risk assessment process.

15 So the Tier 2 risk assessment states
16 that the first phase, the screening level suggested the
17 estimated arsenic doses exceeded the upper bound for
18 typical Canadian adults and children.

19 The 2003 risk assessment results
20 indicated that, in addition to arsenic, antimony, lead,
21 and nickel also presented risks to -- to the
22 environment and to human health. And I'll cover that
23 tomorrow some more.

24 They used site-specific transfer factors
25 and hazard quotient values and found that, in this

1 interpretation, lead and nickel could be ruled out. I
2 was very glad to see you discussing the other
3 contaminants of concern that are part of your go --
4 Giant Mine emissions profile.

5 So these are acceptable methods. And
6 they usually, in the case of such high concentrations,
7 result in effects assessments. And I -- because I was
8 unable to find any, I would like to ask: Before you
9 start your effects assessment in response to your
10 development, do you have any existing fish effects
11 studies, like health effect studies?

12 The -- the studies that I read only go
13 so far as reporting concentrations. They do not
14 comment on things like scler -- sclerotic livers or
15 malformations or skin diseases in the muskrats or any
16 of that. So I would like to find out if -- if you're
17 using any existing studies as a baseline, and if so,
18 can you please provide them to the Board?

19 In the Tier 2, they go on to isolate
20 risk hazard to invertebrates and fish in Baker Creek,
21 and they essentially admit frank effects. They use
22 geometric means, which are low in comparison to the
23 distribution of concentrations of arsenic in the
24 environment.

25 The distribution is a -- appears to me

1 to be a bimodal distribution of arsenic concentrations
2 in the -- in the environment. I'm not really certain
3 about that. I only plotted the data from the Tier 2
4 risk assessment appendix.

5 The risk assessment model use -- or, are
6 not very transparent, and they are not -- and that risk
7 assessment is not particularly explanatory. I know
8 that's not your responsibility. Your responsibility as
9 engineers is to design an outfall. However, because
10 you're engineers, what you do has an impact on the
11 environment.

12 So what I would like to -- to say is,
13 despite the huge cost to taxpayers and its enormous
14 volume of material, you haven't really taken all the
15 steps required in other jurisdictions to prove there
16 are no significant effects to -- to fish, wildlife, et
17 cetera, et cetera, and that before you start in your
18 process of building your -- your system, and the
19 outfall in particular, it may be advised to consider a
20 baseline.

21 Are you considering baseline effects
22 monitoring and modelling before you start construction,
23 and reporting on the existing effects at the baseline
24 with the sediment qualities that you have? That's my
25 first question.

1 THE CHAIRPERSON: Thank you. I'm going
2 to go to the Developer to the question.

3 MR. ADRIAN PARADIS: Just a moment, Mr.
4 Chair. Adrian Paradis. We're just conferring briefly.

5 MR. MICHAEL NAHIR: Thank you, Mr.
6 Chair. Mike Nahir. The -- the extremely short answer
7 is: Yes, we are going to do a baseline. And then I'm
8 going to pass it over to this expert over here, Bruce,
9 who will describe that in more detail and some of the
10 history of -- of that, as well.

11 But I just wanted, on behalf of the
12 project, to indicate that, yes, we are going to do
13 that. Bruce...?

14 MR. BRUCE HALBERT: Bruce Halbert, Mr.
15 Chair. You've asked a pretty broad -- covered some
16 pretty broad ground here, so I may have to take a
17 couple of minutes just to try to fill in the picture.

18 There is -- the risk assessment work, as
19 I mentioned earlier, evolved through three (3)
20 different time periods, if you will. We did work
21 initially at the start of the project. In 2003, we
22 updated that; 2006, we updated that again. And more
23 recently, we -- in 2010, we did an update, reviewed the
24 -- the more recent information to establish whether the
25 results from the 2006 assessment still held.

1 Now, in the midst of all -- doing all
2 that work, we -- we did do -- go through a screening
3 process to look at a number of contaminants, not just
4 in water, but in soils, et cetera, on the -- on the
5 site that relate to Giant's project.

6 And through that process, they had
7 identified that there were other contaminants --
8 antimony is another one that we looked at besides
9 nickel, et cetera -- and ended up screening most of
10 those out on the basis that they generally were
11 associated with -- with arsenic. Where we had high
12 arsenic levels in soils or high arsenic levels in
13 sediments, we would also have high antimony, et cetera.

14 So at the end of the day, we -- while we
15 have focussed our -- our attention to arsenic, we did
16 look at other contaminants.

17 Now, their baseline information has been
18 gathered sporadically over the years on a number of
19 environmental media, fish being one, but wildlife as
20 well, birds, and vegetation samples, lichen, mushrooms,
21 et cetera. So we look at all that information, and
22 that is all summarized within our 2006 risk assessment
23 work. More recent stuff was reviewed, as I mentioned,
24 in 2010.

25 To take this a step further, the --

1 there is a number of programs that -- that give us
2 information on risk to fish. There's toxicity test
3 work that's done annually on the effluent discharge and
4 is reported in annual reports by the op -- by the care
5 and -- and maintenance contractor.

6 There's EEM-type work, related to
7 regulations under Environment Canada under the MMER,
8 that's also been undertaken at the mouth of Baker Creek
9 and in reference areas. And, again, that's looking at
10 fish and -- and other species.

11 And in more recent times, there's been
12 remediation work done in Baker Creek that we'll speak
13 to further, probably tomorrow, in 2006. DFO and other
14 parties were involved with that work as well. And
15 there was a follow-up three (3) year monitoring program
16 to look at fish migration back into the system, using
17 it for spawning and nursery, et cetera. So there's
18 quite a spectrum of information that's available that
19 provides us with an insight into the effects that the
20 site has had on fish species.

21 In general, the results we're showing
22 for fish is that we don't have -- see evidence of -- of
23 negative effects. For example, the EEM results on fish
24 species at the mouth of Baker Creek suggest that the
25 condition factor for fish there are -- are higher, or

1 better, than they are in the reference area.

2 The -- as Mike mentioned, moving
3 forward, there is a program in place to gather further
4 fish information in Yellowknife Bay. That is part of a
5 program that John Hull was talking about earlier today.
6 And in that program, fish will be collected near the
7 mouth of Baker Creek, within the Back Bay, in the area
8 of where the diffuser is loc -- located, and in further
9 afield. So we can get a further insight into both the
10 health of fish and -- and arsenic levels, in
11 particular, in fish, fish organs, fish flesh.

12 The evidence we've seen so far on fish
13 and arsenic levels in fish is that they're not
14 unusually high. They are comparable to what we've seen
15 in other systems elsewhere. They are elevated somewhat
16 in some species within Baker Creek, but outside of that
17 they are pretty typical. And there's very little
18 evidence of health effects, from what I've read in the
19 -- in the biol -- biological reports. Thank you.

20 MS. KATHERINE ENNS: Katherine Enns.
21 With respect, the concentrations in the fish tissue are
22 not always the best indication of fish health. And
23 certainly, the size information that you mentioned is -
24 - is not -- may not be relevant, either, in terms of
25 effects of arsenic on fish health.

1 I guess I was hoping to hear that you
2 would establish a baseline of fish health effects in
3 response to arsenic. Even if there are no effects, it
4 is worth, for the sake of people's peace of mind, to
5 understand what the actual, real effects are.

6 I will refer to the Golder study in the
7 Columbia River, where fish were caught and eaten by
8 people living around a big smelter with a huge pile of
9 arsenic up on the hill, that they do actually pay
10 attention to and read those -- those studies and gives
11 them some feeling of comfort in understanding that at
12 least it's been examined and made public.

13 So I have another question. And my
14 question is with respect to sediments in the bay. And
15 it has to do with the outfall. The sediments in -- in
16 Back Bay, Baker and Yellowknife Bay, and South
17 Yellowknife Bay, their maximums are very high. And the
18 diffuser is designed, apparently, to minimize the
19 disturbance of sediments.

20 This comes back to fish health as well,
21 in the sense that if you disturb those sediments and
22 they have between ninety (90) at -- at -- in the south
23 bay, to 3,757 parts per million as maximum. So that's
24 not the medium, that's not the geometric mean, but
25 that's the maximum level. The potential for the

1 disturbance of those sediments from your diffuser, I
2 think, must be being considered by you, of course.

3 I would like to know how you plan on
4 detecting a significant effect, when in fact it has
5 occurred -- in other words, avoiding beta error in your
6 monitoring program -- if you're only monitoring fish
7 every two (2) to three (3) years? I urge you to
8 consider -- would you consider collecting baseline data
9 specific to fish health effects prior to the
10 installation of your diffuser?

11 And of course, I'm going to try to talk
12 you out of the diffuser too by building a treatment
13 wetland. But will you expect to see -- have a -- a
14 reasonable study done prior to the installation of the
15 diffuser? What kind of sediment behaviour do you
16 expect with the diffuser design that you have?

17 And how do you know for sure that the
18 accumulation of arsenic over the long-term is not going
19 to accumulate in the bay and cause harm to the
20 environment, as opposed to being flushed out into the
21 Great Slave Lake.

22 THE CHAIRPERSON: Okay. Thank you.
23 I'm going to go to the Developer to the question.

24

25 (BRIEF PAUSE)

1 MR. MICHAEL NAHIR: Thank you, Mr.
2 Chair. Mike Nahir. With regards to the fish health
3 effects study, I -- I believe that's something that we
4 can look into. We can look at your recommendations and
5 see if we can absorb that into the -- into the study,
6 the baseline study.

7 On the disturbance of the sediments and
8 that -- the -- the impact of that, I'll ask Bruce to
9 discuss that.

10

11 (BRIEF PAUSE)

12

13 MR. BRUCE HALBERT: Bruce Halbert, for
14 the record. Just to add a little bit to what Mike just
15 said, there is -- there is a life of project, if you
16 will, monitoring program planned that would be parked
17 and built into the EMS that's going to be talked about.
18 And certainly looking at fish and fish health will be
19 part of that -- that program. So I -- I think overall,
20 we're probably on the same page, but we probably should
21 have a dialogue just on specifics.

22 Insofar as the effects of the pro -- of
23 putting the outfall into the diffuser on lake
24 sediments, I think it's important for the Board to
25 realize that those contaminated sediments have been in

1 there for many, many years, decades. That system has
2 been gradually recovering. We see that in the water
3 quality results; you see it less immediately in
4 sediments. They chan -- tend to change very slowly.

5 There will be some release of some poor
6 water, certainly during the installation of the outfall
7 into the bay. But my -- my opinion is that's going to
8 be a very small, short -- short duration and won't
9 really result in any strong effect at all.

10 During the construction of the outfall
11 there will be silt curtains used to minimize sediment
12 dis -- disturbance and dispersion so that the physical
13 effects of the construction activities will be fairly
14 limited.

15 And as John Hull discussed earlier, the
16 diffuser design is such as that the -- the end points
17 of the diffuser will be pointed upwards. Maybe not
18 directly upwards, but on a -- at least on an angle away
19 from the sediments to minimize any disturbance in the
20 long-term.

21 My expectation is that we won't see any
22 further buildup of arsenic within the sediments, given
23 that the sediment in the area that we're going into is
24 likely to be in the order of 100 milligrams per
25 kilogram of arsenic. Thank you.

1 THE CHAIRPERSON: We'll go back to the
2 Review Board technical staff.

3 MS. KATHERINE ENNS: Kat Enns. Thank
4 you for your response. It makes sense. But it doesn't
5 answer my question about monitoring the effects of
6 attenuation in -- in the environment and the actual
7 increase in load over time. Even though it is less than
8 was previously being loa -- it's still smaller
9 incremental amounts, but there's still loading going
10 on.

11 And you are already over the CCME
12 guidelines in sediments by several fold. So those
13 guidelines are there for a reason. But even more
14 importantly, guidelines are all very well, but effects
15 speak a great deal to effects biologists like me.

16 I would like to know how you will
17 monitor sediment behaviour over the long term in that
18 bay system, given that it's very shallow and -- and
19 probably not as mobile as you may like. I'm not sure.

20 What kind of data do you have to -- I
21 mean, you -- you guys build these things all the time.
22 So obviously you have some good idea as to how those
23 sediments are going to behave and how much arsenic is
24 going to accumulate.

25 Have you considered doing a kind of risk

1 projection or modelling to show how tox -- how toxicity
2 profiles will change over time in benthic organisms and
3 in fish in the bay? Thank you.

4 THE CHAIRPERSON: Thank you. I'll go
5 to the Developer to the question.

6 MR. BRUCE HALBERT: Thank you, Mr.
7 Chair. Bruce Halbert. There is certainly information
8 on the geochemistry of the sediments in the -- in the
9 bay area. Part of those sediments originate from
10 tailings that were deposit -- deposited in the early
11 years of operation of the mine.

12 That arsenic component, if you will, is
13 tied up as an arsenopyrite, which is fairly stabile in
14 that kind of environment. The other components --
15 though arsenic is associated with other iron species
16 that are more bile -- mobile -- and that certainly is
17 reflected in the -- in the test results, the geochemist
18 -- geochemical testing of the sediments themselves.
19 That was captured and reflected in the modelling that
20 we set up and did, as I mentioned earlier.

21 The evolution of water quality and
22 sediment quality is part of the overall assessment,
23 risk assessment that we did. As previously mentioned,
24 the proposals relative to remediation of the site --
25 not just water treatment, but also the other

1 remediation activities -- are going to result in an
2 overall improvement in the arsenic loading going into
3 that system.

4 So we've -- we're -- we've evolved from
5 a period of time where we had in the order of 25,000
6 kilograms per year of arsenic being discharged into
7 Back Bay area in Yellow -- in North Yellowknife Bay in
8 the early years operation down to today, where we're --
9 we're less than a thousand and moving downward.

10 So the system is responding and
11 improving, and that's part of what we've projected.
12 Those projections for risk -- for water and sediment
13 are carried forward into the risk assessment.

14 Certainly from a water point of view,
15 there's -- there are no residual issues within
16 Yellowknife Bay. Sediments, granted, are -- have
17 elevated arsenic. There is some effect certainly on
18 the benthic communities that are there. And that's
19 going to take many decades probably to -- to rectify.

20 THE CHAIRPERSON: Review Board
21 staff...?

22 MS. KATHERINE ENNS: Kat Enns. Thank
23 you. Well, my last question has to do with oxygenation
24 of those sediments and -- and methylation of -- of
25 arsenic in that environment from turbulence.

1 And I'm wondering if you -- if your
2 monitoring program is planning on determining what the
3 methylation fates of arsenic are in the -- in sediments
4 and their subsequent toxicology.

5 THE CHAIRPERSON: Thank you. I'll go
6 to the Developer to the question.

7 MR. BRUCE HALBERT: Thank you, Mr.
8 Chair. Bruce Halbert. As I mentioned, there has been
9 sediment geochemistry work done. That includes the
10 testing -- sequential extraction test work to -- to
11 identify how arsenic is -- is tied up in the sediments,
12 whether it's in a highly leachable form or in a very
13 stabile form.

14 Half -- or, say 50 percent or so of this
15 -- of the arsenic content in sediments is generally in
16 a fairly inert, inactive form. The analog to that is
17 that what's in the solid phase will end up also re --
18 being reflected in the pore-water chemistry. And the
19 pore-water chemistry is -- is really what exerts the
20 toxicity effects.

21 So that is quantified, if you will, in
22 parts of the bay. And that -- that information has
23 been considered and carried forward through all our
24 risk assessment work.

25 MS. KATHERINE ENNS: Kat Enns again.

1 Yeah, I guess I -- I would like to find out if the
2 turbulence caused by the diffuser is going to create a
3 trend in methylation of arsenic.

4 THE CHAIRPERSON: Thank you. I'm going
5 to go to the Developer to the question.

6 MR. BRUCE HALBERT: Bruce Halbert, Mr.
7 Chair. As -- I think to put some perspective to this
8 is we mentioned the -- the size of the mixing zone is
9 limited to about an 80 metre by 50 metre diameter if
10 you -- or width stretch within the Bay.

11 The turbulence will be largely aimed
12 upwards away from the sediments. There will be some, I
13 guess, oxidization if you will, potentially of -- of
14 that sediment layer. But -- but oxygen is not a --
15 there are no oxygen limitations in the Bay from the --
16 from any of -- of the profile work that I've seen done.

17 It -- the water column is pretty much
18 saturated from top to bottom. So if anything at all,
19 the -- the outfall diffuser would do would cause some
20 physical disturbance. The effect of that would be very
21 short term, and the system will establish the new
22 equilibrium.

23

24 (BRIEF PAUSE)

25

1 MR. ALAN EHRLICH: Mr. Chair, it's Alan
2 Ehrlich for the Review Board. That concludes questions
3 from the Board staff, Review Board's experts, and from
4 legal counsel.

5 THE CHAIRPERSON: Okay. Thank you.
6 Then I'm going to go to Board member for questions.
7 I'm going to go to my far left, John Curran, Board
8 member...?

9 MR. JOHN CURRAN: Thank you, Mr.
10 Chairman. A question for the Developer. I think Alan
11 actually raised a good point, an important one before
12 lunch, that it's hard to explain some of these issues
13 and concepts to people who aren't water experts or
14 mining engineers.

15 In terms of the use of the diffuser and
16 -- and your mixing zone that you're proposing, which
17 our -- our expert seems to definitely be against, could
18 you speak to how common this technology is and the --
19 the size of your mixing zone relative to other projects
20 in the North? Thank you.

21 THE CHAIRPERSON: Thank you. To the
22 Developer to the question.

23 MR. JOHN HULL: Mr. Chair, John Hull.
24 The -- the mixing zone is a relatively small area,
25 given some of the other projects that we're aware of.

1 For example, there are several mines in the territory
2 that have mix -- diffusers in mixing zones. They're
3 talking of flows in excess of 30 and 40,000 cubic
4 metres a day. We're talking 3,000 cubic metres a day,
5 so that they're significantly different.

6 This is -- this is a very small area.
7 The expectation is that the mixing zones have been
8 efficient in those areas, and -- but they have
9 different criteria for -- and different lake sizes, so
10 there are differences.

11 We know of -- several have been used for
12 villages or cities, but they're typically in rivers, so
13 they would -- actually in the river, so they're not as
14 appropriate for this -- this review.

15

16 (BRIEF PAUSE)

17

18 THE CHAIRPERSON: John...?

19 MR. JOHN CURRAN: Thank you, Mr.

20 Chairman. In -- in terms of the actual size of those
21 other mixing zones, I think yours is eighty one (81) by
22 fifteen (15). Correct me if I'm wrong on that.

23 But how big would you say that those
24 other mixing zones that are employed by -- in other
25 projects would be?

1 THE CHAIRPERSON: We'll go to the
2 Developer to the question.

3 MR. JOHN HULL: John Hull for the -- I
4 would have to double-check on the actual sizes of those
5 mixing zones. My expectation is they would be larger
6 mixing zones on large part because of the volumes of
7 water that is being discharged on a daily basis.

8 THE CHAIRPERSON: John Curran...?

9 MR. JOHN CURRAN: Could -- could I
10 request that that be done as an undertaking, that we
11 get some comparative sizes on the record?

12 THE CHAIRPERSON: Mr. Donihee...?

13 MR. JOHN DONIHEE: Thank you, Mr.
14 Chairman. I -- I believe -- this is to the Developer -
15 - Board member Curran is wanting to get a bit more
16 information about the relative sizes of those mixing
17 zones. And I'm wondering if you'd be in a position to
18 come back and give the Board some additional
19 information be -- before the end of the week.

20 If not, I'd ask for an undertaking from
21 the Developer to -- to assist the Board member.

22 THE CHAIRPERSON: Okay and, I'll go to
23 the Developer.

24 MR. MICHAEL NAHIR: Thank you, Mr.
25 Chair. Mike Nahir. That -- that's fine. We can --

1 we'll do our best to compile that information before
2 the end of the week. And if not, we will accept it as
3 an undertaking. Thank you.

4 THE CHAIRPERSON: Maybe, just so we're
5 clear -- so end of the week, can we sort of say, like
6 Friday noon or something? And then if we know, then we
7 can do an undertaking thereafter?

8 MR. MICHAEL NAHIR: Thank you. Thank
9 you, Mr. Chair. Mike Nahir. Yes, that's correct.

10

11 --- COMMITMENT NO. 2: Developer to provide more
12 information about the
13 relative sizes of those
14 mixing zones by noon Friday

15

16 THE CHAIRPERSON: Mr. Curran, any
17 further questions?

18 MR. JOHN CURRAN: Nothing further at
19 this point. Thank you to the Developer for answering
20 the question.

21 THE CHAIRPERSON: Okay, thank you. I'm
22 going to take a two (2) minute caucus here. Alan, can
23 I speak with you?

24

25 (BRIEF PAUSE)

1 THE CHAIRPERSON: All right. Thank
2 you. Okay, thank you. I guess we -- we kind of missed
3 a couple of parties here. And my apologies to them. I
4 want to go to Ecology (sic) North, and after that we'll
5 go to, I believe, North -- or, sorry, Yellowknives and
6 then North Slave Metis if they have any questions. I'm
7 going to go to Alternatives North.

8 MR. KEVIN O'REILLY: Thank you, Mr.
9 Chair. Kevin O'Reilly for Alternatives North. I -- I
10 realize we're short of time, so I'll try to make this
11 quick.

12 Back in July of this year, the Developer
13 promised something called a memo, "Best Available
14 Practical Technology for the Giant Mine Water Treatment
15 Plant." And that promise was reiterated again in -- to
16 provide the document in an August 10th letter. And I
17 don't believe it's been filed with the Review Board
18 yet. We've heard some discussion about what -- the
19 importance of this water treatment process and the
20 plant.

21 Can the Developer tell us where this
22 document is at, and can it be filed, please?

23 THE CHAIRPERSON: Thank you, Mr.
24 O'Reilly. I'm going to go to the Developer to the
25 question.

1 MR. MICHAEL NAHIR: A -- a moment, Mr.
2 Chair.

3

4 (BRIEF PAUSE)

5

6 MR. MICHAEL NAHIR: Thank you, Mr.
7 Chair. Mike Nahir. The -- the document itse -- we
8 have not submitted it. The document itself is not
9 final. It's -- it's still being reviewed internally.
10 Thank you, Mr. Chair.

11 THE CHAIRPERSON: Okay, thank you.
12 I'll go to Mr. O'Reilly.

13 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
14 Kevin O'Reilly. So can the Developer tell us when this
15 is going to be ready? Is it going to be finished
16 within the time frame of this environmental assessment
17 so we understand what this water treatment plant may be
18 designed to do?

19 Or maybe they can just explain a bit
20 more about what the purpose of this is and when it's
21 going to be available. Thanks.

22 THE CHAIRPERSON: Okay, thank you. I'm
23 going to go to the Developer to the question.

24 MR. MICHAEL NAHIR: Thank you, Mr.
25 Chair. It's Mike Nahir. I would like to get back to -

1 - I need to find some more information to be able to
2 respond to that. And I would like to be able to get
3 back to that answer later today or tomorrow. Thank
4 you.

5 THE CHAIRPERSON: Okay. So if you
6 can't do it today, it'll be tomorrow. All right. Mr.
7 O'Reilly...?

8 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
9 On -- Kevin O'Reilly, Alternatives North. On slide 16
10 of the -- the presentation there is reference to
11 Northwest Territories diffuser design guidelines. I'm
12 hoping the Developer can just tell us a little bit
13 about these guidelines and if they could file them with
14 the Review Board.

15 I'm not aware of what these are, and I
16 don't think they're on the -- the public registry.
17 Thanks.

18 THE CHAIRPERSON: Okay, thank you. I'm
19 going to go to the Developer to the question.

20 MR. JOHN HULL: Mr. Chair, John Hull.
21 We would be pleased to present or provide the -- the
22 guidelines from -- that have been developed by the
23 Northwest Territories. Essentially, the guidelines
24 set out criteria for designing the -- the diffusers, in
25 terms of discharge in areas. They're fairly -- fairly

1 new. And we will provide those as -- as required --
2 requested.

3 THE CHAIRPERSON: If you're going to
4 provide it, can you give me a time?

5 MR. JOHN HULL: Mr. Chair, John Hull.
6 I should be able to pull them off the appropriate
7 website and give them to you be -- before the end of
8 the week.

9 THE CHAIRPERSON: Okay. Thank you.
10 Mr. O'Reilly...?

11 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
12 Kevin O'Reilly, with Alternatives North. On -- I think
13 we heard in the Developer's presentation that they
14 intend to carry out some far-field water quality
15 modelling, and that they've begun to take some samples
16 of ice thickness and water profiles and so on this past
17 winter, and that this modelling will consider things
18 like local currents, ice thickness, temperature
19 profiles, and the sediment composition and so on.

20 But in their presentation, I think it's
21 actually on the -- the last slide, they reach this
22 conclusion that the project is not likely to be a cause
23 for significant public -- oops, sorry, significant -- I
24 better get this right.

25 Thank you, Michael. It's -- I think

1 it's on the last slide -- or, Adrian.

2

3 (BRIEF PAUSE)

4

5 MR. KEVIN O'REILLY: Yeah. So, sorry,
6 the -- the last line here reads:

7 "The water management system will not
8 result in significant adverse impacts
9 on the aquatic environment."

10 So without having done this far-field
11 modelling so we actually understand what the local
12 conditions are and being able to produce predictions of
13 what the water quality's going to be like in Back Bay,
14 Yellowknife Bay, how can a developer actually reach
15 this conclusion in the absence of those predictions in
16 the modelling?

17 THE CHAIRPERSON: Thank you, Kevin.
18 I'm going to go to the Developer to the question.

19 MR. BRUCE HALBERT: Thank you, Mr.
20 Chair. Bruce Halbert. As we've indicated, the design
21 is such that will meet the surface -- Canadian Surface
22 Water Quality Guidelines for Fresh Water Aquatic Life
23 at the edge in the near-field mixing zone.

24 In the far -- far field, the
25 concentrations of arsenic would be even far less, so

1 quite simply put that there are no adverse effects
2 predicted either within the mixing zone or outside the
3 mixing zone. So the far-field mixing is not necessary
4 in order to come to this conclusion.

5 THE CHAIRPERSON: Okay, thank you. Mr.
6 O'Reilly...?

7 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
8 I -- I guess -- I'm trying to figure out -- I guess
9 with all due respect, we have to disagree. If you
10 haven't done the predictions to know what the water
11 quality is going to be, considering the local
12 conditions, I don't know how you reach this conclusion.

13 So I -- I do want to move on though.

14 We've heard a lot about the ice thinning
15 -- potential for ice thinning today. And the concerns
16 that have been raised around this for actually more
17 than two (2) years now since -- I know I was at a
18 public meeting that the Developer had back in July of
19 2010. I raised concerns about the potential for ice
20 thinning.

21 We raised the issue again, Alternatives
22 North and others, in October of 2011 at the technical
23 sessions. We were told -- and I believe it's in the --
24 the transcripts of that session -- that the Developer
25 considered this to be a matter of high priority.

1 So here we are now, eleven (11) months
2 later, and we still don't know whether this diffuser is
3 going to cause ice thinning. They haven't done the
4 thermal modelling that's necessary to do that -- to
5 figure that out. So I don't want to ask the
6 consultants this question. My question is to the
7 government: Why hasn't this modelling been done?

8 After more than two (2) years, or four
9 (4) years of an environmental assessment, why is the
10 modelling still not done? Thanks.

11 THE CHAIRPERSON: Okay. Thank you,
12 Kevin. I'm going to go to the Developer, but I believe
13 you -- you were waiving at me slowly. I think you
14 wanted to respond earlier, so maybe you could do that,
15 and then answer that question.

16 MR. BRUCE HALBERT: Thank you, Mr.
17 Chair. Bruce Halbert. I was trying to avoid getting
18 into discussing how we go about determining
19 significance of adverse effects, but there's a whole
20 chapter in the DAR that deals with that procedure. It
21 involves looking at the magnitude, spatial extent, and
22 -- and frequency as three (3) key components. There
23 are other -- several other components that go into
24 establishing adverse -- significant measuring adv --
25 significance of adverse effects.

1 Quite simply, the magnitude is low. The
2 spatial extent is -- is very limited. And as a
3 consequence, you come to the conclusion very quickly
4 that there is no significant adverse effects based on
5 the -- the procedure that's followed in -- in making
6 that judgment.

7 THE CHAIRPERSON: There's the other
8 part of the question. Did you want to come back to
9 that?

10 MR. MICHAEL NAHIR: Yeah. Thank you,
11 Mr. Chair. Mike Nahir. Just to add one (1) small
12 piece to that is that the far -- far-field sampling,
13 the purpose for that is -- is to establish -- further
14 establish baseline, so that's -- it's -- it's somewhat
15 different.

16 With regards to ice thickness and our
17 predictions, our process has been that we have done --
18 fir -- first of all, I'll just state by saying that the
19 government and us are -- we're pre -- committed to the
20 safety of the ice in the area, so we -- we are -- as a
21 result of the diffuser. So we're committed to that
22 safety, so I -- I just want to say that unequivocally.

23 And we have identified a number of
24 mitigations that we believe will satisfy that, and --
25 and there's a whole variety of mitigations that we've

1 laid out, and more of that would be dealt with in the -
2 - in -- in the detail design process.

3 But with respect to the sen -- the --
4 the work that's being done is we've done some
5 preliminary assessment, and we're happy with that. And
6 what we're doing is we're going to start doing a whole
7 one (1) year further study on all those things that
8 John's mentioned, and that will validate or require us
9 to make some changes to the -- to the system in order
10 to -- to meet that standard that we're committing to.

11

12 So I'm -- I'm not sure how to say that
13 more plainly other than to say that we are committing
14 to the safety for recreational purposes of -- due --
15 due to the diffuser.

16 THE CHAIRPERSON: Okay. Thank you.
17 I'm going to go back to Mr. O'Reilly.

18 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
19 I don't think that was an answer to the question I had
20 about why the -- the modelling work hasn't been done in
21 the last two (2) or more years, but I -- I think I need
22 to move on.

23 In slide 24 of the presentation the
24 Developer talks about coordinating an ice thickness
25 monitoring program with the Yellowknife Fire

1 Department.

2 So I'm just wondering: Has the
3 Developer actually had any discussions with the
4 Yellowknife Fire Department. Thanks.

5 THE CHAIRPERSON: Okay. Thank you.
6 Be -- before I go to the Developer I just want to again
7 just remind you that -- that there's some good
8 questions that are coming up that we'd like to have
9 answers to.

10 So if you're able to follow through in
11 your questions to make sure that, you know, it
12 addresses the issues that have -- have been brought
13 here. So if you could at that for me.

14 I -- I want to come back to the next
15 question before Kevin raised or -- if you could come
16 back, he asked you the question about why. So may --
17 maybe if -- if you could take a look at them.

18 Maybe, Kevin, you could repeat that
19 question just so that it's clear.

20 MR. KEVIN O'REILLY: Thank you, Mr.
21 Chair. It's Kevin O'Reilly with Alternatives North.
22 I'm just wondering, this concern about ice thinning was
23 identified more than two (2) years ago, and I'm just
24 wondering why the Devel -- Developer has not done the
25 thermal modelling to determine where, when, and -- the

1 -- the ice thinning may occur in the last two (2)
2 years. You know, they were -- we were told this was a
3 high priority. The work hasn't been done. Here we are
4 at the hearing.

5 So why over the last two (2) years
6 hasn't the work been done? Thanks.

7 THE CHAIRPERSON: I guess the -- the
8 question to the Developer is why. So maybe you could
9 explain that. Thank you.

10 MR. MICHAEL NAHIR: Thank you, Mr.
11 Chair. Mike Nahir. The data that we have is limited,
12 no question about it. We are going to get more data in
13 order to develop that model further.

14 So we've done a preliminary model.
15 We're going to advance the -- our understanding by
16 doing further modelling based on this winter's data.
17 Thank you, Mr. Chair.

18 THE CHAIRPERSON: I'm still looking
19 for why. Can you expand that a little further, please?

20

21 (BRIEF PAUSE)

22

23 MR. MICHAEL NAHIR: All right. So --
24 sorry -- sorry for being a little thick on this
25 question here. I -- I believe that -- it's Mike Nahir.

1 The answer is we've done some modelling and we're going
2 to be doing some more modelling.

3 So the answer to why is -- is we don't -
4 - we respectfully disagree that we haven't done
5 anything and that we -- we're saying that we've done
6 something and that we're going to do more this winter.

7 So that's -- that's the best answer I
8 can give on that. Thank you.

9 THE CHAIRPERSON: Thank you. Mr.
10 O'Reilly...?

11 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
12 I think it's probably just time to move on. I did ask
13 a question though about this slide 24, where the
14 Developer has talked about coordinating an ice
15 thickness monitoring program with the Yellowknife Fire
16 Department.

17 Has the Developer actually had any
18 discussions with the Yellowknife Fire Department?
19 Thanks.

20 THE CHAIRPERSON: Thank you. To the
21 Developer to the question.

22

23 (BRIEF PAUSE)

24

25 MR. MICHAEL NAHIR: Thank you, Mr.

1 Chair. Mike Nahir. The -- my understanding -- is and
2 I'm just getting via note here, so I -- I'm not -- I
3 don't have a perfect handle on this answer here but --
4 other than to say it is -- my understanding is there
5 has been some communication with the fire department,
6 in terms of what protocols they use and their process.
7 It was done with the deputy fire chief. So that --
8 that's my current understanding. Thank you, Mr. Chair.

9 THE CHAIRPERSON: Thank you. Kevin
10 O'Reilly...?

11 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
12 I'm just wondering then if Mr. Nahir doesn't have the
13 information at his fingertips if they might be able to
14 file something perhaps by the end of the week and just
15 let us know what that communication was and how long --
16 they are along talking to the City about this. Thanks.

17 THE CHAIRPERSON: Okay. Thank you.
18 To the Developer for that request to have that
19 information by the end of the week.

20 MR. MICHAEL NAHIR: Thank you, Mr.
21 Chair. Mike Nahir, we accept that.

22 THE CHAIRPERSON: Again, just -- we
23 could have it around -- just after lunch on Friday?

24 MR. MICHAEL NAHIR: Yes.

25

1 --- COMMITMENT NO. 3: Developer to provide
2 information regarding
3 communication with the
4 Yellowknife Fire Department
5 about an ice thickness
6 monitoring program by noon
7 on Friday
8

9 THE CHAIRPERSON: Okay. Kevin
10 O'Reilly...?

11 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
12 I want to move on a little bit here. On -- on the
13 first day, yesterday, we heard the Developer say that
14 it was their position that there was no significant
15 public concern with this project.

16 And I'm wondering, in light of the
17 discussion we've had here today and the concerns that
18 have been raised around ice thinning, water quality in
19 Back Bay, has the Developer changed its position at all
20 with regard to whether they are of the view there --
21 whether -- whether or not there is any significant
22 public concern with this project?

23 So I'm just wondering if they've changed
24 their view, having heard yesterday and today the
25 concerns about water quality and ice thinning? Thanks.

1 THE CHAIRPERSON: Thank you, I'll go to
2 the Developer.

3

4 (BRIEF PAUSE)

5

6 MR. ADRIAN PARADIS: I -- I think for
7 some -- Adrian Paradis on behalf of the Giant project
8 team. I think it -- for some benefit here, I actually
9 want to read specifically what is being said. Well, a
10 different slide. Okay. Different presentation.

11 "We conclude that the project is not
12 likely to be the cause for
13 significant public concern."

14 Nothing that we've heard or said, I
15 don't -- I think, alters that. The concerns
16 specifically around the diffuser, while we understand
17 the con -- the -- the concern, we think are mitigable.
18 They are standard industry practice, there are standard
19 things that we can do to actually mitigate that concern
20 and en -- ensure their safety.

21 These are public awareness campaigns,
22 these are physical changes in the engineering, these
23 are monitoring. It is an act of communication and it
24 is an act of design. This is something that can be
25 mitigated.

1 I understand the cause of concern, but a
2 lot of it comes from a lack of understanding, and it is
3 a ongoing challenge on behalf of the team that we have
4 to -- that is our -- our responsibility to -- to take
5 on. The more information that is out, I think the more
6 -- more likely concern -- or the lack will be -- be
7 alleviated -- alleviated. Thank you.

8 THE CHAIRPERSON: Kevin O'Reilly...?

9 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
10 Kevin O'Reilly here for Alternatives North. I guess
11 I'll just leave it at that. I'm a bit disappointed to
12 hear that response. But I do want to move on to slide
13 23 of the -- the presentation. And I only have a
14 couple more questions.

15

16 (BRIEF PAUSE)

17

18 MR. KEVIN O'REILLY: Sorry, the slide
19 23 -- Kevin O'Reilly here with -- on the aquatic water
20 stuff. Thank you, Adrian, that's the right one. And I
21 -- I might be wrong, but I think this is the first time
22 I've seen -- as I say, I could be wrong -- the
23 monitoring cycle that's been proposed for the aquatic
24 environment.

25 And I want to just draw the Board's

1 attention to the second bullet there, where it -- it
2 talks about aquatic effects monitoring every three (3)
3 years. I -- I guess I've been involved personally in a
4 -- other -- wearing other hats and so on with aquatic
5 effects monitoring programs for some other large
6 projects. And they have been reporting on an -- an
7 annual basis, rather than every three (3) years, and
8 actually going out and taking samples every three (3) -
9 - sorry, every year, instead of every three (3) years.

10 So can the Developer provide some
11 rationale as to why the monitoring cycle that they've
12 suggested for this particular project, very close to a
13 large community and, we contend, with significant
14 public concern, why we're only looking at a three (3)
15 year monitoring cycle? Thanks.

16 THE CHAIRPERSON: Thank you, I'll go to
17 the Developer.

18 MR. BRUCE HALBERT: Thank you, Mr.
19 Chair. Bruce Halbert. I think we perhaps needs to get
20 some clarity here on the -- what we're referring to.
21 The aquatic effects monitoring here is analogous to en
22 -- environmental effects monitoring under the MMER
23 guidelines. And that is -- I believe, is carried out
24 typically on a three (3) year cycle.

25 But in addition to that, there is the

1 effluent toxicity monitoring that is di -- a
2 requirement and carried out on a much more frequent
3 basis. I would expect that the effluent toxicity
4 testing would be carried out annually, as opposed to on
5 a three (3) cycle. But this effects monitoring is
6 designed for longer cycles.

7

8 (BRIEF PAUSE)

9

10 THE CHAIRPERSON: Okay, thank you. I'm
11 going back to Kevin O'Reilly.

12 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
13 Kevin O'Reilly, with Alternatives North. Well, I know
14 for a fact that with at least the three (3) diamond
15 mines that I'm familiar with, that they do have an
16 annual aquatic effects monitoring program where
17 sampling is done each year for a variety of chemical
18 and physical parameters and is reported on annually.

19 And I think given the proximity of this
20 project to the largest community in the Northwest
21 Territories and the significant public concern that
22 there is, that maybe an annual cycle would be more
23 appropriate.

24 I don't know whether the Developer wants
25 to respond to that in any way, but thanks.

1 THE CHAIRPERSON: Thank you. I'll go
2 back to the Developer to the question.

3 MR. MICHAEL NAHIR: Thank you, Mr.
4 Chair. It's Mike Nahir. We -- this is part of our
5 proposed aquatic effects mo -- monitoring program.
6 We're -- we're open to considering more frequent
7 evaluations if -- if we can -- we'll have another look
8 at that and -- and validate that.

9 Thank you, Mr. Chair.

10 THE CHAIRPERSON: Okay, thank you. Mr.
11 O'Reilly...?

12 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
13 And I -- I do appreciate your patience. One (1) last
14 question.

15 I think on slide 25 of the presentation
16 the Developer talks about one of the benefits of the
17 remediation being from having a year-round water
18 treatment plant, that it'll create additional
19 employment.

20 So can they quantify that in some way
21 for us? How many people work in the water treatment
22 plant that's at the site now? And is it just seasonal
23 work? And how is that going to improve or create
24 additional employment when we move to a year-round
25 operation? Thank you.

1 THE CHAIRPERSON: Thank you. I'll go
2 to the Developer.

3 MR. MICHAEL NAHIR: Thank you, Mr.
4 Chair. It's Mike Nahir. I don't have that information
5 readily available, but we'll be happy to provide that.
6 I'll -- I'll get back today on when I can provide that
7 beca -- I -- I need to discu -- I need to try to find
8 out how soon I can get that information. Thank you.

9 THE CHAIRPERSON: Okay, so you'll get
10 back to me today. But by the end of the week we're
11 still looking to have that information.

12 MR. MICHAEL NAHIR: Yeah, I'll do my
13 best to get that by the end of the week. Thank you.

14

15 --- COMMITMENT NO. 4: Developer to provide
16 information quantifying the
17 benefits of a year-round
18 water treatment plant that
19 would create additional
20 employment, to be provided
21 by Friday

22

23 THE CHAIRPERSON: Okay, thank you. Mr.
24 O'Reilly...?

25 MR. KEVIN O'REILLY: Thanks, Mr. Chair.

1 That's all the questions from Alternatives North.

2 THE CHAIRPERSON: Okay, thank you. I'm
3 going to continue on now to YKDFN, if there's any
4 question for Develop -- the Developer on their
5 presentation.

6 MR. RANDY FREEMAN: Thank you, Mr.
7 Chair. I actually had a very long list, but,
8 fortunately, it's been whittled down with answers --
9 or, questions put forth by others. Sorry, I'm Randy
10 Freeman, with the Yellowknives Dene.

11 THE CHAIRPERSON: Can you put that mic
12 close to you so we can hear you?

13 MR. RANDY FREEMAN: Is that better?
14 Okay. Several years ago, the Yellowknives Dene became
15 aware that the plan was to put in place this diffuser.
16 And at that point, you know, we talked about mixing
17 zone. And -- and perhaps a little melodramatically it
18 began to be referred to by some people as a -- as a
19 "dead zone".

20 And it comes back to the slide that was
21 shown earlier about where the monitoring locations
22 would be. And the -- the resolution on that particular
23 map was not sufficient to -- to show whether or not the
24 intention was to put a -- to -- to monitor aquatic life
25 within that mixing zone or -- or dead zone, if you want

1 to call it that.

2 Is that the intention, to -- to actually
3 look at what's happening close to the diffuser as it's
4 diffusing?

5 THE CHAIRPERSON: Okay, I'll go back to
6 the -- the Developer. But, also, can you also just put
7 that map up on the screen here, too, as well?

8

9 (BRIEF PAUSE)

10

11 MR. BRUCE HALBERT: And it's Bruce
12 Halbert speaking, sorry. My apologies, Mr. Chair.
13 This monitoring location is -- is intended, at the end
14 of the day, to be in the -- in the area of the mixing
15 zone, right in the mixing zone itself. And at -- and
16 at the end of the day, likely we'll be involved
17 sampling in more than one (1) -- one (1) location
18 within that field.

19 But at this point in time, we've
20 attempted to identify the generality of -- of the
21 location. In fact, this wouldn't line up exactly with
22 the location that John showed in another figure
23 earlier, but at the end of the day it would be adjusted
24 to wherever that diffuser is located. It's a water
25 licensing requirement.

1 THE CHAIRPERSON: Sorry, YKDFN...?

2 MR. RANDY FREEMAN: Yes, thank you for
3 that answer. This is a bit of -- a bit of a follow-up,
4 I guess, kind of looking at, I think, of what Alan was
5 trying to get at with the size of the mixing zone, or
6 at least the distance from the -- from the nozzles
7 which the water is then considered safe.

8 Is it -- is there the opportunity here
9 to -- I know you're -- you're going to be following up
10 on -- on particular guidelines, but is there the
11 opportunity here to design and build a water treatment
12 plant that -- that removes all of the arsenic so that
13 we -- we don't have any concern about water being
14 released into Yellowknife Bay?

15 THE CHAIRPERSON: Thank you. We'll go
16 back to the Developer.

17 MR. MICHAEL NAHIR: Thank you, Mr.
18 Chair. It's Mike Nahir. We -- our design is based on
19 a variety of -- of meeting the -- the intention of a
20 variety of different water uses, which we've heard back
21 from the community, and is intended to meet those. And
22 we -- we predict that that will be met.

23 So that -- that includes the ability --
24 or -- for recreation for treatment of drinking water
25 for aquatic life. So we chose a very stringent

1 standard. We have a very small mixing zone. We're --
2 generally speaking, the arsenic load is being cut right
3 down from what is existing. So we -- we feel that
4 we're satisfying the community concerns on that. Thank
5 you, Mr. Chair.

6 THE CHAIRPERSON: I'm going to go back
7 to YKDFN.

8 MR. RANDY FREEMAN: Thank you for that.
9 People in -- Yellowknives Dene consin -- continue --
10 will -- will continue, as long as they are aware that
11 there is some arsenic -- "some arsenic", I mean even a
12 minuscule amount of arsenic, to -- to many, sets off
13 alarm bells, you know.

14 It's -- it's -- and I -- and I think
15 that certainly at a -- to gain a higher level of
16 confidence within the Yellowknives Dene, the -- the
17 goal should be to design and build a water treatment
18 plant that removes all of the arsenic. And I-- I don't
19 even know -- I mean, I'm -- I'm not an engineer,
20 obviously. I mean, is it even possible to do that?

21 Is -- is it something that we should be
22 pushing for here?

23 THE CHAIRPERSON: Okay. Go back to the
24 Developer.

25 MR. MICHAEL NAHIR: Thank you -- thank

1 you, Mr. Chair. It's Mike Nahir. We discussed that
2 very issue, and our -- the information that we've
3 received -- and I'll -- I'll turn it over to our water
4 treatment experts here -- but that the answer is that
5 there is no system that will eliminate arsenic, however
6 minuscule, and that is that -- that -- and that we're -
7 - that we're using an appropriate system for this --
8 for this work. So I'll -- I'll just turn this over to
9 Bob.

10 MR. BOB BOONE: Yeah, Bob Boone, Mr.
11 Chairman. By adding process to the plant, you can
12 reduce the arsenic to less than what this plant is
13 designed for. We haven't considered at the moment what
14 it would take to bring it down to zero, but I can
15 imagine that that would be a very complex plant, or a
16 very energy intensive plant. But we -- we would have
17 to look in more detail.

18 THE CHAIRPERSON: YKDFN...?

19 MR. RANDY FREEMAN: So I guess the
20 answer that I heard was that if enough money were made
21 available and there was enough in the way of public
22 demand, that it could be reduced to pretty damn close
23 to zero?

24 THE CHAIRPERSON: We'll go back to the
25 Developer.

1 MR. BOB BOONE: Yeah. Possi -- sorry,
2 it's Bob Boone. We would have to look into it further.
3 But, yes, it would be a more -- a much more elaborate
4 plant than what's designed here.

5 THE CHAIRPERSON: Okay. Ran -- YKD --
6 YKDFN, Randy Freeman...?

7 MR. ADRIAN PARADIS: Well, a moment,
8 Mr. Chair. We'd just --

9 THE CHAIRPERSON: Oh, I'm sorry.

10 MR. ADRIAN PARADIS: -- like to clarify
11 this comment. Adrian Paradis for the record there.

12

13 (BRIEF PAUSE)

14

15 MR. MICHAEL NAHIR: Mr. Chair, we'd
16 like a follow-up on this, please.

17

18 (BRIEF PAUSE)

19

20 MR. BRUCE HALBERT: Thank you, Mr.
21 Chair. Bruce Halbert. I'm going to try to -- try to
22 provide some context here so we can get our minds
23 wrapped around what we're talking about for loads.

24 I'm going to start with the Yellowknife
25 River. The concentration of arsenic in Yellowknife

1 River is approximately .03 milligrams -- or, micrograms
2 per litre. The load that's being entered -- dumped
3 into it, if you will, into Yellowknife Bay from the
4 Yellowknife River is equ -- equivalent to 200 kilograms
5 per year.

6 As I mentioned previously, we have a
7 loading coming down Baker Creek from upstream of the
8 site. That has nothing to do with the project site,
9 per se. That's equivalent to 220 kilograms per year.

10 We have approximately another 70
11 kilograms per year coming in on the west side of Baker
12 Creek that again is off -- off property. So to put
13 this in perspective, we have, today, about 900
14 kilograms per year coming into Yellowknife Bay from the
15 drainage areas in total, if you will.

16 The -- the treatment plant effluent
17 represents, today, about 290 kilograms per year. We're
18 talking about taking that down in the future to 150
19 kilograms per year. So we're cutting it in half.

20 But irrespective of doing that, we've
21 also -- we still have all this other -- a good fraction
22 of the other load that's going to still be coming into
23 the system. On top of that, as I mentioned previously,
24 we have sediment sitting in the bay that have arsenic
25 associated with them, and they represent a load input

1 to the bay itself as well.

2 Okay. So we've got to get perspective
3 on what we're -- what we're looking at in the total
4 picture of things. Taking the treatment plant down to
5 a very low level -- I don't believe you can get to
6 zero, but a very low level -- we'd still have a large
7 load coming into that system.

8 The system though, being Yellowknife Bay
9 or Great Slave Lake, can assimilate that fairly --
10 fairly readily. And as I mentioned, the current
11 arsenic levels in that system are down to about .9
12 micrograms per litre now, as compared to probably what
13 would be a background level, if nothing were coming in
14 from all the -- from the site area itself, of perhaps
15 .3.

16 So hopefully I've provided some
17 perspective.

18 THE CHAIRPERSON: Mr. Freeman, how
19 many more questions do you have?

20 MR. RANDY FREEMAN: Pardon?

21 THE CHAIRPERSON: How many more
22 questions do you have?

23 MR. RANDY FREEMAN: I can -- I can say
24 maybe two (2), three (3).

25 THE CHAIRPERSON: Okay. And then --

1 MR. RANDY FREEMAN: I'll -- I'll try to
2 be quick.

3 THE CHAIRPERSON: Okay.

4 MR. RANDY FREEMAN: This -- this one
5 (1) should be relatively easy. If there were a
6 catastrophic failure within the water treatment plant
7 and it had to be shut down, what is the length of time
8 between that shutdown and when people should start to
9 become concerned?

10 Is it -- is it hours, days, years?

11 THE CHAIRPERSON: Thank you. I'll go
12 back to the Developer.

13 MR. BOB BOONE: The way the currents --
14 sorry, Mr. Chairman. Bob Boone.

15 With storing water underground, we've
16 got considerable time, because the water simply builds
17 up underground while you are fixing the plant. I don't
18 know if we've put a hard number on it. But if we're at
19 the seven-fifty (750) layer level in the mine today,
20 obviously you've got a huge volume of storage in the
21 mine before you get anywhere near surface.

22 THE CHAIRPERSON: I'll go back to
23 YKDFN, Randy Freeman.

24 MR. RANDY FREEMAN: Thank you for that.
25 We'd like to take a minute, please?

1 (BRIEF PAUSE)

2

3 MR. RANDY FREEMAN: Thank you for that.

4 We -- we are very concerned about the aquatic

5 monitoring that's -- that is being planned and not just

6 the -- the three (3) year interval, but we -- the

7 Yellowknives Dene have a -- have a very -- very close

8 affinity to the coney. And I will actually speak more

9 about that in -- in the presentation a little bit

10 later.

11 But are there plans to make the

12 monitoring somewhat more specific and -- and perhaps to

13 look at -- at what is happening within the -- the coney

14 population. We've had a -- a number of studies done

15 over the last few years with DFO that have looked at

16 what appears to be a recovery in this very important

17 fishery, and yet now talk within the Yellowknives Dene

18 is that a diffuser in the bay will -- will put an end

19 to that recovery.

20 THE CHAIRPERSON: Thank you. I'm

21 going back to the Developer to the question.

22 MR. BRUCE HALBERT: Bruce Halbert, Mr.

23 Chair. As I've stated previously, the -- the load

24 going from the treatment plant discharge currently at

25 290 kilograms per day ultimately ends up in Yellowknife

1 Bay.

2 Moving the diffuser and -- or, the
3 outfall location and putting the discharge into
4 Yellowknife Bay is not anything new. I mean, if the
5 load gets there today, it will get there tomorrow.

6 What -- what we're talking about again
7 is we're reducing that load by approximately 50 percent
8 with the -- with the proposed system.

9 THE CHAIRPERSON: I'll go back to
10 YKDFN, Randy Freeman.

11 MR. RANDY FREEMAN: So if I'm hearing
12 correctly, you -- you expect that the coney will --
13 will perhaps even be more encouraged to come into
14 Yellowknife Bay because there will be less arsenic in
15 the water.

16 Is that -- is that essentially what
17 you're saying?

18 THE CHAIRPERSON: I'll go back to the
19 Developer to the question.

20

21 (BRIEF PAUSE)

22

23 MR. ADRIAN PARADIS: Adrian Paradis on
24 behalf of the Giant Mine project team. One (1) of the
25 commitments that was established and one (1) of the

1 programs that we're trying to develop for the -- for
2 the water quality is -- is the aquatic effects
3 monitoring program under the Mackenzie Valley
4 Environmental -- underneath the Mackenzie Valley Land
5 and Water Board.

6 If I understand the correct -- question
7 correctly, would we consider incorporating YKDFN's
8 concerns into that type of monitoring? Yes,
9 absolutely. If the coney are one of the bigger
10 concerns from the YKDFN, absolutely we would develop
11 and bring that into that aquatic effects monitoring
12 program. Thank you.

13 THE CHAIRPERSON: I'll go back to
14 YKDFN.

15 MR. RANDY FREEMAN: Yes, thank you for
16 that. Health, of course, is a -- a very -- a very big
17 concern for Yellowknives Dene, and -- and well as it
18 should be for everyone.

19 Now the feeling over many, many years is
20 that Giant Mine, and in particular the water in
21 Yellowknife Bay as affected by Giant Mine, has had a
22 major impact on overall health of -- of Yellowknives
23 Dene. And -- and I often hear the question put forth
24 is there -- there has been no -- no attempt at, you
25 know, baseline studies of -- of human health within --

1 within Yellowknife Bay.

2 And -- and perhaps having that done as
3 before, you know, the remediation gets very much
4 further -- I -- I'm not a health expert. I -- I freely
5 admit that. It's -- it's just something that people
6 keep asking me, you know, is -- is -- you know, that --
7 that they want to be reassured that conditions continue
8 to improve for them health-wise in the environment, and
9 in the water, and in the air, and in the -- and has
10 there been any effort put towards, or -- or thought
11 even put towards, some sort of baseline health studies
12 that would -- could reassure the Yellowknives Dene that
13 -- that the future is perhaps a little brighter when it
14 comes to the environment that they live in?

15 THE CHAIRPERSON: Okay. I'll go back
16 to the Developer.

17 MR. MICHAEL NAHIR: Thank you, Mr.
18 Chair. We'd like to take a minute, please.

19

20 (BRIEF PAUSE)

21

22 THE CHAIRPERSON: Okay, the Board
23 members are asking for a break. We'll take a break --
24 a five (5) minute break and then we'll come back, so we
25 will continue on.

1 --- Upon recessing at 2:32 p.m.

2 --- Upon resuming at 2:44 p.m.

3

4 THE CHAIRPERSON: If we get back --
5 back to the table, we can start. And the Developer was
6 going to respond, so if we could get everybody back to
7 the table.

8

9 (BRIEF PAUSE)

10

11 THE CHAIRPERSON: Okay, we'll go back
12 to the Developer. And they were caucusing, so we took
13 a break. So we'll go back to you to answer the
14 question.

15 MS. JOANNA ANKERSMIT: Thank you, Mr.
16 Chair. Joanna Ankersmit. Let me begin by just
17 acknowledging that we understand that the -- the long-
18 term legacy of the Giant Mine is -- is a concern. We
19 are genuinely sympathetic to the concerns that have
20 been expressed by the community members when we have
21 visited N'Dilo and Dettah many times. And we
22 understand that, and agree, that everyone wishes that
23 the legacy of the Giant Mine was different than it is.
24 That said, our project, the project that
25 we're assessing, will have a positive impact on the

1 environment and reduce arsenic releases to the
2 environment. And we cannot commit to a health study as
3 part of the project. We have done extensive human
4 health risk assessments. They have been provided over
5 the years.

6 And I think that something that might be
7 constructive would be to have some smaller sessions
8 within the community that allows us to -- and -- and
9 we've -- we've talked about this with -- with Randy and
10 other over the -- the last number of months.

11 I think that it's very important for us
12 to sit down with members of the community, not
13 necessarily making presentations, but providing them
14 with our experts in an environment in which they can
15 ask questions and that we can communicate the
16 information that we have available from those
17 ecological and human health risk assessments.

18 We've committed to doing that. We have
19 engaged with the community, and we are definitely
20 willing to continue that engagement and ensuring that
21 the information that we have, that makes us confident
22 that this will improve the environment, gets to the
23 people of those communities.

24 THE CHAIRPERSON: Before I go back to
25 YKDFN, Randy Freeman, I was going to ask a question to

1 the Developer.

2 Can you just tell me what your role is
3 and your title, for the record?

4 MS. JOANNA ANKERSMIT: My apologies.
5 Joanna Ankersmit. Program Director, responsible for
6 the Giant Mine remediation project, Aboriginal Affairs
7 and Northern Development Canada.

8 THE CHAIRPERSON: Okay, thank you. I'm
9 going to go back to Randy Freeman.

10 MR. RANDY FREEMAN: Thank you, Mr.
11 Chair. Randy Freeman. If I'm hearing you correctly,
12 you are -- you are telling me that you're confident
13 that what has been done in the past in the way of
14 health studies is sufficient. And yet, I -- I guess
15 I'd like to point out that with the -- the Deline mine,
16 uranium mine and stuff, there was a great deal of money
17 spent on -- specifically on health effects.

18 And, you know, you -- you sit here and
19 you think, Well, okay, it was radiation up there,
20 uranium mining, that sort of thing. But just as --
21 just as devastating was the -- the effect of -- of
22 arsenic. And -- and really, we -- we don't -- I don't
23 think we have a very firm understanding of just what
24 effect that had on health and continues -- perhaps
25 continues to have on health.

1 So I don't know if there's a question in
2 there or not. Is it -- it's just kind of a lack of
3 understanding why this -- this doesn't seem to be --
4 you know, why isn't Health Canada here, you know? I
5 mean, this is a very important question of -- of how
6 this mine has affect -- affected people's health and --
7 and perhaps how it will continue to affect people's
8 health into the future.

9 So why isn't Health Canada part of this?
10 Why aren't they here with -- with information that they
11 could share?

12 THE CHAIRPERSON: Well, before I go to
13 the Developer to that question why, I just wanted to
14 let you know that I also drink the water in the Back
15 Bay here. I'm actually seventy-five (75) years old.
16 And, you know, I just -- I just want to let you know
17 that.

18 Anyways, I'm going to go to the
19 Developer.

20 MS. JOANNA ANKERSMIT: Thank you, Mr.
21 Chair. Joanna Ankersmit. I think I'll take some home.

22 Not to diminish the concern in any way,
23 Randy, I can't speak exactly why Health Canada isn't
24 here. I don't believe that this came up in the
25 Information Requests that we've had.

1 I know there were some questions to some
2 other federal departments over the last few months, and
3 -- and those were provided and responded to in writing.
4 But like I said, I'm confident that this project will
5 make the environment better. I can -- I'm very
6 confident in that.

7 That doesn't help you, I understand, in
8 terms of what you're getting at and the desires I think
9 that you're communicating on behalf of the community.
10 Like we have done in the past, we're certainly willing
11 to have those discussions. It's not the mandate of
12 this project.

13 But that said, there's no reason that
14 this can't be brought up with Health Canada outside of
15 this assessment process.

16 THE CHAIRPERSON: Okay, thank you,
17 Randy. Just -- I was going to ask you how many more
18 questions you have.

19 MR. RANDY FREEMAN: Done.

20 THE CHAIRPERSON: You're done. Okay,
21 thank you, Mr. Randy Freeman, with YKDFN. Next I have
22 on the list is the North Slave Metis Alliance. Any
23 questions?

24 ELDER ED JONES: Ed Jones here. I have
25 a question. Considering that tailings was spilled into

1 Yellowknife Bay for a number of years, I'm wondering
2 what the Developer is going to do about the waters.
3 That's my question. Thank you.

4 MR. ADRIAN PARADIS: Mr. Cha --

5 THE CHAIRPERSON: Yeah, go ahead. To
6 the Developer.

7 MR. ADRIAN PARADIS: Thank you, Mr.
8 Chair. Adrian Paradis, on behalf of the project. I'm
9 not quite sure about the actual question. I -- I think
10 it's regards to the historic foreshore tailings. Is
11 that correct?

12 THE CHAIRPERSON: Mr. Jones...?

13 ELDER ED JONES: I should have added
14 that the tailings was spilled into the Yellowknife Bay.
15 I know the exact location, because I used to go up
16 there in my younger days with a dog team to get wood on
17 that side of the -- the bay. Thank you.

18 THE CHAIRPERSON: Okay, I'll go back to
19 the Developer.

20 MR. BRUCE HALBERT: Thank you, Mr.
21 Chair. Bruce Halbert. The tailings that were placed
22 into -- into Ye -- North Yellowknife Bay occurred in
23 the early year of operation and shortly -- stopped
24 shortly after that.

25 I think what's important to -- to point

1 out here is that over the years, water quality within
2 the bay has -- has improved substantially, as I
3 indicated earlier. Back in the '70s, we had in the
4 order of about 20 to 30 micrograms per litre, I
5 believe, of -- of arsenic present within Back Bay and
6 North Yellowknife Bay.

7 That has continually improved over time.
8 Those tailings that were deposited in there are not as
9 -- a significant source of the arsenic load that --
10 that continues to get into the system today.

11 But the most important point is, is that
12 water quality within the Yellow -- Yellowknife Bay as a
13 whole has recovered substantially, and as I indicated
14 is down to less than 1 microgram per litre today. So
15 that's encouraging. Thank you.

16 THE CHAIRPERSON: Is there any further
17 questions from North Slave Metis Alliance?

18 MS. SUSAN ENGE: Thank you, Mr. Chair.
19 I tend to disagree that Back Bay is a youth potion,
20 because I'm actually twenty (20) years old. I just
21 look older because I've been drinking that water.

22 I do believe it is a walking timebomb.
23 I think it's an entombed legacy of toxic waste that --
24 that we will certainly not forget, and I hope future
25 generations will always remember.

1 For the record, as you know the North
2 Slave Metis Alliance has never been consulted or
3 included in any discussion concerning the water
4 treatment plan that we see here today. We have not
5 been party to the technical discussions and sessions
6 that have been ongoing for the past, I believe, six
7 (6), eight (8) years, whatever it is. So we certainly
8 welcome an opportunity to play a much larger, more
9 significant role as you contemplate the Developer's
10 plan for how to treat water in the future.

11 But we would cert -- certainly recommend
12 that -- that the overall plan does seem inflexible.
13 They have in their mind a way they want to proceed, and
14 there seems to be little negotiation of that method for
15 treating water. That includes the location of the
16 diffuser.

17 And my first question will be: I
18 noticed that the diffuser placement is the furthest one
19 away from the shoreline. I believe you said it was
20 15,000 metres, as opposed to the one (1) closer to the
21 shoreline, which I think -- yeah, somewhere around 800
22 metres. Does that imply, and can I infer from that
23 location, that the reasoning for that is that the
24 cumulative effect of the discharge of arsenic would
25 have a significant and adverse effect on the Bay and

1 the drinking water supply?

2 THE CHAIRPERSON: Thank you. I'll go
3 to the -- the Developer.

4 MR. ADRIAN PARADIS: Adrian Paradis, on
5 behalf of the project team. I'll ask Bruce Halbert to
6 speak to this. Thank you.

7 MR. BRUCE HALBERT: Bruce Halbert, Mr.
8 Chair. The loc -- locating the outfall diffuser was
9 primarily based on getting it to the deepest spot that
10 -- within that northern part of the Bay area, if you
11 will, without running for kilometres and kilometres out
12 into -- into Yellowknife Bay. The -- the first three
13 (3) -- the first locating of the outfall, which
14 identified three (3) potential locations, was based on
15 piezometry mapping, which is bottom contour mapping
16 that was available at that time. That was subsequently
17 upgraded, if you will. And as John spoke to with the
18 new mapping they ended up with locating it to
19 approximately 400 metres north of Latham Island
20 (phonetic), which is the deepest hole in the area.

21 One (1) of the reasons for going for the
22 deep hole is to keep it as far away as you will from
23 the surface, so we have an opportunity to maximize
24 mixing without inter -- interacting with the ice that
25 forms in the wintertime. That's one (1) of the

1 objectives. There are other objectives to the design,
2 but the -- in the context of why it's loca -- situated
3 there, that's why.

4 As far as impacting on the drinking
5 water supply, as we've indicated several times, we --
6 we're going to have a reduced load from what's going in
7 there now from the treatment system is 290 kilograms
8 today, so hundred and fifty (150) in the future. We're
9 not -- we're actually improving the situation. We're
10 not having a negative impact on drinking water quality.

11 The drinking water objective, and I
12 failed to mention this earlier, is 10 micrograms per
13 litre. We're a factor of ten (10) below that
14 objective.

15 Okay. So we're not compromising the use
16 of Yellowknife Bay at all as far as the drinking water
17 supply is concerned.

18 THE CHAIRPERSON: Okay. Before we go
19 to the North Slave Metis Alliance, maybe it's just me,
20 or I don't know what it is, but I mean I'm -- I'm
21 having a problem listening to you guys. So if you guys
22 could put your mics a little bit closer to your -- as
23 you speak, it would be a great, including everybody
24 else around the table. Maybe it's that water I'm
25 drinking maybe. I don't know why. It's -- I'm going

1 to back to North Slave Metis Alliance.

2 MS. SUSAN ENGE: Thank you, Mr. Chair.

3 Susan Enge, Metis Alliance. My second question

4 concerns the incorporation of Metis traditional

5 knowledge. I notice that you have been in dialogue

6 with the Yellowknives Dene. And my question is how do

7 you plan and what impact have already occurred around

8 the Metis use of -- of the lake and the contamination

9 of the waters from Giant Mine, and what plus steps or

10 plans or measures do you foresee implementing in your

11 final proposal to remedy that situation?

12 THE CHAIRPERSON: Okay. Thank you.

13 I'm going to go to the Developers.

14

15 (BRIEF PAUSE)

16

17 MR. ADRIAN PARADIS: Adrian Paradis, on

18 behalf of the project team. I -- I'll try an clarify.

19 I think -- I think what the question is how do we plan

20 to incorporate the North Slave Metis Alliance into our

21 design and our plan for -- going forward. Is this

22 correct?

23 THE CHAIRPERSON: Ms. Enge...?

24 MS. SUSAN ENGE: Thank you, Mr. Chair.

25 Not just -- sorry, Susan Enge, Metis Alliance. Not

1 just incorporate the participation and the ge -- the
2 dialogue that would be generated with participation of
3 the Metis Alliance, but also concerning the traditional
4 knowledge of the Metis in this area, the North Slave
5 region. We have been impacted already, and what steps
6 or measures do you foresee addressing those impacts?

7 THE CHAIRPERSON: Okay. Thank you.
8 I'll go back to the Developer.

9 MR. ADRIAN PARADIS: Well -- Adrian
10 Paradis, on behalf of the project. I will speak I
11 think first to the first half of the question of the
12 dialogue. There is multiple avenues or multiple ways
13 out, we are trying to seek input from all sorts of
14 folks, including the North Slave Metis Alliance.

15 The project team meets regularly with
16 the community alliance, of which the North Slave Metis
17 Alliance are members. Further, we have what's called
18 the environmental monitoring and management -- and we
19 have the environ -- EMS working group of the parties.
20 That is one (1) strong venue, I believe, that the North
21 Slave can participate and talk and bring in their
22 concerns into the monitoring, and discuss the
23 successful criterias.

24 The second half is, I believe -- the
25 second half of your question is: What steps are we

1 willing to take, or what steps are we going to take to
2 address historic concerns. Is that correct?

3 MS. SUSAN ENGE: Thank you, Mr. Chair.
4 Susan Enge, Metis Alliance. Yes.

5

6 (BRIEF PAUSE)

7

8 MR. ADRIAN PARADIS: I -- Adrian
9 Paradis, on behalf of the project. I think the simple
10 answer is we're going to implement the remediation
11 plan. That is the strongest and most direct thing that
12 we can do, is to actually implement our remediation
13 project that is sound, that protects human health and
14 the environment. Thank you.

15 THE CHAIRPERSON: Okay. Thank you.
16 I'll got back to Sue Enge, North Slave Metis.

17 MS. SUSAN ENGE: Thank you, Mr. Chair.
18 I'm sorry, I did not get an answer to my question. I
19 want to know specifically and directly what the
20 developer plans to do to en -- to resolve the impact of
21 Metis in this area using those waters, and hunting and
22 trapping in this area, wildlife impacted by those
23 waters. So specific to Metis, if you would.

24 THE CHAIRPERSON: Okay. Thank you.
25 I'm going to go back to the Developer.

1 (BRIEF PAUSE)

2

3 MR. ADRIAN PARADIS: Adrian Paradis, on
4 behalf of the project. The project team that you have
5 in front of you is responsible for implementing a
6 remediation plan. I'm not trying to be evasive. It is
7 just -- that is the mandate of this project. It is the
8 mandate of the folks that are in front of you. We are
9 here to implement a remediation plan going forward.

10 My understanding of the historical
11 context, or the requests coming forward, or the req --
12 the question is not something that we can speak to.
13 Our best and our most direct answer is the
14 implementation of the remediation plan will address
15 protection of human health and the environment, and
16 that is why we're here. Thank you.

17 THE CHAIRPERSON: Okay, thank you. Ms.
18 Enge, was there any further questions, so we could
19 continue on?

20

21 (BRIEF PAUSE)

22

23 MS. SUSAN ENGE: Thank you, Mr. Chair.
24 Just for the record, I am very disappointed to hear
25 that response. And we look forward to continuing our

1 dialogue with you and to working towards engaging as an
2 Aboriginal rights based participant in this process.
3 And we look for -- continue to look for a remedy in
4 that direction. Thank you.

5 THE CHAIRPERSON: Okay. Thank you.
6 I'm going to move on to -- the next one is Environment
7 Canada? Is there any questions for the presenters on
8 their presentation?

9

10 (BRIEF PAUSE)

11

12 MS. ANNE WILSON: Thank you. It's Anne
13 Wilson, with Environment Canada, and I just have one
14 (1) question for the Developer. The selection of the
15 diffuser location was done based on depth, and with the
16 concurrence of Environment Canada, provided we had a
17 good biological characterization of that area. And I'm
18 just wondering if that work which was promised to be
19 done over this past summer has been carried out and if
20 results will be available for that?

21 THE CHAIRPERSON: Thank you, I want to
22 go to the Developer to the question.

23 MR. MICHAEL NAHIR: Thank you, Mr.
24 Chair. It's Mike Nahir. The -- we -- there -- there
25 is two (2) phases of that work. Phase 1 has been -- is

1 in draft, and we're anticipating that, I believe,
2 within a month or so to -- to be finalized. I mean, a
3 final draft from our side of it, and then to pass that
4 around for comment.

5 And then -- sorry, and then the second
6 half would be carried on next summer, and we'll,
7 of course, share that as we -- as we proceed.

8 THE CHAIRPERSON: Okay. Thank you.

9 MR. MICHAEL NAHIR: Thank you.

10 THE CHAIRPERSON: We'll go back to
11 Environment Canada.

12 MS. ANNE WILSON: Anne Wilson, again.
13 Thank you for that. Will any work be conducted under
14 ice over the winter? Because I think it's important to
15 also characterize the limnology under ice in that area.

16 THE CHAIRPERSON: We'll go back to the
17 Developer. MR. MICHAEL NAHIR: Thank you, Mr.
18 Chair. Mike Nahir. The answer is "yes".

19 THE CHAIRPERSON: Okay. Thank you.
20 Back to Environment Canada.

21 MS. ANNE WILSON: Anne Wilson. That's
22 all. Thank you.

23 THE CHAIRPERSON: Okay, thank you. Was
24 there any questions from the Department of Fisheries
25 and Oceans?

1 MS. BEV ROSS: Bev Ross, Fisheries and
2 Oceans. No questions, Mr. Chair.

3 THE CHAIRPERSON: Okay. Thank you. I
4 want to go back to -- before I go back to the Board
5 members I -- I have one (1) technical staff adviser
6 that's going to ask a question.

7 MS. KATHERINE ENNS: Kat Enns. I was
8 asked to provide examples of treatment wetlands and
9 their efficacy in removal of metals. And so that's
10 kind of on the fly.

11 THE CHAIRPERSON: I'm sorry. Can we
12 move the mic up a bit, please.

13 MS. KATHERINE ENNS: Oh, sorry. Can --
14 can everyone hear me now?

15

16 (BRIEF PAUSE)

17

18 MS. KATHERINE ENNS: Louder? Okay. I
19 was asked to provide examples of treatment wetlands and
20 their efficacy in removing metals. And I came prepared
21 with a couple of papers that were sent to me by Al
22 Mattes and Brent Wootin (phonetic) from Ontario.

23 There's about seven (7) to ten (10)
24 treatment wetlands in the arctic around Hudson's Bay
25 that are primarily septic treatment wetlands. But

1 there are also a couple of examples of metals treatment
2 wetlands and studies on temperatures.

3 So, basically, the principle for
4 wetlands is different for various different metals.
5 Currently, treatment is only in -- in a treatment plant
6 is to precipitate out what -- what metals you have
7 using your hydroxide process. And most of the metals
8 will co-precipitate, as -- as you folks know, but
9 chromium may not, and -- and cadmium may not completely
10 either. So why not develop a treatment wetland, is --
11 is my -- my question?

12 My -- from my understanding -- and
13 please understand I am not a treatment wetlands expert,
14 okay. I do -- I have worked around them. I have
15 sampled around them. I have discussed them and
16 attended symposiums on them, but I -- I urge you to
17 research this yourselves.

18 My understanding is that you build
19 horizontal layers of crushed rock, basically. You need
20 a gentle slope, preferably no slope, you need some
21 room, carbon source material and -- and a reactive
22 media and microbes.

23 You -- generally, anaerobic and
24 facultative heterotrophic bacteria are used. And the
25 bacteria produce ethanol and acetate, and they

1 sequester and move metals down into a precipitate zone
2 where they can be removed.

3 Very similar to your treatment plant,
4 except for one (1) -- or two (2) fundamental
5 differences. One (1) is that it takes quite a bit of
6 time for the process to take place. It doesn't happen
7 instantaneously. It's restricted by some temperature-
8 related issues which require certain design
9 characteristics, such as partial submersion of some of
10 the cells to retain the bacteria over the wintertime.
11 The oxyanions are formed and -- for example, for
12 chromium, and these are reduced to hydroxide.

13 So let me just give you some examples of
14 the efficacy in a paper by Mattes, et. al. in -- you'll
15 have to forgive me, I don't have the journal at the top
16 of the page here. But for the wetland that I know
17 quite well at Trail (phonetic), the input range, this -
18 - this was a constructed wetland that was built as a
19 trial system to test to see if it worked reasonably
20 well.

21 2003, the input range for arsenic was
22 twenty (20) to two hundred and sixty (260) parts per
23 million. The output range was point one (.1) to point
24 -- or five point four (5.4) in the first year of
25 construction. And that was the highest concentration

1 of the output. This is in parts per million.

2 In 2004, the input range was eleven (11)
3 to five hundred (500) parts per million arsenic. And
4 the output range was point zero eight (.08) to two
5 point two (2.2) parts per million.

6 In -- 2005 was an exciting year because
7 the input range was one (1) to three thousand three
8 hundred and thirty (3,333) parts per million, and the
9 output range was point zero two (.02) to point eight
10 (.8) parts per million arsenic coming out of the
11 treatment wetland.

12 In 2006, the input range was nine point
13 four (9.4) to two sixty (260), and the output range was
14 point zero six (.06) to point zero (.0) -- or zero
15 point two four (0.24).

16 Similar numbers in 2007, input range
17 twelve (12) to fifty-nine (59) parts per million
18 arsenic, output range zero -- point zero-six (.06) to
19 point four (.4).

20 Okay. So, now there's another example
21 that -- that Dr. Mattes, et al, provides in their paper
22 of another mine called the Golden Giant Mine in
23 Northern Ontario that has a cyanide problem. And their
24 output range is less than one (1) in an aerated cell.
25 Some cells are aerated; some cells are not.

1 In a BCR cell, the output range was, for
2 cyanide, was 10 parts per million. And these are with
3 -- quite high inputs of cyanide. They don't report the
4 inputs. So I -- I really think that your statement
5 that there are no systems out there that produce very,
6 very low concentrations is perhaps maybe not accurate,
7 that there are some systems.

8 And I'm not saying that they'll be
9 perfect. They may require a certain amount of fiddling
10 around and research. Engineers are good at doing that.
11 Does anyone have any que -- further questions for me on
12 -- on this, or are we done? They're not here
13 questioning, okay, good. That's my statement then.

14 THE CHAIRPERSON: Okay. I'm going to
15 go to the -- to the Developer. Sorry, Mr. Donihee...?

16 MR. JOHN DONIHEE: Mr. Chairman, I -- I
17 -- to be fair to the Developer, they haven't seen this
18 material and I'm wondering if I arrange for Ms. Enns to
19 give it to them as soon as we break this evening.

20 If they do have any questions, it might
21 be easier for them to review the material and just
22 advise the Board in the morning if -- if they want to
23 address it.

24 THE CHAIRPERSON: Okay, thank you. I
25 want to go to the Developer to the question.

1 MR. MICHAEL NAHIR: Thank you, Mr.
2 Chair. Mike Nahir. Daryl's going to make an
3 introductory comment regarding that, and -- and I might
4 follow up, so just -- thank you, Mr. Chair. Daryl...?

5 MR. DARYL HOCKLEY: Daryl Hockley with
6 the -- the technical advisor to the -- to the project
7 team. Normally we would like to see the papers. It --
8 it just so happens that in -- in this case, I'm born
9 and raised in Trail, and I'm very familiar with that
10 case. And in fact, Dr. Mattes has worked with me on
11 another -- on another site, designing a passive
12 treatment system that -- that worked quite well.

13 I'd just like to point out a couple
14 things. These are engineered system. They are not
15 natural wetlands by any means. So they're -- they're -
16 - if -- and the one that -- that I worked on, for
17 example, we had to bring in compost waste from a pulp
18 mill, and we had to mix it with lime brought in from a
19 chemical factory. We had to put that in the ground,
20 and we had to engineer the flow to get through it and
21 stay in it long enough to have a effect. So they're --
22 they're engineered systems rather than natural
23 wetlands.

24 They do work very well for some
25 contaminants. That's -- that's undoubtedly true.

1 Arsenic is not one (1) of the more easily treatable
2 ones. In fact, if you'd asked anybody before Dr.
3 Mattes, they would have said arsenic is not treatable
4 by wetlands. Dr. Mattes has proven it is treatable,
5 and -- and Trail is a very good example.

6 But even in the numbers that -- that you
7 quoted there, that -- that the best numbers were --
8 were still above -- above what we're seeking to do with
9 our water treatment plant. So the idea of using that
10 as a polishing step, which is to say we -- we treat all
11 the water through the plant and then put it through the
12 wetland to be polished, that -- that's not going to
13 work. It -- it can't help us once we're already
14 treated the water. It's all -- the -- the treated
15 water is already below the levels of arsenic that --
16 that that -- that I think is applicable here, so.

17 In -- in sum -- summary, it absolutely
18 is a very good technology in some cases, but we'll be
19 happy to look at the papers. We -- we doubt that it --
20 that it is easily applicable in -- in this case here.

21 THE CHAIRPERSON: Okay, thank you. I'm
22 going to go back to the Review Board technical staff.
23 Mr. Donihee...?

24 MR. JOHN DONIHEE: Mr. Chairman, John
25 Donihee. I just -- there was supposed to be a second

1 part to that answer, wasn't there?

2 MR. MICHAEL NAHIR: Yeah, I -- I think
3 -- it's Mike Nahir. We, I think, would still like to
4 see those papers. I think that would be of interest to
5 us just so that we can understand a little bit better
6 the source and the application, et cetera.

7 I don't know whether we can comment on
8 it tomorrow morning. We've got a full evening of
9 activities, so I -- I'm proposing that we -- we would
10 be open to looking at that as something of interest,
11 but not being able to respond to it right away. Thank
12 you.

13 THE CHAIRPERSON: Okay, thank you.
14 I'll go back to the technical advisers.

15 MS. KATHERINE ENNS: Kat Enns. Thank
16 you for -- for your comments. And my thanks to Bruce.
17 That was a very -- very interesting to hear that you're
18 from Trail. I'm from Castlegar.

19 So, yes, I'm glad to hear that you're
20 interested in at least entertaining the idea. And Dr.
21 Mattes' paper is the -- really the only one I have at
22 the moment. There are other papers. And -- and
23 certainly I didn't intend to imply that this is a
24 completely natural wetland. It's not like some sylvan
25 glade. It is an engineered wetland.

1 The one (1) at Trail is -- has some
2 natural features to it that make it a bit of an
3 attractive nuisance in -- in some respects. And that's
4 one (1) aspect that you have to be careful about, that
5 when you build a treatment wetland, that you protect
6 wildlife from utilizing any part of that part of the
7 wetland that it -- that has metals exposed.

8 So thank you for your comments. I
9 appreciate that.

10 THE CHAIRPERSON: Mr. Donihee...?

11 MR. JOHN DONIHEE: John Donihee, Mr
12 Chairman. Just -- just to close on the -- the process,
13 then, we'll provide the material that Ms. Enns referred
14 to, to the Developer as soon as you break this
15 afternoon. And all I would ask is that they give us
16 some indication, once they have the time to review
17 that, as to whether or not they want to address it any
18 further, at which point, Mr. Chairman, we can bring it
19 back up to you and see if you'll grant us the time.

20 THE CHAIRPERSON: Yes, we can go ahead.
21 And if that's okay with the Proponent, then I think
22 we're okay with that. I'm getting a nod from you, yes?

23 MR. MICHAEL NAHIR: Mike Nahir, yes, it
24 is okay. Yeah.

25 THE CHAIRPERSON: Very good. Okay,

1 we've got one (1) more -- I think one (1) more question
2 from our staff.

3 MR. ALAN EHRLICH: Alan Ehrlich for the
4 Review Board.

5 Bruce Halbert, I'm asking for a point of
6 clarification from you. I thought that in one (1) of
7 your earlier responses you indicated that the project
8 would roughly cut in half the estimated arsenic
9 releases to water -- to surface water. I'm looking at
10 Table 8.4.3 in the Developer's assessment report, which
11 says that the total inputs -- it says that it will
12 almost cut in half inputs to Baker Creek. I understand
13 that.

14 But the total inputs to Yellowknife Bay
15 are current at 910 kilograms per year, and post-
16 remediation will be 690 kilograms per year, which is
17 almost exactly only a 25 percent reduction, not half.

18 Do I understand that correctly?

19 THE CHAIRPERSON: Thank you for the
20 question. I'm going to go to the Developer to the
21 question.

22 MR. ADRIAN PARADIS: A moment, Mr.
23 Chair, while Bruce has the chance to review the
24 material.

25 MR. ALAN EHRLICH: It's -- if it helps,

1 it's on page 8-14 of the Developer's assessment report.

2 MR. BRUCE HALBERT: Yes, Mr. Chair.

3 Bruce Halbert. Yes, the figures you're looking at on
4 that table, Alan, are certainly -- what you're quoting
5 is correct. They do include, though, the loads
6 attributable to upstream of the site and peripheral to
7 the site on the west side.

8 So if we strictly talk about the site
9 itself and the loads coming from the site, we have
10 approximately 220 kilograms per year of surface runoff
11 directly to Baker Creek from the site, currently 290
12 kilograms per year of treated effluent discharge to the
13 creek. We're going to remove that two-ninety (290) and
14 discharge that to Yellowknife Bay as one-fifty (150).

15 We're also -- we are also expecting to
16 see some improvement in the load coming off the site
17 itself as a result of remediation activities. That's
18 been conser -- conservatively assessed to be about a
19 hundred and ninety (190). So -- but not a big
20 reduction, 30 to 40 kilograms per year. I would --
21 hopefully, it's going to be more, but we were trying to
22 be conservative.

23 So it depends on how we put the numbers
24 together and look at it, what the overall reduction is.
25 But from -- to Baker Creek itself, the load reduction

1 would equate to about 60 percent. And to Yellowknife
2 Bay, it's going to equate 25 percent overall.

3 MR. ALAN EHRLICH: Thank you.

4 THE CHAIRPERSON: Is there any further
5 questions? That's it? Okay, thank you. Okay, I want
6 to go back to my Board members. Percy Hardisty...?

7 MR. PERCY HARDISTY: Mahsi, Mr. Chair.
8 I don't have any questions.

9 THE CHAIRPERSON: Thank you. James
10 Wah-shee...?

11 MR. JAMES WAH-SHEE: Thank you for the
12 presentation. I do have some questions, but it's more
13 appropriate to ask tomorrow when they make that
14 presentation. Thank you.

15 THE CHAIRPERSON: Thank you, Mr. Wah-
16 shee. Richard Mercredi...?

17 MR. RICHARD MERCREDI: Yeah, I do have
18 a -- thank you, Mr. Chairman. I do have a couple of
19 questions. One (1) was on the diffusers. It was
20 mentioned that the water -- treated water released
21 through the diffusers.

22 And I'm wondering, will the temperature
23 of the water released through the diffuser be warmer
24 than the water in Yellowknife Bay during the
25 wintertime?

1 THE CHAIRPERSON: Thank you. We'll go
2 to the Developer.

3 MR. JOHN HULL: Mr. Chair, John Hull.
4 The expectation is that it would be above the water
5 temperature in the bay, and the diffuser would manage
6 that. The -- one (1) of the elements that can be
7 managed to improve the performance of the diffuser
8 would be to control the water as it enters the pipe,
9 and then into the -- the bay so that it's close as
10 practical, in engineering terms, to the water
11 temperature in the bay.

12 THE CHAIRPERSON: All right, thank you.
13 Richard Mercredi...?

14 MR. RICHARD MERCREDI: Thank you, Mr.
15 Chair. I just have another quick question. I'm just
16 wondering, the water through the diffusers, you
17 mentioned that the footprint would be small, the mixing
18 zone.

19 Will this water be released
20 intermittently or on a constant basis?

21 THE CHAIRPERSON: Okay, thank you.
22 I'll go back to the Developer.

23 MR. BOB BOONE: Bob Boone, Mr.
24 Chairman. The intent is to have the plant run twenty-
25 four (24) hours a day, so it'll be a continuous

1 discharge.

2 THE CHAIRPERSON: Thank you. Richard
3 Mercredi...?

4 MR. RICHARD MERCREDI: Thank you, Mr.
5 Chair. I just have one (1) further comment. One (1)
6 of the Developers -- or one (1) of the gentlemen there
7 mentioned that the constructed wetlands treatment
8 system doesn't work for arsenic.

9 A couple weeks ago, we were in
10 discussions with a wetlands treatment specialist and
11 she indicated that the wetlands treatment system can be
12 designed for arsenic and that at the site they were
13 dealing with there was natural arsenic leaching out of
14 the mineral-bearing rock, and it was running through a
15 natural wetlands. And the wetlands was, in fact,
16 reducing the arsenic input on the output end by 50
17 percent. So I'm just wondering where your information
18 comes from.

19 THE CHAIRPERSON: Okay, thank you.
20 I'll go back to the Developer to the question.

21 MR. DARYL HOCKLEY: Daryl Hockley. I -
22 - I made that statement earlier. And I -- I think it
23 was perhaps a little confusing the way I put it. What
24 I said was many years ago people used to say you
25 couldn't use a wetland to treat arsenic.

1 But there is more recent work. And Dr.
2 Maddis, (phonetic) which is the person referred to by
3 your expert, is -- is one (1) of the people who has
4 proven to the -- to the world that you can actually
5 remove arsenic by wetlands.

6 THE CHAIRPERSON: Okay, thank you.
7 Richard Mercredi...?

8 MR. RICHARD MERCREDI: Thank you, Mr.
9 Chair. And thanks to the Developer for your
10 presentation. I have no more questions.

11 THE CHAIRPERSON: Thank you. I'm going
12 to go to Rachel Crapeau.

13 MS. RACHEL CRAPEAU: I have -- Rachel,
14 with the Review Board. One (1) question that came up
15 to mind was, over the years, with people who go to
16 Yellowknife River, travel that way in all -- all
17 seasons of the year, and they go that way to -- in the
18 carnival time, dog mushing, they travel through that
19 area.

20 In the winter, some people go
21 snowshoeing. People go -- do snowshoeing. And not
22 long ago, I just went to see my grandmother, her
23 father's grave. He was to -- they took a picture of
24 him fishing at Yellowknife River, and he was using a
25 birch bark canoe.

1 And his great grandson, I see him
2 checking his fish net these days, and he's collecting
3 fish. And on the map, it shows that the diffuser is
4 going to be in the way of the flow of the water, the
5 way the water moves. And when you go to Yellowknife
6 River by boat you have to go a certain way towards
7 there because sediment is -- it loads naturally.

8 But with the diffuser in place it will -
9 - in Dene terms you -- you call that water will boil
10 up. So the mixing zone and the way it plumes will
11 effect the fish plus also the temperature of the water
12 in the winter.

13 What I was wondering about is if you're
14 looking at only one (1) method of treating the arsenic
15 with the treatment plant and maybe really building it
16 up so that it can really do a perfect job of removing
17 as much arsenic as possible, even if there are arsenic
18 around the area, can you also consider using wetlands
19 treatment as a double method to dealing with -- with
20 the people's concerns in -- in this area? Thank you.

21 THE CHAIRPERSON: Thank you, Rachel.
22 I'm going to go to the Developer to the question.

23

24 (BRIEF PAUSE)

25

1 MR. MICHAEL NAHIR: Thank you, Mr.
2 Chair. It's Mike Nahir. We -- we heard the
3 presentation today by Katherine Enns on wetlands and we
4 -- we're open to looking at that paper and trying to
5 understand it a bit more.

6 We're -- we've -- we've presented an
7 option that -- that we feel is protective and -- and we
8 said is safe. But I -- I think it's probably
9 worthwhile to have a look at that as -- as we've heard
10 and -- and be able -- be able to provide a bit of
11 comment on that. Thank you.

12 THE CHAIRPERSON: Thank you. Any
13 further questions, Rachel Crapeau?

14 MS. RACHEL CRAPEAU: My supplementary
15 question to that is then: Why isn't -- and I've heard
16 this question earlier and I wanted to see if we can get
17 an answer to this during the week, is why isn't Health
18 Canada here as part of your team? Because many of our
19 elders and some of our people who are in their thirty
20 (30), forty (40), and fifties (50s) now had -- had hair
21 samples and fingernail samples taken to see about their
22 health.

23 And if people are still using the fish
24 from -- from this place and pretty soon we're going to
25 have that fish run and you should see the people who go

1 to Yellowknife River. Use and -- and -- of the fish is
2 really important and I just wanted to know about this
3 because of, you know, we need to do an assessment and
4 risk assessment on fish health and the fish tissue
5 chemistry.

6 And not only are the Coni are coming
7 back but the trout in this area has come back. We
8 didn't see many trout for many years. But since the
9 mine has shut down some things have changed, but with
10 your project and the water with the mixing zone and --
11 and where the diffuser is going to be is -- is -- it's
12 a huge question for me.

13 So that's -- that's what I was wanting
14 to have an answer to. It doesn't have to be today
15 about Health Canada. Thank you.

16 THE CHAIRPERSON: Thank you. I'm
17 going to go to the Developer to the question.

18 MR. MICHAEL NAHIR: Thank you, Mr.
19 Chair. Mike Nahir. I -- I fully understand and
20 appreciate your quest -- or your -- I understand your
21 perspective.

22 The -- we have committed to furthering
23 our understanding of the environment in terms of
24 developing baseline and understanding it -- and further
25 understanding of our water treatment models, and the

1 risk assessment around that.

2 So we -- so we've fully committed to
3 that, and what we're saying is, is that our project is
4 -- is a net improvement to the environment, meaning
5 that it is an improvement to the environment over the
6 current condition which is already a condition that is
7 better than the conditions that it was before, as
8 you've heard today.

9 So I -- I fully appreciate your -- your
10 point, and understand what you're saying. I -- I can't
11 speak to Health Canada, and why they're not here at
12 this moment, and maybe we can get back to you a little
13 bit on why they're not here. I don't personally know
14 that. They're not part of our team.

15 So I -- that -- that's probably an
16 introductory answer -- probably not a full answer for
17 your question. Thank you.

18 THE CHAIRPERSON: Well, before we go
19 back to Rachel Crapeau, I think we've all been camping,
20 you know, we've all been out in the bush, and this and
21 that, and you know, you plan for a trip and then all of
22 a sudden you go camping, driving down the highway,
23 you've got the groceries and everything else in the
24 truck, and fishing rods, and though we forgot to take
25 our kids, you know.

1 So sometimes, you know -- you know, I
2 think we forgot the key component in this whole thing
3 here in terms of Giant Mine reclamation and this whole
4 project here. And -- and I'm surprised that -- you
5 know, if -- if -- your department didn't bother
6 engaging Health Canada to be here.

7 I mean, this file has been -- I mean,
8 you guys have been in operation on this file for some
9 time, so I'm really surprised that they're not here. I
10 mean, you've got everybody else here except for Health
11 Canada.

12 Anyway, I'm going to go back to Rachel
13 Crapeau. Sorry, John Donihee. Back to Rachel Crapeau.

14 MR. JOHN DONIHEE: John Donihee. Mr.
15 Chairman, I -- I think it's -- it's clear this is an
16 issue, and I -- I guess, you know, rather than have it
17 come back up two (2) or three (3) more times over the
18 next three (3) days, I'm wondering if the Developer
19 would undertake to contact Health Canada, see if they
20 have anybody locally that can assist the Board, or
21 whether they can get somebody here over the next day or
22 two (2) so that some of these questions could be
23 answered for the Board.

24 THE CHAIRPERSON: I'm going to go to
25 the Developer.

1 MR. ADRIAN PARADIS: Adrian Paradis on
2 behalf of the Giant project team. We have contacted
3 Health Canada. They are part of our fix-up support
4 team. There is Environment Canada, as well as --
5 Environment Canada and Environment of Fisheries and
6 Oceans. They're all part of the, I believe, what's
7 called the fix-up secretariat.

8 The -- Health Canada has reviewed our
9 baseline studies fish tissue analysis, and we can
10 submit our human -- our -- our -- so we have -- we have
11 had them as part of our team through our support of our
12 -- some of our key risk assessment documents.

13 As to why a separate fellow of the
14 Department is not here to participate in the
15 environmental assessment, we, as the project team,
16 cannot comment on that. We can make some phone calls
17 to see their availability, but I cannot make any
18 commitments or guarantees on behalf of another fellow
19 department.

20 Our contacts with Health Canada are not
21 local. They are a national organization, and they will
22 be having to come from a southern locale, so I -- at
23 best we can make a phone call, and contact the folks
24 that are -- that -- who are our contacts.

25 And I know -- and I can see the body

1 language that is -- that may not be the most acceptable
2 answer to the Board members, and I -- and I -- thank
3 you.

4 THE CHAIRPERSON: Thank you, Mr. --

5 MR. ADRIAN PARADIS: And I'll ask Mr.
6 Halbert. He's got a quick que -- quick response, too.

7 THE CHAIRPERSON: Okay.

8 MR. BRUCE HALBERT: Thank you, Mr.
9 Chair. Bruce Halbert. Just to add a little
10 perspective.

11 Health Canada was part of the review
12 team going back several years ago when we were
13 presenting the -- the health -- human health risk
14 assessment component of the project, so they did have
15 an input. They haven't, of course, been on the file
16 since recent times, but they were involved at one
17 point.

18 THE CHAIRPERSON: Okay. Maybe before
19 we go back to John, maybe I want to have a two (2)
20 minute conference with John and my Board. Okay, Mr.
21 Donihee, go ahead.

22 MR. JOHN DONIHEE: Thank you, Mr.
23 Chairman. You know, I think that I do under -- I think
24 I understand the role that Health Canada played in the
25 impact assessment process. And, I mean, to me that's

1 distinct assistance. It makes good sense that you had
2 them in early. And it made good sense from the
3 standpoint of the impact assessment that they don't
4 necessarily have to be here to answer the kind of
5 questions that are coming out.

6 But I guess, you know, the -- the
7 fundamental questions really seem to be much of a
8 different nature. You know, we're talking about
9 concerns about people's health and long-term kinds of
10 problems, to me, that are almost, you know,
11 epidemiological in their -- in their nature and that
12 sort of thing.

13 So, you know, the other half of your
14 development team here is the Government of Northwest
15 Territories. They have a Department of Health. I
16 don't think any of them work in Ottawa. And I'm just
17 wondering, you know, whether there -- the territorial
18 government has any resources they could bring to bear
19 on this question.

20 MR. ADRIAN PARADIS: Mr. Chair, maybe
21 we could beg your indulgence of -- you had asked for a
22 brief reprieve to have a caucus. Maybe we can take
23 that mo -- now, respectfully. And we will caucus to
24 talk to our counterparts.

25 THE CHAIRPERSON: Okay, you got two (2)

1 minutes. We'll come right back.

2

3 --- Upon recessing at 3:40 p.m.

4 --- Upon resuming at 3:53 p.m.

5

6 THE CHAIRPERSON: Okay, well, we'll
7 continue on. I think everybody's here. We'll go back
8 to the Developer. I think you guys were caucusing as
9 long as we were, as well, so. Mr. Paradis...?

10 MR. ADRIAN PARADIS: Thank you, Mr.
11 Chair. First I'd like to just put the -- I'd just like
12 to frame where we're -- what we're -- where we're at.
13 The project that's put before the Board is here to
14 immediately address human health in the environment.
15 By its very design, it's built to immediately improve
16 the local environment and start -- and improve human
17 health and protect human health.

18 That said, we are collecting fish tissue
19 samples as part of our baseline work. The -- this work
20 is ongoing. It includes large bodied fish. These
21 results will be -- will be submitted to the regional
22 contaminants body of which Health Canada sits on.

23 From this work, there is Health --
24 Health Canada can do a risk assessment and will notify
25 the GNWT if the results warrant a potential consumption

1 advisory. And then GNWT can -- can advi -- and can
2 issue a health advisory.

3 With that, I'd actually like Mr. -- Dr.
4 Ray Case to speak.

5 DR. RAY CASE: Thank you, Mr. Chair.
6 Ray Case. Yeah, I would just like an opportunity to
7 clarify the -- the role of the Government of Northwest
8 Territories Department of Health and Social Services.

9 The department does not conduct or have
10 the capacity cod -- to conduct health risk assessments
11 on -- on environmental contaminants. The department
12 does participate on the regional contaminants
13 committee.

14 THE CHAIRPERSON: Just a second, Ray.
15 Maybe -- we're just getting too much background noise
16 here. So if people want to speak they could -- if they
17 have to, they could step out, but we want to continue
18 on. Thank you, Ray.

19 DR. RAY CASE: Thank you, Mr. Chair.
20 Ray Case. The Department of Health and Service --
21 Social Service does -- does participate on the regional
22 contaminants committee. The -- the project, as
23 mentioned by Mr. Paradis, can provide and will provide
24 fish samples -- results of fish sampling to that
25 regional contaminants committee.

1 The Government of Canada has the role of
2 doing the health risk assessment. Should there be a --
3 a health risk identified, that information is then
4 transmitted back to the regional contaminants committee
5 and Health and Social Services for issuance of a
6 consumption advisory, if necessary.

7 This is a process that's been set out
8 and it's been very effective for the -- for looking at
9 mercury in fish up and down the Mackenzie -- Mackenzie
10 Valley. Thank you, Mr. Chair.

11 THE CHAIRPERSON: Okay. Thank you.
12 Mr. Donihee, did we -- do you have any comments as
13 well?

14 MR. JOHN DONIHEE: John Donihee. Thank
15 you, Mr. Chairman. I think that certainly clarifies
16 GNWT's role.

17 The only question I guess is whether the
18 work that Health Canada has done, and I confess I'm not
19 familiar with everything on the record, the work that
20 Health Canada has done in assis -- to provide
21 assistance to the Developer, you know, by way of
22 comments on the -- the DAR and -- and other documents
23 that have been produced, are -- are all of those --
24 have -- have those records -- or pardon me, those
25 comments been filed on the record for this proceeding?

1 THE CHAIRPERSON: Thank you. We'll go
2 back to the Developer.

3 MR. ADRIAN PARADIS: Adrian Paradis on
4 behalf of the project team. It's been a long time. I
5 actually don't quite remember. You'll -- I will have
6 to beg our indulgence while we go back and look at the
7 record to see if they're actually on there. We can...

8

9 (BRIEF PAUSE)

10

11

12 MR. ADRIAN PARADIS: Health Canada --
13 thank you, Mr. Chair. Adrian Paradis for the project
14 team. It's been quite some time. I'll have to
15 actually go back and look through the record. There --
16 it's -- I do know that some material was submitted or
17 circulated but I'm not sure what -- in what venue or
18 what form that was done and that information is --
19 where that information is.

20 So, if you give us some time we'll try
21 and find that out and let you know if that record is on
22 the material -- on the record, sorry.

23 THE CHAIRPERSON: Thank you. Mr.
24 Donihee...?

25 MR. JOHN DONIHEE: Thank you, Mr.

1 Chairman. John Donihee. That's -- that's more than
2 fair, but I guess the amount of time available is three
3 (3) days. I mean, all we're asking is whether --
4 whether the information is there.

5 The other way to do this, I suppose,
6 would be simply to ask for you to review that material
7 in your files and to undertake to file any relevant
8 comments made by Health Canada that could assist in
9 addressing these -- these questions that have been
10 raised about the way that effects on fish may -- may
11 affect human health.

12 THE CHAIRPERSON: Okay. Thank you.
13 We'll go back to the Developer.

14 MR. ADRIAN PARADIS: Adrian Paradis on
15 behalf of the project. I -- I actually think it's
16 probably one (1) and the same for the amount of work.
17 We'll endeavour one way or the other to look at what
18 material we have and we will provide it to the
19 registry, if it's not already on there.

20 THE CHAIRPERSON: Mr. Donihee...?

21 MR. JOHN DONIHEE: Thank you, Mr.
22 Chairman. I'm sorry, Mr. Paradis, but either/or is not
23 definite. You know, that's -- that's my problem with
24 your answer.

25 So either tell us which one you're going

1 to do, please?

2 THE CHAIRPERSON: Yes, I'm going to go
3 back to the Developer and we're probably looking at
4 doing an undertaking, so...

5 MR. ADRIAN PARADIS: Yes, we will, as
6 the project team, look at what records are on --
7 currently available on the Impact Review Board's
8 website, and ensure that either Health Canada's
9 comments are available currently. And if they are not
10 available, we will make them available for their
11 comments we've received to date on our human health and
12 ecological risk assessment and the Developer's
13 assessment report. Is that what you're looking for?

14 THE CHAIRPERSON: Okay. Mr.
15 Donihee...?

16 MR. JOHN DONIHEE: Thank you, Mr.
17 Chairman. Thank you, Mr. Paradis. Sir, I suggest we
18 just identify that as Undertaking Number 2. And can
19 that be done -- I think Mr. -- the -- the first one,
20 the -- the Chair allowed for two (2) weeks. Is two (2)
21 weeks enough to do this work and to file that material
22 if you find it?

23 THE CHAIRPERSON: Thank you. And I'll
24 go back to the Developer.

25 MR. ADRIAN PARADIS: Thank you, Mr.

1 Chair. Thank you, Mr. Donihee. Yes, I think two (2)
2 weeks is sufficient for us to do that work.

3 THE CHAIRPERSON: Thank you. So we've
4 agreed to have some undertakings -- already taken for
5 September 25th at four o'clock. So that would be
6 sufficient time to get that done? Okay, thank you.

7

8 --- UNDERTAKING NO. 2: For the Developer to look
9 at what records currently
10 available on the Impact
11 Review Board's website, and
12 ensure that either Health
13 Canada's comments are
14 available currently. And
15 if they are not available,
16 to make them available for
17 their comments the
18 Developer received to date
19 on our human health and
20 ecological risk assessment
21 and the Developer's
22 assessment report. Due by
23 September 25th, 2012.

24

25 THE CHAIRPERSON: I'm going to go to

1 Board member Danny Bayha.

2 MR. DANNY BAYHA: Thank you, Mr. Chair.

3 I just had a question earlier, in your presentation
4 this morning. It seems like a long time. On slide 17,
5 you had a -- a -- had a -- yeah, the -- the location of
6 the diffuser, from -- from that point there. I was
7 just curious, when you decided to choose the location
8 of the diffuser, you said the Giant team decided that
9 was probably the best location.

10 Was anybody from the community of N'Dilo
11 involved in that decision, where it was to be located,
12 and if it was part of their fisheries area? So I -- I
13 was really curious on the involvement of the community
14 in -- in deciding where that diffuser goes. Thank you.

15 THE CHAIRPERSON: Thank you. Maybe to
16 the question -- maybe if we could get a "yes" or "no"
17 to that answer?

18 MR. ADRIAN PARADIS: Adrian Paradis on
19 behalf of the project team. The diffuser location, or
20 the original three (3) locations that we first started
21 to look at were originally selected primarily on depth
22 and suitability from a hydrometric standpoint. Our
23 discussions with the YKDFN or any of the other parties
24 to the EA have been ongoing through the Review Board
25 process and are anticipated to continue through the

1 design and these hearings, yes. Adrian Paradis.

2 THE CHAIRPERSON: Thank you. Before we
3 go back to Danny Bayha, I asked the question as a "yes"
4 or "no." Have YKDFN people, people from N'Dilo, or the
5 chief and council been involved in this process? The
6 answer is "yes" or "no;" that's all I need to know.

7 MR. ADRIAN PARADIS: No. The --
8 primarily -- the location was primarily chosen first
9 and foremost at this point was for technical reasons
10 with the assumption that a technical choice was then,
11 we can discuss the -- the merits of that from that
12 point going forward.

13 THE CHAIRPERSON: Okay, thank you. Mr.
14 Bayha...?

15 MR. DANNY BAYHA: Thank you, Mr. Chair.
16 That's good. The other question I had, earlier in your
17 -- in your presentation you had some -- some predicted
18 concentrations that you would -- willing to -- as your
19 objectives. For example, you have Canadian water
20 quality guidelines that you're willing to meet. I'm
21 just curious about how you would do that, in a sense.

22 And -- and let's say, once you get your
23 water licensing and stuff and say you're going to meet
24 those things, is that -- are these in legislation that
25 somebody can charge you guys if you don't meet these

1 guidelines? Or is it just an objective that -- that's
2 all it is, it's an objective and you can change it as -
3 - at will? So I was just curious, under what
4 regulations would you be, sort of -- or is this self-
5 regulation? Thank you.

6 THE CHAIRPERSON: Thank you, I'll go
7 back to the Developer.

8 MR. ADRIAN PARADIS: Adrian Paradis on
9 behalf of the project team. The guidelines that we are
10 looking at are just that. They are guidelines that are
11 -- and I'll have to look to my team to see if they're
12 the most -- I mean, the best -- best available tech --
13 best available and most stringent guidelines that are
14 available, or -- anyway, let me finish that.

15 The treatment standards are where would
16 be -- what licence or authorization will be coming
17 through the water licence from Mackenzie Valley --
18 Mackenzie Valley Land and Water Board. With that,
19 I'll pass it over to Bruce Halbert.

20 MR. BRUCE HALBERT: That's okay. Bruce
21 Halbert, Mr. Chair. I think just to be clear, we would
22 expect that the licence would specify the end of pipe
23 at the treatment plant to be the point of control; that
24 obviously is where you do have your point of control.

25 The objectives we're establishing in the

1 Bay will be transient as currents move. The -- the
2 plume itself would tend to move around, so you -- you'd
3 have a very hard time going out and establishing one
4 (1) or multiple points. You're actually going to prove
5 that you're meeting it.

6 I think the objective would be in the
7 monitoring program is sporadically go out and do that
8 kind of transact survey to show what the area of
9 influence is of the effluent at any particular point in
10 time, but it wouldn't be a control -- a licensed
11 controlled point.

12 THE CHAIRPERSON: Board member Danny
13 Bayha...?

14 MR. DANNY BAYHA: Thank you. So -- so
15 you're expecting the Water Board, in this case the
16 Mackenzie Land and Water Board, I imagine it is, would
17 be setting those parameters that you would meet, or you
18 would attempt to meet, and they would -- I guess I'm
19 trying to get a -- figure out about how the regulation
20 will be happening in this case -- instant because I'm -
21 - of course, you know -- I'll issue a -- inspectors are
22 from your Department as well then enforce the terms and
23 conditions of the water licence.

24 So I just wanted to get an idea of how
25 that would play out in your -- or if you have

1 considered it. Thank you.

2 THE CHAIRPERSON: Thank you, Mr. Bayha.

3 I'll go back to the Developer to the question.

4 MR. ADRIAN PARADIS: Adrian Paradis on

5 behalf of the project. There's two (2) components.

6 The water quality objectives are established for

7 protection of human health. From that, you get a water

8 licence from the Land and Water Board, Mackenzie

9 Valley, which will define the end-of-pipe limits.

10 If those are in contravention, we are

11 subject to prosecution similar to any other project

12 proponent out there. So our next step is to seek a

13 water licence from the Mackenzie Valley Land and Water

14 -- Land and Water Board. Thank you.

15 THE CHAIRPERSON: Board member Danny

16 Bayha...?

17 MR. DANNY BAYHA: Okay. So that would

18 be under what legislation? Is there -- is there a

19 legislation in place for that? Thank you.

20 MR. ADRIAN PARADIS: Northwest

21 Territories Waters Act, Mackenzie Valley Resource

22 Management Act, Northwest Territories Waters

23 Regulations, Mackenzie Valley Land Use Regulations.

24 Primarily for the water licence it will be the

25 Northwest Territories Waters Act and the Northwest

1 Territories Water Regulations.

2 MR. DANNY BAYHA: Okay, and that's the
3 inspector that will lay the charges?

4 MR. ADRIAN PARADIS: That would be
5 Aboriginal Affairs and Northern Development Canada.
6 There is other Federal legislators out there for
7 Environment Canada or Department of Fisheries and
8 Oceans in relationship to other authorizations, yes.
9 And then there's other fisheries and -- yeah, there --
10 there's other ones, too, after that.

11 MR. DANNY BAYHA: Okay. Thank you.
12 That's all I had. Thank you, Mr. Chair.

13 THE CHAIRPERSON: Thank you -- thank
14 you, Mr. Bayha. Thank you, Mr. Paradis. We took a lot
15 more time on this agenda item, and to probably looking
16 to making some time up I think we're going to go as far
17 as we can til 5:00, and I think we got committee
18 hearings this evening, so tomorrow morning I'm going to
19 suggest that we start at 8:30, and I'm asking everybody
20 to be here on time, and we'll go til noon.

21 And also what I'll do is just to make up
22 the time to get through this presentation because we
23 still got to go through Wednesday's agenda for
24 tomorrow, and -- and then tomorrow evening we're out in
25 Dettah. So we're probably going to take a look at

1 maybe taking a half hour lunch tomorrow, and if we have
2 to -- have to we'll provide lunch, and just so that we
3 are able to make up the time that we lost today.

4 So with that, I'm going to move on to
5 presentations. I believe right now we're going to go
6 to the parties' presentation on water treatment and
7 management. If YKDFN is ready, we can go ahead and set
8 them up and do that. Then we got questions and -- and
9 then we have also Alternatives North, which they have
10 fifteen (15) minutes each.

11 While -- while we're doing that, too, as
12 well getting set up. I just want to make a point as
13 well that despite that, you know, the Developer had
14 made a presentation here on water treatment and
15 management, over the next few days, I might be able to
16 come back, because we may have further questions to --
17 for you, as well.

18 So I just want to let you guys know in
19 advance, as well, so that, you know, anything could
20 happen in the next couple days. So there might be some
21 issues coming up. Thank you.

22

23 POSITION PRESENTATION BY YKDFN - WATER TREATMENT AND
24 MANAGEMENT:

25 MR. RANDY FREEMAN: Are we ready? Yes.

1 Thank you. Thank you, Mr. Chair. I'm Randy Freeman,
2 with the Yellowknives Dene. Now, yesterday we heard
3 Chief Sangris make some very clear statements on what
4 measures the Yellowknives Dene First Nation need --
5 need to see to begin to feel comfortable with this
6 remediation.

7 Now, with mitigations that address
8 Yellowknives Dene concerns on -- on water, on -- on
9 safe land, on -- on socioeconomic benefits, and on
10 accountability and independent oversight are -- are not
11 introduced, Yellowknives Dene First Nation assert that
12 this project will, in the long term, result in
13 significant environmental impacts and considerable
14 community concern.

15 Now, Yellowknives Dene have had -- been
16 closely involved in the production of technical
17 reports. These are on file. We've -- we've had our
18 own tech -- technical experts look at -- at the -- at
19 the DAR. There's nothing further that I can certainly
20 add to that.

21 I mean, we can discuss all day long, if
22 you want, about relative numbers. And -- and that's
23 what they are. They're just numbers. But I -- I
24 believe the Chief's statement stands for itself. It's
25 a very strong, powerful statement.

1 And I'm here, I guess, to try to
2 reinforce that, to -- to say that you have before you a
3 very important -- well, when it comes to water, we've
4 got to get it right. You know, the Yellowknives Dene
5 have been living and prospering from living on what was
6 once a very productive bay and a very productive river.

7 And this is a cycle of -- of life that
8 they have had for, arguably, thousands and thousands of
9 years. And to have Yellowknife Bay remain static or
10 for it to -- to deteriorate or to perhaps not recover
11 as quickly as it could is -- is really what we're all
12 about here.

13 I've -- my background -- particular
14 background is in archeology and traditional knowledge.
15 And -- and I've spent the better part of the last
16 twenty-five (25) years working on gaining knowledge on
17 who the Yellowknives Dene are, their -- their life
18 patterns as they used to exist and that sort of thing.

19 And -- and the reason that I have
20 mentioned coney and talking about coney and the study
21 of coney, how important it is, because really when it
22 comes right down to it, the Yellowknives Dene define
23 themselves a very cultural essence of who they are is -
24 - was based on coney and on caribou. Without either,
25 they would not have been who they are and who -- who

1 they still are.

2 The Yellowknife River was a very, very,
3 very important part of that, and Yellowknife Bay. And
4 it was the coney who traditionally would come into this
5 bay, up the river. And that was where they would be
6 netted and -- and dry fish was made. And that what was
7 -- was what allowed people to then travel out towards
8 Mackay Lake, which coincidentally, right to the area
9 where Courageous -- where the Seabridge Mine is being
10 developed, or will be developed and will eventually
11 come before this Board.

12 So I find that quite ironic that we're
13 with those two (2) very places that are the most
14 symbolic, most -- that create the -- the identity of
15 the Yellowknives Dene.

16 I came across a document recently, which
17 the very first anthropologist to come into the
18 Yellowknife Bay described an amazing sight up the
19 Yellowknife River, very close to Tartan Rapids, of --
20 of coney drying racks that -- that covered the entire
21 side of a hill and -- and hundreds and hundreds of --
22 of Yellowknives Dene there drying fish, getting ready
23 to -- to head north in the fall to meet the caribou.

24 And I was quite amused to -- to find
25 that he called these people the -- the Crapeau Brigade,

1 so Rachel Crapeau's family. You know, this is a
2 hundred and thirty (130) years ago. It was -- it was
3 one of those sort of overlap in time that people got to
4 see how -- how the Yellowknives Dene lived a very long
5 time ago. So for the Yellowknives Dene, symbolically
6 at least, you know, the -- the coney, the water in the
7 bay, the sorts of things that people used to do are --
8 are very important.

9 The Yellowknives Dene, I mean, we have a
10 whole lineup of -- of expert here -- experts here. I
11 mean, for the Yellowknives Dene, you know, the -- the
12 experts are the Elders, and the Elders are the people
13 that tell us that it's the water, you know, that -- you
14 can't have a meeting without somebody mentioning water
15 and -- and how they feel about it.

16 And -- and so the -- the very important
17 decisions that have to come from this Board are the
18 recommendations to the Minister. Have to always keep
19 that in perspective, that the water is very, very
20 important.

21 And I've -- I mean, I'm not a
22 Yellowknives Dene member, I simply work for them. And
23 perhaps I can ask Fred Sangris to -- oh, he's looking
24 back there. Perhaps I can ask Fred Sangris to come up
25 and to -- to perhaps reenforce or -- or whatever, what

1 I have -- what I've had to say. He can -- he's -- he's
2 much more eloquent at this than I -- than I am.

3 THE CHAIRPERSON: Mr. Freeman, just --
4 just because I've got a time limit, we allowed fifteen
5 (15) minutes, so just -- it's been time. So I just
6 wanted to give you a head's up on that. Do we have a
7 timer?

8 MR. RANDY FREEMAN: Okay. Yep. Yep.
9 So...

10

11 (BRIEF PAUSE)

12

13 MR. FRED SANGRIS: Thank -- Mahsi.
14 Mahsi.

15

16 (INTERPRETED FROM TLICHO INTO ENGLISH)

17

18 ELDER FRED SANGRIS: I'm going to share
19 a little bit of information with you. In the past our
20 ancestors -- I will talk a little bit about that. As
21 Aboriginal people, we live here, we -- we eat very
22 well. And as to how we work, how we used to fish, med
23 -- medicine and so forth, that is very important to us.

24

25 (INTERPRETATION CONCLUDED)

1 ELDER FRED SANGRIS: And when the mine
2 started here in 1940s, many of our ancestors, many of
3 them gone now, were really concerned. One of the
4 concern that they had was that this mine in the future
5 will have a great impact on our lives and that the
6 people who are mining are not going to pack up their
7 suitcase and leave the area.

8 They're going to stay and mine and it
9 will really have an impact on our way of life,
10 including a violation of our treaty rights. We have a
11 -- a Crown relationship, nation to nation, with the
12 Queen of England, a treaty that still exists today and
13 is still valid.

14 And many of the treaty that we hold have
15 been violated over the years, and we still live by it.
16 And Canada's interest is to protect us and look after
17 us, and we still have to see that.

18 In 1950 -- our story goes back in 1950s,
19 when one of the worst things that ever happened to us -
20 - and we still have good memories of it in our
21 community; we still talk about it in Dettah and N'Dilo
22 -- is that two (2) children, two (2) Dene children,
23 lost their lives because somebody gave the mines a
24 permit to go ahead and use many of the arsenic into the
25 atmosphere and sulphur trioxide and arsenic in the land

1 use permit. And then somebody else gave them a permit,
2 water licence, to release a lot of ammonia into the
3 water.

4 This really deva -- devastated our
5 lives. Not only that two (2) Dene children lost their
6 lives, but around Yellowknife Bay there were so many
7 dead fish floating around the shorelines. Many of the
8 old people who I heard stories from said they were
9 crying, there may not be any fish around Yellowknife
10 Bay. '51/'52 was the worst years for us.

11 And then in 1969, an Elder in N'Dilo
12 passed away, mysteriously, very quickly passed away.
13 The community asked that there be an autopsy. So the
14 hospital here came to our aid and took a sample of her
15 hair. She was poisoned to death. She had arsenic
16 level in her hair that was ten (10) times higher than
17 normal. She got poisoned from arsenic.

18 Those stories are still alive and
19 there's never been an inquiry. There's never been an
20 commission, investigation, nothing. To our people
21 that's -- that's like a homicide; who done it and why
22 it happened, unanswered questions still today. We're
23 still thinking about it. It never goes away.

24 Now our children and grandchildren are
25 going to hear about those stories as well because we've

1 written it. We've written about it and we tell stories
2 about it. By 1970 it was really bad. The waters in
3 front and Yellowknife Bay, the fish were contaminated,
4 polluted. There was something wrong with the fish.
5 They were pink and they were soft and they were dying.

6 By 1970s, cancer cases in the community
7 became very high. Sometimes five (5) to eight (8) had
8 cancer at the same time in the whole year. It was not
9 normal.

10 Michele Zieky (phonetic) was a -- one
11 (1) of the counsels in N'Dilo, very old, but he spoke
12 good English. He could write letters. He made a -- he
13 -- he contacted people, Health Canada. Nobody
14 listened. He wrote a letter to Ottawa. Nobody
15 listened.

16 So the community contacted Barbara Frum.
17 Barb Frum used to be with CBC Toronto. She came up and
18 talked to people on what's happening with us, our
19 waters, the fish, our health, people had high -- high
20 cancer cases. She made a good story out of it. If you
21 go to Yellowknife here -- Yellowknife for --
22 Yellowknife for a paper here and look in the archive
23 1973, you'll find a front page here of Barbara Frum and
24 it was -- she was interviewed.

25 She made a big story out of it. And as

1 she went back to Toronto, she was saying that she will
2 continue working on those stories. One day she phoned.
3 She said she's not able to come back up north to do a
4 story. Somebody from Ottawa came to Toronto, their
5 office, and somebody told them to kill the story, not
6 to talk about it. It's been silenced ever since.

7 But we're -- we're devastated people, we
8 were. We continue to struggle. We continue to make
9 noise, but nobody came to our aid. It seems as Canada
10 started that extermination one hundred (100) years ago.
11 It seems like it's slowly here, like very quiet and
12 silent, and our people are taking its toll.

13 Many people live in Yellowknife, in the
14 City of Yellowknife, that don't know the history what
15 we've gone through. It was hurt -- hurtful. The
16 children that were -- that died from drinking that
17 water, the parents were given a thousand dollars
18 (\$1,000). Somebody gave it to them. We don't know
19 who.

20 And that -- and that was really, really
21 bad. I remember that year. Many of the fish in
22 Yellowknife Bay, we couldn't eat. I was one of those
23 young fishermans fishing Yellowknife Bay. I could see
24 Elders still fishing, bringing their fish to their
25 homes, and cooking fish. I was one of those young fis

1 -- young fisherman. I could read the signs out there
2 on the island. Do not eat the fish. Do not drink the
3 water, do not swim in it, exactly as Ed Jones mentioned
4 it the other day. I seen that same sign.

5 But nobody came to our community to aid
6 us or do anything. We were left alone, and we were
7 left alone to bury the ones that passed away dead on
8 our own.

9 So the water in Yellowknife Bay has
10 really changed since the operation of the mines. As
11 people we can tell, that the fish in the water could
12 tell. The fish, the trout, the conies can taste the
13 water, can smell the water. It's different. It's not
14 the same.

15 So the fish moved out. It's been
16 seventy (70) years since the trout and the conies came
17 back. They're right in Yellowknife Bay now. They
18 don't know whether they're going to run the river or
19 not. We've been watching them for the last few years.
20 The trout has stopped right here in -- in the bay.
21 They're not running the river. There's something
22 wrong. They're afraid to run the river maybe. The
23 coney and all the other fish that come to the river are
24 -- have stopped running. Only the river whitefish runs
25 the river now and some ciscoes.

1 But the time that we live here, it's
2 really devastated us. The water is not the same. I
3 heard stories where people used to drink the water.
4 The tea was good. Children swam. The food was good
5 underwater. The medicine plants on the shoreline were
6 good. But they're all gone now.

7 No Yellowknives Dene fish on that
8 Yellowknife Bay today -- nobody -- because we're afraid
9 we're going to be next -- canc -- getting cancer and
10 getting that sickness. We have to go thirty (30) miles
11 out to fish beyond Dettah. But nobody's compensate us
12 for the devastation and -- and toll it's taken on our
13 lives in the community. Nobody apologized. Nobody.

14 So a way of life that was promised to us
15 in the treaties is no longer a promise. It's a
16 violation of our treaty rights, because we fished in
17 Yellowknife Bay, and we cannot fish there any more. We
18 get many of our medicine plants in Yellowknife Bay.
19 They don't work any more. Many of the sediment, the
20 mud, 4 inches of it, in Yellowknife Bay, it's all
21 arsenic.

22 For us, this great beautiful bay which
23 used to support our lives, give us all the resources in
24 our culture and our way of life, it's all gone, because
25 the mine was so important to some people that it didn't

1 really matter. Give them the permit. Give them water
2 licence. Jobs are more important. But the Indian
3 people who live here, took its toll, devastated. And
4 we're still like that today.

5 The fish are coming back, and we're
6 happy that they're coming back. But some of the plants
7 we see here, we can see it's not going to work. A
8 diffuser that goes out to the lake, we were not part of
9 it. It was -- it was dreamed, it was brought up, but
10 we were not consulted or had a chance to have any say
11 in it.

12 It's also in the middle of the -- the
13 fish line, migration. And it's also in the middle of
14 the -- our fishing areas at one time. So if one puts a
15 diffuser out there, and the water could be really good;
16 but to the fish it's different. The fish can taste it.
17 They smell it. The quality of water is different, so
18 the fish will never come. The diffuser will be right
19 in their path. And, again, they will leave the
20 Yellowknife Bay, and maybe this time forever.

21 I called on DFO several years ago when I
22 was Chief. They never come to our aid. They don't
23 believe in traditional knowledge, how much knowledge we
24 know about the fish that was gone for a long time. Now
25 we're trying to help and make it come back. They're

1 nowhere around. I thought they'd be screaming and
2 yelling today on this kind of project.

3 But I realized that -- I finally
4 realized they're another federal department. So they
5 must be holding hands somewhere, when one (1) is so
6 silent when they're supposed to be protecting the
7 aquatic life and aqu -- and protecting water quality.
8 That -- that's the laws, that's the Act.

9 So Baker Creek, in that day as we call
10 it, it's all gone. All the blueberries that used to
11 grow there at one time, we can't eat berries there any
12 more. It's not only the Yellowknife Bay and the water
13 that's destroyed. It's 24-miles radius. The -- the
14 tri -- trioxide that blew in the air has gone far.

15 Twenty-four (24) kilometres out, the
16 berries that I collected in 1999, I sent it to McGill
17 University. I wanted to find out what was in it. And
18 there was trace of arsenic 24 kilometres around --
19 away, because of that piped sulfur trioxide. It
20 devastated everything.

21 So many of us are not picking berries or
22 fishing in the river, or collecting medicine plants.
23 The clams, there's clams in the water, too. At one
24 time we used to use that as food. The mussels in the
25 water. We don't eat them anymore. They're all

1 contaminated. The children swam this summer, last
2 summer. We're really concerned about them because
3 they're swimming and kicking up the mud where all the
4 sediments is.

5 At one time we asked INAC many years ago
6 to put some sand at the end of the island so that we
7 can continue to use the water and maybe swim, make it
8 healthy for us, but that never happened.

9 A lot of things we -- our community ask,
10 requested. Nothing. We ask for independent study with
11 Health Canada. There were two (2) studies done by INAC
12 over the years in the '80s and '90s. Those reports
13 were put on a shelf. The third was a independent
14 study. It -- the third report told all the truth. It
15 was put on a shelf, and it disappeared. That report
16 was never spoken again, and the consultant who did that
17 work left. He said his -- his work is not valued here.

18 So you know what we're up against and
19 how we've been treated here in the past, and still like
20 that today. We made a lot of good suggestions,
21 recommendations, how things should be done, but
22 sometimes we're ignored. It's as if this isn't our
23 homeland any more. It's as if we don't exist. But I
24 really hope that people will listen and try to do their
25 best.

1 Yellowknife Bay needs to be cleaned up
2 somehow. Baker Creek needs to be cleaned up. The
3 whole mine site needs to be cleaned up. The most
4 concern we have is what's going to sit underground, two
5 thousand (2,000) -- 270 tonnes of it. And we have to
6 live right across from it while people will go to sunny
7 Kelowna and enjoy their life, and we still have to live
8 across from it every day.

9 Every day we watch, and it's -- it's
10 pain. It's something we don't support. The mine, we
11 never support it and anything that took place here. It
12 just devastated our life. But now that we're talking
13 about plans for cleaning up; well, I think the
14 community engagement has to really happen. The
15 community needs to be really involved, because we
16 haven't really been involved yet.

17 Sometimes there's workshop and sometimes
18 other meetings, but we were not fully full partners in
19 this plans, the -- the remediation. We were not full
20 partners to it. I went to one (1) meeting in N'Dilo.
21 There was only five (5) people showed up.

22 Bill (phonetic) -- remediation, he's not
23 longer -- longer -- no longer with this team. I asked
24 him one (1) question. I said, You know, that 270
25 tonnes of material sitting there has to come out. And

1 he said, Well, we're not going there because we're
2 talking about frozen block, and that's where we're
3 going to go because it's the cheapest cost.

4 At that time I walked out. I knew they
5 weren't going to listen to us, and it's still like that
6 today. Mahsi.

7 THE CHAIRPERSON: Yeah. Thank you,
8 Fred Sangris. I'm just going to skip the questions.
9 I'm going to ask Kevin O'Reilly to do your
10 presentation, and then I'm going to come back to
11 questions. So if we could set that up really quick.

12 Thank you, Mr. Sangris and Randy
13 Freeman. And then we'll -- I'll ask questions around
14 after this -- I'm done here.

15

16 (BRIEF PAUSE)

17

18 POSITION PRESENTATION BY ALTERNATIVES NORTH - WATER
19 TREATMENT AND MANAGEMENT:

20 MR. KEVIN O'REILLY: Shall I start, Mr.
21 Chair? Kevin O'Reilly with Alternatives North. It's a
22 really tough act to follow. I want to thank Fred for
23 his words.

24 There's a very interesting document that
25 was filed on the public registry. It's number 528. It

1 was done by a couple of Memorial University professors.
2 They've actually gone and looked at the archival
3 records about Giant Mine in Ottawa and here in
4 Yellowknife.

5 And it's a really tragic story, but
6 virtually everything Fred said about the way the
7 government handled this is in that report. And I
8 really would urge the Review Board members to have a
9 look at that document. It's quite shocking.

10 I -- I want to move forward with my
11 presentation now on water treatment and management.
12 This is what I'd like to try to cover. I want to talk
13 about the changes in water treatment that are proposed
14 as part of this project, some of the unresolved
15 technical issues in our view, and they're now well-
16 known, of course, ice thinning and water quality.

17 The -- I guess the -- there is a
18 tradeoff involved here. And I -- I understand that
19 better now. We're going to get -- the -- the proposal
20 is to have a new water treatment plant. And the
21 tradeoff is that that water treatment plant will allow
22 the northwest tailings pond to be drained, to be
23 covered, and to stop the dust coming off of that.

24 And I -- but I just don't think the
25 Developer has really explained that tradeoff very well.

1 But with that sort of tradeoff comes a number of other
2 significant changes to the discharge and the timing
3 location of the stuff that's going to come out of the
4 water treatment plant, so.

5 And you all know now that it's going to
6 be -- the discharge is moved from Baker Creek into Back
7 Bay. It's going to -- the -- the current water
8 treatment plant only discharges in the summer, but it -
9 - the proposal is to have this operate year-round.

10 We don't have a final design for the
11 water treatment plant. And, in our view, ice thinning
12 and water quality issues have not been resolved. Now -
13 - and, you know, the Developer had a much better slide
14 than I did, but this is the location of the diffuser.
15 And it's up here in -- in Back Bay.

16 This is 81 metres long. I was trying to
17 think about how can I talk about 81 metres. So I -- I
18 paced off the back of the room there. That wall back
19 there, that's about twenty-six (26) of my paces. So
20 this diffuser is going to be three (3) times the length
21 of that back wall. And that's going to be in the
22 bottom of Back Bay. So I was trying to figure out how
23 to explain how long this thing is. Three (3) times the
24 size of that back wall.

25 So I -- I just -- I should have asked

1 these questions when they were up here. But I just
2 wonder whether they've looked at other sites for this
3 diffuser and perhaps other small lakes around the site.

4 I wonder whether they've looked at a
5 rock outfall rather than just putting it on the bottom
6 of Back Bay. So I don't know. Maybe there might still
7 be a chance to talk about what other sort of options
8 there might be. But obviously the diffuser is a source
9 of a lot of concern.

10 And I mentioned in -- in the questioning
11 that this is not a new issue. It's been raised at
12 least two (2) year -- over two (2) years ago. And the
13 most recent presentation on this before what you saw
14 here today, and this is a direct quote from it:

15 "In June of this year local thinning
16 of ice may occur."

17 That's what the developer told us in
18 June.

19 When we asked them, So what does that
20 really mean and can you commit to not thinning the ice
21 at all. No, can't do that, all we can commit to do is
22 to say that it's going to be safe. So then we asked:
23 Well, what does "safe" really mean. Safe for who? Is
24 it safe for walkers, skiers, snowmobilers, somebody
25 who's on a Bombardier?

1 They couldn't tell us. All they can
2 tell us is that it will be safe. But they haven't done
3 the modelling to know how thin it's going to get and
4 when. So it's our view that this is a strong public
5 concern with this project. And they just haven't found
6 a way to actually resolve this yet.

7 We do know that they collected ice data
8 this past winter. But it hasn't been used to predict
9 wha -- what kind of ice thinning there's going to be.
10 And the Developer ha -- we heard it earlier, they have
11 not carried out thermal modelling of the diffuser
12 discharge to predict what that ice thinning's going to
13 look like.

14 Maybe it won't happen. Maybe they can
15 jig the -- the design around. That's possible. But if
16 you haven't done the modelling, you can't tell us
17 whether it's going to happen or not. So we think this
18 is a significant public safety concern.

19 We heard the Developer on the very first
20 day say they don't think there's any significant public
21 concern with this project. I'm here to tell you that
22 is not the case. I asked them again today, would you
23 change your view after hearing what people have to said
24 -- say. They didn't -- they won't change their view.
25 So I -- I'm just not sure that they're actually hearing

1 what people are saying. They -- they may think that
2 they have a technical solution, but they've got a
3 communications and a public relations problem that's a
4 lot bigger.

5 Sorry. So we recommended that the
6 Developer complete the thermal modelling, do the field
7 work that's necessary. They need to prove to the
8 regulatory authorities that the ice will not be
9 thinned. And they need to carry out their ice
10 monitoring and publicly report the results.

11 How did the Developer respond to that
12 recommendation in our technical report? They said,
13 further discussion is required and they weren't sure
14 what was really meant by the word "approval." They
15 said it was vague. Well, I'm here to tell you the --
16 the word "approval" means a water licence and going
17 ahead with the project. We thought we were fairly
18 clear with this, but.

19 And anyway, in any event, we stand by
20 our recommended measure. You've heard the Developer
21 earlier say that in -- yesterday, that there's no basis
22 for you to make any binding measures. I'm here to tell
23 you we don't believe that's the case and that there is
24 strong public concern with the project. And you -- we
25 think there is a legal basis for you to proceed with

1 binding measures.

2 The other issue now is water quality.

3 We heard earlier that the Developer has not carried out
4 the far-field water quality modelling to predict what
5 it's going to be, what the water quality will be, in
6 Yellowknife and Back Bays. They did a risk assessment,
7 we heard Mr. Halbert talk about that, in 2003. They
8 revised it in 2006. They updated it again in 2010.
9 And, yes, if the water treatment plant is installed it
10 will re -- result in less arsenic going into
11 Yellowknife Bay.

12 But the local issues of -- and factors
13 like sediment disturbance, currents, or ice cover have
14 not been accounted for yet. They have not done the
15 modelling to tell us what the water quality is going to
16 look like. Yes, there's going to be less arsenic going
17 in, but if you stir up arsenic from the -- the sediment
18 maybe it will change the water quality and maybe not
19 for the better. But they haven't done the modelling
20 work to -- to look at that issue.

21 It's our view that you can't use a risk
22 assessment as a -- as a replacement or in lieu of doing
23 good modelling, good predictive work. And I think
24 that's what the Developer is trying to do here. So the
25 risk assessment is not a substitute for good modelling

1 and sound predictions and a -- and a good assessment of
2 the significance of the effects of this particular
3 project. So we think that -- that the finding of the -
4 - the Developer that there's no significant adverse
5 environmental effects is actually unsupported by facts.

6 You've heard, I think, that residents
7 continue to use Back Bay and Yellowknife Bay for
8 drinking water, fishing, and recreation. The city is
9 examining the use of Yellowknife Bay as a -- a drinking
10 water source. You also heard the Developer, in answer
11 to a question from the city -- and I raised --
12 Alternatives North raised the same question, if you
13 have an accident or a malfunction are you prepared to
14 pay the incremental costs for water treatment?

15 The answer from the Developer was very
16 clear. No. And I just dr -- want to draw an analogy.
17 We had a -- a helicopter accident here, I guess it was
18 earlier this -- last winter, where the Department of
19 National Defence was having an exercise. The
20 helicopter ran -- ran into some wires. We were without
21 power for, I think, about ten (14) or fourteen (14)
22 days.

23 At first DND sort of balked about doing
24 anything about it. Then they said, if you have a claim
25 -- to the power corporation, if you've got a claim

1 against us, use what's called the Crown -- a claims
2 against the Crown process and we can try to resolve it
3 that way. These folks haven't even offered that to the
4 city for maybe paying for any incremental water costs
5 if there was an accident or a malfunction.

6 So I just -- you know, either that or
7 you have to go to court. Well, hopefully we could
8 resolve this and get a clear commitment out of the
9 Developer to deal with the issue in -- in a
10 constructive way before something really bad could
11 happen.

12 So I guess I'm here to say that with
13 regard to water quality we believe there is significant
14 public concern around the issue of water quality
15 changes in Back Bay/Yellowknife Bay and that there is a
16 potential for significant adverse environmental impacts
17 from this project to water quality in Back and
18 Yellowknife Bays.

19 So the recommendation that we made
20 around water quality was that the Developer do the
21 following before approval, complete the water quality
22 modelling that they've said they're doing, that they
23 commit to pay for extra water treatment costs in the
24 case of -- of an accident or malfunction, and that they
25 prepare a comprehensive aquatic effects monitoring

1 program.

2 The response from the Developer to our
3 recommended measure was further discussion was
4 required, the term "approval" was vague, but they did
5 agree with the idea of a monitoring program. And I'm
6 here to say that we stand by our original
7 recommendation of a binding measure and we hope that
8 you will see fit to do that. Thank you.

9 THE CHAIRPERSON: Thank you, Kevin
10 O'Reilly. And thank you, YKDFN, for your presentation.
11 I'm going to go through a list. If parties that have
12 questions for the presenters -- I'll quickly go through
13 it.

14 I'm going to go to the Developer. If
15 there's any questions for YKDFN or Alternatives North
16 on their presentation.

17

18 (BRIEF PAUSE)

19

20 QUESTION PERIOD:

21 MR. ADRIAN PARADIS: Okay. Adrian
22 Paradis on behalf of the project team. I'd like
23 further clarifications from Alternatives North. When
24 we stated further discussions were required on the term
25 "approval" what we were trying to -- what our -- what

1 we'd like to know is did you -- did Alternatives mean -
2 - did Alternatives North mean water licensing?

3 THE CHAIRPERSON: Thank you. Kevin
4 O'Reilly...?

5 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
6 Kevin O'Reilly with Alternatives North. It would
7 certainly have been our preference to have sorted this
8 out during the environmental assessment.

9 Here we are after four (4) years still
10 talking about unresolved issues, but if it ha -- if we
11 can't sort it out here then I guess the only place to
12 sort it out will be at the water licensing. Thank you.

13 THE CHAIRPERSON: Okay. Thank you.
14 To the Developers, any further questions to the
15 Alternatives North and YKDFN on their presentations?

16

17 (BRIEF PAUSE)

18

19 MR. ADRIAN PARADIS: Adrian Paradis on
20 behalf of the project team. So I think the first --
21 the first comment here is on complete water quality
22 modelling prior to water licensing, yes, absolutely.
23 That was always the intent, so we can agree with that.

24 Prepare a con -- a comprehensive aquatic
25 effects monitoring program, that has always been a

1 commitment of the Developer's assessment report. And
2 as an -- that's been stated throughout many of the
3 Review Board hearings. So yes, that's -- that's an easy
4 commitment.

5 Commit to pay for extra water quality
6 treatment costs, that was always in relationship to the
7 incremental costs. If there is an accident that the
8 government of Canada is responsible for, claims against
9 the Crown process comes into play.

10 There was another slide, Kevin, and I --
11 I have to apologize. Can you back up to the one on the
12 diffuser.

13

14 (BRIEF PAUSE)

15

16 MR. ADRIAN PARADIS: So if we can get -
17 - seek clarification from Alternatives North if this is
18 in relation to complete thermal modelling and file --
19 file field testing and -- before approval of the water
20 licence -- at the approval of the water licence,
21 provide the regulatory authorities that the ice will
22 not be thinned, provide modelling and evidence at that
23 -- at the water licensing stage, as well as continue to
24 conduct ice monitoring once the diffuser is up and
25 running, as well as publicly report.

1 If we can get clarification that this is
2 at the water licensing, then on post-water licensing we
3 can agree with this -- this recommendation.

4 THE CHAIRPERSON: Mr. O'Reilly...?

5 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
6 It's Kevin O'Reilly here with Alternatives North. I'm
7 going to start -- or I'll start sounding like a bit of
8 a broken record. Our preference would have been to
9 have dealt with this issue during the four (4) year
10 environmental assessment. Here we are the end of it.
11 We're still talking after more than two (2) years of
12 raising this issue about ice thinning.

13 I just don't know why they didn't get
14 the work done, and I tried to ask the question. They
15 didn't have an answer. And -- but if we can't resolve
16 it here we're going to have to look to the Board for
17 some guidance, and it might have to get addressed in
18 the water licensing. But it's still a major public
19 concern. It's a public safety issue. Thanks.

20 THE CHAIRPERSON: Thank you. I'm going
21 back to the Developer. Any further questions for
22 Alternatives North or YKDFN on their presentation?

23 MR. ADRIAN PARADIS: Adrian Paradis on
24 behalf of the project team. No further questions for
25 Alternatives North or the YKDFN. Thank you.

1 THE CHAIRPERSON: Thank you. I'll go
2 to the City of Yellowknife.

3 MR. DENNIS KEFALAS: This is Dennis
4 Kefalas, City of Yellowknife. We have no questions for
5 either parties.

6 THE CHAIRPERSON: Thank you. I'm going
7 to go to North Slave Metis Alliance.

8 MR. BILL ENGE: Thank you, Mr.
9 Chairman. Bill Enge, president of North Slave Metis
10 Alliance. I think I have more of a comment than a
11 question.

12 I would just like to first of all lend
13 our voice, and then echo our sentiments in -- with
14 Chief Sangris, who articulated pretty much what the
15 Elders have informed me about in terms of the quality
16 of the water, the damage done to the water, the damage
17 done to the environment, the damage done to the
18 Yellowknife River.

19 The North Slave Metis people have been
20 sharing this part of the Northwest Territories around
21 the Great Slave Lake with our First Nation
22 counterparts, the Yellowknives, for over two hundred
23 (200) years. And our people have seen the changes that
24 have happened here, and have been subjected to the
25 poisoning of our people, just like our Yellowknives

1 counterparts have. So I just want to say that his
2 views and his expression of what has taken place
3 mirrors the Metis experience.

4 On the other hand to -- to speak to the
5 Alternatives North presentation, we'll have an
6 opportunity as well to do our presentation but I just
7 want to say that their concerns very much mirror the
8 concerns of the North Slave Metis people. And I think
9 this Board is hearing that the Developer just hasn't
10 done enough work to ensure the safety and health of the
11 Aboriginal and non-Aboriginal people and northerners
12 around here.

13 And quite frankly I -- again I reiterate
14 what I said yesterday, which is this Developer's
15 proposal has to go to a higher level of -- of review as
16 -- as the work that they've done thus far and are
17 presenting here just don't add up to our feeling
18 comfortable with this Board approving what they're
19 trying to sell here. Thank you.

20 THE CHAIRPERSON: Thank you. I'm going
21 to go to Environment Canada. Is there any questions
22 for the Yellowknives Dene First Nations or Alternatives
23 North on their presentations?

24 MS. AMY SPARKS: Thank you, Mr. Chair.
25 Amy Sparks, Environment Canada. We have no questions

1 at this time. Thank you.

2 THE CHAIRPERSON: Thank you.

3 Department of Fisheries and Oceans...?

4 MS. BEV ROSS: Bev Ross, Fisheries and
5 Oceans Canada. No questions for either party, Mr.
6 Chair.

7 THE CHAIRPERSON: Thank you. I'm going
8 to go to Board technical advisors. Any questions?

9 MR. ALAN EHRLICH: Thank you, Mr.
10 Chair. There are no questions from Board advisors,
11 Board staff, or Board legal counsel.

12 THE CHAIRPERSON: Okay, thank you. I'm
13 going to go to my far right. Danny Bayha, Board
14 member...?

15 MR. DANNY BAYHA: Thank you, Mr. Chair.
16 This may be a question for Mr. -- Alternatives North.
17 On the report that you mentioned 523, can you be more
18 specific on that report? Is that -- is that the same
19 one that the YKDFN presented to the information -- the
20 third report that they were talking about? Is that the
21 same one? Thank you.

22 THE CHAIRPERSON: Okay, thank you.
23 Kevin O'Reilly...?

24 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
25 Kevin O'Reilly with Alternatives North. Thank you, Mr.

1 Bayha, for the question. It's document number 528 on
2 the public registry. It's called "Giant Mine history
3 summary." And it was done by a couple of researchers
4 from Memorial University, which is in St. John's,
5 Newfoundland.

6 I've met with these fellows. They're
7 university professors. But they went into the archives
8 in Ottawa and here in Yellowknife. And they went and
9 looked at government records related to Giant Mine and
10 how it was managed by the government. And there's
11 letters back and forth between the mine -- the mine and
12 the government and, you know, I guess the precursor to
13 DIAND or AANDC, health and welfare and so on.

14 And so they put this paper together.
15 And it -- it's been filed now on the public registry.
16 And it's a really good review of what there is in the
17 archives that tells us how the government was managing
18 this site back in the 1940s and '50s, and even up into
19 the '60s and '70s. And, quite frankly, it's shameful.

20 But I'll stop my comments on it. And I
21 -- I would urge the Review Board to look at that
22 document yourself. Thank you.

23 THE CHAIRPERSON: Thank you. Board
24 member Danny Bayha...?

25 MR. DANNY BAYHA: Thank you, Mr.

1 O'Reilly. Thank you for you presentations.

2 THE CHAIRPERSON: Thank you. Board
3 member Rachel Crapeau...?

4 MS. RACHEL CRAPEAU: Mahsi cho for your
5 presentation. I have no question at this moment.

6 THE CHAIRPERSON: Thank you. Board
7 member Richard Mercredi...?

8 MR. RICHARD MERCREDI: Yeah, thank you
9 for your presentation, but I have no question at this
10 time.

11 THE CHAIRPERSON: Thank you. Board
12 member James Wah-shee...?

13 MR. JAMES WAH-SHEE: Well, I'd like to
14 thank the former chief from Yellowknife for his
15 presentation. It was very informative to explain the
16 legacy of the aboriginal people that live here and the
17 relationship that they had not only with the government
18 but also with the industry.

19 And also I'd like to thank Alternatives
20 North for their presentation, as well. And I have no
21 questions. Thank you.

22 THE CHAIRPERSON: Thank you. I'm going
23 to go to Percy Hardisty, Board member.

24 MR. PERCY HARDISTY: Mahsi, Mr. Chair.
25 I don't have any questions.

1 THE CHAIRPERSON: Thank you. Board
2 member John Curran...?

3 MR. JOHN CURRAN: Thank you, Mr. Chair.
4 I'd like to start by saying thank you to former Chief
5 Sangris for sharing traditional knowledge and helping
6 to enlighten the Board on the -- the legacy of Giant
7 Mine, what it's done to your people and, as well, in
8 Bill lending his support, what it's done to his people
9 as well. So thank you both for that.

10 I guess first, a bit of a comment.
11 Shame on our city. This is an issue of huge public
12 concern, but we're not seeing the public turnout. If
13 we take the army of the Developer and the mercenaries
14 of the Review Board out of the picture here, we had
15 more people in town for a hearing related to a small
16 mine in Tlicho lands. We had more people flying in
17 from Gameti, Whati and Wekweeti to participate.
18 Hopefully we'll -- we will reverse that trend going
19 forward here in the next few days.

20 That said, certainly there --
21 Alternatives North does represent a number of people,
22 I'm guessing, through its membership. I guess a
23 question to Mr. O'Reilly. How big is your membership?
24 Thank you.

25 THE CHAIRPERSON: Thank you, Mr.

1 Curran. I'm going to go to Kevin O'Reilly.

2 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
3 It's Kevin O'Reilly here, with Alternatives North. And
4 I thought this question might get asked, so I -- I
5 wanted to -- I talked to -- I don't look after
6 memberships, per se, but -- so I did talk to somebody
7 in our organization about that. And I -- I do -- if I
8 can find it here. Thank you.

9 It's important to -- to note that
10 Alternatives North is -- we do have individuals who are
11 members, but we're also a coalition of groups that --
12 and I just can't put my fingertips on what I thought I
13 had here. But the -- we have -- we're in the middle of
14 our membership renewal. And sorry, this is my partner,
15 who is one (1) of the co-chairs or -- of Alternatives
16 North.

17 And -- but the members have included in
18 the past, and I'm sorry I don't have it right with me,
19 the Union of Northern Workers, Public Service Alliance
20 of Canada, the United Church here in Yellowknife, the
21 Roman Catholic Diocese of Fort Smith, or Mackenzie Fort
22 Smith, the Centre for Northern Families, the YWCA,
23 Ecology North, NWT Literacy Council -- thank you -- NWT
24 Council for Persons with Disabilities.

25 I think it's also important to note that

1 there are a number of individuals that are involved
2 that don't have affiliations. I think they're
3 numbering in the tens, probably about twenty (20) to
4 thirty (30). But we're also involved with some bigger
5 national coalitions and organizations, including Mining
6 Watch Canada, the National Anti-Poverty Organization,
7 Canadian Peace Alliance, and some others.

8 Sorry, but if you like I'd be happy to
9 put something more formal together for you. But I
10 think you'll get a sense that we are a -- a coalition,
11 there are individuals that are members, and we're also
12 part of a broader co -- national coalitions as well.
13 Thank you.

14 THE CHAIRPERSON: Thank you. Mr. John
15 Curran?

16 MR. JOHN CURRAN: Thank you, Mr.
17 Chairman. Maybe -- perhaps, in terms of clarity, you
18 could provide a list, a full membership list for the
19 record. That would be helpful. Thank you.

20 THE CHAIRPERSON: Thank you. Mr.
21 O'Reilly...?

22 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
23 It's Kevin O'Reilly here. I'm just a -- a little bit
24 hesitant about providing names of individuals without
25 their consent. I'd be happy to provide you a -- a

1 number in terms of the number of individuals who are
2 members. I'm just not sure about the -- without
3 seeking their consent about having their individual
4 names mentioned. But I'm happy to provide a list of
5 the -- of the number and the -- the organizational
6 membership, if -- if that's acceptable. Thanks.

7 THE CHAIRPERSON: Thank you. Board
8 member John Curran?

9 MR. JOHN CURRAN: Are you saying that
10 there's twenty (20) individuals? That was the number
11 you had mentioned at one (1) point. If it is a case
12 where there are twenty (20) individuals, then probably
13 the number is enough there; although, it would be good
14 to understand the -- the organizations that are
15 involved with you through local coalitions, broader
16 coalitions; as the circles expand out, where that
17 reaches to. Thank you.

18 THE CHAIRPERSON: Thank you. I guess
19 the question to Mr. O'Reilly would -- would you be able
20 to make that information available in the next day or
21 so?

22 MR. KEVIN O'REILLY: Thanks, Mr. Chair.
23 Kevin O'Reilly, on behalf of Alternatives North. Yes,
24 I'll provide that tomorrow morning for the Review
25 Board. Thank you.

1 THE CHAIRPERSON: Thank you. Okay, Mr.
2 Curran, is there any further questions?

3 MR. JOHN CURRAN: No further questions
4 at this time, Mr. Chair.

5 THE CHAIRPERSON: Thank you. It's just
6 after five o'clock. We will stop here. We got a
7 evening session here for this evening from 7:00 to
8 9:20. Opening remarks and -- and introductions, a
9 Developer presentation, Developer -- development
10 overview, and public comments. But if we don't have
11 anybody show up, what I'll do is, I'll continue on with
12 the presentation that we missed this afternoon, the got
13 to make up forty-five (45) minutes. So -- but if we do
14 have public come out, then we'll -- we'll proceed. So
15 we'll stop and we'll come back at 7:20. Thank you.

16 At seven o'clock we'll be back. We'll
17 be back at seven o'clock.

18

19 --- Upon adjourning at 5:03 p.m.

20 --- Upon commencing at 7:45 p.m.

21

22 OPENING REMARKS AND INTRODUCTION BY THE CHAIRPERSON:

23 THE CHAIRPERSON: ...and we also have
24 Bob Bromley and Daryl Delaney (phonetic) in the back, I
25 believe. And I want to recognize Gerry Cheezie, a

1 former Chief and Vice Chief of the Dene Nation.

2 So are we just about ready to go? Okay.

3 Thank you. We'll start the evening here. I just want

4 to welcome everyone here for our hearing tonight.

5 Tonight, as you know, we got the Giant Mine Remediation

6 Project public hearing, EA0809-001.

7 On our agenda tonight, we had evening

8 community hearings at Tree of Peace here. And the

9 agenda is that I'll do my opening remarks and

10 introduction, and then the Developer will proceed with

11 their presentation. And overview and then what we'll

12 do is we'll open the mics to public comments. And the

13 people that signed up, we'll -- we'll go in that order

14 that -- that came in the door. And then that -- that'd

15 be our -- the process there.

16 So I just want to say good evening again

17 to everybody here. I'd like to welcome everybody to

18 this community hearing. My name is Richard Edjericon.

19 I'm the Chair for the Mackenzie Valley Environmental

20 Impact Review Board. We are here to listen to what you

21 have to say about the proposed Giant Mine Remediation

22 Project.

23 This development has been jointly

24 proposed by the federal government and territorial

25 government, with Aboriginal Affairs and Northern

1 Development Canada as the lead department.

2 The proposal includes the freezing of
3 237,000 tonnes of arsenic trioxide dust in underground
4 chambers; service/management of several million tonnes
5 of tailings; water management; and -- and release of
6 treated effluent. This also includes the act of
7 management of the facilities necessary for these
8 actions. We're talking about forever.

9 We have reached one (1) of the final
10 stages of this environmental assessment, the public
11 hearing. Over the course of the week, we ask that --
12 we've been -- have public hearings for two (2) days.
13 And tonight when you come up I want you to do your --
14 your best to help the Review Board to understand your
15 views about the proposed development and the potential
16 environmental, socioeconomic, and culture impacts, and
17 your views of the potential significance of this -- of
18 these impacts.

19 The Review Board will fully consider
20 these views while in its deliberation on its decision
21 on -- on environmental assessment. Once that decision
22 is made, the Board will prepare a report of an
23 environmental assessment and send it to the Minister of
24 Aboriginal Affairs and Northern Development for his
25 consideration and that of other responsible ministers,

1 including the territorial government.

2 Before we go any further, I would like
3 to introduce our Board members. And I'll just start
4 off my le -- my far left here. And I'll turn it over
5 to -- just go ahead.

6 MR. JOHN CURRAN: Hello, John Curran,
7 from Yellowknife.

8 MR. PERCY HARDISTY: Mahsi, Percy
9 Hardisty, from Fort Simpson.

10 MR. JAMES WAH-SHEE: James Wah-shee,
11 from Behchoko.

12 MR. RICHARD MERCREDI: Richard
13 Mercredi, Fort Smith.

14 MS. RACHEL CRAPEAU: Rachel Crapeau,
15 from Dettah.

16 MR. DANNY BAYHA: Danny Bayha, from
17 Deline Sahtu.

18 THE CHAIRPERSON: Thank you. And also
19 I'd like to acknowledge our newest Board member, Sunny
20 Munroe. I don't know if she's here, but she was just
21 recently appointed a couple days ago. So -- and she
22 won't be participating on -- in -- in this process at
23 this time.

24 Again, the Review Board is a co-
25 management established by the Mackenzie Valley Resource

1 Management Act. Each Board member brings their
2 knowledge, experience, and values to the Board
3 decision-making process.

4 Our members are Northern -- are
5 Northerners nominated by First Nation, Aboriginal
6 governments, and by the territorial and federal
7 governments. Our goal is to make decisions that will
8 benefit the North for all residents and for future
9 generations.

10 I have some additional comments on
11 today's proceedings that I hope will help make you --
12 make sure everything goes smoothly. We have limited
13 time, and the Review Board wants to hear what you have
14 to say. So in other words, the power went out and so
15 we'll -- we'll stay a little bit later until we have an
16 opportunity to listen to everybody. So please note
17 that there's an agenda for the hearing which is
18 available at the door.

19 The Review Board will be pro -- will be
20 producing an official transcript of this hearing. This
21 transcript will be available through our website and
22 the public registry for this environmental assessment,
23 and it'll be searchable. And we also have the
24 transcripts from yesterday. It's also on the website
25 for -- for today.

1 We have simul -- simultaneous
2 translation into Tlicho. On your headset you can hear
3 English on channel number 1 and translation on channel
4 number 2. I ask that you speak slowly and clearly for
5 the interpreters. Please take a moment, again, to take
6 -- turn off your cell phones or turn it down.

7 The project that the Review Board has
8 assess in the past have not been remediation projects.
9 To avoid confusion I will take a moment to remind
10 parties about the focus of the assessment we are
11 conducting.

12 All of -- all of us here today know that
13 -- about the deeply regret that the contamination of
14 the land and water board that -- sorry the -- the land
15 and water that contin -- continued to be for many years
16 when Giant Mine was running. The Yellowknives have
17 powerful express -- sorry the Yellowknives have
18 powerfully expressed that the effects that this has had
19 on their traditional lands and on their people.

20 Everyone in the room is sorry that this
21 happened and wishes it was otherwise. The contaminants
22 and legacy of Giant Mine has happened before the land
23 claims created the Mackenzie Valley Resource Management
24 Act. But yet the Act gives us si -- sorry the Act
25 gives us systems that is better than what we had

1 before. It -- it's better than -- sorry it's better
2 shares decision-making with Aboriginal people. It
3 involves public more often and more directly.

4 I would like to think and hope that
5 widespread contamination like this will not happen
6 under the system of environment -- system of
7 environmental management we have today. One of the
8 reasons we conduct environmental assessment like this -
9 - this one here is to be careful -- to make careful
10 decision we have -- we -- we those -- sorry, we -- we
11 and those who follow us will have to be sorry for
12 future generation.

13 That said, I want to remind you about
14 the scope of the project. We are not assessing impacts
15 of Giant Mine. We are assessing the impacts of the
16 proposed remediation project. This is what the Board
17 is -- must decide on. If you're going to present
18 materials about the impacts of Giant Mine, you must
19 make it very clear how it relates to the remediation
20 project we are looking at.

21 In 2008 the Review Board made other
22 decisions about the scope of the project and the
23 assessment. I will outline some of the -- of these
24 now. The relocation of the Ingraham Trail is not
25 within the scope of this project. The freeze op --

1 optimization study is not part of the scope of the
2 assessment, but does inform the assessment by the
3 refining of the design of the project.

4 Whether the site is re -- remediated to
5 a industrial/residential standard is not part of the
6 scope of this assessment, but end land use of this site
7 is within the scope. Any activities conducted as an
8 emergency measure under Section 119 of the Mackenzie
9 Valley Resource Management Act are not part of this
10 scope.

11 With respect to alternatives to the
12 frozen block method that is proposed, in 2002 the
13 Developers struck an independent peer review panel with
14 a wide range of technical expertise.

15 That panel examines fifty-six (56)
16 alternatives and identified the top three (3). After
17 public sessions, INAC looked at the current method. In
18 2008 the Review Board excepted that Developer -- that
19 the Developer has done a thorough job of looking at
20 alternatives and that the current environment
21 assessment would focus on the proposed project,
22 freezing the underground arsenic in place.

23 The Developer has made it clear on the
24 public record that the doing of this would not prevent
25 changing to a different method -- it's -- it is -- if a

1 better technology emerges in the future, but that its
2 current plan remains keeping the frozen forever. For
3 this reason, debates about specific alternatives to the
4 frozen block method is outside the scope of the current
5 environmental assessment.

6 The Board also ma -- made this temporal
7 scope of the development clear. We understand for this
8 evidence on a public record that the current
9 contaminant levels on the sites may take much longer
10 than twenty-five (25) years to stabilize.

11 As we state in the terms of reference,
12 the development activities are those occurring within
13 twenty-five (25) years are extending to any further
14 time required to stabilize the site. This is the
15 boundary we have set for the development activities.
16 We'll consider any relevant impacts rising from those
17 activities regardless of when those impacts occur.

18 What I have just said does not mean that
19 activities within -- activities which take place
20 outside the scope of the environmental assessment will
21 not be subject to Part 5 of the Mackenzie Valley
22 Resource Management Act, but it does mean that any part
23 of the -- it does -- sorry, but it does mean that they
24 are not being considered in this hearing.

25 So when the presenters -- when you come

1 up to speak, again, I mentioned you signed up at the
2 door. And when you come to the mic, if you could maybe
3 mention your name. And if there's any questions to the
4 Developer -- it depends if there's a lot of questions,
5 maybe if you have ten (10) I'm going to suggest that
6 maybe you maybe look at three (3) or the best three (3)
7 questions for now and -- and then as we get through the
8 people that want to speak, then we could come back and
9 do a second rotation if we have to.

10 So with that I'm going to turn it over
11 to the Developer and -- to do your presentation, and
12 then we'll go into questions from the public. Thank
13 you.

14

15 (BRIEF PAUSE)

16

17 PRESENTATION BY THE DEVELOPER - DEVELOPMENT OVERVIEW:

18 MS. JOANNA ANKERSMIT: Thank you, Mr.
19 Chair, and good evening to everybody that's here
20 tonight. I apologize, I feel like I'm speaking with my
21 back to you. And I apologize up front, but this is the
22 -- this is the setup, and I -- I'll still have my back
23 to them, sorry.

24 My name is Joanna Ankersmit, and I'm the
25 Director of the Northern Contaminated Sites Program for

1 Aboriginal Affairs and Northern Development Canada.
2 I've been with the program since 1999 - coincidentally,
3 the year that the Government of Canada took over
4 responsibility for the care and maintenance and the
5 remediation of the Giant Mine site.

6 As the Chair mentioned, the Giant Mine
7 Remediation Plan has undergone extensive expert and
8 public review. Over the last twelve (12) years, we've
9 heard from various groups, and the level of engagement
10 has been considerable; in particular, over the last two
11 (2) years in the environmental assessment process.

12 We found the discussions with the
13 parties to be helpful, especially the Yellowknives Dene
14 First Nation and the other parties to the EA. And we
15 are committed to continuing with engagement with the
16 public, the YDKFN, the City of Yellowknife, other
17 parties, and citizens.

18 Let's not forget the Giant Mine Site is
19 currently being monitored and safely managed, but the
20 site continued to deteriorate. We know without a doubt
21 this cannot be sustained.

22 It must be safely managed, and we need a
23 plan that makes immediate improvements and improves the
24 safety for residents and on-site workers. That plan,
25 the Giant Mine remediation plan, we look forward to

1 implementing to finally provide the residents here with
2 a better and safer environment in which to live and
3 enjoy for many years to come.

4 We have and will continue to engage with
5 the public about the site, the issues, and the
6 opportunities the implementation of the remediation
7 plan will offer to local businesses. The sooner we can
8 get to remediating the site, the sooner we will be able
9 to protect the people of Yellowknife, Dettah, N'Dilo,
10 and the local environment.

11 As you know, we are co-proponents in
12 this project with the Government of the Northwest
13 Territories, and I'd like to hand off to Dr. Ray Case,
14 Assistant Deputy Minister in the -- the GNWT, to
15 provide a few opening remarks. Thank you very much.

16 DR. RAY CASE: Thank you, Joanna, and
17 good evening to everyone. My name is Ray Case. I'm
18 the Assistant Deputy Minister of Corporate and
19 Strategic Planning for Environment and Natural
20 Resources.

21 Environment and Natural Resources is the
22 Government of the Northwest Territories' lead on this
23 project. The GNWT has been an active participant in
24 the development of the remediation plan submitted to
25 the Mackenzie Valley Land and Water Board and the

1 Developer's assessment report submitted to the
2 Mackenzie Valley Environmental Impact Review Board.
3 We've also been an active participant in these
4 environmental proceedings.

5 The Government of the Northwest
6 Territories is confident that the proposed project will
7 address the risks to human health, public safety, and
8 the environment that are posed by the Giant Mine site
9 today. We're also confident that the process of
10 addressing these health, safety, and environment risks
11 will not result in any significant adverse impacts and
12 the project will maximize Northern economic development
13 opportunities.

14 We do recognize that, given the history
15 of the site and the level of risk posed by the range of
16 contaminants on the site, it will be important that we
17 find ways now and in the future to ensure that the
18 public can also share our confidence. We look forward
19 to this opportunity and many more to hear from the
20 public their views of the planned remediation activity.

21 Mr. Chair, I'll now turn the
22 presentation over to Mr. Mike Nahir and Adrian Paradis
23 to provide a brief overview of the remediation project.

24 MR. MICHAEL NAHIR: Thank you, Mr.
25 Chair. My name is Mike Nahir. I'm the Senior Project

1 Manager and Chief Engineer for Aborig -- Aboriginal
2 Affairs and Northern Development Canada. I have over
3 eighteen (18) years' experience as a project engineer
4 and project manager on remediation sites -- or, sorry,
5 on remediation of abandoned mines specifically in
6 Northern Canada.

7 A project of this complexity requires a
8 national effort, drawing upon staff and experts in
9 Yellowknife, Edmonton, Vancouver, Toronto, and Ottawa.
10 We draw upon international experts for our technical
11 advisor team, the engineering design team, and
12 independent peer review panel.

13 We're here to discuss the environmental
14 assessment of the project, which is remediation of
15 Giant Mine. It is an abandoned mine, a contaminated
16 site -- sorry, a contaminated site which the
17 governments are committed to ensuring the protection of
18 human health and the environment. We look forward to
19 discussing the project and are certainly anxious to
20 begin the hard work of remediating the site.

21 The Giant Mine Remediation Project team,
22 which is here today, is committed to remediating the
23 Giant Mine. The team has carried out many
24 investigations and assessments over the last twelve
25 (12) years, and now we are confident that we have the

1 right pla -- plan to protect human health and public
2 safety in the long term.

3 There are certainly many more design
4 decisions that need to be made, and through the EMS --
5 environmental management system -- process that we're
6 developing, we will be involving interested parties as
7 well. So this is the project that -- so this project
8 is about making a significant improvement to the
9 environment.

10 The Co-proponents, as mentioned, are
11 both the Government of Canada and the Government of
12 Northwest Territories. Aboriginal Affairs is the
13 overall project manager and will be assisted by public
14 works and government services that will look after
15 contracting the project design and construction
16 services required.

17 We've put together a team including some
18 of the world's foremost experts on mine site
19 remediation, and they're present here today. SRK and
20 SENES are the technical advisors for the project team
21 and, since the year 2000, have provided technical
22 support for the closure options and the remediation
23 plan. They're both internationally recognized expert
24 firms in mine site remediation and risk assessment.

25 AECOM and Golder are providing the

1 engineering. They're large international firms, well
2 recognized and highly qualified to provide engineering
3 services in mine site remediation. Deton'Cho Nuna is
4 doing an excellent job of providing the site care and
5 maintenance services and ensuring public safety and
6 environmental protection.

7 As many of you know, the operations at
8 the Giant Mine started in 1948 and went on for
9 approximately fifty (50) years, when Royal Oak went
10 into receivership in 1999 and ultimately bankruptcy in
11 2005.

12 The site is in a very deteriorated
13 state, and so there are many human health and
14 environmental concerns that need to be managed in order
15 to protect people and the environment. The Governments
16 of Canada and Northwest Territories are responsible for
17 the current site management, for doing the remediation
18 work, and for providing long-term care.

19 A Developer's assessment report was
20 prepared by the governments to evaluate the potential
21 negative effects of the remediation project. The
22 Developer's assessment report contains the main report
23 and fifty-three (53) supporting documents which
24 describes the existing conditions, the remediation
25 plan, and the assessment of both short-term and long-

1 term conditions. The plan calls for fifteen (15) years
2 of active remediation and about ten (10) years of
3 stabilization, which will then merge into long-term
4 management.

5 This is a picture that shows some of the
6 main components of the site that we'll be discussing.
7 The mine is located within the city limit -- the city
8 limits of Yellowknife and covers approximately 850
9 hectares.

10 There are many buildings that are
11 hazardous. The largest concern is the roaster, because
12 it is heavily contaminated with arsenic and asbestos.
13 The site treats a little over 500,000 cubic metres of
14 contaminated mine water annually. There are four (4)
15 tailings ponds, with about 16 million tonnes of
16 tailings. There's eight (8) pits with thirty-five (35)
17 openings to the underground. Baker Creek, which runs
18 through the site, contains arsenic contaminated
19 sediments.

20 Lastly, most importantly are the
21 fourteen (14) chambers and stopes containing 237 tonnes
22 of arsenic trioxide dust contained in this yellow
23 hatched area below surface. This is a waste from the
24 processing of ore that was mined and is 60 percent pure
25 arsenic.

1 So the project being assessed is the
2 execution of the remediation plan to deal with these
3 issues and hazards.

4 I just want to discuss the objectives of
5 the project as we see it. The overall -- and as we
6 stated in the Developer's assessment report the overall
7 goal of the remediation project teams to protect human
8 health, public safety, and the environment. As we've
9 stated in the DAR, the specific objectives of the
10 remediation plan are first to prevent in the long term
11 the release of arsenic in the under -- underground dust
12 to the environment.

13 Second, to clean up the surface of the
14 sites that is available for other uses. Some of these
15 decisions on how to use the available areas will be
16 made together with stakeholders.

17 The third objective is to reduce risks
18 by removing buildings, closing mine openings, and
19 getting rid of other hazards at the site.

20 Fourth is to minimize the release of
21 arsenic from the surrounding site.

22 And fifth is to rehabilitate and restore
23 Baker Creek to a more natural condition.

24 Most of the mine site has typical mine
25 site remediation issues, but what I want to describe is

1 the key concern at the site, which is the arsenic
2 trioxide dust stored in the fourteen (14) underground
3 chambers and stopes. The rock that was mined out at
4 Giant Mine includes high level of naturally occurring
5 arsenic. The roasting of ore produced the arsenic
6 trioxide dust waste.

7 Arsenic can be dangerous to both people
8 and the environment if too much of it gets into the
9 water, onto the land, or into the air. The main
10 concern with the arsenic trioxide dust at Giant Mine is
11 that the arsenic can dissolve in the groundwater and
12 flow into Great Slave Lake if not controlled.

13 In the interim, this issues being
14 managed by keeping the water level in the mine below
15 the dust and collecting treated groundwater. We also
16 inspect accessible bulkheads that keep the dust in the
17 chambers. There is a number of bulkheads that are
18 inaccessible, and that is a concern. The remediation
19 plan calls for long-term stabilization and containment
20 of the arsenic-contaminated dust by securing and
21 stabilizing the underground workings and then freezing
22 all the dust in chambers.

23 I also want to briefly describe some of
24 the main concerns at the site. Baker Creek doesn't
25 meet the standard for closure. The water and sediments

1 in Baker Creek contain high concentrations of arsenic.
2 There's a concern with the stability of the creek, and
3 the flow capacity doesn't meet high-flow requirements.
4 The design concept calls for restoring habitat in the
5 creek by rerouting and rebuilding a few sections of the
6 creek, which will -- will also improve its ability to
7 pass large volumes of water.

8 We're waiting the results of the
9 sediment study and working with Department of Fisheries
10 and Oceans to determine whether contaminated sediments
11 should be removed from other sections.

12 There are also eight (8) small- and
13 medium-sized mined out pits, as well as thirty-five
14 (35) openings to the underground that are safety
15 hazards. The plan calls for backfilling a few of the
16 pits and surrounding the others with berms or fences to
17 prevent access. All mine openings will be sealed.

18 Over the many years of operation, quite
19 a bit of soil got contaminated with arsenic and oil and
20 spilled fuels. There are also some tailings scattered
21 throughout the site outside the tailings ponds. These
22 soils and tailings will be excavated and treated and
23 contained appropriately.

24 There are four (4) large tailings areas
25 located on the surface, covering an area of about 95

1 hectares. These tailings fortunately are not acid-
2 generating but do contain some low-solubility arsenic
3 in the water within the tailings. As part of the
4 ongoing site management, any water that is collected in
5 the mine is treated to protect the environment.

6 The remediation plan calls for tailings
7 to be covered with two (2) layers, then graded for
8 ditches and spillways. The tailings covers will --
9 covers will be revegetated and then available for other
10 uses.

11 There are over a hundred buildings and
12 associated infrastructure, a few of which are
13 contaminated with arsenic and asbestos, as I've
14 mentioned. The roaster is a heavily contaminated
15 building, which our engineers have advised poses an
16 unacceptable risk of failure and needs to be properly
17 demolished as soon as -- as soon as possible. The
18 remediation plan calls for proper demolition and
19 disposal in a landfill, as well as within the frozen
20 underground.

21 The current water treatment plant does
22 an adequate job of meeting the current standard.
23 However, it is not efficient, and we want to meet a
24 higher standard that is safe for community uses and is
25 protective of the environment.

1 A new water treatment plant will be
2 constructed to collect and treat contaminated surface
3 and mine water. The discharge will be to the north, to
4 North Yellowknife Bay, through a diffuser and mixing
5 zone. This is instead of discharging it to Baker
6 Creek, as is done today, to allow it to repair as best
7 as possible.

8 The monitoring of the safety of the ice
9 will be coordinated with the city fire department.
10 This criteria will be established, consistent with the
11 city standards, to be protective of safety --
12 protective of safety for winter recreation. We want to
13 work with communities to finalize this design as we
14 move forward in the design process. We have an
15 extensive monitoring program for water, and it will be
16 expanded to include all activities such as ice
17 thickness, air, and fish.

18 So I have a few tables where I want to
19 describe some of the key benefits of the remediation
20 plan in summary, and this -- so this is a summary of
21 the remediation plan and -- and some of its key
22 benefits.

23 For the arsenic trioxide in the
24 chambers, the plan is to stabilize the workings and
25 construct the frozen block. The benefit is that it

1 prevents release of arsenic into the groundwater.

2 For other parts of the underground mine,
3 the plan is to clean up and remove waste and close mine
4 openings. The benefit here is that it safeguards
5 against safety risks to wildlife and the public.

6 For open pits, the plan is to backfill
7 B1 and Brock Pit and use signs, fences, or berms to
8 stop access to remaining pits. The benefit is improved
9 public safety by stopping access to the pits.

10 For the tailings areas, the plan is to
11 cover them with rock and soil and then revegetate. The
12 benefit here is that there will be no direct contact
13 between tailings and people or animals, and improves
14 the long-term air quality, and then provides for more
15 options for future land uses.

16 For tailings on the shore of Great Slave
17 Lake, the plan is to extend the existing tailings
18 cover. The benefit is that this limits erosion and
19 potential for arsenic to get into the water.

20 For the site water management, the plan
21 is to build a new water treatment plant and treat all
22 contaminated water and then release treated water to
23 Great Slave Lake instead of Baker Creek. The benefit
24 is that there'll be much less arsenic into Baker Creek
25 and significantly less arsenic into Yellowknife Bay.

1 For Baker Creek, the plan is to move
2 portions of the creek to run -- reduce the risk of mine
3 flooding and to manage the contaminated sediments which
4 create suitable habitat for fish and animals in the
5 creek. This reduces the risk of flooding, improves
6 aquatic habitat in Baker Creek, and improves the
7 aesthetic value of the creek.

8 For contaminated soil, the plan is to
9 excavate all contaminated soils up to 2-metre depth and
10 cover anything that's deeper. This improves the
11 quality of habitat on site, and it reduces the risk to
12 public and animals, which provides for more options for
13 future land uses.

14 For buildings and infrastructure, the
15 plan is to remove all unsafe materials and tear down
16 buildings. The benefit here is it improves how the
17 site looks and reduces safety risks to public and
18 wildlife.

19 In addition to the health and
20 environmental benefits of the remediation program,
21 there will also be many economic benefits to
22 Aboriginals and Northerners, both in terms of jobs and
23 spending on goods and services. This is one of the key
24 priorities of Government of Canada as well as north --
25 Government of the Northwest Territories.

1 This is a picture of what we expect the
2 site to look like after remediation. Once the main
3 remediation activities are over, most of the site will
4 be available for other uses. There will be some areas
5 available for recreation, residential uses, depending
6 on community interest and input.

7 A small area near the middle of the mine
8 -- and I'll just point to it; it's hard to see here --
9 will require long-term management. The activities in
10 this area will include running the ground-freezing
11 system and treatment of contaminated water. There will
12 be extensive monitoring of these activities to make
13 sure they are working and ensure that the land and
14 water are safe.

15 So in summary, I just wanted to say that
16 the Governments of Canada and the Northwest Territories
17 are confident the Giant Mine Remediation Project will
18 result in many positive effects by improving and
19 protecting the environment. This is not an assessment
20 of a new development, but is rather the repair of an
21 old, contaminated one.

22 The project improves the environment
23 immediately. The project minimizes risks and the need
24 for site management in the long term. There may be
25 some temporary negative effects during the site

1 remediation activities. However, these will affect
2 only small areas and will be short-lived and can be
3 managed.

4 So we conclude that there will be no
5 significant environmental impacts due to this project,
6 and, in fact, there will be a very significant
7 improvement to the environment.

8 Thank you, Mr. Chair, members of the
9 public. And I'd like now to turn this over to Adrian
10 Paradis, who'll describe and provide an introduction
11 and description to management and oversight.

12 MR. ADRIAN PARADIS: Thank you, Mr.
13 Chair. Thank you, members of the public. My name is
14 Adrian Paradis. I'm the acting -- I'm the regional
15 manager here for the project team in Yellowknife. I'm
16 going to provide a brief summary on the perpetual care
17 adaptive management in the environmental management
18 system, as well as public engagement and oversight.

19 For -- for the sake of brevity, I'll be
20 brief. For the sake of brevity, I'll be brief. I'll
21 be brief for the sake of time. I don't think you want
22 to listen to me talk so much as you would like to have
23 a chance to speak. So these topics are going to be
24 discussed -- have been discussed throughout the week
25 and will continue to be discussed throughout the week.

1 Perpetual care consists of two (2)
2 distinct components: one is the physical system, and
3 two is the long-term management and oversight of those
4 systems.

5 The physical systems, including the
6 frozen block, have been designed for the long term.
7 The frozen block was designed to be robust over the
8 long term and easy to monitor. It is one (1) component
9 of the overall project going forward, including water
10 management, water treatment, and the -- the covers and
11 designs.

12 Constructive input from the parties has
13 led to changes in our thinking about the management of
14 perpetual care and a commitment to development a
15 perpetual care management plan. The record -- the
16 perpetual care management plan will include records
17 management, scenario analysis, communications with
18 future generations, as well as land-use constraints and
19 trasi -- transitional planning.

20 We have been working with the parties to
21 the environmental assessment on the development of an
22 environmental management system for the project. We
23 see the EMS as a key -- key component to an effective
24 project management, because it allows and supports good
25 decision-making, it is auditable, and it allows for

1 stakeholder input into many elements of the monitoring
2 plan and the response. It also helps to define what is
3 a success for the project.

4 As previously mentioned by Joanna,
5 there's been lots of engagement over the last twelve
6 (12) years. The engagement has gone up and down based
7 on the milestones of the project. Over the last two
8 (2) years, there's been a more intense focus on
9 engagement with the public and with the parties. A lot
10 of it has occurred through the environmental
11 assessment. This is not going to diminish going
12 forward into the future. It is a commitment that we
13 have, to be here in the community and talk to the folks
14 in the community.

15 We expect increases again through the
16 upcoming detail design, through the water licensing,
17 and through future phases of the project.

18 We have also been working with the -- we
19 have also been working with the parties to the
20 environmental assessment to discuss what the existing
21 oversight mechanisms are, how effective they are, how
22 they -- to improve oversight and transparency. We are
23 committed to establishing a community oversight on this
24 project, and we are working with the parties to review
25 those options and to improve upon them.

1 In summary, we know that there's a long-
2 standing concern about the history and the legacy of
3 Giant Mine and that there's a deep-felt anxiety about
4 the risks to the site. We take this very seriously,
5 and although we cannot deal with all the -- all the
6 entire legacy, we believe that the remediation project
7 as a whole will protect the environment, the public
8 health and safety, and will thereby reduce the overall
9 level of public concern.

10 The management and oversight commitments
11 that we are including will, over time, serve to reduce
12 public concerns over the legacy of Giant Mine. We are
13 confident with the design of the project, we are
14 confident with our ongoing commitment for public
15 engagement, and we're convinced that this project will
16 not cause public concern.

17 Thank you, Mr. Chair, and thank you,
18 folks of the public.

19

20 (BRIEF PAUSE)

21

22 THE CHAIRPERSON: Yeah, thank you.
23 Before I go to the public, I want to go back to the
24 Developer. If maybe what he could do is also briefly
25 explain the diffuser, and maybe if you could put your

1 map on the board too, as well, so that -- it wasn't
2 part of your presentation, but -- so -- but maybe what
3 you could do is put it up there so that we could have a
4 better understanding of what that's about too.

5 MR. ADRIAN PARADIS: If you just give
6 me a moment, maybe I -- I will pull up the appropriate
7 slides. We also do have a series of overall pictures
8 and photographs of the site that may help future
9 discussions, so just let me know --

10 THE CHAIRPERSON: A couple of minutes,
11 sure.

12 MR. ADRIAN PARADIS: -- and I can pull
13 them up.

14 THE CHAIRPERSON: Please.

15 MR. ADRIAN PARADIS: Give me a moment,
16 please.

17 THE CHAIRPERSON: So while he's -- once
18 we do that, then the -- the list of order I have here
19 that people are going to come up and speak is that
20 first is France Benoit, Shannon Ripley, Erica Janes,
21 Aggie Brockman, Adam Fraser, Erica Janes, Peter
22 Redvers, Craig Yeo. Then I have other people that
23 signed up as well.

24 And then we'll come up and -- when you
25 come up, if you could just state your name again, and

1 if you've got comments or questions, we'll -- we'll
2 proceed with that. And then just put the mic close to
3 you so everybody could hear.

4

5 (BRIEF PAUSE)

6

7 MR. ADRIAN PARADIS: Mr. Chair, can we
8 -- we do have some models of the diffuser in the back,
9 to scale as well as -- should I pull them up to the
10 front of the room? They are at the back by the models.

11 THE CHAIRPERSON: I would just say just
12 leave it in the back, and then maybe you could just
13 quickly walk us through this.

14 MR. ADRIAN PARADIS: Okay. I will ask
15 -- we're going to get -- I'll ask Mr. Nahir to speak to
16 this.

17 MR. MIKE NAHIR: Thank you, Mr. Chair.
18 I'm just going to -- I think for the -- for efficiency,
19 I'll just ask the -- our tech -- one (1) of our
20 technical experts to describe the -- the process of the
21 water treatment system leading to the diffuser as well.
22 Okay, thanks.

23

24 (BRIEF PAUSE)

25

1 MR. JOHN HULL: Mr. Chairman, John
2 Hull. The diffuser is located as shown in the present
3 slide. It's approximately 15 hun -- 1,500 metres off
4 of the boat -- city boat ramp at Giant. The area of
5 the diffuser is the area shown in -- in green, this
6 area. It's 15 metres wide and about 81 metres long.

7 That would be equivalent to the width of
8 the area that would be defined on 52nd Street, just
9 outside here, running from the middle of Franklin
10 Street, down to the -- the front door. So it's a
11 fairly small area, a -- which is identified or
12 represented by, as I say, the -- the green -- green
13 dot.

14 The diffuser -- do I want to go forward?
15 The modelling for the diffuser has included locating
16 the diffuser in the overall bay area. It's in the
17 north part of Yellowknife Bay and just adjacent to Back
18 Bay.

19 The present studies, which have started
20 and will continue with ice thickness and then will
21 continue with collecting data on water temperature,
22 currents, and wave action. The -- the zone that's
23 being considered for the sampling, it starts at the
24 bridge across Yellowknife River and goes down well past
25 44th Street, in this area, almost down -- almost down

1 to Mosher Island.

2 There's a series of points which are
3 along the diffuser line and one (1) point right at the
4 diffuser, and then several points, as you can see,
5 through the Yellowknife Bay, the north and south
6 portion.

7 Mr. Chairman, does that provide the
8 information you requested?

9 THE CHAIRPERSON: Yes. Can we go back
10 to the previous map, Mr. -- on the smaller map, can you
11 maybe highlight where the diffuser is on that smaller
12 map?

13 MR. JOHN HULL: The smaller map? The
14 diffuser's right -- just here, sir, just north of
15 Latham Island, and just, as I said, some 1,500 metres
16 off of where the city boat ramp -- boat launch ramp is.

17 THE CHAIRPERSON: Okay, thank you. And
18 that then answers my questions. What I'll do is,
19 before I go to the people -- the public to come and
20 speak. If we could limit maybe your comments or
21 questions to about five (5) minutes. We have seventeen
22 (17) speakers.

23 Again, I just wanted to point out that,
24 you know, your comments or questions is to help the
25 Review Board to understand your views about the

1 proposed development and potential environmental,
2 social, and economical culture impacts and your views
3 of the potential significance of these project -- these
4 impacts. So I want you to take a look at that.

5 So the first one I have on the list now
6 that's going to come up is France -- France Benoit. If
7 you can come up and set up. Then -- Benoit, okay. If
8 you could come up and introduce yourself.

9

10 (BRIEF PAUSE)

11

12 PUBLIC COMMENTS:

13 MS. FRANCE BENOIT: First, I just would
14 like to -- to say, Mr. Chair, that I do have a concern
15 that we are limited to five (5) minutes. I did ask if
16 we would be limited, in terms of time. We couldn't put
17 our name down really, so I did prepare a ten (10)
18 minute presentation. And I've got a short, five (5)
19 minute film as well. So I do -- would like to express
20 a concern about that, that people who obviously -- if
21 you what you're looking for is public concern -- and
22 obviously this is what we have tonight -- I do have a
23 concern about the limit that we are given.

24 THE CHAIRPERSON: Thank you. And we'll
25 give you the time. We're here to listen.

1 MS. FRANCE BENOIT: Thank you very
2 much.

3 THE CHAIRPERSON: Thank you.

4 MS. FRANCE BENOIT: I will not try to
5 speed up too much, but... My name is France Benoit,
6 and I'm here tonight as a citizen who drives in front
7 of the mine every day, a filmmaker and a farmer who has
8 some concerns around Giant Mine. I'll say a few things
9 and then we will end with a short minute -- five (5)
10 minute film.

11 I would like to acknowledge that this
12 must be a difficult time for you Board members to
13 engage in this process, knowing the current threats to
14 the environmental review process and the possibility
15 that the current government may, with the stroke of a
16 pen, cancel all of your recommendations.

17 My hope is that you do not give up, that
18 you forge ahead and remember that you are from this
19 place and that future generations will be able to read
20 every word of what you will have said and done. You
21 and I are here for our grandchildren and their
22 grandchildren and their grandchildren after them, and
23 so on. I truly see you as a grandmother and
24 grandfathers who have a moral responsibility to future
25 generations.

1 For many people, Giant Mine is an
2 engineering problem. For me, Giant Mine is a story of
3 relationships failed: relationships towards the people,
4 the land, and especially future generations. Trust has
5 been eroded, and it will take many years for it be
6 restored, if ever. To restored what you referred to,
7 Mr. Chair, earlier today as the sacred trust, an
8 apology must first take place. It is within this
9 context of missed trust and failed relationships that
10 you need to navigate.

11 I would encourage you to give this
12 project the magnitude and the attention that it needs.
13 This is the largest arsenic problem in the world, and
14 it is beneath our feet, and it will never go away.
15 Please give this project the scale and time and size
16 that it deserves. It is very difficult to wrap our
17 heads around the fact that this will be with us
18 forever.

19 I look at what has happened in the last
20 two thousand (2,000) years, and I'm left wondering what
21 it will be like in another two thousand (2,000) years,
22 and twenty thousand (20,000) years, and two hundred
23 thousand (200,000) years. It is quite unsettling to
24 realize that the mess we have created will outlast the
25 civilization that created it. The arsenic and the

1 water pumps will outlast all of us.

2 Although many cultures in the past have
3 tried to build structures or markers that would last
4 forever, they never did last that long. The pyramids
5 are about five thousand (5,000) years old, and they are
6 crumbling. There are drawings in craves that date
7 fifteen (15) to thirty thousand (30,000) years, but we
8 can't figure out what some of the writings mean.

9 I think we may be the first civilization
10 that will have to design infrastructures and a
11 communication plan that has to last forever. We have
12 sent a man to the moon and are now exploring Mars, but
13 we have never built for eternity and communicated
14 through eternity. Here at Giant Mine, we have not even
15 begun this work.

16 Trying to communicate danger across a
17 thousand generations poses incredible challenges to our
18 linguists, climatologists, glaciologists, architects,
19 builders, historians, anthropologists, and engineers,
20 just to name a few. And I'd like to draw your
21 attention to the work already accomplished on this by
22 ANDRA, the French nuclear waste organization, and the
23 Waste Isolation Pilot Project in the United States. We
24 must follow their leading research and yet set out own
25 path for the sake of future generations.

1 If you have not already, I'd like to
2 encourage you to see the documentary, "Into Eternity,"
3 about the Finnish government and how it is attempt --
4 attempting to build an underground cave to bury their
5 nuclear waste and the magnitude of that undertaking and
6 the pains and the moral dilemmas they are going
7 through, trying to figure out how to keep people away
8 from a contaminated site for hundreds of thousands of
9 years.

10 Our children deserve no less of an
11 undertaking than the children of Finland, of France, or
12 of the United States.

13 Eternity gives us a new scale to think
14 about. I am told the language undergoes major changes
15 every five hundred (500) years. Few of us now can read
16 Shakespeare's original works. So a chainlink fence
17 with a "Do not trespass" sign will be meaningless in
18 five hundred (500) years.

19 The swastika was a holy icon in India
20 before it became a sign of a Nazi symbol. So not only
21 do we need to worry about the length of time we need to
22 communicate, but we need to think about what we will
23 say, because the meaning of what we intend to say may
24 change.

25 It's mind boggling. Just how do you

1 communicate to generations that will follow us
2 thousands of years from now? How do we tell people
3 that those thermosyphons are not to be temp -- tampered
4 with? How do we convey the danger to human life that
5 lies beneath us?

6 For many, the answers immediately lie in
7 more high-tech solutions, and I beg to differ. We need
8 to have a place -- in place a communication system that
9 reflects the magnitude of the problem facing us, but it
10 doesn't need necessarily to be very high tech. We only
11 need to look around us.

12 The Dene have the legend of Yamoria,
13 which is about ten thousand (10,000) years old. They
14 have passed on traditional knowledge for thousands of
15 years. And I think legends are as much a part of the
16 solution as computer modelling, social media, and
17 thermosyphons.

18 This is a perpetual problem, and I
19 believe we therefore need perpetual funding. I worked
20 in government long enough to know that as a manger, I
21 needed to fight for my budget every fiscal year, that
22 programs come and go and not always for the right
23 reasons.

24 You need to make sure that there is a
25 legally binding environmental agreement in place that

1 deals with these issues and that funding is secured for
2 as long as possible, if not in perpetuity. This is not
3 to tie the hands of future generations, but to protect
4 them.

5 Ongoing research on arsenic is
6 essential. Two thousand (2,000) years ago, our
7 ancestors had no idea we would one (1) day invent the
8 communication tools we now have today. It is now our
9 responsibility to create communication tools for the
10 next thousands of years. And maybe two thousand
11 (2,000) years from now we will have found a way to deal
12 with the arsenic.

13 I now would like to leave you with a
14 short film that I directed. And by doing so, give the
15 last words -- can I have the lights, please? I'd like
16 to leave you with this short film that I directed and,
17 by doing so, give the last words of my presentations to
18 Mary Rose Drygeese, a woman from Dettah who speaks
19 wisely, in my opinion, about this issue in her own
20 words. I hope her words can convey what mine could
21 not, because we need to make sure that this never
22 happens again.

23 No more failed relationships. I wish
24 you luck in your deliberations and want to leave you
25 with the words of Rabbi Tarfon, who lived almost two

1 thousand (2,000) years ago:

2 "You are not obliged to finish a
3 task, nor are you released from
4 undertaking it. You've got to give
5 it your best shot."

6 Like Mary Rose and the Yellowknives, and
7 all of us in this room, we are now the guardians of
8 eternity. Thank you.

9

10 (VIDEO PLAYED)

11

12 THE CHAIRPERSON: Okay. Thank you. I
13 want to say thank you to France Benoit. Can we also
14 get a copy of your text? If you could make that
15 available and a copy of your presentation, and I want
16 to say thank you for your presentation. It was really
17 good. Mahsi.

18 I'm going to ask Shannon Ripley, if she
19 could come up to the podium. I ask that maybe people
20 come up could use the podium.

21

22 MS. SHANNON RIPLEY: Hello. My name is
23 Shannon Ripley. I'm here as a member of the public
24 this evening. And first of all I just want to say
25 thank you for the opportunity to come here this evening

1 and share, I guess, a couple of questions and comments.

2

3 And thank you to all of you who have
4 been working on this project for so many years. Thank
5 you to the Review Board for all of your thoughts and
6 reflections that will go into all of the questions and
7 concerns that people raise, to all of the project teams
8 that's been working on this so long. It's really
9 appreciated.

10 It's a huge amount of your professional
11 lives, your personal lives, and a lot of thought. And
12 there are really big questions around this site that
13 are important for all of us to think about. And thank
14 you to the other members of the public that will come
15 out this evening as well. Big questions, and I think
16 ones that are -- our responses are made stronger when
17 we all work together on these issues.

18 The first question I wanted to bring up
19 was, again, thinking of the whole concept of perpetual
20 care and the idea that -- sorry -- the idea that we're
21 going to need to look after this site for -- forever,
22 for the longer term.

23 And I was thinking about risks and the
24 idea of risk management and how, even when there's a
25 very, very small risk -- a very, very small risk of

1 something bad happening, even if all of the care is put
2 into looking after the arsenic trioxide dust for the
3 long term, there are still negligible, very small risks
4 that might -- that something could happen to it, and
5 how, even when those risks are really, really small, if
6 they're extended into forever, at the end of the day,
7 the chance of something happening or going wrong is --
8 is one. It becomes certain if you extend it over
9 forever.

10 So I think one (1) of the questions I
11 wanted to ask was: Is there a financial commitment on
12 the part of ourselves as Canadians, as taxpayers, as
13 Canada, as -- as the proponents going into this, to
14 investigate options for what we could do with arsenic
15 trioxide to render it into a less harmful form?

16 Perhaps right now, as human beings, we
17 don't have all of the answers as to how we could do
18 that. That's why we're obligated to store it and
19 freeze it underground forever. But I think there are -
20 - if we were to invest research money and commit to
21 research and investing money into further research as
22 to how we could deal with arsenic trioxide, perhaps one
23 day we would be able to find a solution that meant we
24 could deal with that arsenic trioxide and it wouldn't
25 have to be monitored into forever past that date.

1 So that's one (1) question or comment, I
2 guess, I would have, is wondering if there is that
3 financial obligation, or if that recommendation could
4 be made for there to be a financial obligation, to
5 continue research into how to deal with the arsenic
6 trioxide.

7 THE CHAIRPERSON: Okay. Thank you. If
8 we could stop there for a second, I want to go to the
9 Developer. I'm going to the government official to
10 answer that question.

11 MS. JOANNA ANKERSMIT: Thank you, Mr.
12 Chair, and thank you for the question. Joanna
13 Ankersmit. There's a few government officials, but I'm
14 happy to answer the question.

15 You bring up a -- an issue that has been
16 raised a number of times regarding research. Quite --
17 quite honestly, the research that we've been doing has
18 been rather extensive and primarily, to date, focussed
19 on finding a solution to the problem and addressing --
20 putting a plan together and addressing the risks that
21 are currently here and facing the citizens and the
22 environment today.

23 We have committed, the project and the -
24 - the governments, to undertake a review at the -- at
25 the ten (10) year period. And then we will always,

1 especially in the implementation phase, but as part of
2 the perpetual care planning that we've committed to
3 doing with the community, this is definitely something
4 that we have time to discuss further. In the meantime,
5 we'd like to get on with remediating the site and --
6 and ensuring that people's health and safety is
7 protected.

8 But that said, the answer to research is
9 -- I won't take up too much time, but I've thought a
10 lot about it, and the answer to this question is very
11 complex. One, the things that will have to change and
12 the research that has to -- to happen will happen --
13 not happen overnight. So the project has extensively
14 reviewed what there is today. It's gone through a very
15 exhaustive process to get to this point.

16 That said, various contributing factors
17 will advance over time. And, you know, the fundamental
18 concept behind this plan is refrigeration. So it might
19 not be advances in the management of arsenic, per se,
20 but it may be advancements in other areas that
21 contribute to our collective thinking on how we might
22 be able to reapproach this problem after it's
23 stabilized, after we've managed it today.

24 So there isn't currently a commitment
25 beyond the research that we are doing now, in terms of

1 studies. That said, research, I think, will be part of
2 the discussion in perpetual care that -- that we're
3 committed to having.

4 MS. SHANNON RIPLEY: Thanks very much
5 for that. I just have one (1) more, I guess, question
6 or comment as well.

7 I think you, Adrian, you were mentioning
8 earlier and explaining that one (1) of the main
9 purposes of the inves -- the remediation project is to
10 mitigate the underlying physical sources of the
11 concern, of the concerns we have as a community.

12 And I just wanted to express, I guess
13 I'm thinking that I've had a bit around the arsenic
14 that's found around the Giant Mine site and thinking of
15 the end land use for the site and the potential current
16 uses and -- and land uses of that site and the
17 surrounding area.

18 As a person that enjoys picking berries
19 and is interested in local food production, it's
20 something I've thought about over the last -- the --
21 the years I've lived here. And a question I had -- was
22 wondering if, as part of the remediation plan, there
23 are parts of that that would include a study looking
24 into the spatial extent of the arsenic contamination in
25 the soil, not just on the physical site where the mine

1 is, I understand there's been a lot of studies of that
2 -- those specific sites, but also extending off the
3 physical mine site into the surrounding area.

4 And even if it wasn't part of the exact
5 -- this exact assessment, I guess expressing my concern
6 and interest that, as a citizen, and I think as a
7 community, it would be really helpful to understand the
8 spatial extent of that contamination.

9 I think of people going out to harvest
10 berries or interest -- there has been interest from
11 some people in local community around establishing an
12 orchard. And even as we've been looking at potential
13 sites for where that could be, there was some soil
14 testing done and some testing of berries off the Giant
15 Mine site but a number of kilometres away, and some of
16 the berries were testing back that they were above the
17 Canadian health standards that were recommended for
18 consumption.

19 So one (1) of the questions we had when
20 that was coming up was, well, what is the spatial
21 extent? Where are the areas that are safe? Where are
22 the areas that aren't safe?

23 And, I guess, basically, my suggestion
24 or my question would be would there be provisions in
25 place to do more research so that we can understand and

1 know, you know, where are the areas that would be safe
2 for people to harvest or consume berries around the
3 site and where is it not safe? And, yeah, thank you
4 for that.

5 THE CHAIRPERSON: Okay, thank you. I'm
6 going to go to the Developer. And maybe you guys can
7 decide amongst yourself who you want to speak to this
8 question. Again, for the record, the -- when I say,
9 "the Developer," I'm making reference to Aboriginal
10 Affairs and Northern Development Canada and the
11 Government of Northwest Territories.

12 MS. JOANNA ANKERSMIT: Thank you, Mr.
13 Chair. And thanks again for the question. I
14 appreciate the concern, again. And I just want to be
15 clear that this project team is -- is tasked with
16 managing the -- the contaminants and -- and the risks
17 that are posed by the Giant Mine site itself.

18 That being said, this is not the first
19 time that -- that I think people in the ro -- the
20 community have raised weither -- either in this forum
21 or a variety of other forums that I've participated in
22 for -- for other projects or other -- other venues in
23 town.

24 So it's something that, you know, I
25 would not discourage you from pursuing, but the -- the

1 mandate of this project team would not allow us to
2 pursue that, per se.

3 MS. SHANNON RIPLEY: And I understand
4 that. And I appreciate the opportunity to still
5 express the concern, so thanks very much. Thank you to
6 all of you.

7 THE CHAIRPERSON: Thank you, Shannon
8 Ripley. Next I have is Aggie Brockman. If she could
9 come up.

10 MS. AGGIE BROCKMAN: Thank you. Thanks
11 very much to the members of the Review Board who have a
12 -- have a difficult task ahead of them. And thank you
13 to the members of the project team and to the others in
14 the community who have spent years working on this
15 issue.

16 I -- I'm sorry, I'm not very prepared.
17 I am a member of the public and I do have some
18 concerns. I have concerns about communications. I
19 guess I -- I understand the Proponents' arguments about
20 doing something quickly and we can't wait forever
21 because there are timelines.

22 However, I -- I wonder what leverage
23 there will be to have certain things in place after an
24 approval of the remediation plan. So I guess that's --
25 that's one (1) of my questions, and I don't know if

1 that's a question for the Board or if it's for the
2 Proponent.

3 But it seems to me that if we -- if you,
4 as a Board, approve the remediation plan, and we have a
5 growing, I think, recognition on the part of the
6 developer for things like perpetual care and -- and
7 oversight concerns that I -- I heard tonight and saw in
8 the -- in the PowerPoint that I haven't seen in
9 previous presentations, but I guess I -- my concern is
10 that if there's approval that concern -- appreciation
11 of the concern may not translate into a -- a mechanism
12 or a structure for independent oversight in the long
13 term.

14 So I guess I'm -- I'm not sure if I'm
15 being clear, but I -- I would like to know if there
16 will be other points of leverage beyond a decision by
17 your Board to make sure that there are agreements that
18 the community is happy with, if they don't happen
19 before your approval.

20 THE CHAIRPERSON: Okay. Thank you.
21 Maybe I'll take a poke at that, I guess. You know,
22 again, the Board is here to listen to the -- the
23 public, and we're here to listen to issues and concerns
24 regarding the Giant Mine Remediation Project. And, you
25 know, there's a process in place as to how we arrive to

1 a decision. And the Board will deliberate, and it may
2 take some time once we look at the evidence, look at
3 the file. And then, from there, we'll make our
4 decision and make a recommendation to the Minister.

5 So it could take anywhere, you know, up
6 to six (6) months before we make that decision. So in
7 terms of leverage, we -- well, the ongoing -- we could
8 talk about the -- our process, but unless the Developer
9 wants to answer -- respond to that -- but, at the same
10 time, I want to encourage the public as well that, you
11 know, if you've got statements or comments, you know,
12 I'd like to hear that as well.

13 So I'm going to go to the Developer, if
14 you want to respond to that.

15 MS. JOANNA ANKERSMIT: Thank you, Mr.
16 Chair, and -- and thank you for asking the question.
17 I've been asked to keep my answers brief, so I will
18 attempt to do that.

19 What I can say is that there is a -- a
20 level of existing oversight that I don't want people to
21 forget about. This project will be regulated, and we
22 will be held to those regulations, as would any other
23 development.

24 There's also mechanisms within the
25 government: the Commissioner of Environment and

1 Sustainable Development, the Office of the Auditor
2 General. That said, and that oversight being in place,
3 we've heard the concerns of the community, and we are
4 exploring with the parties to the EA the development of
5 an environmental monitoring and advisory committee that
6 would ensure that the -- the public has a level of --
7 of oversight and comfort.

8 I'd like to expand on that, but I won't
9 take any more time.

10 THE CHAIRPERSON: Okay. Thank you.
11 We'll go back to Aggie Brockman.

12 MS. AGGIE BROCKMAN: I'd just like to
13 say that I do have concerns about the lack of
14 independent oversight. I'm happy to hear that there is
15 commitment to community oversight. I wasn't sure
16 exactly what that means, but I'm -- I'm hoping that it
17 will mean that there is sort of partnerships or -- or
18 other governments and community people living here in
19 Yellowknife have an equal opportunity and capacity to -
20 - to provide and help with the -- the oversight in the
21 long term.

22 We've also heard a little bit about
23 trust, and I -- I also heard someone say that they
24 would like to find ways that the public can share their
25 confidence, one (1) of the presenters here tonight.

1 And I would like them to find those ways, too, because
2 I don't have that same level of confidence, and I think
3 there is an awful lot of trust that needs to be -- to
4 be built, if it is possible.

5 So I would just like to leave with one
6 (1) other question. I heard on the radio that the
7 reclamation is -- is going to be to residential and
8 recreational use, and that wasn't my understanding. So
9 I just want to clarify if that is in fact the case.

10 THE CHAIRPERSON: Thank you. I'm
11 going to go to the Developer.

12

13 (BRIEF PAUSE)

14

15 MR. ADRIAN PARADIS: Adrian Paradis on
16 behalf of the projet team. Reclamat -- the remediation
17 project is to industrial standards. That said, there
18 is lots of the project that -- that's -- Giant Mine
19 encompasses a -- a large land area. There is lots of
20 the area that will be existing at residential standards
21 and just by default of the reclamation will meet a -- a
22 greater standard. But the project is to remediate to
23 an -- to an industrial standard.

24 THE CHAIRPERSON: Thank you. Okay.
25 Thank you very much, Aggie Brockman, for your comments

1 and questions.

2 I'd like to go to Adam Fraser, if he
3 could come up, please.

4

5 (BRIEF PAUSE)

6

7 THE CHAIRPERSON: Okay. I don't see
8 if he's here or not. I'm going to continue on. Peter
9 Redvers, are you in the audience?

10

11 (BRIEF PAUSE)

12

13 MR. PETER REDVERS: Thank you, Mr.
14 Chair. My name is Peter Redvers, and I'm here as a
15 citizen of Yellowknife and as -- of Great Slave Lake,
16 because I've lived in a number of communities around
17 it, certainly the last few years in Yellowknife.

18 I'd like to speak to the specifics of
19 the remediation plan and three (3) issues or concerns
20 that I have. One (1) relates to the water quality.
21 Second to the finalization and implementation of the
22 environmental management system. And third, a point
23 that has been raised already, and that's the issue of
24 commitment of funding, specifically to implementation
25 of the remed -- remediation plan.

1 With respect to the water quality, I
2 wonder if you still have that available, if you could
3 just again point out to me the -- the size of the
4 dilution zone associated with the diffusion process.

5

6 (BRIEF PAUSE)

7

8 MR. PETER REDVERS: Yeah, if you could
9 just point out the actual extent of the dilution zone.

10 MR. ADRIAN PARADIS: Adrian Paradis,
11 the dilution zone is right here in the -- in the --

12 MR. PETER REDVERS: So what --
13 approximately what area is that? I mean, it's hard to
14 visualize, in terms of the map, of how large an area
15 that is.

16 MR. JOHN HULL: John Hull. Mr. Chair,
17 the area that we're looking at is 80 -- approximately
18 81 metres long and 15 metres wide.

19 MR. PETER REDVERS: So there are site-
20 specific water quality objectives set for the perimeter
21 of that?

22 MR. JOHN HULL: At the edge of the
23 mixing zone the water quality would be at CCME.

24 MR. PETER REDVERS: Sorry, at which?

25 MR. JOHN HULL: CCME water quality for

1 aquatic life.

2 MR. PETER REDVERS: So that's -- that's
3 a -- and how does that fit with the background water
4 quality? What is the background water quality compared
5 to the CCME? Is that information -- I haven't had a
6 chance to go through the Developer's assessment, but
7 for me as a -- a -- with due respect to the CCME
8 guidelines one (1) would assume, given that this is a
9 highly used area, that one (1) would try to achieve
10 water -- site-specific water quality objectives that
11 are consistent with background levels.

12 And I'm wondering if that is being
13 pursued and what the state of that is.

14 MR. MICHAEL NAHIR: Hi. Hi, it's Mike
15 Nahir. The -- the background water quality is .9 parts
16 per million.

17 MR. PETER REDVERS: In terms of
18 arsenic?

19 MR. MICHAEL NAHIR: Or sorry, parts per
20 billion. And -- in terms of arsenic, yes. And then
21 the CCME cri -- criteria, which is what John was
22 referring to, is the Canadian Councils of Ministers of
23 Environment is 5 parts per billion.

24 MR. PETER REDVERS: So from point nine
25 (.9) --

1 MR. MICHAEL NAHIR: Right, to five (5).

2 MR. PETER REDVERS: -- to five (5). So
3 there's a significant -- so in -- in fact, to reach
4 background levels, the dilution zone in fact is going
5 to be much larger than likely what's on the map,
6 because, as a citizen, I would be most concerned with
7 meeting background levels.

8 MR. MICHAEL NAHIR: Right. So the --
9 the 5 parts per billion is -- is a criteria set as
10 protective for freshwater aquatic life, so meaning that
11 -- that --

12 MR. PETER REDVERS: But one would think
13 that, given that this is a high public use, that one
14 might achieve greater than that. I mean, I know CCME
15 is applied, and it's certainly applied often in more
16 remote locations. But when you're dealing with a water
17 discharge system, they --

18 THE CHAIRPERSON: Can I -- sorry. I
19 wanted to interrupt you for a second. Maybe when you
20 guys speak, you can say your name. But, Mr. Redvers,
21 if you can let me know how many questions you have, and
22 just speak through the Chair, please.

23 MR. PETER REDVERS: Yeah. I guess,
24 without going into detail, I guess I would like, then,
25 perhaps to see a little more detail. And I would

1 think, in terms of public concern, that it's probably
2 inappropriate to expect the CCME guidelines in a
3 location such as Back Bay, which is a really highly
4 used area, and that I would think that there'd be more
5 effort put into trying to achieve background levels.

6 Now, that's the arsenic. Has there -- I
7 assume there's been an analysis of the other metals
8 that are part of the effluent?

9 MR. MICHAEL NAHIR: Right. So I'll
10 just -- I'll just respond a little bit. The criteria
11 of CCME of fresh-water life is five (5). Our bench-
12 scale testing that we've done suggests that we can meet
13 one (1) as opposed to five (5), which is just a little
14 bit beyond background.

15 Our target is -- is about 2 parts per
16 billion, and so we're saying is we can -- we can do
17 better than the -- than the standard, which was our
18 target. So I hope -- I hope that clarifies it a little
19 bit for you.

20 MR. PETER REDVERS: But I guess I just
21 --

22 THE CHAIRPERSON: Just -- just for the
23 record, I just want to make sure you state your name.

24 MR. MICHAEL NAHIR: Mike Nahir.

25 THE CHAIRPERSON: Okay. Thank you.

1 Mr. Redvers...?

2 MR. PETER REDVERS: All right. Peter
3 Redvers. I guess, without belabouring this, I just
4 think, from the point of view of the Board that, one,
5 the Board might want to take a really close look at the
6 water quality objectives, both the -- the site-specific
7 water quality objectives, and I'm assuming the -- the
8 effluent quality criteria would be back at the
9 beginning of the diffuser or before it moves into the
10 diffusion.

11 So I'm -- are those set already, or have
12 those been proposed in the remediation plan?

13 THE CHAIRPERSON: Thank you. I'll go
14 back to the Developer.

15 MR. MICHAEL NAHIR: Yeah. At the -- at
16 -- by the way, a lot of this information is available
17 on the -- on the website. It's just to point out that,
18 in terms of -- for you to be able to reference and look
19 at. So what -- what we're saying is, is that the
20 targets that we're looking at are achievable at the
21 edge of the mixing zone. So I -- I hope that clarifies
22 it.

23 MR. PETER REDVERS: Thank you. Peter
24 Redvers. And I guess the point I'm making for the
25 Board, speaking on -- as -- as a member of the public

1 in relation to water quality, that I would assume that
2 one would strive for and -- and make every effort to
3 meet background levels as opposed to accepting CCME or
4 other levels, particularly given the high use of that -
5 - the area for both recreational and traditional use as
6 well. So that's something to reflect on.

7 The second point relates to the
8 finalization and implementation of the environmental
9 management system that you referred to. And I guess
10 the question I have is -- there is a mention of the
11 parties involved in that, just clarify that, and then I
12 have two (2) -- two (2) questions.

13 One, what is -- give a little more
14 detail on the public engagement in the development and
15 implementation of that, of the EMS. And also what
16 consideration is given to ongoing public oversight to
17 the implementation of the EMS, some form of a -- a body
18 that provides ongoing public support with respect to
19 implementation?

20 THE CHAIRPERSON: Okay. Before we go
21 to the Developer, Mr. Redvers, how many more questions
22 do you have? Thank you. I'm going to go back to the
23 Developer, please.

24 MR. ADRIAN PARADIS: Adrian Paradis on
25 behalf of the project team. The environmental

1 management system working group is -- consists of
2 Alternatives North, YKDFN, City of Yellowknife. Other
3 parties are -- are welcome to -- welcome to join.

4 The group has met three (3) times and is
5 working through a series of the management plans at
6 this point. The intention of the working group is to
7 establish the monitoring, the mechanisms, as well as
8 the thresholds or the trigger points for criteria for
9 its success.

10 There is a commitment to establish
11 oversight. EMS management plans will form part of the
12 water licensing criteria, so they will be licensed
13 criteria. The commitment for community oversight is --
14 the idea is that the oversight body would have a chance
15 to review and comment on those plans.

16 But the licence -- there'll be actually
17 a licensed thing that are -- will be held accountable
18 through for the water licensing.

19 THE CHAIRPERSON: Okay, thank you.

20 MR. PETER REDVERS: Peter Redvers. So
21 once that plan has been established within the licence,
22 which is the -- through the Water Board, there wouldn't
23 be a management group that would continue.

24 Is that correct?

25 MR. ADRIAN PARADIS: No. Adrian

1 Paradis, on behalf of the project team. The EMS
2 working group right now is exactly that. It is a
3 working group of the parties to try and establish and
4 get these things set up.

5 At some point along the line, these will
6 then eventually come into the water licensing stage,
7 and the Water Board will take over ownership and
8 management of them. There is a commitment to establish
9 oversight with the community.

10 How that functions, how that works, and
11 how those plans might interact is still subject to
12 discussion. I can only speak to one half (1/2) of it
13 because we're only one half (1/2) of the party.

14 The intention or my understanding of
15 where that will go is those plans will be a chance to
16 be put in front of whatever group this might become.
17 They'll have a chance to review, make comments. And
18 then we'll take those back and we'll respond. But
19 there'll be a two (2) phase approach to this.

20 The -- ultimately, a lot of these plans
21 will be a licensed, regulated condition underneath the
22 Mackenzie Valley Land and Water Board. And the Wa --
23 Land and Water Board, which is a public co-management
24 board, will seek input on those plans. And a member of
25 the public at any time can come in, as well as the

1 oversight or other groups, too.

2 THE CHAIRPERSON: Okay, thank you. Mr.
3 Redvers...?

4 MR. PETER REDVERS: Peter Redvers.
5 Just --

6 THE CHAIRPERSON: One (1) more.

7 MR. PETER REDVERS: -- a final comment
8 on that, which I think, as a member of public, I would
9 sooner see an ongoing management group established, and
10 it could be established within the licence. You could
11 recommend that, that there being a group that actually
12 maintains and is carried forward to implement and
13 ensure the -- the EMS is implemented over time.

14 The third point relates to funding. And
15 the simple question, the one (1) that has been raised,
16 of course, is about long-term funding.

17 And my specific question is: What actual
18 funding commitments have been made by both the federal
19 and territorial governments and for how long, in terms
20 of actual implementation of this remediation plan once
21 it is approved?

22 THE CHAIRPERSON: Thank you, Mr.
23 Redvers, for your final question.

24 MR. PETER REDVERS: What specific
25 financial commitments are in place?

1 THE CHAIRPERSON: Thank you. I'm going
2 to go to the Developer.

3 MS. JOANNA ANKERSMIT: The -- sorry,
4 Joanna Ankersmit. Thank you, Mr. Chair. I'm getting
5 the hang of this. Right now, the -- the project is --
6 is being proposed and is -- is committed to by the
7 Government of Canada and the Government of the
8 Northwest Territories.

9 The cur -- the -- the work that we're
10 doing right now is currently funded by a federal fund
11 called the Federal Contaminated Sites Action Plan.
12 That fund was established in -- in 2005. And when that
13 -- that obviously doesn't cover the life cycle of this
14 project. And when that fund expires at the appropriate
15 time, Parliament will -- will make a decision as to
16 what will replace that.

17 I think it's important to underpin that
18 this project is about protecting human health and
19 safety. And while the system may not be able to
20 provide right now the -- the commitment that I think
21 folks would like to see, it is a system that allows
22 future -- cannot -- cannot -- current governments
23 cannot bind future governments to things like this.

24 But all governments have the
25 responsibility and the accountability to protect human

1 health and safety. And a good project and the
2 implementation of that project will allow us to
3 continue to -- to make this a government priority.

4 MR. PETER REDVERS: Thank you. Peter
5 Redvers. Nothing personal, but that was a very
6 bureaucratic answer. I think, as a member of the
7 public, I would certainly want to have a much firmer
8 and clearer commitment from both levels of government
9 that in fact there is going to be funding in place for
10 a reasonably le -- long period of time to actually
11 implement the plan.

12 Because, without that, what kind of
13 comfort or -- or trust is there within the public that
14 this is actually going to be carried out as -- as
15 planned? And again, I think that's something that the
16 Review Board -- the recommendation -- can make within
17 its mandate. I think that's it. Thank you.

18 THE CHAIRPERSON: Thank you, Peter
19 Redvers. And I -- your points are duly noted. Thank
20 you for that presentation. Craig Yeo, if you're able
21 to come up. I hope I've got that right, if you're
22 here. Yeo, yes. Sorry about that.

23 MR. CRAIG YEO: Hi. Thank you for the
24 opportunity to provide comments on the proposal of
25 remediation of the Giant Mine project. Other people

1 tonight have spoken very clearly on their concerns, and
2 I'm going to be very brief. I filed a letter with the
3 Board in August, and I just to want to dwell on four
4 (4) main points that I made there and then talk a
5 little bit about the topic of public concern.

6 The four (4) points are: The absence of
7 a professional -- perpetual care plan must be
8 addressed. It makes no sense to deal only with
9 immediate need to abandon the mine and contain the
10 toxins, but also create -- without also creating the
11 means to ensure the public -- the future safety of
12 these arrangements. It's essential to create a fully-
13 funded pro -- perpetual care plan.

14 The conflicted accountability arising
15 from the project Proponent also being the project
16 regulator makes it absolutely essential that a fully-
17 funded independent oversight body be created. This
18 body is needed to help watch -- keep watch on the
19 remediation project delivery and the carrying out of
20 the necessary perpetual care plan.

21 The proposals for discharging pr --
22 contaminated waters into Yellowknife Bay are
23 unacceptable. We have iniqu -- inadequate information
24 on the effects of this discharge on the receiving
25 waters and the safety issues of possible ice thinning

1 are not adequately understood. Thorough information on
2 these issues is needed before any decision on discharge
3 of contaminated waters is made, and generally I don't
4 believe the discharge of contaminated waters should be
5 allowed merely for the purpose of cost cutting.

6 Storing the arsenic underground forever
7 is not a safe solution. We need to proactively seek
8 technical means to eliminate as much of the arsenic as
9 possible. Simply monitoring parallel technical
10 developments is not enough. The promon -- Proponent
11 should also be required to continue the pr -- to fund
12 continuing research into new methods to neutralize the
13 arsenic.

14 I wanted to make some points on public
15 concern tonight. And I had prepared some comments, but
16 I -- I wanted -- I was kind of flabbergasted -- I
17 wanted to cite the point that Mr. Paradis made --
18 Paradis made at the close of his remarks. We conclude
19 that the project, he said, is not likely to be a cause
20 for significant public concern.

21 The -- the main point I wanted to make
22 tonight is about public concern. We've been faced for
23 many years with serious concerns on the threat of
24 arsenic to human health and the environment. This has
25 gone on for decades. And I -- I don't really think

1 it's melodramatic if you were to say this is like
2 living under a volcano or next to a flood -- or in a
3 flood plain or in a slide area.

4 People don't go around all lathered and
5 in a -- a continuous stage of anxiety, but that doesn't
6 mean that they're not concerned. Giant Mine is -- is
7 certainly a fixture in this community. It's part of
8 the mental furniture of this community. And we've all
9 lived with it for years. But people here, they're calm
10 and they're familiar, but that doesn't mean they're
11 complacent or casual about it.

12 Just because Giant mine isn't on the
13 front page every week doesn't mean it's not in the
14 forefront of our minds as a -- as a concern. This is
15 evidenced by the fact that government people here have
16 been calmly and resolutely pressing government to deal
17 with these concerns for at least forty (40) years.

18 It's not a natural threat and it was
19 created by a failure of government to protect the
20 public interest. So there is -- is a responsibility to
21 make up for these past errors. I -- I -- again, I'm --
22 I'm just trying to -- I have to admit a little bit
23 flabbergasted, because, We conclude that the project is
24 not likely to be a cause for significant public
25 concern.

1 My understanding of the project is that
2 it's -- it's a process to address a world-class
3 environmental atrocity comprise a quarter of a million
4 tons of deadly poison at a cost of around \$600 million.
5 Contriving a process or a procedure which must work for
6 all time beyond any of our lives or any of our ci --
7 the rest of our civilization, and the meas -- least
8 consequences of failure of these arrangements would be
9 the -- the sickness or -- or death of anyone even
10 drinking water within -- approximate to the mine.

11 And yet I -- the Proponent is telling us
12 that it's not likely to be a cause for significant
13 public concern. So I don't just know -- I don't think
14 that's so. So I would urge the Board, given the
15 expression of this attitude, when you can turn to cons
16 -- when you turn to considering the strength of
17 measures required to reverse and control this threat to
18 the greatest extent possible please pause and remind
19 yourselves that this is one of the foremost and most
20 deeply health concerns that have faced Yellowknifers
21 for years.

22 It's -- it's been the focus of -- of
23 banner national media attention -- extending back
24 thirty (30) years. And I urge you in all cases to
25 recommend that the highest possible standards of action

1 to end this threat be -- be required. Thank you.

2 THE CHAIRPERSON: Thank you, Craig Yeo.
3 Thank you for your presentation. Next on the list I
4 have is Lois Little.

5 MS. LOIS LITTLE: Hi. My name is Lois
6 Little. I'm a resident here of Yellowknife. I live on
7 Back Bay. Look at Giant Mine every day. And I've been
8 concerning myself with Giant Mine in my work life and
9 in my professional life for quite a long time.

10 And I want to thank the Board for giving
11 the public an opportunity to -- to speak to you. I
12 understand that that's a right that's kind of
13 disappearing across the country when we're talking
14 about environmental assessments these days, so I
15 applaud you for that.

16 I submitted a letter to the Board, so I
17 won't go on at great length here. But I guess I want
18 to make the comment that I -- I kind of feel like a
19 hostage. I'm a resident of Back Bay, I'm a resident of
20 Yellowknife, I'm a resident of the North, but -- I'm a
21 resident but I'm also a hostage.

22 And I think that you folks are a hostage
23 too. That you're being put into -- there's an urgency
24 about --about Giant Mine, and the folks from the
25 Developer's side are saying, you know, it's a degrading

1 situation. And it's true. You know, it -- it's
2 dangerous, and it's -- as our world changes, climate
3 changes, you know, we've got big issues there.

4 So I feel like we're being kind of
5 pushed into an immediate solution. You know, we've got
6 to clean this place up, and we got to manage this mess.
7 But that's what we got to do today, and I keep hearing
8 the word "today". But as France so eloquently said,
9 you know, we've got to think about forever. And
10 forever -- like, you know, I can't even think what
11 eternity is about.

12 You know, I start with this -- you know,
13 we talk a lot about seven (7) generations -- about
14 being stewards for seven (7) generations, but we're
15 talking about being stewards for ten thousand (10,000)
16 generations, or you know, millions of generations. So,
17 you know, it's -- it's a really difficult situation.

18 So that -- that's why I feel like a
19 hostage, and I think that you folks are a hostage, too.
20 That, you know, we -- we are being pushed to make some
21 decisions but we're not necessarily going to be making
22 the decisions for the long term. We're making -- make
23 -- make decisions for today, but we are -- we may get
24 cut short and not do future generations a service. And
25 I think it's our responsibility that we do do a good

1 job for the generation today and for the generations to
2 come.

3 That is our responsibility. So I -- I
4 think -- you know, for me, we're -- we're moving into a
5 whole new world right now. We -- you know, we've got
6 climate change happening so fast. Like who would have
7 thought that the Northwest Passage would be ice free in
8 a couple of years. You know, we would never imagine
9 that five (5) years ago, but that's what we're faced
10 with.

11 Who would have thought that the -- the
12 Mackenzie River would be identified as the linchpin
13 that connects the whole hydrology of the North American
14 continent. We would not have thought that a couple
15 years ago, but that's where we're at today. And that's
16 all happening in our environmental and natural world,
17 and at the same time we've got this political world
18 that's happening that is taking apart environmental
19 law, dismantling our whole responsibility to our
20 environment, our whole responsibility to each other.
21 And that is unravelling so fast, and you know that.
22 You folks are under that same threat, too, that your
23 authority is being -- is being challenged, as well.

24 So thi -- this is the kind of world that
25 we're living in, and that's the kind of world that you

1 have to make the decisions in. And that scares the
2 hell out of me because, you know, we have the folks
3 from -- the Proponents saying, you know, We can't make
4 commitments for the long term, but we have to make
5 commitments for the long term. And we have to set in
6 place mechanisms that serve us well now but serve us
7 forever.

8 And that's -- you know, it is just an
9 incredible challenge. So when we hear presentations
10 that talk about ten (10) years out or fifteen (15)
11 years out or twenty-five (25) years out, in this whole
12 game that's not good enough. You know, that doesn't
13 give us any assurity at all.

14 So I guess, you know, what I'm really
15 urging the Board to do is to push hard, push very, very
16 hard for remedies in the short-term and remedies in the
17 long, long, long-term. That there's some guarantee for
18 this community and for all of the north and, in fact,
19 all of the continent. Because, as I just said, if we
20 mess around with the water management of this system
21 here that influences Great Slave Lake, which impacts
22 the linchpin that holds the hydrology of the North
23 American continent together, we are -- the disservice
24 that we do is -- well, it's just beyond the pale. We
25 can't go there.

1 So I guess, you know, we have -- it's
2 such a big responsibility that you folks have. And I
3 urge you not to be pushed into making your decisions
4 lightly. There's some good proposals. There's some
5 hard work done by the -- the technical team and all of
6 the advocates in -- in this community. All of that
7 work has got to be attended to very carefully because
8 it's -- as France was saying, it is for eternity.

9 So I just thank you for your attention.
10 And I appreciate your courage in taking this on. It's
11 a big job. But I have faith in -- faith in you because
12 your -- your poster behind you says that "Working
13 together, we make wise decisions." And I know some of
14 you folks on the panel are wise people. So thank you
15 very much.

16 THE CHAIRPERSON: Thank you, Lois
17 Little. Stephen Fancott. And then we'll -- after
18 that, we'll take a quick five (5) minute break. And
19 then we got -- we have another eight (8) speakers after
20 that.

21 MR. STEPHEN FANCOTT: Hello. Like
22 everybody before me, I'd like to thank -- I'd like to
23 thank the -- everybody here, the Board, for this
24 opportunity. I'd also like to thank the Developer for
25 their other work and their engineering. I am -- I've

1 lived in Yellowknife about thirty-five (35) years or
2 so.

3 THE CHAIRPERSON: Can you say your name
4 for the record?

5 MR. STEPHEN FANCOTT: I -- I'm Stephen
6 Fancott. I've lived in Yellowknife about thirty-five
7 (35) years. And I was listening to some of the years
8 for this remunaria -- remuneration to be fulfilled. And
9 it seems like I'm going to be about ninety-two (92) by
10 the time it's ready. And I hope I'm ready with my
11 little walker to go through the green grass that's
12 going to be growing on top of the tailings ponds there.
13 So I'm looking forward to that.

14 But all kidding aside, there's -- to be
15 very quick, there is three (3) things that I'm
16 concerned about. And they've been dealt with before,
17 but I'll just add my concern to that. One (1) is
18 funding. The second one is technology. The third one
19 is maintaining the water quality, I suppose. And the -
20 - and the fourth is to do with management by an
21 independent or a community body.

22 So, very quickly, I think that there are
23 ways to have funding that are perpetual. You know, it
24 just shows lack of imagination to think of these ways,
25 because, you know, get some lawyers in here and we'll

1 figure it out.

2 One (1) way is to make -- I think that
3 the people that should pay for this are perhaps the
4 mining community. And there -- there are ways that --
5 that they should be paying. They didn't pay in the
6 past, they externalized the costs, and perhaps they
7 should think about paying for the -- for the funding in
8 the future.

9 The failure -- technology is the second
10 point. I listened very -- I came to a -- a couple of
11 the sessions and I listened to Joan -- I forget her
12 last name. She was talking about the case studies.
13 Oh, here it is. Kuyek, yes, thanks. And she did -- I
14 think there were seven (7) case studies which she
15 looked at. And in all of the cases studies she pointed
16 out that -- that the technology had failed.

17 So we should pretend that the technology
18 is going to fail, because it is eventually. And that's
19 why research, I think other people have mentioned this,
20 research has to go on continually to try to improve the
21 situation. However -- not improve it, but to try to
22 develop techniques that are a final solution to --
23 that's an unfortunate phrase. But this has got to be
24 considered temporary because, you know, you freeze
25 something, it doesn't get rid of it, okay? I'll move

1 right along.

2 The third thing is water quality. I
3 think the water quality should be maintained at all
4 cost. And I -- you know, when I go out on the lake I
5 drink out of the lake. I think a lot of people in
6 Yellowknife are -- are wanting to continue to do that.

7 And the -- the -- some kind of over --
8 the fourth thing is some kind of oversight board that
9 would be independent and capable of -- of having the
10 power that -- that would -- that would manage this
11 thing in perpe -- in perpetuity, because it's -- I
12 think that that point has been well made tonight.

13 Thank you very much.

14 THE CHAIRPERSON: Thank you, Stephen
15 Fancott. What we'll do is we'll take a five (5) minute
16 break and we'll come back. And we've got eight (8)
17 more speakers and the next up is Gerry Cheezie.

18

19 --- Upon recessing at 9:32 p.m.

20 --- Upon resuming at 9:44 p.m.

21

22 THE CHAIRPERSON: On the list I have,
23 I'm just going to alternate. There's eight (8) more
24 speakers I believe I have here. And we're just going
25 to go up and down on these ones, so we can -- can

1 quickly go through. Again, if we could keep our
2 comments brief as -- as possible. Next on the list I
3 have is Gerry Cheezie. Gerry Cheezie, please proceed.

4 MR. GERRY CHEEZIE: Good evening. I'd
5 like to thank the Board for giving me an opportunity
6 and other citizens a chance to speak to you on this
7 project. I grew up in Fort Smith and lived in the
8 Territories all my life. I've lived in Yellowknife now
9 for over twenty (20) years. I raised my family here,
10 and I have several grandchildren. I reside in N'Dilo,
11 and that's the reason why I chose to come to address
12 the meeting today.

13 I have to be honest and say that
14 although I live in N'Dilo and lived in Yellowknife, I
15 haven't really followed this process that closely. But
16 recently I've been made aware that there's a plan in
17 place, and certain parts of that plan is of concern to
18 me.

19 I have two (2) granddaughters that --
20 that live with us, and their ages are two and a half (2
21 1/2) and four (4). And they like to play outside of
22 our home. They like to go to the shore and play in the
23 water in the summertime. And I'm directly opposite of
24 Giant Mine, and so I see Giant Mine every day. I think
25 about it on a daily basis.

1 I've been aware that we have soil
2 contamination in N'Dilo, and also in the sediment in
3 the shores of N'Dilo. And there is no plan to deal
4 with that, and that concerns me greatly because of the
5 health and safety issue of not only my children, but
6 other people's children that live on Latham Island and
7 in N'Dilo.

8 The Giant Mine was a project, I guess,
9 that did not involve the local Dene in the community.
10 We all know that now because we had a lot of testimony
11 from people that have told us that. And I believe them
12 because I've been aware of other projects that happen
13 where once the company has the authority to go ahead
14 with a project, they forget about all the promises they
15 made to the people.

16 The only process I think I can compare
17 it to is the process that occurred when the Government
18 of Canada wanted to make a treaty with the Dene. And
19 it's the same process as is happening right now that
20 you guys are faced with. The government and their
21 experts came to see us. The experts convinced us that
22 our rights would be protected, our way of life will
23 continue to exist with no harm, that our land would be
24 protected.

25 So the Dene signed the treaty, but now

1 we know from history that this was not only a treaty of
2 convenience so that government and industry could take
3 the resources of our land, and do what they want to do.
4 The government was lax in their enforcement of
5 environmental regulations. The company took the
6 resources and left. And the Dene and the Northern
7 people are faced with having to deal with the
8 environmental catastrophe that Giant Mine has produced.

9 So I'd urge the Board to think really
10 hard about listening to government experts because when
11 the Dene listened to the government experts before, it
12 turned out to be a bad result for us. Because the
13 legacy of -- of the treaty making process is that we
14 were in -- coerced to sign the treaty, and now we deal
15 with the aftermath which is nothing but a bunch of
16 broken promises. Our way of life has been threatened
17 and our land is polluted.

18 I have children that are growing up that
19 are going to continue to live in this area and I'm
20 deeply concerned about that. Whenever you have
21 government experts come to the community to sell a
22 proposal, you have to be really careful about what
23 they're saying. And a lot of the concerned citizens
24 tonight have expressed that. Do we accept their expert
25 opinion with no guarantees that what happens in the

1 future is beyond their control and -- and they won't
2 guarantee anything?

3 The issue of discharging water, treated
4 water, back into Back Bay hundreds of feet from where I
5 live concerns me greatly. I think it'll not only
6 contaminate Back Bay and Yellowknife Bay, but also
7 Great Slave Lake, and also Mackenzie River, and
8 eventually the Arctic Ocean. We have lots of Dene
9 communities that live on the shores of Great Slave Lake
10 and also along the Mackenzie River.

11 And I think that these people should
12 have a -- a say in this process as well. The water
13 that's going to be discharged into the Back Bay under
14 this plan, the water has got to be drinking water
15 quality, because if you don't, then you're just asking
16 us to poison ourselves. And for me and my family I
17 don't think that's an option.

18 There must be another way, and the
19 experts have got to go back and rethink it and come up
20 with another system, because I sure as heck don't like
21 that idea. But I'm no -- I'm no engineer, I'm no
22 scientist, but anything that goes into the water has
23 far-reaching effects.

24 And when the Dene signed the treaty,
25 they said their way of life will be protected, which

1 means that we can hunt, fish, trap, eat the berries.

2 But if the water is contaminated, then our way of life
3 is gone.

4 I spent most of my working life working
5 in the wage economy, but I still enjoy my traditional
6 pursuits of fishing, hunting, hunting ducks in the fall
7 time and hunting ducks in the spring, picking berries.
8 And all this could be lost if we're not careful about
9 how this plan is going to be implemented.

10 So that was part of the reason why I
11 came here today, was I try to tell the Board that this
12 is a human problem, it's not just a problem of
13 pollution, and that the local Dene that live in this
14 area aren't going anywhere. We are the people that are
15 going to be faced with this problem forever and a day.

16 I like the idea of having a legal,
17 binding agreement which I heard today was, to some of
18 the experts and other people, believe that that's not a
19 good idea. And I -- I can't for -- believe that it's
20 not a good idea. And I -- I can't believe that it's
21 not a good idea, because I think that somehow we've got
22 to bind future government and government regulate --
23 regulatory regimes to continue to make sure that this
24 arsenic does not get out of the ground. There must be
25 other ways of dealing with this problem.

1 We've been pressured in the past to make
2 decisions, and those decisions always turn out bad.
3 Our people suffer, and the land is deteriorated. The
4 animals that depend on it are no longer safe for us to
5 eat, and this is going to affect our future people, and
6 not only the Dene, but also other people that live in
7 the North, that consider their home the North, the
8 North their home.

9 And I'm proud to have a lot of those
10 people as my friends. I deal with them on a
11 professional level and also on a -- on a friend-to-
12 friend basis, and we all have the same beliefs: that
13 we've got to look after each other and protect the land
14 for future generations.

15 So today, all I came here to do was to
16 voice my opinion and try to recommend to the Board that
17 your decision is going to be impacting our lives for a
18 long time. And so you've got to really take into
19 consideration that fact of the decision and not be
20 pressured by the time, because any time you're forced
21 to make a decision under those circumstances, the
22 decision is -- turns out bad.

23 I, like I said, grew up in Fort Smith,
24 and we're downstream from the Peace River and also Lake
25 -- Athabaska River. And I fought against the

1 development of pulp mills in Alberta, to no avail.
2 Those projects went ahead. The effects of the
3 pollutants that they produce in the waters is affecting
4 us. The tar sands, as well, are producing toxins that
5 are going into the water. They're affecting the fish,
6 affecting the health of our people.

7 It's too bad that governments and this
8 industry can't collaborate more for the benefit of the
9 health and safety of people and the protection of the
10 land. We know from studies that we've done ourselves
11 that the fish is affected, the moose is affected. And
12 in the South Slave, those are the mainstay of our diet.

13 And the people that say this kind of
14 industry is good for us, say that, Well, stop driving
15 your trucks, stop driving your Ski-Doos, and go back to
16 the old ways. Well, that to me is just a -- a smoke
17 screen that they use to argue for the destruction of
18 our land and our -- our way of life. And I find that
19 unacceptable.

20 So the last thing I'd like to say, I
21 guess, is to the Board: Take the time you need. Think
22 hard about the recommendations you're going to make
23 regarding this plan. Take into consideration the
24 people aspect of this problem, and protect the land.
25 Thank you.

1 (BRIEF PAUSE)

2

3 THE CHAIRPERSON: Thank you, former
4 Chief Gerry Cheezie, for your comments. Mahsi. I'm
5 going to continue on now to Lorraine Hewlett. If she
6 could come up. I'm trying to encourage the speakers to
7 use the podium.

8 MS. LORRAINE HEWLETT: The Government
9 of Canada and the Government of the Northwest
10 Territories produced a report that's called, "The Giant
11 Mine Remediation Project Developer's Assessment
12 Report." And it's dated October 2010.

13 It's very, very thick. And buried on
14 page 400 and something is the following information.
15 That report announced that before the clean-up, 910
16 kilograms of arsenic comes out of Baker Creek every
17 year. So I looked up the material safety datasheet
18 about arsenic trioxide. A lethal dose is 120
19 milligrams.

20 So I did the math. There's enough
21 arsenic that comes out of Baker Creek to poison 7.54
22 million people per year or twenty thousand (20,000)
23 people per day. So, Gerry Cheezie, you might feel a
24 little more alarmed when your grandchildren play on the
25 beach.

1 After the clean-up, the report states
2 that 960 kilograms of arsenic will be coming out of
3 Baker Creek per year, which is enough lethal doses to
4 kill 5.78 million people per year.

5 So I wondered, if you have 237,000
6 tonnes of arsenic trioxide, how many people would that
7 kill. So I did the math. And I learned that that's
8 enough arsenic trioxide, enough lethal doses, to kill
9 1.975 trillion people, almost 2 trillion people.
10 That's enough to kill the world's population two
11 hundred and eighty (280) times over.

12 So perhaps you might understand why I
13 felt very alarmed on Tuesday, May 8th, when the City of
14 Yellowknife announced that it would change the source
15 of Yellowknife's drinking water from the river to
16 Yellowknife Bay.

17 And then none of us knew, except for a
18 few people, that just a few days later, the following
19 Saturday -- so the announcement was made by the City on
20 a Tuesday evening. On Saturday, there was a tailings
21 pond spill that started because Baker Creek jammed up
22 with ice.

23 When I looked at the spill report -- and
24 they had to fill out certain categories. Well, what
25 spilled? Unknown. Well, how much spilled? Unknown.

1 What area did it cover? Unknown. It was very
2 disconcerting to see how many times the word "unknown"
3 showed up on the spill report.

4 The newspaper didn't report the tailing
5 pond spill until Friday, May 20th. As part of that
6 news story, the Yellowknifer interviewed Chief Sangris
7 of -- of Dettah. And the Chief said that a mishap like
8 this is proof that the City shouldn't move its water
9 source downstream to Yellowknife Bay from the
10 Yellowknife River.

11 My concern is what's not part of the
12 Giant Mine Remediation Project. There was a gentleman
13 who was very kind during the break to explain to me how
14 the diffuser pipe works. The cost of the diffuser pipe
15 is included in the remediation project, but the cost of
16 replacing the submarine pipeline that currently
17 transports water from Yellowknife River to the pump
18 house is not part of the cost of the remediation
19 project. Yet it was the federal government that paid
20 for the cost of the submarine pipeline in the first
21 place.

22 To me, it's only common sense that you
23 would not draw your drinking water downstream of such a
24 huge toxic waste site. It's only common sense that you
25 would draw it upstream. And I think that if you asked

1 the majority of people who live here and depend on that
2 water supply -- Do you want to draw it upstream of the
3 toxic waste site that could kill 2 trillion people or
4 do you want to draw it downstream -- I'm pretty
5 confident that most people are going to say upstream.

6 So what I would like to ask is that the
7 cost of replacing the submarine pipeline be part of the
8 remediation project and that as that pipeline needs to
9 be replaced -- I believe it's every fifty (50) years --
10 that that cost not be downloaded onto the -- the
11 citizens of Yellowknife.

12 The Chief of Dettah said -- and I heard
13 him say this -- that the Dene people have not used
14 Yellowknife Bay for drinking water or fishing for
15 decades, and they don't want to have the water from
16 Yellowknife -- Yellowknife Bay as a source of their
17 drinking water. And they're not the only ones.

18 Catastrophic failures happens. There
19 was an aluminum tailings pond spill in Europe, and all
20 that red sludge was heading towards the Danube River.
21 These things happen. And in spite of all the best
22 efforts of engineers -- and I know that when they go
23 off to do their training they are instilled with
24 confidence in their ability to solve problems, but
25 there are catastrophic failures of engineering

1 solutions, which the people of Japan found out when
2 they had the earthquake and the tsunami, and the backup
3 generators were below the tsunami line.

4 So these things happen. And we don't
5 know if or when there can be a catastrophic failure of
6 all that arsenic trioxide that's sitting so close to
7 this city. So my request is that the federal
8 government, who paid for the submarine pipeline in the
9 first place, include that cost as part of perpetual
10 care, as part of that forever plan, and protect -- put
11 their money where their mouth is.

12 Protect public health. Keep people
13 safe. Don't make us live with the anxiety of the what
14 if. You know, the City could build the water treatment
15 plant, and they could have the filters for the arsenic.
16 But where's the guarantee that they would have enough
17 filters to deal with a catastrophic situation? There's
18 no guarantee.

19 How could they order them up here fast
20 enough? How do you do that? How do you deal with that
21 when you don't know what's going into the water, you
22 don't know how much, you don't know how far? So that's
23 my request. Thank you very much.

24 THE CHAIRPERSON: And thank you,
25 Lorraine Hewlett, for your passionate speech. I'm

1 going to go to Bob Bromley.

2

3 (BRIEF PAUSE)

4

5 MR. BOB BROMLEY: Thank you very much,
6 Mr. Chair. My name is Bob Bromley. And I -- maybe I
7 could just ask you, you had mentioned speaking slowly.

8 Is there translation happening? Can you
9 confirm?

10 THE CHAIRPERSON: No.

11 MR. BOB BROMLEY: Is -- is there a
12 reason why it's not on? I'm curious, because I know
13 that there's lots of interested constituents out there
14 for me.

15 THE CHAIRPERSON: Yeah. I don't really
16 see much of them here, so -- so I think the Elders are
17 all gone for the night. So -- but we could probably go
18 ahead and -- with your presentation, Bob.

19 MR. BOB BROMLEY: Okay. Thank you.
20 And I'd like to start, if I may, by just saying that I
21 really appreciate the work that you're doing and this -
22 - the Board itself, Mackenzie Valley Environmental
23 Impact Review Board. As a -- a grey-hair, I can say
24 that things have changed a whole lot over the years and
25 for the better. And I'm -- I'm very happy to see local

1 faces in the -- on the Board, to some degree in the
2 Proponents, and certainly in the staff of the Board and
3 -- and all over the parties.

4 So why I'm speaking here today as the
5 MLA for Weledeh, a GNWT riding that includes the mine
6 site and the residences and businesses of those most
7 affected. I'm here also to sort -- support my -- my
8 constituents and my community. And I would note that
9 probably 80 or 90 percent of this -- speakers so far
10 have been constituents of the Weledeh Riding.

11 The -- I know that significant
12 expenditure has gone into these hearings and that
13 they're very important. The work that the Proponent
14 has done is very important and that this is a really
15 important opportunity for the public to speak. And I'm
16 -- I'm very pleased to see the turnout and hear the
17 comments I'm hearing. So -- and I do want to say that
18 the views presented here by myself do not necessarily
19 reflect the view of GNWT, which is one of the project
20 proponents.

21 By way of background, in the late 1960s
22 I became aware of environmental damage around the mine
23 sites and frequent reports from community members of
24 health issues such as skin rashes and -- and cancer
25 believed to be related to contaminants from the mines,

1 and Giant Mine in particular. In '69 and '70 I worked
2 with biologists and physicists from the atomic research
3 laboratory in Ames, Iowa, to sample components of the
4 environment and samples of human hair and fingernail
5 tissue for contaminant analysis, working with a local
6 barber and finding out how long people had worked in
7 the mine and so on.

8 This subsequent report concluded that
9 Yellowknife had some of the highest human and
10 environmental samples for arsenic, mercury, and
11 possibly other -- other contaminants, such as antimony,
12 in Canada.

13 In 1971 I joined a group of citizens
14 concerned about environmental issues, particularly
15 arsenic and other pollutants from Giant Mine, to form
16 Ecology North a charitable non-government organization.

17 Public concerns with respect to Giant
18 Mine included worries and relations to berry-picking,
19 fishing, swimming, drinking water, and health issues --
20 sometimes very serious health issues -- and of course
21 ecosystem impacts. And much later I was initially on
22 the Giant Mine community alliance as it formed and
23 worked to establish terms of reference for its role in
24 liaison between the project and the public.

25 But I became disillusion with the lack

1 of commitment from the Proponent/regulators to public
2 oversight. And in protest on this issue I declined
3 further participation on the coalition but, alas, for
4 little result.

5 My first comment really is that I -- I
6 don't feel there's been sufficient public
7 participation, particularly with the Yellowknives Dene
8 First Nation. And I -- I regard them as having
9 particular status here. The -- they're -- they've
10 suffered, obviously, direct and costly impacts from
11 both Giant and Con Mines over the decades, impacts
12 hopefully well known by now and, I'm sure, outlined by
13 Chief Sangris and, of course, Mr. Cheezie earlier this
14 evening.

15 From unsafe drinking water to costly
16 displacement of hunting and fishing grounds, loss of
17 ancient traditions, and at the extreme, of course,
18 deaths of children, their experiences indeed have been
19 dire.

20 Real participation in a project of this
21 magnitude requires a comprehensive plan -- plan for
22 involvement, a recognition of the unique value that
23 public parti -- participation will have, and sufficient
24 funding to enable the work required of meaningful
25 participation. This, I think, can be detected already

1 in the -- the sorts of presentations and commitment
2 we're hearing tonight.

3 The -- I -- I have a few specific
4 comments. The impacts on the public safety due to the
5 ice thinning has been discussed before. And the wa --
6 water flows of released treated water in relation to
7 the City of Yellowknife intake, I think -- I don't see
8 any clarity on -- on where the water will go that's
9 being put into Back Bay in relation to the -- the new
10 location of the -- the intake for the City of
11 Yellowknife. These concerns have been well expressed
12 already.

13 The -- I know that the contaminants have
14 been very high in the sediments of Back Bay and likely
15 are in Yellowknife Bay as well. That, for -- for some
16 reason that mystifies me, has been considered to be not
17 a problem. But obviously, the -- the contaminants must
18 be increasing. We've heard what's -- what's going down
19 Baker Lake and, of course, will be increased as the
20 treated water, which is still somewhat con --
21 contaminated, is also added to the bay. I have to
22 wonder at some point if there's some saturation point
23 that we should be thinking about, since we're dealing
24 with massive amounts of time, infinite amounts of time.

25 And also the comments we've heard on

1 context earlier, such as climate change, we can clearly
2 expect a lot of extreme events over the -- the next
3 eons and, to some degree, unpredictable. But we -- we
4 do know they will happen. And Nahanni Butte is -- is
5 probably a small indication of the direction things are
6 going. And I know you're familiar with that situation.

7 Giant is obviously a seriously
8 contaminated site on any scale. This is well
9 recognized. The situation of having concentrated but
10 unsecured storage of massive arsenic trioxide is well
11 known by both regulators and the public. For
12 residents, as we've heard, and indigenous people,
13 awareness of this condition is psychologically
14 pervasive and weighs on the mind.

15 I've attended a number of public
16 meetings regarding the -- the frozen block method of
17 stabilizing arsenic trioxide deposits. I support the
18 general approach as an appropriate interim action, but
19 I remain nervous about the overall rigour brought to
20 its final design and implementation. That's based on
21 some of my experience in earlier days doing some
22 reviews of the technical work.

23 I do have a question about the -- the
24 residential/industrial standards. I believe there's a
25 commitment to remediate to industrial standard, but

1 there will be areas that will meet in a residential
2 standard. Will those areas be well defined, in terms
3 of a -- a survey kind of approach?

4 And will the residential standards --
5 does -- does the residential area of the mine site meet
6 the residential standards of cleanup? If I could just
7 ask that question right now. Thank you, Mr. Chair.

8 THE CHAIRPERSON: Yeah. Thank you,
9 Mr. Bromley. I'm going to go to the Developer to the
10 question.

11 DR. RAY CASE: Thank you, Mr. Chair.
12 Ray Case. Adrian mentioned earlier that a vast
13 majority of -- sorry, an extensive area of the mine
14 site already meets residential standards, and
15 particularly, you know, that area that extends along
16 the shoreline of -- of Back Bay.

17 The -- there is contaminated soils are
18 in the town-site area. Most of those the contamination
19 there is above industrial standards and the plan will
20 be to remove and, where necessary, replace all of that
21 soil.

22 The resulting -- results of this will be
23 a very large proportion of that area, if not all of it,
24 being at reside -- residential standards, and any
25 remaining portions of the -- of the area will be

1 notified and worked on with the -- with the City as we
2 work out future -- the City and other groups as we work
3 out future land use opportunities for the site.

4 THE CHAIRPERSON: Thank you. I'm
5 going to go to Mr Bromley.

6 MR. BOB BROMLEY: Thank you, Mr. Chair,
7 and thank you very much for that response. The AANDC
8 and GNWT are both the project Proponents and the
9 regulators for the Giant Mine project. This has also
10 been acknowledged by the Board and the Proponents
11 themselves.

12 The potential for bias decision-making
13 inherent in such situations demands action by the
14 Mackenzie Valley Environmental Impact Review Board to
15 make sure this concern is addressed in a way that
16 promotes the safest and most appropriate cleanup and
17 stablation -- stabilization plans, including a high
18 degree of transparency for the public and pub -- public
19 trust.

20 To me, this requires consideration of
21 the inherent challenges of a bureaucracy, in terms of
22 turnover -- normal turnover, continuity-type issues,
23 political direction, uncertain annual budgets, non-
24 local decision-making, for example, its financial
25 processes, and the need for an oversight role by local

1 residents of the zone of impact.

2 Recently I attended a couple of
3 workshops in Dettah and Yellowknife about independent
4 public oversight and learned more about the new, but
5 unfortunately increasing, experience of dealing with
6 perpetual care of highly contaminated sites such as
7 Giant Mine.

8 Prominent in the discussions was
9 acknowledgement of the important role for the public
10 when they are provided with the tools to participate in
11 a meaningful way.

12 Based upon the current lack of an
13 agreement and provisions in this regard, I urge the
14 Board to ensure independent public oversight, properly
15 resourced, that draws upon the recommendations for such
16 oversight, as put forward by the Yellowknives Dene
17 First Nation and Alternatives North.

18 Such oversight should clearly include
19 the Yellowknives Dene First Nation, non-government
20 organizations, and the City of Yellowknife. I
21 understand a number of meetings and discussions have
22 taken place very recently between public parties and
23 the Proponents. But to considerable dismay, there has
24 been little substantive progress made towards the
25 needed agreement. That's at least my understanding. I

1 believe the Board has a role in moving this forward
2 under such an impasse.

3 Perpetual care, the Proponents have
4 observed the need for perpetual care of this site, but
5 I do not feel they have ensured the necessary
6 operational mechanisms, in terms of a comprehensive
7 plan, secured funding in perpetuity for the annual
8 maintenance work required, and the commitment to
9 continuously pursue ongoing research towards
10 methodology that ultimately can resolve or largely
11 address the various aspects, forms, and quantities of
12 arsenic contamination that threaten the public and
13 their environment.

14 There seems to be many lessons learned
15 about perpetual care projects elsewhere that are not
16 being tapped into yet by the Giant Mine project.

17 So in conclusion, Mr. Chair -- and I
18 appreciate this opportunity and this time again, and
19 recognize the lateness of the hour, and thank you and
20 the public for their commitment here -- significant
21 progress has been made in some areas of the Giant Mine
22 project, but others remain with significant public
23 concern.

24 To address these concerns and avoid the
25 significant adverse environmental impacts that could

1 result, I and many of my constituents believe the
2 proponents must bring considerably more rigour into
3 their plans for public participation, local and
4 independent project oversight, environmental management
5 plans, perpetual care, and management of water.

6 And while I appreciate the Proponent's
7 claim that their plans will reduce public concern, I
8 hope the Board will rather consider evidence of public
9 trust as a much higher standard on which to jud --
10 judge the sufficiencies of the plan.

11 Ultimately there are issues such as
12 compensation to indigenous residents, an apology to
13 residents from the serious public threat allowed to
14 develop here and under which we and our descendants
15 must live the rest of our lives, and a comprehensive
16 accounting and report on lessons learned from Giant
17 Mine which still stand to be addressed.

18 If I can be allowed to cry over spilled
19 milk just for a second, I just wish the public had been
20 given the opportunity for independent oversight back
21 when the community raised serious health concerns in
22 the '50s and the '60s and when Ecology North raised it
23 to a national level in the early '70s. Our only
24 response was, Rest easy, your federal government has it
25 in hand. And I thank you, Mr. Chair.

1 THE CHAIRPERSON: Thank you, Mr. Bob
2 Bromley. If possible, can we get a copy of your text
3 as well so that we have that for our public record as
4 well? Okay, thank you. I'm going to go to Wendy
5 Bisaro, MLA, if she's here.

6 MS. WENDY BISARO: Thank you, Mr.
7 Chair. I'm just barely keeping my eyes open, but I'm
8 sure you guys are too.

9 I'd like to thank you very much for the
10 opportunity to -- to speak to you. My name is Wendy
11 Bisaro. I'm a forty-one (41) year resident of
12 Yellowknife. I'm a member of the legislative assembly
13 for the Riding of Frame Lake here in Yellowknife. And
14 I regret that I've been unable to attend the hearings,
15 and I won't be able to attend any further this week. I
16 actually do, do some work periodically.

17 So I have looked at some of the
18 Developer's presentations, but I have to wonder about
19 many of the details that are left unsaid in their
20 presentations. I'm here representing myself and the
21 constituents of my Riding. I believe my concerns are
22 representative of many of my constituents, as well as
23 many of the people who live elsewhere here in the city.

24 My understanding of the issues may not
25 be totally correct, and my comments are not at all

1 technical in nature. But I present my concerns here
2 with the hope that the Board will give them thorough
3 and due consideration, and ensure that any remediation
4 plan addresses and covers my concerns and those of the
5 other presenters.

6 I'd like to say that my -- my concerns
7 are -- have probably all been already dealt with, but I
8 feel it important for me to make them again and just to
9 add my voice to the -- to the -- the concerns that
10 you've heard already tonight.

11 First of all, in terms of the method to
12 -- to control the arsenic and stabilize it, I just want
13 to say at the outset that it's not my preferred, and
14 I'm going to leave it at that.

15 But I am concerned about the seeming
16 lack of commitment and openness to using different
17 methods to deal with this problem in future years for
18 eternity, as France so eloquently put it. As
19 technology changes, and as a better way of dealing with
20 the arsenic trioxide emerges, there doesn't seem to be
21 willingness to -- to look at that down the road and to
22 find another solution to deal with this poison.

23 I'm deeply concerned about the project
24 plans for the long term; not just the fifteen (15) to
25 twenty-five (25) years down the road that's mentioned

1 in -- in the Developer's presentations, but a hundred
2 (100), two hundred (200), three hundred (300), three
3 thousand (3,000) years down the road.

4 I don't see that the remediation plan
5 addresses what I consider the long-term oversight of
6 the project. Eternal oversight. When we here are long
7 since departed this earth, when no one in this
8 community can remember what the project is or was --
9 was, no one knows why it's an important undertaking.
10 No one can understand the magnitude of the environ --
11 environmental liability.

12 Who will enforce the monitoring, ensure
13 the annual funding, be in charge? I greatly fear that
14 an "out of sight, out of mind" mentality will prevail,
15 and the contamination will be left untended, to revert
16 to its original state and become an environmental
17 liability that no one recognizes or deals with.

18 An independent oversight body is a
19 necessity, in my mind. The same body that runs the
20 project should not also be the oversight body. There
21 must be a total absence of conflict of interest for the
22 oversight to be successful. And with the long-term
23 eternal nature of this project, oversight must be
24 successful.

25 The Proponents propose an environmental

1 monitoring advisory committee. But, in my mind, that
2 body -- and it's an advisory committee. It's not an
3 oversight committee. The membership does not involve
4 my community, as I believe it should, nor is it
5 independent of the Developer.

6 For the long-term, thousands of years
7 from now, for that long-term ownership of this project
8 this ongoing treatment of -- of the liability that is
9 Giant Mine, ownership has to be embraced by the
10 community. And for that to happen, the community must
11 have strong representation, strong local
12 representation, both from a municipal government
13 perspective and from a citizens-at-large perspective.

14 To expect that bureaucrats in Ottawa
15 will stay interested and engaged in this project after
16 several hundred years is to fool ourselves. They won't
17 be living here. They won't feel any ownership. Locals
18 will. And that will ensure that the project carries on
19 and ensure adequate oversight of the project.

20 Communication is another area of concern
21 for me. I believe the Developer has addressed this in
22 presentations, but I feel little comfort in their
23 plans. Describing the Giant Mine alliance as a
24 successful communication tool is not correct, in my
25 estimation.

1 As a resident of Yellowknife, I see
2 little from the alliance. I don't feel it has a good
3 track record to date and I don't have any expectations
4 that it will improve.

5 The Developer has done a poor job of
6 communicating their activities to -- to date to the
7 residents of my community and to the two (2) adjacent
8 communities. An occasional letter or article in the
9 local paper is not enough. Consultation and use of
10 much more varied and successful communication tools are
11 necessary.

12 Without a good understanding of the
13 project and of the ongoing treatment required for the
14 site, the importance of maintaining treatment will be
15 lost to our heirs, and we risk the situation I
16 referenced above.

17 Funding for the project concerns me, as
18 has been mentioned by quite a few other presenters.
19 The Developer's funds will be subject to annual
20 budgetary approval by the Parliament of Canada. What
21 commitment exists on paper, signed off on, to provide
22 the necessary millions of dollars to keep the
23 treatment, monitoring, and perpetual care going beyond
24 fiscal year 2019/'20. That's the date that's mentioned
25 in the de -- one (1) of the Developer's presentations.

1 Has the Developer even secured funds for
2 the initial remediation? How will the environmental
3 monitoring advisory committee be funded? Will there be
4 funding for an oversight committee? None of these
5 questions have definitive answers. None have
6 commitments on paper that can withstand a legal
7 challenge. And until they do, this project should not
8 go ahead.

9 As a former city councillor, I'm very
10 interested in the end-use of the Giant Mine site. It's
11 a site with great potential for the expansion and
12 development of our community. And as has been
13 confirmed earlier, the site will only be reclaimed to
14 an industrial standard, not a residential standard.
15 And there's been some explanations on that.

16 But I feel that this is a huge failing,
17 and it will place an unacceptable burden on the City of
18 Yellowknife and its residents. We, as taxpayers, will
19 have to bear the cost of upgrading from an industrial
20 standard to a residential standard. And that's a huge
21 cost. For the site to be of any use to the city it
22 must be taken over -- the -- the remediated site must
23 be taken over as a residential standard.

24 Lastly, there's quite a few issues that
25 are not yet fully resolved or researched, and I don't

1 know them all. I'm sure others will address them over
2 the week. But I want to speak to ice cover and water
3 quality in Back Bay and YK Bay, as many others have.
4 They're ones in particular that I want to talk to.

5 To date, there have been tests on the
6 effect of the discharge on the ice in Back Bay to
7 determine if it will cause thinning of the ice cover.
8 But have these tests been done with the quantity of
9 discharge that will occur when the project is up and
10 running? I think not.

11 So how can the results of these tests be
12 considered acceptable and how can the Developers say
13 with certainty that the discharge will not affect water
14 quality in the bay? The dischar -- discharge aspect of
15 the project is not yet operational. The whole project
16 is not yet operational. Tests must reflect water
17 discharge during operations, and these do not. Further
18 work is needed before project approval is given.

19 There are other concerns that I have,
20 but the time does not permit and I don't want to keep
21 us here any longer than I have to. So I would like to
22 just say to the Board that I really hope that you give
23 due consideration to everybody's concerns. It is an --
24 an issue -- I mean, I've been advi -- involved in the
25 mining community off and on here for -- for my whole

1 time here. It's a central part of my community. I
2 live here and mining is something which is at the heart
3 of this community.

4 So I -- I thank you very much for the
5 opportunity to speak. I hope that I've presented my
6 concerns clearly. If not, I'm happy to answer any
7 questions. Thank you, Mr. Chair.

8 THE CHAIRPERSON: Thank you, Ms. -- Ms.
9 Bisaro. Also, if you wouldn't mind, we wouldn't mind
10 getting a copy of your text, and just give it to the
11 staff if you can. Thank you.

12 Next one I have on the list here is --
13 that I'm going to go down to is Eric Diller.

14 MR. ERIC DILLER: Hello. My name is
15 Eric Diller. First, I would like to thank Aboriginal
16 Affairs and -- as well as the GNWT and the Mackenzie
17 Valley Board for their efforts in allowing this
18 consultation to happen, as well as coming up with the
19 remediation plan.

20 I know that this has been brought up
21 earlier, but much is known about the levels of arsenic
22 on the Giant Mine site itself. We know that the levels
23 are higher than when the mine began operation in 1948,
24 but due to dust escapes during the extraction process
25 over the life of the mine, I would suggest that mapping

1 of arsenic levels in the greater Yellowknife area soils
2 and also in plant species that humans and other animals
3 will be consuming, be carried out.

4 Even though this is outside the scope of
5 the current team, I strongly suggest that areas that
6 are safe to grow food on and areas that are not safe to
7 grow food on be mapped.

8 I also have other concerns regarding the
9 water supply for the City of Yellowknife, which have
10 been brought up by previous speakers, as well as
11 independent oversight of the monitoring of this project
12 in the longer term. But I know that those -- those
13 issues have been brought up far more eloquently than I
14 could, and I'll just say that I share those concerns.

15 So, yeah, thank you very much.

16 THE CHAIRPERSON: Thank you, Eric
17 Diller.

18 Suzette Montreal (sic) or -- I can't
19 read your spelling in here.

20 MS. SUZETTE MONTREUIL: Mahsi cho, and
21 that's Montreuil, and it's been called Montreal several
22 times so --

23 THE CHAIRPERSON: My apologies.

24 MS. SUZETTE MONTREUIL: -- not a
25 problem. No problem.

1 So I as well thank you for the
2 opportunity. Tonight I'm actually speaking as the
3 social justice coordinator for the Catholic Diocese of
4 Mackenzie Fort Smith, and I speak with the church's
5 concern for the well-being of this community and the
6 local land.

7 So Giant Mine's long history has created
8 a situation where it has become difficult for our
9 community to trust the process that oversees the work
10 to be done. This history includes the many losses of
11 the Yellowknives Dene, the health con -- consequences
12 for the larger community, the painful labour history,
13 and the seriousness and scope of the work left to be
14 done.

15 In considering this lack of trust, I
16 would like to suggest four (4) main points that could
17 help to rebuild this trust.

18 The first point: The work that is
19 planned needs to be governed by a formal environmental
20 agreement between the Proponents and key agents,
21 including the City of Yellowknife, the Yellowknives
22 Dene, and the community at large. This is no less than
23 the federal government has required for other projects.
24 The agreement would serve as a contract, with rules,
25 checkpoints, and consequences. It would reflect the

1 seriousness of the work before us.

2 The second point: This project requires
3 some form of independent oversight. This is not an
4 accusation of bad faith, but rather a recognition that
5 independent oversight works. It provides valuable
6 input, monitoring, correction and, most importantly,
7 more local control.

8 The third point: The United States
9 appears to have better understood that contaminated
10 sites that require perpetual care are best financed
11 through long-term funds, rather than annual
12 allocations. There are problems with this approach
13 that need to be resolved, but overall it creates
14 greater stability and assurance.

15 Lastly, but most importantly, the
16 remediation of Giant Mine could not be complete until
17 there is a formal recognition of the impact of Giant
18 Mine on the Yellowknives Dene. As they have very well
19 stated, the Yellowknives Dene have lost access to land,
20 to water, to significant food sources, including coney
21 fish and berries and, indeed, to their historical
22 relationship with the land in this region.

23 If remediation is in any way to make
24 this well, the Yellowknives Dene deserve an apology and
25 compensation. To do otherwise would be to perpetuate

1 an injustice against this First Nation.

2 In closing, I would like to wish you all
3 the best in your work, and to ask that God would bless
4 your work and guide its findings. Thank you.

5 THE CHAIRPERSON: Thank you. I want to
6 go to Terry Pamplin.

7 MR. TERRY PAMPLIN: Thank you, Mr.
8 Chairman. My name is Terry Pamplin. I'm a Yellowknife
9 visual artist. If anybody is taking votes, I'd like to
10 agree with all the points of concern that the other
11 people have raised and I won't repeat them. So tick
12 off my name that says, those are important.

13 I thought I'd quote a famous hero of
14 mine, John Cleese: "And now for something completely
15 different." I first thought of coming here tonight and
16 saying, Would the remediation project and would the
17 powers that be, give the Aurora Art Society the old
18 Giant Mine admin building, so that we could fix it up
19 and have an art centre? And that's really short term.
20 Could you give it to us? Could we fix it up? Could
21 you help us heat it and power it? And it would
22 certainly help Giant's reputation. That's at the suck
23 category at the moment. It has an image problem.

24 Actually, I had been hoping that arsenic
25 trioxide is just undiscovered dilithium crystals and

1 James T. Kirk will come down and unload the whole mess
2 on us in a few years.

3 I want to ask one (1) question, and then
4 I have a brief two (2) page quote to read. Thanks, Bob
5 and Wendy, for a demonstration of what perpetuity can
6 mean within five (5) minutes. Those seemed like they
7 were eternal.

8 Some friends of mine, artist friends,
9 have been discussing what sort of identifier or visual
10 icon we could envision and create that would warn or
11 inform future people of what Giant is, after the
12 frostette (phonetic) has fallen down. Some symbol,
13 some installation, that would stand and inform forever.
14 Some symbol that could inform and warn visitors to our
15 planet. That's what I consider forever. So we're
16 crossing every barrier. And it's a great deal of fun
17 to imagine, but I'd like to commit that task to you
18 too. How do we communicate with someone we have no
19 clue about? How do we warn them that that popsicle is
20 deadly?

21 I'd like to quote from one of my
22 favourite authors. She used to piss me off, but I
23 found an amazing passage in the last book, "The Time
24 Capsule Found on the Dead Planet" - Giant Mine.

25 "In the first age, we created gods.

1 We carved them out of wood, there was
2 still such a thing as wood, then. We
3 forged them from shining metals and
4 painted them on temple walls. They
5 were gods of many kinds, and
6 goddesses as well. Sometimes they
7 were cruel and drank our blood, but
8 they also gave us rain and sunshine,
9 favourable winds, good harvests,
10 fertile animals, many children.
11 "Our gods had thorns on their heads,
12 or moons, or seelie fins, or the
13 beaks of eagles, and we called them
14 All-Knowing, we called them the
15 Shining One. We knew we were not
16 orphans. We smelled the earth and
17 rolled in it, its juices ran down our
18 chins.
19 "In the second age we created money.
20 This money was also made of shining
21 metals. It had two faces: on one
22 side was a severed head, that of a
23 king or some other noteworthy person.
24 On the other face was something else,
25 something that would give us comfort:

1 a bird, a fish, a fur-bearing animal.
2 This was all that reminded us of our
3 former gods.
4 "The money was small in size, and
5 each of us could carry some of it
6 with him every day, as close to the
7 skin as possible. We could not eat
8 this money, wear it, or burn it for
9 warmth. But, as if by magic, it
10 could be changed into such things.
11 The money was mysterious, and we were
12 in awe of it. If you had enough of
13 it, it was said, you would be able to
14 fly.
15 "In the third age, money became god.
16 It was all-powerful and out of
17 control. It began to talk. It began
18 to create on its own. It created
19 feasts and famines, songs of joy and
20 lamentations. It created greed and
21 hunger, which were its two faces.
22 Towers of glass rose at its nature,
23 and were destroyed and rose again. It
24 began to eat things. It ate whole
25 forests, croplands and the lives of

1 children. It ate armies, ships and
2 cities. No one could stop it. To
3 have it was a sign of grace.
4 In the fourth age we created deserts.
5 Our deserts were of several kinds,
6 but they had one thing in common:
7 nothing grew there. Some were made
8 of cement, some were made of various
9 poisons, some of baked earth. We
10 made these deserts from the desire
11 for more money and from despair at
12 the lack of it. Wars, plagues, and
13 famines visited us, but we did not
14 stop in our industrious creation of
15 deserts. At last, all the wells were
16 poisoned, all the rivers ran with
17 filth, all seas were dead, there was
18 no land left to grow food.
19 "Some of our wise men turned to the
20 complication -- contemplation of
21 deserts. A stone in the sand in the
22 setting sun could be very beautiful,
23 they said. Deserts were tidy,
24 because there were no weeds in them,
25 nothing that crawled. Stay in the

1 desert long enough and you could
2 apprehend the absolute. The number
3 zero was holy.

4 "You who have come here from some
5 distant world, to this dry lakeshore
6 and this cairn, and to this cylinder
7 of brass, in which on our last day of
8 all our recorded days I place our
9 final words: Pray for us, who once,
10 too, thought we could fly."

11 Thank you, Mr. Chairman.

12 THE CHAIRPERSON: Thank you, Terry
13 Pamplin. I got two (2) more speakers, Sandra Lockhart
14 and Erik Suliak -- Erin.

15 Before I go to Sandra, I just wanted to
16 see if there's anybody here that needs a shuttle ride
17 back to Dettah. If you could put up your hand. If
18 not, then we could send the shuttle. Okay, thank you.
19 I'll just -- we're going to go to Sandra Lockhart.

20 MS. SANDRA LOCKHART: I just remembered
21 you earlier talking, like talk to the Chair, so I had
22 to wait till you finished talking. This has been such
23 an educational opportunity on many, many levels.

24 And because of the way I've been raised,
25 I'm going to introduce myself the way I've been raised.

1 My name is White Thunderbird Woman (phonetic). I'm a
2 citizen of Akaitcho, which is inclusive of this area,
3 so I'm in my homelands. My Christian name is Sandra
4 Lockhart, and I'm a resident currently in Yellowknife.

5 And who I want to thank, standing in
6 front of all of you -- and I'm sure you've already done
7 it, especially my Elders, is I want to thank the
8 Creator for giving me the ability and the gifts that I
9 have to be standing here with you. I have been gifted
10 with the ability to see so I could find my way here,
11 and I could read these words here, and I could see how
12 you're all feeling with what you're hearing.

13 I've been gifted with the ability to
14 hear. And some of the things hurt me because I have
15 feelings. And it's with great joy that I -- I thank
16 the Creator that I can feel when I get hurt because it
17 wasn't always like that. I've been gifted with the
18 ability to smell, and some of the things I hear leave a
19 bad smell in the room.

20 And I've been give -- given the ability
21 to taste, and some of the things that I've heard, seen,
22 and smelled, and listened to in this room leave a very
23 bad taste on my mouth. And before coming up here I've
24 been praying that I say whatever it is I'm supposed to
25 be saying because the Elders have taught me over my

1 years that I better be the first one (1) to hear what
2 comes out of my mouth, because I'm supposed to be
3 listening for the Creator's teachings on a daily basis.

4 And I want to say that I'm -- I'm
5 responsible for my lineage. I have a background in
6 nursing, and I have a background in traditional
7 knowledge. And it runs through my blood. In my
8 language we call it blood memory, in nursing we call it
9 genetics.

10 So I have a lineage that isn't here, and
11 we're talking about them because I'm just as small-
12 minded as I probably was when I was three (3).
13 Sometimes I can't see past my own nose and I can only
14 think about right now. Well, right now I'm okay, right
15 now that's not affecting me. Right now, that's
16 probably not even going to affect my grandchildren I'm
17 raising.

18 But in listening to other teachings, I
19 have learned that our environment affects our genetics.
20 So even though we may fix that and hide that and put
21 that someplace, people have been affected and we're
22 going to get it passed down.

23 And I know it was for getting gold. And
24 I imagine, or I want to think that at that time, we
25 were thinking sustainable development. But as human

1 beings, we have a thing that's in us that runs through
2 our blood, and it's called greed. And it -- it gets to
3 me, too, so I'm not exempt from that.

4 But when -- I've learned that when we
5 play with natural law and what today we call
6 "ecosystems," and we throw it out of balance, we're
7 going to account for it. And today I hear us being
8 held accountable. And I'm embarrassed and I'm hurt,
9 because I'm part of that. I'm part of the problem.
10 I'm not exempt from it.

11 So I don't think it's right that I thank
12 any of you for allowing me to speak, because I have a
13 moral obligation to speak, as you have a moral
14 obligation when you decided to take the responsibility
15 to sit on that Board, to listen. That's what you
16 accepted. And when a part of the committee for a
17 solution -- because you're only a part. You've told me
18 today. I can't answer that because that's not my part.
19 You took the responsibility to morally uphold to get
20 the job done. And I have a moral obligation to come
21 here and say, we -- we're in it together.

22 But we're not going to suffer from it
23 because it's not our generation. So who are we
24 kidding? I do know that I feel frustrated, because I
25 don't know what the solution is. Once you throw nature

1 out of its natural cycle, what do you do?

2 The one (1) thing I haven't heard talked
3 about tonight is when are we going to stop being so
4 greedy? When are we going to start being accountable
5 and stop taking and wrecking the system? Because we'll
6 get benefits right now. We'll -- you've told me, Don't
7 worry about it, you're going to get, you know,
8 socioeconomic benefits.

9 You know, and it's kind of ironic coming
10 from the Department of Aboriginal and Indian Affa --
11 and Northern Development, about fiduciary
12 responsibility. As the chief was saying earlier, I
13 have that relationship, it's an old one, right? And we
14 will need it because we know we have economic
15 instability right now. So that's a real thing for
16 people to grab on to.

17 So when I come here tonight, I think
18 that you have a moral obligation to have the public
19 talk. I don't think it's a question of choice. I
20 think that the Creator put you and put me where we are
21 because the reality is, is we're destroying the North.

22 And the speaker before me talked about
23 barren lands, we have barren lands in the North. So
24 are people telling us as Northerners here that this is
25 the next barren land? We'll be the first wasteland?

1 Well, this is home land to a lot of indigenous people,
2 whether you're Caucasian or Aboriginal. We have a lot
3 of people that are migrating here that are citizens of
4 the North.

5 Is there somebody that's making a
6 decision that this is where all the waste is going to
7 start coming to? Because we know we have nuclear waste
8 that has to get buried, too. So if you're going to
9 start burying this, what else are you opening it up to?

10 We don't know that, do we? Because we
11 found out tonight, you've only got a small picture of
12 the pie. And we know knowledge is power, so who's got
13 the knowledge? It's got to be the people because we
14 got nothing to gain out of it except our safety. If
15 you're going to go industrial standards, what you're
16 talking about then is occupational health and safety
17 regulations. That doesn't speak to residential.

18 So I'm going to go home tonight. And I
19 don't think I had anything really fascinating to say
20 other than God gave me a voice. And he gave me a
21 serious responsibility to sit here and listen. And I
22 heard lots. I'm going to go home to my nine (9) year-
23 old. And I -- I don't want to cry. Thank God I can
24 because I'm part of the people who are -- is going to
25 hand to her the mess. And she is going to have to

1 carry that legacy.

2 And I pray that the decision hasn't
3 already been made that the north is going to be the
4 waste drop place because it's beautiful. I mean, we
5 have access to water. But we have tar sands coming up.
6 We have nuclear waste. Where is Canada going to drop
7 all of that?

8 Has it already been designated to be the
9 north? Because I think sometimes when we look at
10 things we don't look big enough because somehow we've
11 lost how to be visionary. And I pray to God that I
12 wasn't shown something, because that's an ugly thing to
13 think, that none of us count in the north as human
14 beings.

15 And when I heard about clean drinking
16 water, we're already desensitized to that. I was born
17 into Treaty 6. My people don't have clean drinking
18 water. We don't need bottled water in the north, we
19 can go out to the lakes -- some of the lakes and drink
20 it, but in Yellowknife you do.

21 So we're already prepared to not worry
22 about Aboriginal people. Now Northerners are getting
23 included. You're not going to get clean drinking
24 water, and Canada's already used to that. So we're in
25 trouble. And we're in together no matter what part of

1 the fence you sit in.

2 So if you were ever to ask me something
3 -- or answer me something, and if it's got to be when
4 I'm ninety-nine (99) years old with a gentleman walking
5 up to go on the grass, right, and if you already know -
6 - if anybody in this room already knows that the North
7 is going to be the drop-off for wastes, shame on you
8 for not sharing that knowledge, you know, and shame on
9 me if I don't ask that question.

10 And in many ways, you know, we're more
11 accountable today as a group, as a whole. And we have
12 obligations. And I pray to God that I continue to use
13 my voice, because if I don't, then it doesn't get
14 heard, and the Creator just doesn't use me anymore
15 because the Creator is the one who gives life. And he
16 gave us land to live on.

17 And we know we don't own it. We know
18 it's not ours. You know that deep in your soul, that
19 it's a gift and that everybody in this room is a
20 caretaker for the generations to come, the ones we are
21 not going to see. And it's not just people, it's every
22 species. And that's the thing that you have a moral
23 obligation on.

24 And some of you may already know the
25 decision is made because you told me on this piece of

1 paper, It was nice to hear from you, but we're moving
2 ahead. So we'll go through this thing, but I have to
3 have the courage, and I'm glad I did. And I know that
4 if the Creator can give me the strength to get up and
5 talk about something that I don't know too much about -
6 - but I'm not deaf. I heard you talking.

7 You can have the same courage to do
8 what's right. And if the decision-makers are going to
9 make what they make with a single stroke of the pen,
10 you're like me, you've done what you know is right.
11 And you'll be able to sleep at night. And when your
12 grandchildren's grandchildren read those documents,
13 they can say, my kukom (phonetic), my mushum (phonetic)
14 did what was right. And that's the legacy we leave
15 behind in this room. So mahsi cho.

16 THE CHAIRPERSON: Thank you. Our final
17 speaker is Erin Suliak -- Suliak. She -- I think we're
18 all getting tired.

19 MS. ERIN SULIAK: Thank you, Mr. Chair.
20 My name is Erin Suliak and I was born over there. And
21 my son was born over there. And like many people here
22 I come with grave concerns.

23 And people before me have been far more
24 eloquent than I could ever be, so I wanted to thank
25 them for having the courage to speak up as well. I

1 didn't really have any questions I just really had
2 comments of my concerns.

3 I wonder how you measure public concern.
4 Is it bodies in seats? Even though it's late there
5 aren't very many -- there aren't very many people here.
6 Is it the numbers of letters that you receive after a
7 public call, or do you infer public concern by
8 measuring the scale of the environmental disaster we're
9 forced to encounter and the possible impacts that that
10 has. It's hard to measure baseline anxiety for an
11 entire public.

12 I don't think there's anyone in
13 Yellowknife who does not have grave concerns about this
14 project, and in particular about the water issues
15 associated with it.

16 I -- I couldn't not come up here and say
17 that I'm shocked and disappointed in the language
18 around the term "public concern" in the Proponent's
19 presentations. I -- I'm sorry, but I -- I kind of -- I
20 find it insulting almost.

21 You can't have 237,000 tonnes of poison
22 underneath us and millions of tonnes of tailings
23 aboveground and not be gravely concerned. And it's not
24 going to go away, so the concern is always going to
25 remain.

1 As others have stated before me, I think
2 there's an absolute need to have and to ensure a
3 publicly -- a funded, independent public oversight body
4 of some sort. You can't have the foxes looking after
5 the chickens.

6 And I worry that regulatory regimes can
7 be changed by politicians. And I worry that various
8 governments can play numbers games on funding. And I
9 think it's imperative as other people have said before
10 me, that we continue research on the problem, because
11 it's a perpetual problem. 237,000 tonnes of poison
12 aren't going away and neither is our concern. Thank
13 you.

14 THE CHAIRPERSON: Thank you Erin
15 Suliak. That concludes all the speakers we have for
16 tonight. I want to thank each and every one (1) of you
17 that gave a presentation here tonight. That's exactly
18 what we want to hear. We want to hear from the public
19 on the potential environmental and socioeconomic,
20 cultural impacts.

21 Again, the Review Board will continue to
22 sit this week. We sat since this morning from 8:30 and
23 we will do the same for tomorrow night just to listen
24 to the people in Dettah as well.

25 I also want to thank all the Board

1 members for being up this late, the Proponents, the
2 Developer, our staff. Again, I just want to thank the
3 public for being here tonight. I want to say mahsi
4 cho.

5 Also this concludes our meeting for
6 tonight. Tomorrow we'll come back at 9:00, because
7 it's been a long day already for us, but I think it's
8 appropriate that we close off with a prayer.

9 And I'm going to ask, because tonight
10 we're asking the public to speak, I'm going to see if
11 one (1) of you could maybe volunteer to do the closing
12 prayer for us. Anybody want to do the closing prayer?

13 MS. SANDRA LOCKHART: I will

14 THE CHAIRPERSON: Ms. Lockhart...?

15

16 (BRIEF PAUSE)

17

18 (CLOSING PRAYER)

19

20 THE CHAIRPERSON: Thank you, Ms.
21 Lockhart. This concludes our meeting for tonight.
22 Thank you very much. Have a safe trip home. We'll
23 start here tomorrow morning, nine o'clock sharp. Thank
24 you.

25

1 --- Upon adjourning at 11:12 p.m.

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6 Certified Correct

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10 Lorraine Douglas, Ms.

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<u>\$</u>	127:13,16,	405:11	77:3	195:20
\$1,000	24 162:11	1,000 19:3,5	129:10	150 70:3
249:18	163:7	108:7	161:1	181:18
\$6 60:8	173:13	1,300 99:24	207:2	197:8
\$600 346:4	176:17	1,500 80:9	11:10 9:25	214:14
<u>0</u>	183:5	81:12	11:12 406:1	154 8:6
0 207:14	185:24,25	127:17	11:20 9:24	16 74:3
0.24 207:15	194:14	309:3	11:58 134:3	79:25
0.55 82:16	195:20	310:15	119 285:8	157:9
02 99:24	196:21,25	1.06 83:24	12 13:22	294:15
207:9	199:20	1.1 74:6	14:1 66:16	168 8:11
03 181:1	202:14,25	1.975 363:9	77:13	17 81:11
05 60:6	204:5	1/2	207:17	234:4
82:10	206:4,5,23	339:12,13	288:8	310:22
06 207:14,18	207:7,24	355:21	291:25	174 8:16
08 207:4	210:1	1:100 82:8	305:6	18 81:20
0809-001 1:7	212:1,4	1:15 10:9	120 113:16	291:3
<u>1</u>	213:1,6	133:19,25	362:18	19 83:16
1 6:3 7:3	215:19	1:18 134:4	13 77:25	190 214:19
9:12 10:12	216:6	10 10:15	78:12	1940s 246:2
12:12	217:5,6	18:7 19:2	80:24	272:18
14:3,4	218:3,14	35:20	130 244:2	1948 293:8
15:11,24	219:14	50:12	13-	385:23
17:9,12,18	231:16	61:15,16,2	millimetre	1950 246:18
,23 18:9	237:4	2 76:6	84:6	1950s 246:18
21:25	248:11	197:12,13	14 13:22	1960s 368:21
23:15 24:5	253:5	204:23	78:12	1969 247:11
25:8 26:9	255:20,24	208:2	263:21	1970 248:2
27:7 29:25	275:15	247:16	294:21	1970s 94:18
31:2 46:5	277:11	287:5	296:2	248:6
52:12	280:9	294:2	140 70:10	1971 369:13
62:23	283:3	311:17	15	1973 248:23
63:4,20	304:8	321:25	10:4,5,13,	1999 25:11
80:25	308:19	350:10	17 71:21	253:16
85:25	310:3	10,000	79:14	288:2
86:2,5	317:7	316:13	81:15 82:1	293:10
91:18	320:10	348:15	92:24	
93:22	321:1	10:15 62:1	132:6	
94:18	323:5,8	100 119:25	152:22	
97:4,25	324:19	145:24	240:10	
101:4,12	326:25	249:10	245:5	
103:20,25	329:25	380:2	294:1	
108:6,9	330:6	100:1 72:17	309:3,6	
110:24	331:20	73:5	314:7	
113:3,4,12	333:8,9	10th 155:16	332:18	
,18 119:25	335:13	11 1:24 5:7	350:10	
	340:6,15		379:24	
	352:17		15,000	
	353:2			
	382:25			
	390:3			
	396:1			
	398:2			
	404:16			

63:5,25 72:5 74:8,16 76:15,19 77:1,2 78:5 85:3,5,24 99:3 100:5 108:4 112:11,14 134:20 135:15 136:19 137:3 143:7 154:11,22 160:17 161:8 163:21 164:23 165:1,5 182:24 202:25 206:4 223:17,22 225:19 226:25 232:18,20 233:1,8 238:5 243:13 246:22 247:5 254:11 259:12 268:11 280:12 283:4 288:11 298:7 304:1 305:8 335:15 337:12 339:19 355:19,20 363:9 365:3 382:7 390:4 394:13 2,000 255:5 313:20,21	317:6,11 318:1 2.2 207:5 2.9 73:7 2:32 188:1 2:44 188:2 20 19:2 27:15 48:14 84:4,21 94:17 104:6 194:4,20 206:22 276:3 277:10,12 355:9 20,000 69:24 313:22 362:22 200 72:4 73:3 181:4 269:23 380:2 200,000 313:23 2000 65:14 66:22 292:21 2000/2001 94:2 2000s 31:4 2001 66:18 2002 26:19 285:12 2003 60:6 135:19 138:21 206:21 262:7 2004 67:14 111:12 207:2 2005 207:6 293:11 341:12	2006 138:22,25 139:22 140:13 207:12 262:8 2007 63:3 207:16 2007/'08 24:15 2007/2008 6:5 63:23 2008 63:3 284:21 285:18 2008/'09 24:15 2008/2009 6:8 63:5 64:3 2009/'10 24:15 63:7 2009/2010 6:12 64:8 2010 107:14 129:13 138:23 139:24 160:19 262:8 362:12 2010/'11 63:8 2010/2011 6:16 64:13 2011 67:21 129:9,15,1 7 160:22 2012 1:24 7:6,19 27:11 233:23 2019/'20 382:24 20th 364:5 21 84:21	22 85:20 220 181:9 214:10 23 86:7 170:13,19 233 7:19 237 294:21 237,000 280:3 363:5 403:21 404:11 24 163:23 166:13 216:25 253:15,18 240 5:17 24-miles 253:13 25 78:7 86:24 87:21 173:15 213:17 215:2 242:16 286:10,13 350:11 379:25 25,000 148:5 250 78:3 256 5:19 25th 7:6,19 27:4,11 233:5,23 26 258:19 260 206:22 207:13 265 5:20 27 7:6 67:13 80:22 270 255:5,24 278 5:22 28 5:10 65:22	280 76:7,12 363:11 287 5:23 290 70:1,7 181:17 184:25 197:7 214:11,13 2-D 80:8 2-metre 301:9 <hr/> 3 3 6:10 8:7 10:23 12:12,13 14:14,15 25:21 34:20 62:22 63:7 64:5 68:16 74:15 83:20 85:11,23 86:12,15,2 2 107:4 127:5,13 131:12 138:19 140:15 143:7 161:22 168:1 171:2,7,8, 9,14,24 172:5,14 182:15,24 184:6 196:13,14 223:17,18 231:3 234:20 258:20,23 285:16 287:6 331:19 338:4 352:15 396:12 3,000 152:4 380:3
--	--	---	--	--

3,333 207:8	343:4,6	5:00 239:17	6:12,16	368:9
3,757 142:23	355:21	5:03 278:19	69 369:1	800 195:21
3:40 227:3	387:16	50 20:18	690 213:16	80s 254:12
3:53 227:4	4.9 73:13	80:23		81 152:21
30 19:2	40 14:10	149:14	<hr/> 7 <hr/>	258:16,17
66:10	65:9	150:9	7 5:4 81:25	309:6
94:17	214:20	185:7	204:23	332:18
113:12	220:20	217:16	348:13,14	8-14 214:1
152:3	345:17	293:9	353:14	83 81:15
194:4	40,000 152:3	365:9	7.54 362:21	850 294:8
214:20	400 72:9	500 77:17	7:00 10:20	89 5:15
220:20	73:11	108:9	278:7	8th 363:13
251:10	196:19	207:3	7:20 278:15	
276:4	362:14	315:15,18	7:45 278:20	<hr/> 9 <hr/>
346:24	406 5:25	500,000	70 181:10	9 72:13
30,000 314:7	41 378:11	294:13	250:16	73:1,2
300 380:2	44th 309:25	50s 220:20	369:1	75:14
311 5:24	45 278:13	272:18	70s 194:3	80:10
31st 46:10	480 77:17	377:22	272:19	83:23
47:7 53:19		51/'52	377:23	93:3,7
32 107:19	<hr/> 5 <hr/>	247:10	75 191:15	182:11
34 77:16	5 1:25 10:18	523 271:17	750 78:8	333:15,25
35 67:5	36:15	528 256:25	183:19	399:22
294:16	71:25	272:1	750-foot	9,000
297:14	73:9,14	52nd 81:17	78:3	76:9,11
352:1,7	82:5,14	309:8	77 76:25	9.4 207:13
362 28:18	84:1	53 293:23		9:00 9:13
38 5:11	113:19	56 13:12	<hr/> 8 <hr/>	405:6
3-D 80:8	119:7	285:15	8 5:5 30:1	9:20 9:23
	187:24	59 207:17	40:11	10:20
<hr/> 4 <hr/>	248:7		53:11 59:2	278:8
4 6:14 8:12	255:21	<hr/> 6 <hr/>	195:7	9:32 354:19
13:21	286:21	6 5:3 53:5	207:10	9:44 354:20
25:24 30:2	310:21	81:25 84:2	248:7	9:54 61:25
33:5 40:12	311:15,18	85:4 195:7	294:16	90 142:22
59:2 63:8	312:9	328:6	297:12	368:9
64:10 69:5	333:23	400:17	351:19	900 181:13
84:1 85:11	334:1,2,9	60 104:6	354:16,23	90s 254:12
131:11	335:11,13	215:1	8.4.3 213:10	910 213:15
161:9	349:9	294:24	8:30 239:19	362:15
174:15	351:18	60s 272:19	404:22	92 352:9
207:19	354:15	377:22	8:43 9:1	95 67:20
251:20	390:6	63 6:5,8	80 71:21	297:25
266:9	5,000 314:5	630,000 77:6	76:8 92:23	
268:9	5.3 74:22	64 5:14	150:9	
294:14	5.4 206:24		332:17	
297:24	5.78 363:4			

950 78:7	342:20	absorption	73:5 94:6	acid 298:1
960 363:2	378:15	78:23	397:7	acknowledge
97 66:1	392:13	abundance	accountabili	281:19
67:14	402:11	122:23	ty 241:10	312:11
99 401:4	Aborig 291:1	accept 26:5	341:25	acknowledged
	aboriginal	42:8 154:2	343:14	374:10
	25:9,13,14	167:21	accountable	acknowledgem
	,16,18,19	357:24	338:17	ent 375:9
<hr/> A <hr/>	41:10	acceptable	397:8	acknowledgin
a.m 9:1	43:18	35:18 76:4	398:4	g 188:17
61:25 62:1	55:12	110:14	401:11	across 80:15
134:3	190:6	112:24	accounted	125:16
AANDC 2:18	202:2	136:5	262:14	243:16
25:9 43:19	239:5	225:1	accounting	255:6,8
272:13	245:21	277:6	377:16	309:24
374:7	270:11	384:12	accu 75:9	314:16
abandon	273:16	accepted	accumulate	347:13
343:9	279:25	130:21	143:19	act
abandoned	280:24	397:16	146:24	169:23,24
291:5,15	282:5	accepting	accumulation	238:21,22,
abandonment	284:2	337:3	131:15	25 253:8
66:18	288:1	access 34:9	143:18	256:22
ability	291:1	56:11	accumulation	280:6
53:24	292:12	79:19	s 131:21	282:1
177:23	325:9	125:15	accurate	283:24
297:6	385:15	297:17	208:6	285:9
365:24	398:10	300:8,9	accusation	286:22
395:8,10,1	399:2	388:19	388:4	acted 66:17
3,18,20	400:22	400:5	acetate	acting 66:24
able 17:5	Aboriginals	accessible	205:25	303:14
26:10,17,2	301:22	296:16	achievable	action 32:16
4 45:9	aboveground	accident	336:20	60:3 82:25
54:3 75:17	403:23	263:13,17	achieve	124:20
121:24	abroad 66:13	264:5,24	71:9,16	309:22
134:24	absence	267:7	72:21	341:11
157:1,2	159:15	accidental	88:22	346:25
158:6	343:6	98:5	119:23	372:18
159:12	380:21	accidents	120:2,18,2	374:13
164:10	absolute	16:8,18	1 333:9	actions
167:13	394:2	accomplished	334:14	280:8
211:11	404:2	314:21	335:5	active 30:19
220:10	absolutely	according	achieved	65:24 67:5
240:3,15	43:24	10:3	73:21	107:11
249:3	44:10	108:20	93:23 97:9	108:13
277:19	186:9,10	accordingly	117:19	289:23
289:8	210:17	96:4	achieving	290:3
312:19	266:22	account	92:25	294:2
320:23	343:16	16:7,10		actively
322:22	absorb 144:5			
336:18				
341:19				

100:2	175:7	301:19	adjacent	234:18
activities	176:2	additional	85:25	235:1,7
66:4 74:18	184:8	8:15 76:19	309:17	236:8
96:22	191:15	77:8 79:17	382:7	238:4,20
145:13	194:20	82:21 83:4	adjourning	239:4
148:1	197:9	97:4	278:19	265:21
211:9	200:12	103:25	406:1	266:19
214:17	218:4	153:18	adjusted	267:16
285:7	228:3	173:18,24	176:23	268:23
286:12,15,	230:5,7,15	174:19	admin 389:18	290:22
17,19	231:15	282:10	administered	303:9,12,1
299:16	237:4	address	87:10	4
302:3,9,12	257:2	63:13 95:7	admit 136:21	307:5,12,1
303:1	260:6,25	97:8 200:2	187:5	5 308:7,14
382:6	263:5	201:14	345:22	323:7
activity	338:16	208:23	adopt 28:23	330:15
69:2	340:11	212:17	adopted	332:10
290:20	342:10,14	227:14	26:21	337:24
actual 14:22	378:16	241:7	70:24	338:25
76:12	387:2	290:7	adopting	373:12
80:24	389:24	346:2	29:4,19	adults
91:21	Adam 307:21	355:11	Adrian 2:19	135:18
96:10	331:2	376:11,24	12:19 23:2	adv 161:24
135:3	adaptable	384:1	96:19	advance
142:5	88:14	addressed	97:14,15,2	108:22
146:6	adaptations	112:2,15	4 98:3	165:15
152:20	89:11	128:19	128:13,15,	240:19
153:4	adaptive	268:17	16	322:17
193:9	132:21	343:8	129:4,9,10	advancements
332:9	303:17	374:15	130:10	322:20
340:17,20	add 120:22	377:17	138:3,4	advances
actually	124:9	381:21	159:1	322:19
28:20	144:14	addresses	169:6,7	advantage
34:10 36:7	162:11	164:12	170:20	79:6
42:3 43:24	225:9	379:4	180:7,10,1	adverse 75:5
47:20	241:20	380:5	1 185:23	87:15
55:13,20,2	270:17	addressing	193:4,7,8	88:23
1 56:3,17	352:17	125:13	196:4	89:1,16
57:6 95:17	379:9	199:6	198:17	159:8
102:23	added 30:13	231:9	199:9	160:1
114:17	193:13	290:10	200:8	161:19,24,
132:15	371:21	321:19,20	201:3	25 162:4
142:9	adding	adequate	213:22	195:25
151:11	179:11	113:6	224:1	263:4
152:13	addition	131:18	225:5	264:16
158:21	79:5 85:8	298:22	226:20	290:11
159:11,14	86:7,24	381:19	227:10	376:25
160:16	105:4	adequately	230:3,12,1	advi 228:1
164:3	135:20	100:22,24	3 231:14	384:24
166:17	171:25	344:1	232:5,25	advice 29:9
169:8,19				
171:8				

56:21	4 24:7	254:18	agreeing	207:21
advise	43:18	264:1,2	44:3	Alan 2:7
208:22	55:12 60:4	267:8	agreement	45:23
advised	63:2,20,25	300:5	37:21,24	98:12
137:19	64:5,10	360:25	42:11	106:25
298:15	190:6	389:1	48:21	115:16,17
adviser	239:5	age 390:25	53:7,10,11	118:2
204:5	279:25	391:19	54:7,14	119:12
advisers	280:24	392:15	56:18,24	120:9,25
211:14	288:1	393:4	60:7	122:4
advisor	291:2	agencies	316:25	125:23,24
2:12,13,14	292:12	67:12	359:17	126:7,25
,15	325:10	agenda 9:21	375:13,25	127:4
98:13,15	385:16	10:3 11:5	387:20,24	128:3
104:23	affect	62:4,5	agreements	129:4,21
105:15	191:6,7	239:15,23	327:17	131:7
106:24	231:11	279:7,9	ahead 98:2	132:14,24,
107:1	303:1	282:17	102:8	25
112:18	360:5	agents	193:5	133:12,22
209:6	384:13	387:20	212:20	151:1,10
291:11	396:16	ages 355:20	225:21	154:22
advisors	affected	Aggie 307:21	240:7	177:4
45:21,24	40:5	326:8,10	246:24	213:3,25
98:10	186:21	329:11,12	261:17	214:4
271:8,10	191:6	330:25	281:5	215:3
292:20	361:11	aggregated	312:18	271:9
advisory	368:7	24:19	326:12	alarm 178:13
46:12	396:21	ago 44:17	356:13	alarmed
65:13	affecting	108:5	361:2	362:24
228:1,2	361:3,5,6	164:23	367:18	363:13
229:6	396:15	175:14	383:8	alas 370:3
329:5	affects	217:9,24	402:2	Alberta
381:1,2	396:19	218:22	aid 247:14	65:19
383:3	affiliations	225:12	249:9	361:1
advocates	276:2	244:2,5	250:5	Alfred 4:4
351:6	affinity	249:10	252:22	alignment
AECOM 3:10	184:8	252:21	aimed 150:11	83:5
65:17	afield 141:9	254:5	aiming 71:24	alive 247:18
292:25	afraid	259:12	air 187:9	alleviated
AECOM/Golder	250:22	281:21	253:14	170:7
66:3	251:8	317:6	296:9	alliance
aerated	aftermath	318:1	299:17	3:15 32:1
207:24,25	357:15	349:9,15	300:14	38:24
aesthetic	afternoon	agreed 20:15	Akaitcho	39:7,8
301:7	134:14	32:24	395:2	41:5,16
Affa 398:10	212:15	52:24	al 16:9	43:1,3
Affairs	278:12	53:17	135:11	56:6
6:3,6,10,1	against 12:2	130:22	204:21	192:22
	151:17	233:4	206:14	194:17

195:2	79:20	15 267:17	120:11	300:13
197:19	94:22	268:6,22,2	121:3	301:4,12
198:1,3,20	146:11	5 270:5,22	125:19	360:4
,25	198:7	271:16,25	178:12	386:2
199:3,14,1	199:5	273:19	208:9	391:10
6,17 200:4	210:13,15	274:21	231:2,16	Ankersmit
269:7,10	222:6	275:3,10,1	319:10	2:17
275:19	231:19	5 277:23	amounts	26:16,17
276:7	233:4	285:11,16,	146:9	43:21
369:22	314:21	20 286:3	371:24	45:19
381:23	315:1	338:2	ample 122:18	188:15,16
382:2	331:23	375:17	amused	190:4,5
All-Knowing	336:11	alters	243:24	191:20,21
391:14	370:25	169:15	Amy 4:9	287:18,24
allocating	371:12	altogether	38:20	321:11,13
36:2	373:14	24:19	270:24,25	325:12
allocations	379:7,10	aluminum	anaerobic	328:15
388:12	395:6	365:19	205:23	341:3,4
allow 10:23	400:3,8,16	am 93:14	analog	Anne 202:12
78:9,10	,21,24	102:6	149:16	203:12,21
81:8 83:6	401:5,6,24	115:19	analogous	announced
97:22	405:7	201:24	171:21	362:15
108:21,24	alternate	205:13	analogy	363:14
109:5	41:8	245:2	263:16	announcement
257:21	354:23	315:14	analysis	363:19
299:6	alternative	326:17	72:10,23	annual 25:10
326:1	5:19 44:4	351:25	74:1 224:9	26:1 66:21
342:2	alternatives	379:15	304:17	77:14
allowed 40:1	3:19 5:10	amazing	335:7	140:4
55:20 69:2	7:4 10:5,6	243:18	369:5	171:7
232:20	27:9	390:23	ancestors	172:16,22
243:7	28:3,7	ambient	245:20	374:23
245:4	39:4	72:19	246:2	376:7
344:5	41:6,24	73:1,2,18	317:7	380:13
377:13,18	42:2,14,21	American	anchor 80:17	382:19
allowing	43:6 47:5	349:13	anchors	388:11
98:22	50:8 52:10	350:23	80:16,17	annually
385:17	53:2 55:7	Ames 369:3	ancient	140:3
397:12	57:25	ammonia	370:17	172:4,18
allows 189:8	155:7,9	74:16	and/or 80:18	294:14
304:24,25	157:9	247:2	ANDRA 314:22	answer 15:24
341:21	158:12	amongst	angle	19:25 45:7
all-powerful	160:21	13:25 32:5	90:23,24	99:15
392:16	164:21	54:7 325:7	145:18	100:24
alone	170:10	amount 44:7	animal 392:1	101:5,6
250:6,7	172:13	99:12	animals	102:8,14
already	175:1	115:25		105:12
59:18	240:9	116:4,8		106:14
63:17	256:18,21	118:11		109:9
	263:12			115:9
	265:15,23			117:7
	266:1,2,6,			

124:6	anthropologi	255:11	applaud	117:10,16,
125:19	sts 314:19	263:24	347:15	17 120:10
128:4	anticipate	301:10	applicable	339:19
138:6	82:7	358:2,22	210:16,20	372:18
146:5	anticipated	399:19	application	373:3
157:3	82:3 84:16	anyway	20:10	388:12
161:15	234:25	223:12	31:13	approached
163:19	anticipating	236:14	104:13	32:12
166:1,3,7	77:19	261:19	211:6	appropriate
167:3	203:1	anyways	applied	71:12
177:3	anticipation	61:18	18:17	121:14
179:4,20	125:6	191:18	106:18	152:14
188:13	antimony	anywhere	334:15	158:6
200:10,18	135:20	99:18	apply 36:4	172:23
201:13	139:8,13	183:21	applying	179:7
203:18	369:11	328:5	88:5	215:13
211:1	Anti-Poverty	359:14	appointed	307:6
220:17	276:6	apart 349:18	281:21	341:14
221:14	anxiety	apologies	appreciate	372:18
222:16	306:3	155:3	117:3	374:16
225:2	345:5	176:12	122:7,10	405:8
226:4	366:13	190:4	123:18	appropriatel
231:24	403:10	386:23	128:3	y 112:2
234:17	anxious	apologize	173:13	297:23
235:6	291:19	11:10	212:9	approval
263:10,15	anybody 24:1	129:10	221:20	47:12
268:15	210:2	267:11	222:9	261:14,16
321:10,14	223:20	287:20,21	325:14	264:21
322:8,10	234:10	apologized	326:4	265:4,25
328:9	278:11	251:13	351:10	267:19,20
342:6	389:9	apology 40:4	367:21	326:24
385:6	394:16	313:8	376:18	327:10,19
397:18	401:6	377:12	377:6	382:20
401:3	405:12	388:24	appreciated	384:18
answered	anymore	apparently	319:9	approve
112:8	42:24	142:18	appreciating	327:4
223:23	253:25	APPEARANCES	106:17	approved
answering	401:14	2:1 3:1	appreciation	340:21
124:10	anyone	4:1	327:10	approving
154:19	208:11	appeared	apprehend	270:18
answers 7:3	346:9	17:11 50:7	394:2	approximate
21:7 27:8	403:12	appears	approach	83:2 85:21
164:9	anything	136:25	20:12 21:6	346:10
175:8	150:18	184:16	32:18	approximatel
310:18	166:5	388:9	35:17	y 69:23
316:6	185:4	appendix	36:16 68:7	71:21
320:17	240:19	17:11	70:24	83:2,19
328:17	250:6	137:4	71:16	84:7
383:5				181:1,10
anthropologi				185:7
st 243:17				

196:19	84:15	68:19,21	arrangements	180:25
214:10	85:16	69:8 70:22	38:3	181:24
293:9	86:1,3,16	86:17	343:12	182:11
294:8	87:2,7,12,	140:9	346:8	185:14
309:3	15 88:18	152:8	arrive	189:1
332:13,17	91:9,13	157:25	327:25	190:22
aqu 253:7	99:2	181:15	arsenic	194:5,9
aquatic	124:22	252:14	11:21	195:24
71:3,11,19	127:20	295:15	12:24	206:21
72:2 75:9	131:20	297:24	15:15	207:3,10,1
86:14,20	141:1,7	300:10	18:12,24	8
89:1,16	145:23	302:4	21:19	210:1,3,15
159:9,22	147:9	303:2	29:12	213:8
170:19,23	148:7	322:20	35:10 37:6	217:8,12,1
171:2,4,21	151:24	324:21,22	42:7,18	3,16,25
172:16	152:6	325:1	50:21	218:5
173:5	162:20	373:1,2	56:13	219:14,17
175:24	176:14	376:21	69:22	246:24,25
177:25	182:14	386:5,6	70:6,10	247:15,17
184:4	196:10,20	Arenson 2:13	72:11,25	251:21
186:2,11	199:4	aren't	73:1 76:7	253:18
253:7	200:21,22	151:13	87:24	262:10,16,
264:25	202:17	191:10	88:6,24	17 280:3
266:24	203:15	324:22	93:4 94:11	285:22
301:6	218:19	359:14	99:22,23	294:12,18,
333:1	219:18,20	403:5	104:6,10	22,25
334:10	221:7	404:12	115:18	295:11,21
archeology	234:12	arguably	116:1,4,8	296:1,5,7,
242:14	237:8	242:8	118:11	10,11
architects	243:8	argue 43:23	120:21	297:1,19
314:18	246:7	361:17	121:3	298:2,13
archival	294:23	arguments	131:15	299:23
257:2	297:25	326:19	134:22,25	300:1,19,2
archive	302:7,10	arising	135:17,20	4,25
248:22	309:4,5,6,	343:14	136:23	313:13,25
archives	8,11,16,25	armies 393:1	137:1	317:5,12
272:7,17	323:17	army 274:13	139:11,12,	320:2,14,2
arctic 36:12	324:3	arrange	15	2,24 321:5
65:25	330:19,20	110:5	141:10,13,	322:19
100:2	332:13,14,	208:18	25 142:3,9	323:13,24
105:1	17 333:9	arrange/	143:18	333:18,20
204:24	335:4	organize	145:22,25	335:6
358:8	337:5	130:23	146:23	344:6,8,13
area 36:12	345:3	arrangement	147:12,15	,24 359:24
66:22	357:19	37:20	148:2,6,17	362:16,18,
71:6,21	359:14	48:9,12,17	,25	21
79:16	364:1	54:4	149:3,11,1	363:2,6,8
80:6,7	373:5,13,1	60:8,25	5 150:3	366:6,15
81:14,19,2	5,18,23,25	areas	159:25	369:10,15
4 83:25	381:20		177:12	372:10,17
	386:1		178:2,11,1	376:12
	395:2		2,18	379:12,20
			179:5,12	385:21
				386:1

389:24	188:25	268:10	100:10	315:4
arsenic-	284:14,15	280:10,21,	139:11	attend
contaminat	assessment	23 282:22	147:15	378:14,15
ed 296:20	1:6	283:10	181:25	attended
arsenopyrite	7:17,18	284:8,23	298:12	13:14
147:13	11:17,22	285:2,6,21	332:4	205:16
art	16:7,9	286:5,20	403:15	351:7
117:11,20	22:7 30:3	288:11	Associates	372:15
389:17,19	32:22	290:1	66:10	375:2
article	40:13 42:1	291:14	Association	attending
382:8	44:12,25	292:24	67:18	31:10
articulate	55:14,18	293:19,22,	assume 46:13	attention
60:21	56:2,4,8	25 295:6	82:7	17:13
articulated	57:9 59:3	302:19	131:20	89:17
269:14	60:2 61:11	304:21	333:8	139:15
artist 389:9	70:24 72:2	305:11,20	335:7	142:10
390:8	94:1	324:5	337:1	171:1
asbestos	100:25	333:6	assumed 82:4	313:12
113:11,15	109:19	362:11	assumes	314:21
294:12	110:18	assessments	81:22	346:23
298:13	114:4	65:15	117:2	351:9
aside	123:23	109:21	assuming	attenuation
13:15,18	124:9	110:16	336:7	146:6
41:8	126:1,4	136:7	assumption	attitude
352:14	129:12	189:4,17	235:10	346:15
aspect 92:11	130:15	228:10	assurance	attractive
132:1	135:6,14,1	291:24	388:14	212:3
212:4	5,19 136:9	347:14	assurty	attributable
361:24	137:4,5,7	assimilate	350:13	214:6
384:14	138:18,25	182:9	ate 392:24	audience
aspects	139:22	assis 229:20	393:1	10:24
47:19	147:22,23	assist 105:6	Athabaska	331:9
68:11,12	148:13	110:8	360:25	auditable
100:5	149:24	153:21	atmosphere	304:25
103:21	156:16	223:20	246:25	Auditor
105:7	161:9	231:8	atomic 369:2	329:1
376:11	163:5	assistance	atrocit	August 46:10
assembly	192:15	109:25	346:3	47:7 53:19
378:12	213:10	226:1	attempt	124:18
assert	214:1	229:21	186:24	155:16
241:11	221:3,4	Assistant	237:18	343:3
assess 86:12	222:1	289:14,18	315:3	Aurora
283:8	224:12,15	assisted	328:18	389:17
assessed	225:14,25	292:13	attempted	authorities
214:18	226:3	associate	176:20	261:8
295:1	227:24	65:17	attempting	267:21
assessing	229:2	associated		authority
	232:12,13	74:17 88:3		
	233:20,22	97:7,16		
	262:6,22,2	98:4,6,7		
	5 263:1			
	266:8			
	267:1			

349:23	109:14	20:7 74:6	255:2	130:1
356:13	114:13	182:13	258:6	162:4
authorizatio	161:17	228:15	294:17	165:16
n 83:10	283:9	242:13,14	295:23	177:18
84:13	376:24	333:3,4,11	296:24	196:9,14
236:16	avoiding	,15	297:1	202:2,15
authorizatio	114:21	334:4,7	299:5	242:24
ns 239:8	143:5	335:5,14	300:23,24	305:6
authors	award 67:19	337:3	301:1,6	372:20
390:22	aware 22:3	368:21	362:16,21	375:12
autopsy	151:25	396:5,6	363:3,21	baseline
247:13	157:15	backup 366:2	371:19	74:19
avail 361:1	175:15	bacteria	balance 45:3	82:20
availability	178:10	205:24,25	397:6	136:17
224:17	355:16	206:10	balances	137:20,21,
available	356:1,12	bad 248:2	42:9 50:25	23 138:7
7:9,12,13,	368:22	249:21	Balangero	139:17
14 20:16	awareness	264:10	113:10	142:2
58:13	169:21	320:1	balked	143:8
121:11	372:13	357:12	263:23	144:6
133:10	away 23:7,12	360:2,22	bankrupt	162:14
140:18	93:5	361:7	113:15	186:25
155:13	111:19	388:4	bankruptcy	187:11
156:21	113:12	395:19,23	224:9	221:24
174:5	145:18	Baillangeon	227:19	224:9
179:21	150:12	4:4	293:10	227:19
189:16	195:19	baked 393:9	banner	403:10
196:16	196:22	Baker 69:2	346:23	basically
202:20	211:11	70:6,15,18	Barb 248:17	13:1 20:24
231:2	247:12,23	85:1,2,3,5	Barbara	205:3,19
232:7,9,10	250:7	,6,24	248:16,23	324:23
233:10,14,	253:19	86:11,21	barber 369:6	basics 117:2
15,16	313:14	87:24 94:8	barely 378:7	basin 75:25
236:12,13,	315:7	99:11	bark 218:25	basis 26:1
14 277:20	324:15	100:22	barren	40:6 57:12
282:18,21	403:24	102:24	398:23,25	68:22
295:14,15	404:12	103:22	barrier	77:15 83:1
298:9	awe 392:12	104:2	390:16	87:7
302:4,5	awful 330:3	106:8	baseball	139:10
318:15	<hr/>	108:8,20,2	115:1	153:7
332:2	<hr/> B <hr/>	3 112:1,3	based 11:18	171:7
336:16	B1 300:7	113:1	59:23	172:3
Avenue 81:18	ba 85:4	115:5	72:1,3	216:20
avenues	backfill	136:20	77:16	261:21,25
199:12	300:6	140:8,12,2	79:25	355:25
average	backfilling	4 141:7,16	82:11	360:12
76:23	297:15	142:16	91:19	396:3
83:24	background	181:7,11	119:20,21	bathymetry
avoid 87:14		213:12	127:21	83:5
		214:11,25		127:19
		253:9		battery

125:7	193:1,14,1	57:15,16	241:5	beings
bay 69:18	7,22	234:1,2	291:20	320:16
70:8,10,18	194:2,5,6,	235:3,14,1	beginning	397:1
71:1,6,23	12,19	5	19:13 33:5	400:14
72:12	195:25	237:13,14	43:25	belabouring
73:2,19	196:10,12	238:2,16,1	114:11	336:3
74:20	197:16	7	122:21	beliefs
80:16	204:24	239:2,11,1	336:9	360:12
81:10	213:14	4	begun 158:15	believe
82:10 83:2	214:14	271:13,15	314:15	10:23 11:1
84:16,17	215:2,24	272:1,24,2	behalf 12:20	12:11 77:6
85:10,11,1	216:5,9,11	5 281:16	23:3 96:20	95:18 99:5
2,22,23	237:1	Bays 262:6	128:16	109:21
86:1,11	242:6,9	264:18	130:11	110:23
87:25	243:3,5,18	BCR 208:1	138:11	129:17
88:22,24	244:7	beach 362:25	169:7	135:5
89:10	247:6,10	beaks 391:13	170:3	144:3
91:5,9,21	248:3	bear 226:18	185:24	153:14
92:9,13,17	249:22,23	383:19	192:9	155:5,17
94:4,5,15,	250:9,17,2	bearing	193:8	160:23
16,22,24	0	122:10	196:5	161:12
95:9	251:8,17,1	beautiful	198:18	162:24
97:8,10	8,20,22	251:22	199:10	165:25
102:19	252:20	393:22	200:9	171:23
116:12	253:12	400:4	201:4	182:5
117:14,22	255:1	beca 174:7	224:2,18	191:24
121:5	258:7,15,2	became	230:4	194:5,22
122:13,17	2 259:6	175:14	231:15	195:6,19
124:22	262:11	248:7	234:19	199:20,24
125:9,16	263:7,9	315:20	236:9	203:1
127:6,20,2	264:15	368:22	238:5	224:6
4 129:24	299:4	369:25	265:22	240:5
131:9,11,1	300:25	392:15	266:20	241:24
2 141:4,7	309:16,17,	become 183:9	268:24	252:23
142:14,16,	18 310:5	339:16	277:23	261:23
17,23	335:3	380:16	330:16	264:13
143:19	343:22	387:8	337:25	278:25
145:7	347:7,19	becomes	339:1	306:6
146:18	358:4,6,13	92:13	behave	316:19
147:3,9	363:16	320:8	146:23	344:4
148:7,16	364:9	beg 226:21	behaviour	354:24
149:22	365:14,16	230:6	143:15	356:11
150:10,15	371:9,14,1	316:7	146:17	359:18,19,
159:13,14	5,21	begin	Behchoko	20 365:9
168:19	373:16	40:2,6,16	281:11	372:24
177:14	384:3,6,14	50:18	behind 22:20	376:1
181:3,14,2	Bay/	68:4,16	113:14,16	377:1
4 182:1,8	Yellowknif	188:16	322:18	378:21
184:18	e 264:15		351:12	381:4,21
185:1,4,14	Bayha 1:12		402:15	believed
186:21	51:23,24			368:25
187:1	52:18			
191:15	54:20,21			

bells 178:13	picking 369:18	283:25	48:9,11,16	204:12
bench 76:21		284:1	,20	206:5
335:11	besides	286:1	54:4,6,13	211:5
beneath	139:8	289:2	261:22	212:2
313:14	best 20:15	307:4	262:1	220:5,10
316:5	23:17	335:17	265:7	222:13
beneficial	29:15 44:4	367:25	316:25	245:19,20
71:1,14	79:1	379:19	359:17	268:7
89:9	127:25	388:9	binds 49:23	274:10
benefit	141:22	396:1	Binion 3:16	276:23
169:8	154:1	Bev 4:15	biol 141:19	282:15
282:8	155:13	38:16	biological	297:19
299:25	166:7	204:1	141:19	323:13
300:4,8,12	174:13	271:4	202:17	329:22
,18,23	201:13	beyond 75:5		335:10,14,
301:16	210:7	84:17	biologists	19 343:5
361:8	224:23	88:24	146:15	345:22
benefits	234:9	92:24	369:2	bless 389:3
8:13 68:15	236:12,13	94:21	bioremediati	blew 253:14
75:21	254:25	102:2	on	block
87:22	280:14	251:11	99:17,21	11:17,18
101:19	287:6	322:25	biota 89:1	12:9,23
173:16	299:6	327:16	biotreatment	13:3
174:17	318:5	335:14	100:3	16:6,12
241:9	365:21	346:6	birch 218:25	17:18 18:4
299:19,22	388:10	350:24	bird 392:1	21:16 23:9
301:20,21	389:3	358:1	birds 139:20	28:25
398:6,8	beta 143:5	382:23	Bisaro	29:4,11,20
Benoit	betrayal	bias 374:12	378:5,6,11	30:15
307:20	39:25	bid 36:3	385:9	31:14
311:6,7,13	better 17:19	bigger 44:23	bit 20:7	33:25
312:1,4,5	20:14,18	80:7 81:24	26:23	34:25
318:13	35:22 36:5	186:9	30:22	36:25
benthic	37:11,12	261:4	34:15 39:4	37:2,13
86:20	40:2,6	276:4	57:23	41:8 42:2
147:2	60:15 73:4	bile 147:16	59:11,20,2	49:17 50:9
148:18	76:22 77:2	Bill 3:14	3 77:7	58:6 77:22
benthics	79:4 91:10	255:22	122:20	256:2
84:12	101:20	269:8,9	123:17	285:12
berms 297:16	112:24	274:8	124:8,10	286:4
300:7	127:20	billion	144:14	299:25
berries	141:1	333:20,23	153:15	304:6,7
253:11,16,	158:24	334:9	156:19	372:16
21 323:18	175:13	335:16	157:12	blocks 18:12
324:10,14,	192:5	bimodal	168:12	21:18 34:8
16 325:2	211:5	137:1	170:11	blood 391:7
359:1,7	222:7	bind 341:23	177:3	396:7,8
388:21	242:15	359:22	184:9	397:2
berry-	257:19	binding	197:22	blue 72:25
	258:13			blueberries
	262:19			

253:10	237:12,15, 16	374:10,14	404:3	2 109:15
board 1:3,10	238:8,14,1	375:14	boggling	187:23,24
2:11 17:8	5 243:11	376:1	315:25	188:13
25:5	244:17	377:8	boil 219:9	208:19
26:11,25	257:8	379:2	Bombardier	212:14
40:23	267:3	384:22	259:25	351:18
45:25 46:4	268:16	385:17	bonding 99:1	354:16
48:2 49:9	270:9,18	397:15	book 390:23	364:13
51:6,10,14	271:8,10,1	404:21,25	Boone 67:5	Brent 204:22
,18,22	1,13	Board's 7:10	120:16,17	brevity
53:25	272:21,23	45:21,24	179:10	303:19,20
57:14 68:3	273:2,6,11	105:15	180:1,2	bridge
83:21	,23	133:14	183:13,14	309:24
95:11,25	274:1,6,14	151:3	216:23	brief 12:17
98:10,13,1	277:7,25	170:25	born 209:8	19:21 20:3
5 104:23	279:20	232:7	400:16	22:25
106:24	280:14,19,	233:11	402:20,21	27:22 39:1
108:24	22	boat 81:13	bother 223:5	62:9 67:25
109:4,7	281:3,19,2	219:6	bottled	89:19 90:4
115:7,17	4	309:4	400:18	93:18
118:1	282:1,2,13	310:16	bottom 10:10	96:17
119:11	,19	boating 71:7	38:9 74:14	98:19
120:8,24	283:7,14	Bob	80:16 83:2	102:4
122:3	284:16,21	67:4,5,6,1	84:5,7	103:9
125:22,24	285:18	3,17	114:15	106:1
126:15	286:6	120:16,17	124:22	116:19,22
128:2	289:25	179:9,10	127:21	118:25
129:3,7,18	290:2	180:1,2	150:18	130:8
,20 131:6	307:1	183:13,14	196:15	143:25
132:9,13,2	310:25	216:23	258:22	144:11
5 134:12	312:12	278:24	259:5	150:24
136:18	319:5	367:1,5,6,	bottom-line	152:16
144:24	326:11	11,18,19	75:3	154:25
146:2	327:1,4,17	374:6	bounce 72:5	156:4
148:20	,22 328:1	378:1	bouncing	159:3
151:2,3,6,	336:4,5,25	390:4	49:20	165:21
7	338:22	bodied	bound 73:23	166:23
153:15,18,	339:7,22,2	227:20	135:17	169:4
21 155:17	3,24	bodies 403:4	boundary	170:16
157:14	342:16	body 57:1,2	286:15	172:8
186:5	343:3	117:15	brass 394:7	176:9
187:22	346:14	134:18	breached	180:13,18
204:4	347:10,16	135:2	107:22	184:1
208:22	350:15	224:25	break 9:24	185:21
210:22	351:23	227:22	10:7	187:20
213:4	354:8	337:17	61:15,16,2	188:9
215:6	355:5	338:14		198:15
218:14	357:9	343:17,18		200:6
223:20,23	359:11	352:21		201:1,21
225:2,20	360:16	380:18,19,		202:10
227:13	361:21	20 381:2		204:16
234:1,24	367:22,23			219:24
236:18	368:1,2			

226:22	282:1	149:7,8	builds	cadmium
230:9		150:6	183:16	205:9
245:11	broad 100:6	159:19,20	buildup	Cailin 2:9
256:16	138:15,16	161:16,17	94:10	cairn 394:6
265:18	broader	171:18,19	145:22	cal 10:11
266:17	46:21	176:11	built 144:17	calm 345:9
267:14	48:4,23	180:20,21	206:18	calmly
287:15	276:12	184:22	227:15	345:16
290:23	277:15	193:20,21	314:13	campaigns
303:16,20,	Brock 300:7	196:5,7	330:4	169:21
21 306:20	Brockman	211:16	bulkheads	camping
308:5,24	307:21	213:5,23	296:16,17	222:19,22
311:10	326:8,10	214:2,3	bullet 171:1	Canada 3:12
328:17	329:11,12	225:8,9	bunch 357:15	4:10 10:14
330:13	330:25	236:19,20	burden 135:2	23:6
331:5,11	broken 24:25	budget	383:17	38:17,19,2
332:6	268:8	316:21	burdens	1 43:18
343:2	357:16	budgetary	134:18	55:13
355:2	Bromley	382:20	bureaucracy	66:12,16
362:1	278:24	budgets	374:21	140:7
367:3	367:1,5,6,	374:23	bureaucratic	190:7
390:4	11,19	build 34:12	342:6	191:4,9,23
405:16	373:9	40:6,9	bureaucrats	192:14
briefly	374:5,6	44:18 45:4	381:14	202:7,13,1
138:4	378:2	60:12 61:5	buried	6
296:23	brought	146:21	80:13,14	203:11,20
306:24	55:23 56:3	177:11	362:13	220:18
Brigade	164:12	178:17	399:8	221:15
243:25	192:14	205:18	burn 392:8	222:11
Bright	209:18	212:5	bury 250:7	223:6,11,1
135:13	252:9	300:21	315:4	9
brighter	372:19	314:3	366:14	224:3,4,5,
187:13	385:20	builders	burying	8,20
bring 13:2	386:10,13	314:19	399:9	225:11,24
23:19	Brown 3:2	building	bush 222:20	227:22,24
55:21 56:1	Bruce 3:3	78:18	business	229:1,18,2
104:1	65:6 67:22	79:18	27:3	0 230:12
179:14	68:2,3	81:18	businesses	231:8
186:11	75:15,19,2	137:18	25:3 289:7	239:5,7
199:21	2 76:15	143:12	368:6	248:13
209:17	84:20	219:15	Butte 372:4	249:9
212:18	92:16	298:15		254:11
226:18	93:20	389:18		267:8
319:18	103:16,18	buildings		270:21,25
321:15	117:7,9	294:10		271:5
377:2	119:1,18	295:18		275:20
bringing	131:24	298:11		276:6
108:3	132:20,24	301:14,16		280:1
249:24	138:8,13,1			288:1,3
brings 56:9	4 144:8,13			291:2,6
	147:6,7			

292:11	capping 69:7	243:23	373:11,12	CCME 76:14
293:16	77:23			146:11
301:24	Capsule	carnival	cases 14:7	332:23,25
302:16	390:24	218:18	210:18	333:5,7,21
320:13		carried	248:6,20	334:14
325:10	captured	50:13	346:24	335:2,11
341:7	60:19	82:21,22	353:15	337:3
356:18	147:19	148:13	Castlegar	ceiling
362:9	capturing	149:23	211:18	30:12
369:12	76:2	171:23	casual	cell 9:20
382:20	car 203:6	172:2,4	345:11	207:24
400:6		202:19	catastrophe	208:1
Canada's	carbon	203:6	357:8	283:6
7:11 232:8	205:21	260:11		cells 206:10
233:13	care	262:3	catastrophic	207:25
246:16	28:9,13,22	291:23	183:6	cement 393:8
400:24	29:24 30:4	340:12	365:18,25	centigrade
Canadian	34:3 37:8	342:14	366:5,17	82:5
65:25	49:21	386:3	categories	centimetres
71:10,18	58:12,21	carries	363:24	80:22
72:1	59:4 62:17	381:18	category	central
135:18	79:8 140:4	carry 57:2	389:23	385:1
159:21	288:4	158:14	Catholic	centre 81:17
235:19	293:4,18	261:9	275:21	275:22
276:7	303:16	392:5	387:3	389:19
324:17	304:1,14,1	400:1	Caucasian	cert 195:11
333:22	5,16	carrying	399:2	certain
Canadians	319:20	343:19	caucus	119:22,23
55:17	320:1	carved 391:1	154:22	120:19
320:12	322:2	case 2:22	226:22,23	137:2
canc 251:9	323:2	28:9 43:17	caucusing	206:8
cancel	327:6	54:24	188:12	208:9
312:16	343:7,13,2	71:12	227:8	219:6
cancer	0 366:10	74:10,23	caught 142:7	320:8
248:6,8,20	375:6	79:5	cause 143:19	326:23
251:9	376:3,4,15	117:11	150:19	355:17
368:24	377:5	119:13	158:22	363:24
candid 52:2	382:23	120:9	161:3	certainly
canoe 218:25	388:10	136:6	169:12	14:16
capability	careful	209:8,10	170:1	47:13
105:2	212:4	210:20	306:16	48:25 50:8
capable	284:9	228:4,5,6,	344:19	55:9 56:14
354:9	357:22	19,20	345:24	75:5 78:25
capacity	359:8	237:15,20	346:12	87:2 96:2
60:12	carefully	260:22	384:7	104:14
228:10	20:9 46:17	261:23	caused 150:2	133:1
297:3	47:6 351:7	264:24	cave 315:4	141:23
329:19	caretaker	277:11	CBC 248:17	144:18
	401:20	289:13,16,		145:6
	caribou	17 330:9		
	242:24	353:12,14		

147:7,16	59:25	165:11,17	270:24	210:24
148:14,17	64:22	166:11	271:6,10,1	212:12,18
178:15	67:23 68:3	167:1,8,11	5,24	215:18
192:10	78:21 90:8	,21 168:11	273:24	216:24
194:24	91:17,25	170:9	274:3	223:15
195:7,11	92:7,17	171:19	275:2	225:23
211:23	93:21 95:3	172:12	276:22	229:15
214:4	97:4,21,24	173:4,9,12	277:22	231:1,22
229:15	98:12	174:4,25	278:4	232:17
241:19	100:21	175:7	279:19	269:9
266:7	103:16,19	176:12	287:19	276:17
274:20	105:12,25	177:18	288:6	309:1
291:19	106:7,22,2	178:5	290:21,25	310:7
292:3	5 108:19	179:1	303:8,13	389:8
331:17	110:14	180:8,15,2	306:17	394:11
334:15	111:24	1 184:23	308:7,17	Chairperson
342:7	112:10	187:18	311:14	1:11
345:7	115:1,10	188:16	313:7	9:3,10
368:2	116:19,25	190:11	321:12	12:10,14
389:22	117:10	191:21	325:13	15:21
certainty	118:2	193:8,21	328:16	16:23
384:13	119:2,19	194:18	331:14	17:21
Certificate	121:19	196:8	332:16	19:16,23
5:25	122:5	198:2,24	334:22	21:9 22:21
Certified	123:16	200:3,17	341:4	23:21 26:7
406:6	125:24	201:23	367:6	27:1,13,24
cetera 59:14	126:17	202:24	373:7,11	38:5,18,23
85:16 94:9	127:1,12	203:18	374:6	39:9
117:23	128:9,13	204:2	376:17	41:1,21
135:13	129:10	209:2,4	377:25	42:25
137:17	130:10,18	213:23	378:7	43:4,10,15
139:4,9,13	131:8,25	214:2	385:7	45:16,20
,21 140:17	132:21	215:7	394:21	46:1 47:2
211:6	133:9,13,2	216:3,15	402:19	49:2,8
Cha 193:4	3	217:5	Chairman	50:3
chainlink	138:4,6,15	218:9	46:4	51:2,6,10,
315:16	144:2	220:2	49:5,12	14,18,22
Chair 20:6	147:7	221:19	62:11,12	52:15
24:9	149:8	225:9	63:10	54:20 55:4
26:6,17	150:7	226:20	79:24	57:14,18
38:17,21	151:1,23	227:11	90:21	59:10 61:8
39:11	153:25	228:5,19	95:25	62:3,13,19
41:23	154:9	229:10	109:6	63:16
43:22	155:9	230:13	110:23	64:15
45:23 47:4	156:2,7,10	232:20	112:20	89:22
50:5	,13,25	233:1	115:14	90:18
51:5,8,12,	157:8,20	234:2	124:12	91:14,23
17,21,24	158:5,11	235:15	151:10	92:4,14
52:17	159:20	236:21	152:20	93:8,15
54:21 55:6	160:7	239:12	153:14	94:25
57:16,24	161:17	241:1	179:11	95:22
	162:11	256:21	183:14	96:5,14
	163:18	266:5	208:16	97:1,12,19
	164:21	268:5		

98:1,9,16	164:5	223:24	347:2	48:12
100:17	165:7,18	225:4,7,18	351:16	91:12
102:9	166:9,20	226:25	352:3	95:12
103:3,11	167:9,17,2	227:6	354:14,22	132:22
104:22	2 168:9	228:14	362:3	145:4
105:9,14,1	169:1	229:11	366:24	147:2
8,23	170:8	230:1,23	367:10,15	236:2
106:3,23	171:16	231:12,20	373:8	260:23,24
108:16	172:10	232:2,14,2	374:4	262:18
110:11,20	173:1,10	3 233:3,25	378:1	315:24
111:8,21	174:1,9,23	234:15	385:8	322:11
112:5,11,1	175:2,11	235:2,13	386:16,23	349:6
7 114:23	176:5	236:6	389:5	363:14
115:11	177:1,15	237:12	394:12	372:1
116:16	178:6,23	238:2,15	402:16	changed
117:25	179:18,24	239:13	404:14	168:19,23
118:22	180:5,9	245:3	405:14,20	221:9
119:10,16	182:18,21,	256:7	challenge	250:10
120:7,14,2	25	265:9	44:5 45:8	367:24
3 121:16	183:3,11,2	266:3,13	170:3	392:10
122:2	2 184:20	268:4,20	350:9	404:7
123:13	185:9,18	269:1,6	383:7	changes
125:21	186:13	270:20	challenged	132:23
126:5,14	187:15,22	271:2,7,12	349:23	163:9
127:3,10	188:4,11	,22 272:23	challenges	169:22
128:1,6,11	189:24	273:2,6,11	103:23	257:13
,14	190:8	,22	314:17	258:2
129:2,8,19	191:12	274:1,25	374:21	264:15
130:5	192:16,20	276:14,20	challenging	269:23
131:5,22	193:5,12,1	277:7,18	122:9	304:13
132:12,19	8 194:16	278:1,5,22	chambers	315:14
133:6,18,2	196:2	,23 281:18	30:9,12	348:2,3
4 134:6	197:18	306:22	280:4	379:19
138:1	198:12,23	307:10,14,	294:21	changing
143:22	199:7	17 308:11	296:3,17,2	285:25
146:1	200:15,24	310:9,17	2 299:24	channel
147:4	201:17	311:24	chan	99:11
148:20	202:5,21	312:3	15:10,11	100:8
149:5	203:8,10,1	318:12	145:4	283:3
150:4	6,19,23	321:7	chance 9:16	chapter
151:5,21	204:3,11	325:5	213:23	161:20
152:18	208:14,24	326:7	252:10	characterist
153:1,8,12	210:21	327:20	259:7	ics 206:9
,22	211:13	329:10	303:23	characteriza
154:4,16,2	212:10,20,	330:10,24	320:7	tion
1 155:1,23	25 213:19	331:7	333:6	202:17
156:11,22	215:4,9,15	334:18	338:14	characterize
157:5,18	216:1,12,2	335:22,25	339:15,17	16:8
158:3,9	1 217:2,19	336:13	355:6	203:15
159:17	218:6,11	337:20	change 11:11	charge
160:5	219:21	338:19		
161:11	220:12	340:2,6,22		
162:7	221:16	341:1		
163:16	222:18	342:18		

235:25	364:6,7	206:12	93:8,11	clarifies
380:13	365:12	Chuck 2:2	95:1,3,12,	229:15
charges	370:13	Church	15,21	335:18
239:3	398:12	275:20	96:6,21,23	336:21
charitable	Chief's	church's	97:2,5,10,	clarify 12:7
369:16	241:24	387:4	17,20 98:8	16:17
chart	children	ci 346:6	167:16	46:24
14:21,23	135:18	circles	249:14	95:10
15:1	246:22	277:16	263:8,11	97:25
chatted 26:3	247:5,24	circulated	264:4	118:3
cheapest	249:16	128:19	269:2,4	126:8
256:3	251:4	230:17	274:11	129:5
check 60:22	254:1	circumstance	288:16	180:10
125:7	315:10,11	s 102:17	294:7	198:18
checking	356:5,6	360:21	299:9,11	228:7
219:2	357:18	ciscoes	309:4	330:9
checkpoints	370:18	250:25	310:16	337:11
387:25	391:10	cite 344:17	338:2	clarifying
checks 42:8	393:1	cities	363:13,19	102:7
50:25	chins 391:18	152:12	364:8	clarity
Cheezie	cho 273:4	393:2	366:7,14	171:20
278:25	386:20	citizen	371:7,10	276:17
354:17	402:15	312:6	374:1,2	371:8
355:3,4	405:4	324:6	375:20	clean 59:13
362:4,23	choice	331:15	378:23	295:13
370:13	235:10	334:6	383:9,17,2	300:3
chemical	398:19	395:2	1 386:9	348:6
68:24	choose 13:25	citizens	387:21	400:15,17,
172:17	116:6	288:17	civilization	23
209:19	234:7	321:21	313:25	cleaned
chemistry	chooses	355:6	314:9	255:1,2,3
86:13	97:10	357:23	346:7	cleaning
149:18,19	choosing	365:11	claim 25:1	59:15
221:5	121:13	369:13	263:24,25	255:13
chickens	chose 47:6	399:3	377:7	cleanup
404:5	95:15,20	citizens-at-	claims 264:1	32:22
chief 28:12	177:25	large	267:8	65:11 98:6
41:13	355:11	381:13	283:23	373:6
167:7	chosen 11:18	city 3:22	clarificatio	374:16
235:5	50:15	10:16	n 57:19	clean-up
241:3	101:10	28:14	69:1 213:6	362:15
252:22	235:8	33:12	267:17	363:1
269:14	Christensen	43:10,13	268:1	clear
273:14	2:6	52:25 71:5	clarificatio	41:16,18
274:4	Christian	86:4 89:25	ns	57:10 96:9
279:1	395:3	90:8 91:15	129:14,16	154:5
291:1	chromium	92:5,7	265:23	164:19
362:4	205:9		clarified	223:15
			16:3	236:21
				241:3

261:18	127:14	collaborativ	128:25	comment
263:16	195:20	e 31:24	142:20	15:25 28:8
264:8	197:22	32:18	170:2	45:17 96:3
284:19	closing	36:1,14,16	175:20	97:25
285:23	295:18	60:24	187:14	101:25
286:7	389:2	collect	217:18	136:14
325:15	405:11,12,	68:20 81:6	242:3,22	180:11
327:15	18	82:19,22	258:1	203:4
clearer	closure	84:11	267:9	209:3
342:8	34:23	124:18,24	362:16,21	211:7
clearly	47:25	125:3	396:2	217:5
123:7	66:15 67:1	126:23	comfort	220:11
126:21	292:22	299:2	142:11	224:16
283:4	296:25	collected	329:7	266:21
343:1	clue 390:19	82:12,25	342:13	269:10
372:1	co 13:7	83:5,18	381:22	274:10
375:18	276:12	122:15	391:25	321:1
385:6	281:24	124:14	comfortable	323:6
Cleese	coalition	126:19	241:5	338:15
389:14	275:11	141:6	270:18	340:7
climate	276:10	253:16	coming 18:16	347:18
104:19	370:3	260:7	54:11 87:7	370:5
348:2	coalitions	298:4	94:7	comments
349:6	276:5,12	collecting	107:21	5:24
372:1	277:15,16	81:7 83:8	118:3	7:12,15
climatologis	coast 36:12	125:19	120:12	10:19,25
ts 314:18	co-chairs	143:8	121:14	45:25 52:3
close 53:24	275:15	219:2	126:9	60:19 96:6
127:23	co-chaired	227:18	129:16	211:16
171:12	cod 228:10	253:22	164:8	212:8
175:12	coerced	296:15	181:7,11,1	229:12,22,
176:3	357:14	309:21	4,22	25 231:8
179:22	coin 130:14	collection	182:7,13	232:9,11
184:7	coinci	85:18	201:11	233:13,17
212:12	130:14	collective	207:10	272:20
216:9	coincide	322:21	214:9,16	278:10
243:19	96:22	Colomac	221:6	279:12
300:3	coincided	32:13,19	226:5	282:10
308:2	130:15	Columbia	236:16	308:1
336:5	coincidental	142:7	240:21	310:20,24
344:18	ly 243:8	column 73:20	252:5,6	311:12
366:6	coincidentally	75:1	257:23	319:1
392:6	coincidentally	150:17	324:20	328:11
405:8	288:2	co-	363:2	330:25
closed 27:14	cold 67:6	management	385:18	339:17
closely	collaborate	combined	389:15	342:24
32:20	361:8	73:6	395:23	344:15
241:16	collaborate	comes 104:3	398:9	355:2
355:15			399:7	362:4
closer 91:5			400:5	368:17
			commencing	371:4,25
			9:1 278:20	378:25
				403:2

commission	185:25	382:6	248:6,16	333:4
247:20	224:18		250:5	
commissioned	306:10	communicatio	251:13	comparison
36:14	340:18,25	n 8:8	254:9	136:22
Commissioner	350:4,5	167:5,15	255:14,15	compensate
328:25	383:6	168:3	279:8,18	251:11
commit 18:20	committed	169:23	298:24	compensation
189:2	21:3,21	314:11	302:6	40:4
259:20,21	44:18	316:8	305:13,14,	377:12
264:23	45:14 48:8	317:8,9	23 322:3	388:25
267:5	98:4	381:20,24	323:11	
320:20	162:19,21	382:10	324:7,11	competition
390:17	189:18	communicatio	325:20	113:21
commitment	221:22	ns 33:19	326:14	competitive
19:13,18	222:2	261:3	327:18	36:3
21:23	288:15	304:17	329:3,15,1	
22:14	291:17,22	326:18	8 338:13	compile
23:4,5,11,	305:23	communities	339:9	154:1
18 29:25	321:23	14:17	345:7,8	complacent
33:20	322:2	32:20 52:4	350:18	345:11
35:23	323:3	67:12	351:6	complete
46:11 47:1	341:6	148:18	352:21	261:6
58:25 59:6	committee	189:23	353:4	264:21
97:16	22:4 46:12	299:13	356:9	266:21
122:1	228:13,22,	331:16	357:21	267:18
154:11	25 229:4	358:9	368:8,23	388:16
168:1	239:17	382:8	369:22	completed
174:15	329:5	community	377:21	16:13,15
264:8	381:1,2,3	10:21	380:8	66:21
267:1,4	383:3,4	11:23,24,2	381:4,10	76:18
304:14	397:16	5 12:21	382:7	126:19
305:12	committing	13:7 15:6	383:12	completely
306:14	18:6 20:22	29:6 30:22	384:25	15:3 99:5
320:11	123:25	35:5,18	385:1,3	205:9
322:24	163:10,13	37:12	387:5,9,12	211:24
329:15	common	39:19,25	,22	389:14
331:24	151:18	44:24 45:5	community's	
338:10,13	364:22,24	60:8,12	121:22	complex 16:9
339:8	393:6	61:7	company	79:3
341:20	communicate	106:10	356:13	104:11
342:8	58:14	121:23	357:5	179:15
370:1	189:15	171:13	comparable	322:11
371:1	314:16	172:20	141:14	complexity
372:25	315:22	177:21	comparative	291:7
376:8,20	316:1	178:4	153:11	complication
379:16	390:18	188:20	compare	393:20
382:21	communicated	189:8,12,1	124:25	component
commitments	314:13	9 192:9	356:16	147:12
5:5 8:1	communicatin	199:16	compared	223:2
48:10	g 192:9	234:10,13	74:7 75:1	225:14
53:14		241:14	182:12	304:8,23
		246:21		
		247:13		

components	99:22	324:5	198:4	162:3
66:7 86:9	102:17	325:14	199:22	376:17
147:14	135:12	326:5	200:2	conclusions
161:22,23	136:6,13,2	327:9,10,1	219:20	29:7 36:23
238:5	3 137:1	1 335:1	226:9	49:16
294:6	141:21	343:5	241:8	89:10
304:2	159:25	344:15,20,	270:7,8	concrete
369:3	208:6	22	293:14	52:8
composition	235:18	345:14,25	296:24	80:17,20,2
158:19	297:1	346:13	306:12	1
compost	concept	352:17	312:8	concurrence
209:17	21:17	355:17	319:7	202:16
comprehensiv	114:1	364:11	323:11	condition
e 35:3	297:4	374:15	326:18	140:25
89:12	319:19	376:23	327:7,23	222:6
264:25	322:18	377:7	329:3,13	295:23
266:24	concepts	381:20	331:19	339:21
370:21	151:13	387:5	343:1	372:13
376:6	concern	389:10	344:23	conditions
377:15	21:15	403:3,7,18	345:17	17:16
comprise	32:6,8,9	,24 404:12	346:20	76:12
346:3	36:25	concerned	356:4	159:12
compromising	41:20 61:9	183:9	358:5	160:12
197:15	63:14 87:2	184:4	369:17	187:7
computer	135:1	197:17	371:11	222:7
80:4	136:3	246:3	376:24	237:23
316:16	164:22	254:2	377:21	293:24
con 22:1	168:15,22	334:6	378:21	294:1
73:6,10	169:13,17,	345:6	379:1,4,6,	conduct
74:11	19 170:1,6	352:16	9 382:17	228:9,10
78:17	171:14	357:20,23	384:19,23	267:24
86:19	172:21	369:14	385:6	284:8
169:17	177:13	379:15,23	386:8,14	conducted
266:24	186:17	403:23	402:22	203:13
370:11	188:18	concerning	403:2,13	285:7
371:20	191:22	22:1 195:3	conclude	conducting
387:11	241:14	199:3	169:11	126:4
conc 80:21	246:4	347:8	303:4	283:11
concentrated	255:4	concerns	344:18	coney
372:9	259:9	18:9	345:23	184:8,13
concentratio	260:5,18,2	30:11,14	concluded	185:12
n 73:7,12	1 261:24	62:25	245:25	186:9
74:5,11,21	264:14	63:10	369:8	242:20,21,
76:23,24	268:19	91:18 95:8	concludes	24
93:6 135:2	274:12	99:13	151:2	243:4,20
180:25	294:11	131:14	404:15	244:6
206:25	296:1,10,1	160:15,19	405:5,21	250:23
concentratio	8 297:2	168:17,25	conclusion	388:20
ns 74:24	306:2,9,16	169:15	101:1,3	conference
	311:14,20,	178:4	158:22	
	21,23	186:8,10	159:15	
	323:11	188:19	160:4,12	

225:20	277:3	361:23	367:13	4:1
conferring	consequence	374:20	368:8,10	contact
138:4	162:3	379:3	377:1	104:12
confess	consequences	384:23	378:21,22	223:19
229:18	111:5	consideratio	constraints	224:23
confidence	346:8	ns 119:5	106:19	300:12
34:12	387:11,25	considered	121:13	contacted
178:16	conser	12:8 16:19	304:18	224:2
290:18	214:18	41:7	construct	248:13,16
329:25	conservatism	99:3,4,9,1	299:25	contacts
330:2	77:9	6 100:5,15	constructed	224:20,24
365:24	conservative	102:15	206:18	contain
confident	214:22	105:3	217:7	29:12
189:21	conservative	111:18	299:2	42:17
190:12	ly 214:18	113:18	construction	50:21
192:4,6	consider	127:5	69:13	54:16
290:6,9	78:25 80:7	143:2	137:22	297:1
291:25	84:15	146:25	145:10,13	298:2
302:17	92:12	149:23	206:25	343:9
306:13,14	96:11	160:25	292:15	contained
365:5	102:14,23	177:7	constructive	294:22
confirm	104:25	179:13	189:7	297:23
89:10	105:17,22	238:1	264:10	containing
91:20	137:19	286:24	304:12	294:21
367:9	143:8	309:23	consultant	containment
confirmed	158:17	353:24	254:16	66:22
383:13	186:7	371:16	consultants	296:19
conflict	219:18	384:12	19:25	contains
49:20	280:19	considering	31:18,21	293:22
380:21	286:16	72:15	161:6	294:18
conflicted	360:7	73:10	consultation	contaminant
343:14	377:8	92:17	382:9	286:9
confusing	380:5	131:13	385:18	369:5
50:7	390:15	137:21	consulted	contaminants
217:23	considerable	160:11	195:2	24:14,22
confusion	183:16	173:6	252:10	94:10
283:9	241:13	192:25	consulting	113:22,25
Coni 221:6	288:10	346:16	65:7,9	115:19
conies	375:23	387:15	consume	116:5,14
250:12,16	considerably	consin 178:9	325:2	118:15
connect	377:2	consistent	consuming	120:12
83:14	consideratio	25:5 89:5	386:3	121:4,14
connects	n 11:25	299:10	consumption	135:1
349:13	72:11	333:11	227:25	136:3
cons 346:15	119:25	consists	229:6	139:3,7,16
consent	123:11	304:1	324:18	209:25
276:25	280:25	338:1	Con't 3:1	227:22
	337:16	constant		228:11,12,
	360:19	216:20		22,25
		constituents		

229:4	373:18	187:7,25	216:25	conventional
283:21	376:12	189:20		78:15,25
290:16	380:15	191:7	continuously	88:16
325:16	contemplate	201:19	18:23	
368:25	195:9	202:3	376:9	converting
369:11		227:7	contour	106:10
371:13,17	contemplatio	228:17	196:15	convey 316:4
contaminate	n 393:20	234:25	contours	317:20
358:6	contend	249:2,8	127:21	convince
contaminated	171:13	254:7	contract	36:21
6:4,7,11,1	content	263:7	387:24	convinced
5 24:22	104:6	267:23	contracting	306:15
26:20	149:15	278:11	292:15	356:21
63:2,6,21	CONTENTS 5:1	289:4	contractor	convincing
64:1,6,11	context	303:25	140:5	34:22
65:12	77:16,18	309:20,21	contrast	cooking
68:20 69:8	104:12	321:5	32:11 33:1	249:25
88:1	112:2,25	331:8	contrasts	cool 81:22
111:19	128:16,17	338:23	70:14	cooperative
113:19	180:22	342:3	contraventio	31:24
144:25	197:2	344:11	n 238:10	60:25
248:3	201:11	354:6	contribute	coordinate
254:1	313:9	356:23	322:21	83:13
287:25	372:1	357:19	contributing	coordinated
291:15,16	contin	359:23	322:16	87:10
294:12,14,18	283:15	362:5	contribution	299:9
297:10,19	continent	401:12	56:17,23	coordinating
298:13,14	349:14	404:10,21	Contriving	163:24
299:2	350:19,23	continued	346:5	166:14
300:22	contin 87:7	5:6,9 11:7	control	coordinator
301:3,8,9	continually	28:3 92:24	78:19	387:3
302:11,21	194:7	283:15	115:25	copies 24:13
315:8	353:20	288:20	116:3	copper 73:17
341:11	continuation	continues	216:8	74:2
343:22	84:25	67:15	236:23,24	co-
344:3,4	continue	190:24,25	237:10	precipitate
359:2	10:22 12:5	194:10	346:17	e 205:8
371:21	22:14,15	continuing	358:1	co-
372:8	23:16,19	23:11	379:12	proponents
373:17	42:21	201:25	388:7	289:11
375:6	44:15	288:15	392:17	292:10
388:9	53:8,20	344:12	controlled	copy 26:2,4
contaminatio	62:4,7	continuity-	91:3	60:2
n 15:13,15	103:12	type	237:11	318:14,15
114:6	131:3	continuos	296:12	378:2
198:8	133:25	345:5	convenience	385:10
283:13	134:7	continuous	357:2	
284:5	175:3	23:7 87:7		
323:24	178:9,10	88:12,20		
324:8		125:4		
356:2				

core 80:4	267:6,7 353:6	375:2	304:10 379:4	Creator 395:8,16 398:20 401:14,15 402:4
Cormier 2:21	council 235:5 275:23,24	coupled 124:3	cracking 30:11	Creator's 396:3
Corporate 289:18	councillor 383:9	courage 351:10 402:3,7,25	Craig 307:22 342:20,23 347:2	creek 69:2 70:6,15,16 ,17,18 85:1,2,4,5 ,6,24 86:11,21 87:25 94:8 99:5,11 100:7,10,1 2,22 102:25 103:22 104:2 106:9 108:8,21,2 3 111:12 112:1,3 113:1 115:5 136:20 140:8,12,2 4 141:7,16 181:7,12 213:12 214:11,13, 25 253:9 255:2 258:6 294:17 295:23 296:24 297:1,2,5, 6 299:6 300:23,24 301:1,2,5, 6,7 362:16,21 363:3,21
corporation 263:25	Councils 333:22	Courageous 243:9	Crapeau 1:17 51:19,20 218:12,13 220:13,14 222:19 223:13 243:25 273:3,4 281:14	
correct 93:14 112:10 152:22 154:9 186:6 193:11 198:22 200:2 214:5 338:24 378:25 381:24 406:6	counsel 2:11 26:3 46:1,4 62:21 95:25 109:7 151:4 271:11	course 30:13 46:6 86:8,25 89:3 98:23 99:1 111:7 112:21 113:15 120:3 125:5 143:2,11 186:16 203:7 225:15 237:21 257:16 280:11 340:16 369:20 370:13,17 371:19	Crapeau's 244:1 craves 314:6 crawled 393:25 create 8:15 25:2 76:1 107:25 150:2 173:18,23 174:19 243:14 301:4 317:9 343:10,12 390:10 392:18	
correcting 96:1	counsels 248:11	court 264:7	created 283:23 313:24,25 343:17 345:19 387:7 390:25 391:19 392:18,20 393:4	
correction 98:14 388:6	count 400:13	cover 83:13 95:6 97:6,16,17 135:22 257:12 262:13 300:11,18 301:10 341:13 364:1 384:2,7	creates 388:13 creating 343:10 creation 393:14	
correctly 13:15 185:12 186:7 190:11 213:18	counterparts 226:24 269:22 270:1	covered 138:15 243:20 257:23 298:7		cri 333:21
correspondin gly 116:11	country 347:13	covering 98:4 297:25		criteria 14:20 31:13 34:16,18 37:15 108:7
cost 137:13 256:3 344:5 346:4 354:4 364:14,15, 18,20 365:7,10 366:9 383:19,21	couple 9:11 12:21 51:25 55:8 57:20 76:20 93:21 108:5 115:15 138:17 155:3 170:14 204:21 205:1 209:13 215:18 217:9 240:20 257:1 272:3 281:21 307:10 319:1 349:8,14 353:10	covers 294:8 298:8,9		
costly 370:10,15				
costs 97:17 98:4,6,7 263:14 264:4,23				

152:9	195:24	79:1,5,20	394:6	16:25 17:1
157:24		88:2 93:3		30:25 76:8
299:10	cur 341:9	94:18		209:4,5
333:21	curious	184:24	<u>D</u>	217:21
334:9	234:7,13	205:5	daily 153:7	278:24
335:10	235:21	214:11	355:25	Daryl's
336:8	236:3	232:7,9	396:3	209:2
338:8,12,1	367:12	233:9,14	dam 66:23	data
3	Curran 1:13	288:19	damage	24:19,24
criteria	49:10,11	321:21	107:25	25:12
199:23	50:6	322:24	269:16,17	26:25 34:9
critical	51:3,4	341:10	368:22	72:12 76:6
125:14	151:7,9	364:16	damn 179:22	81:6
croplands	152:19	395:4	dams 85:16	82:11,19,2
392:25	153:8,9,15	currents	danger	3 83:5
crossing	154:16,18	81:7 82:24	314:16	123:18,19
122:16	274:2,3	124:20	316:4	124:15,24
390:16	275:1	125:4	dangerous	125:8,10,1
Crown 246:11	276:15,16	129:23	296:7	7 126:8,19
264:1,2	277:8,9	131:9,19	348:2	135:2,3,13
267:9	278:2,3	132:17	Danny 1:12	137:3
cruel 391:7	281:6	158:18	28:14	143:8
crumbling	current	183:13	51:22,24	146:20
314:6	29:22	237:1	54:21	165:11,12,
crushed	68:17	262:13	57:15,16	16 260:7
205:19	69:25	309:22	59:13	309:21
cry 377:18	70:14 74:1	curtains	60:16,21	datasheet
399:23	80:1 88:6	145:11	234:1,2	362:17
crying 247:9	100:8	cut 120:11	235:3,15	date 7:16
crystals	126:3	178:2	237:12,14	26:13
389:25	132:16	213:8,12	238:15,17	53:14 60:7
cubic 77:6	167:8	348:24	239:2,11	61:4 76:7
152:3,4	182:10	cutely 75:9	271:13,15	232:11
294:13	213:15	cutting	272:24,25	233:18
cultural	222:6	121:9	281:16	314:6
242:23	258:7	181:19	Danny's	320:25
404:20	285:17,20	344:5	60:19	321:18
culturally	286:2,4,8	cyanide	Danube	382:3,6,24
39:18	293:17	207:23	365:20	384:5
culture	298:21,22	208:2,3	DAR 77:6	dated 47:7
251:24	312:13,15	cycle 170:23	99:18	53:19
280:16	323:15	171:11,15,	122:1	362:12
311:2	341:22	24	161:20	dates 130:14
cultures	375:12	172:5,22	229:22	Dave 2:15
314:2	386:5	242:7	241:19	day 1:25
cumulative	currently	398:1	295:9	76:9
	7:9,12	cycles 172:6	Darren 2:25	109:15
	66:24	cylinder	Daryl 3:9	139:14
	69:9,13,16		12:25 13:6	152:4
	70:22			168:13
	73:2,21			
	74:3			
	78:2,5,16			

176:14,16, 23 184:25 216:25 223:21 241:21 249:2 250:4 253:9 255:8,9 260:20 277:20 312:7 317:7 320:6,23 347:7 355:24 359:15 362:23 392:6 394:7 405:7 days 27:3 183:10 193:16 219:2 223:18 231:3 240:15,20 263:22 274:19 280:12 281:21 347:14 363:18 372:21 394:8 de 108:24 382:25 dead 175:19,25 247:7 250:7 390:24 393:17 deadly 346:4 390:20 deaf 402:6 deal 14:19 18:24 60:13 146:15	190:16 264:9 295:2 306:5 317:11 320:22,24 321:5 343:8 345:16 356:3 357:7,14 360:10 366:17,20 379:17,22 390:16 dealing 18:10 19:5 103:20 217:13 219:19 334:16 359:25 371:23 375:5 379:19 deals 22:4 161:20 317:1 380:17 dealt 114:3 163:1 268:9 352:16 379:7 death 247:15 346:9 deaths 370:18 debates 286:3 decades 145:1 148:19 344:25 365:15 370:11 decide 118:13 284:17 325:7	decided 234:7,8 397:14 deciding 234:14 decision 49:23 234:11 280:20,21 284:10 327:16 328:1,4,6 341:15 344:2 360:17,19, 21,22 399:6 400:2 401:25 decision- makers 33:9,15 36:21 402:8 decision- making 114:5 282:3 284:2 304:25 374:12,24 decisions 31:22 34:5 244:17 282:7 284:22 292:4 295:15 348:21,22, 23 350:1 351:3,13 360:2 declined 370:2 decrease 77:20 deep 196:22 401:18 deeper	301:10 deepest 196:9,20 deep-felt 306:3 deeply 283:13 346:20 357:20 379:23 default 330:21 Defence 263:19 defending 31:22 deferred 110:25 define 84:12 238:9 242:22 305:2 defined 309:8 373:2 defining 114:5 definite 231:23 definitely 17:14 151:17 189:19 322:3 definitions 25:8 definitive 383:5 deformed 114:9 degrading 347:25 degree 65:21 368:1 372:3 374:18	degrees 82:5,10 84:1 Delaney 278:24 deliberate 328:1 deliberation 280:20 deliberation s 317:24 Deline 32:14 59:24 60:3 190:15 281:17 deliver 75:17 76:19 108:24 delivery 343:19 demand 179:22 demands 374:13 demolished 298:17 demolition 298:18 demonstratio n 57:10 390:5 Dene 11:15 12:5,7 13:8,14,16 ,18 14:8,13 15:5,8,14, 22 16:18,22 17:22,25 18:25 19:17 21:14 22:2,11,15 ,16 28:11,17 32:2 33:13
--	--	---	--	--

35:12	32:12 33:9	202:15	47:18,19	8 142:18
39:20	38:10 60:4	234:21	66:4,5,25	156:18
43:5,9	65:19	301:9	67:6,7,15	172:6
47:21 53:1	83:14	deputy 167:7	68:11,12	179:13
56:5	87:11	289:14,18	76:17,18	180:4
175:10,14	95:17	descendants	77:1,9,16	217:12
178:9,16	96:25	377:14	81:8,22	304:6,7
184:7,17	125:2	describe	82:7 83:7	designing
186:17,23	164:1,4	68:17	84:5,14,16	37:13
187:12	166:16,18	71:20	91:8 99:15	108:10
198:6	167:5	126:3	100:16	157:24
219:9	168:4	138:9	102:19	209:11
241:2,4,8,	203:24	295:25	109:23	designs
11,15	223:5	296:23	117:1,4,12	66:14 77:7
242:4,17,2	224:14,19	299:19	,21 119:9	304:11
2	226:15	303:10	120:1	desire
243:15,22	228:8,9,11	308:20	126:20,21,	393:10
244:4,5,9,	,20 237:22	described	24 137:9	desires
11,22	239:7	69:21	143:16	192:8
246:22	253:4	118:11	145:16	despair
247:5	263:18	121:4	157:11	393:11
251:7	271:3	126:1,9	159:20	despite
270:22	280:1	127:8	163:2	137:13
279:1	297:9	243:18	169:24	240:13
288:13	299:9	describes	177:11,18	destroyed
316:12	398:10	293:24	178:17	253:13
356:9,18,2	departments	Describing	197:1	392:23
5 357:6,11	192:2	381:23	198:21	destroying
358:8,24	department's	description	206:8	398:21
359:13	83:14	6:2 7:2	227:15	destruction
360:6	depend	8:2 303:11	235:1	361:17
365:13	132:15	desensitized	258:10	detail 83:6
370:7	360:4	400:16	260:15	103:22
375:16,19	365:1	desert 394:1	285:3	123:17
387:11,22	depending	deserts	291:11	124:10
388:18,19,	302:5	393:4,5,10	292:3,15	133:4
24	depends	,15,21,23	297:4	138:9
Dennis 43:12	214:23	deserve	299:13,14	163:2
90:7,8	287:4	315:10	305:16	179:17
91:16	deposit	388:24	306:13	305:16
92:6,7	147:10	deserves	314:10	334:24,25
93:10,11	deposited	17:13	372:20	337:14
95:2,3	147:10	313:16	designated	detailed
96:8	194:8	design 23:20	400:8	81:6 82:2
97:3,4,21	deposition	29:13	designed	84:14 89:3
269:3	104:9	33:22,24	75:4	91:7 94:3
depa 32:12	deposits	34:4,17	76:17,24	111:4
departed	372:17	37:13	78:4,18	126:21,24
380:7	depth 82:13		79:1,25	127:19
department			81:21 84:4	
8:9 24:23			108:6,8,9	
26:21			113:21	
			120:2,17,1	

131:8,18	375:3	40:18	24	258:13
132:5	394:17	41:7,14,18	156:14,23	259:17
details	404:24	43:16,17	157:12,19	260:10,19
34:13	deva 247:4	47:1,12,21	159:14,18	261:6,11,2
378:19	devastated	50:11,18	160:18,24	0 262:3,24
detected	247:4	52:3 53:14	161:12	263:4,10,1
370:25	249:7	54:25	163:24	5 264:9,20
detecting	251:2	56:17 57:3	164:3,6,24	265:2,14
143:4	252:3	58:5 60:25	165:8	268:21
deterior	253:20	62:16,21	166:14,17,	270:9
80:21	255:12	64:19	21 167:18	274:13
deteriorate	devastating	90:1,14,19	168:1,13,1	278:9
80:20	190:21	91:20,24	9 169:2	279:10
242:10	devastation	92:15	171:10,17	285:18,19,
288:20	251:12	93:16 95:6	172:24	23
deteriorated	Devel 164:24	96:11,15	173:2,16	287:4,11,1
293:12	develop 21:6	97:6,13	174:2,15	7 306:24
360:3	58:25	100:18	175:4	321:9
deterioratin	165:13	103:4,14	176:6	325:6,9
g 80:21	175:4	105:10,19,	177:16	327:6
determine	186:1,10	20,21	178:24	328:8,13
16:13	205:10	106:5	179:25	330:11
86:22	353:22	108:17	183:12	336:14
164:25	377:14	109:8,17	184:21	337:21,23
297:10	developed	110:8,12	185:19	341:2
384:7	32:16	111:22	187:16	351:24
determined	37:23	112:6,20,2	188:5,12	373:9
119:14	157:22	5 114:24	190:1	381:5,21
determines	243:10	116:17	191:13,19	382:5
116:4	developer	118:23	193:2,6,19	383:1
determining	2:17	119:17	196:3	405:2
149:2	5:6,13,23	120:15	199:8	developer's
161:18	7:3,8,15	121:17	200:20,25	62:5
Deton'Cho	8:3,7,12	122:10	202:14,22	Developers
293:3	9:25	123:14	203:17	46:7
Dettah 14:14	11:4,7,13,	126:6,15	208:15,17,	198:13
23:25	16	127:11	25 212:14	217:6
28:12	12:7,11,15	128:7	213:20	266:14
60:17 86:6	16:11,17,2	129:22	216:2,22	285:13
188:21	4 18:6,19	130:6	217:20	384:12
239:25	19:13,17	131:23	218:9	Developer's
246:21	22:23	132:19	219:22	5:23 7:18
251:11	24:8,12,16	133:4,7	221:17	9:23 25:1
281:15	25:24	134:9	223:18,25	61:19
289:9	26:4,8,10,	138:2	227:8	129:12
317:18	15 27:7	143:23	229:21	158:13
364:7	28:13,23	147:5	230:2	195:9
365:12	29:25 30:9	149:6	231:13	213:10
	35:19	150:5	232:3,24	214:1
	37:12 39:6	151:10,22	233:8,18	232:12
		153:2,14,2	236:7	233:21
		1,23	238:3	267:1
		154:11,19	240:13	
		155:12,21,	257:25	

270:14	344:10	389:15	196:8	72:16 73:5
290:1	DFO 4:13	difficult	202:15	92:25
293:19,22	10:15 83:9	312:12	215:23	93:25
295:6	140:13	313:16	216:5,7	332:4,9,11
333:6	184:15	326:12	219:3,8	334:4
347:25	252:21	348:17	221:11	diminish
362:11	di 172:1	387:8	234:6,8,14	23:8,10
378:18	dialogue	diffuser	,19	191:22
380:1	144:21	68:12	252:8,15,1	305:11
382:19,25	198:5	69:19	8	Diocese
developing	199:2,12	70:13	258:14,20	275:21
30:2 40:11	202:1	72:16	259:3,8	387:3
59:2	diameter	79:23,25	260:11	dire 370:19
221:24	80:23	80:9,17,22	267:12,24	direct 76:5
292:6	150:9	,25	299:4	133:3
development	diamond 48:1	81:12,14,2	306:25	200:11
18:23	172:14	0 82:13	308:8,21	201:13
35:14	DIAND 32:20	83:3,5,19	309:2,5,14	259:14
37:18	272:13	84:4,6	,15,16	300:12
42:11,16	died 249:16	85:25	310:3,4,11	370:10
43:18	diet 361:12	86:4,16	336:9	directed
48:19	differ 316:7	88:8,21	364:14	69:18
55:13 60:5	differences	90:10,11,1	diffusers	85:17
66:18 99:9	152:10	6,23 91:10	80:2 81:3	317:14,16
106:21	206:5	115:17	152:2	direction
124:25	different	116:9	157:24	11:12
136:10	12:21	117:12,21	215:19,21	202:4
190:7	17:4,15	118:6,12	216:16	372:5
226:14	19:1 30:24	120:1,13	diffuser's	374:23
239:5	32:18 55:8	121:6,15	310:14	directly
278:9	74:24	124:16,23	diffusing	11:5
279:23	117:16	125:1	176:4	145:18
280:1,15,2	119:8	127:6	diffusion	200:19
4	120:10	131:16	332:4	214:11
286:7,12,1	122:6	133:5,16	336:10	284:3
5 287:17	123:9	141:8	dike	355:23
288:1	127:1	142:18	107:11,12,	director
289:24	138:20	143:1,10,1	13,22	66:24
290:12	152:5,9	2,15,16	108:5	190:5
291:2	162:15	144:23	dikes 109:1	287:25
302:20	169:10	145:16,17	dilemmas	dis 145:12
304:14,21	177:20	150:2,19	315:6	Disabilities
311:1	188:23	151:15	dilithium	275:24
325:10	205:4	157:11	389:25	disagree
328:23	226:8	161:2	Diller	160:9
329:1,4	250:13	162:21	385:13,14,	166:4
337:14	252:16,17	163:15	15 386:17	194:19
361:1	285:25	169:16	dilute 93:12	disappeared
383:12	379:16	175:15	dilution	
396:25		176:3,24		
398:11		184:18		
developments		185:2		
		195:16,18		

254:15	258:8	113:1	distant	133:4
disappearing	discharging	116:19	394:5	224:12
347:13	299:5	155:18	distinct	229:22
disappointed	343:21	168:17	226:1	293:23
47:8	358:3	195:3	304:2	402:12
170:11	disciplines	261:13	distinguishe	dog 193:16
201:24	66:5	265:3	d 67:21	218:18
403:17	disconcertin	339:12	distribution	dollars
disappointin	g 364:2	discussions	136:23,25	25:20
g 21:13	discourage	41:18	137:1	249:17
disaster	325:25	112:3	district	382:22
403:8	discrete	128:21	65:20	dome 99:23
dischar	21:5	164:3	disturb	done 22:9,10
384:14	discu 174:7	166:18	79:17	30:9
discharge	discuss 68:7	192:11	142:21	31:7,17
69:1,17	106:8	195:5	disturbance	32:22,25
70:8,13	109:4	217:10	84:5,8	33:2 36:22
72:3,8	124:7	234:23	142:19	52:12
74:3 75:8	144:9	265:24	143:1	55:16
76:5,13	199:22	288:12	144:7	57:12
81:22,23	235:11	307:9	145:12,19	58:14
86:18	241:21	375:8,21	150:20	76:20 80:3
87:4,17	291:13	diseases	262:13	82:2
92:18	295:4	136:15	disturbed	100:25
93:24	305:20	disillusion	79:16	109:21
94:20	322:4	369:25	ditches	113:11
104:17,18	discussed	dislike	298:8	117:6
119:20	99:18	21:16	diving 71:8	123:19
140:3	111:25	dismantling	DND 263:23	125:2
157:25	132:4	349:19	document	126:11
184:24	145:15	dismay	17:4,10	134:17
185:3	179:1	375:23	28:18 63:7	135:10
195:24	205:15	dispersion	155:16,22	140:3,12
214:12,14	303:24,25	145:12	156:7,8	143:14
217:1	371:5	displacement	243:16	149:9
258:2,6	discussing	370:16	256:24	150:16
260:12	136:2	disposal	257:9	153:10
299:3	161:18	66:15	272:1,22	159:10
334:17	291:19	298:19	documentary	160:10
343:24	294:6	dispute	315:2	161:3,7,10
344:2,4	390:9	39:21	documented	162:17
384:6,9,13	discussion	disservice	107:8	163:4,20
,14,17	29:8	350:23	documents	164:24
discharged	30:7,23	dissolve	63:11	165:3,6,14
72:18 82:6	39:13 41:6	296:11	99:19	166:1,4,5
104:11	42:4 53:6	distance	108:7	167:7
148:6	68:12,13	177:6	109:19	172:17
153:7	92:21			184:14
358:13	108:20			187:2
discharges				189:3
				190:13
				192:10,19,

20	230:24,25	209:10	drinking	duly 63:17
202:15,19	231:1,20,2	210:2,4	71:5 97:9	342:19
208:12	1	211:20	177:24	dumped 181:2
229:18,20	232:15,16	218:1	194:21	duration
230:18	233:1	228:3,5,19	196:1	25:16
232:19	door 81:18	263:16	197:4,10,1	145:8
233:6	279:14	289:13,16	1,16,25	during 47:25
247:21	282:18	373:11	249:16	69:3 82:24
254:11,21	287:2	draft 37:23	263:8,9	90:12 91:5
256:14	309:10	53:11	346:10	92:8
257:1	Doppler	203:1,3	358:14	107:18
260:2,16	124:21	drafting	363:15	128:21,24
262:14,19	dose 362:18	53:10	364:23	129:15,17
268:14	doses 135:17	drafts 53:5	365:14,17	145:6,10
269:16,17	363:3,8	drag 39:16	369:19	215:24
270:10,16	dot 309:13	drainage	370:15	220:17
272:3	double	68:21 69:9	400:15,17,	266:8
274:7,8	118:10	114:3	23	268:9
285:19	119:6	181:15	drive 34:4	302:25
299:6	219:19	drainages	drives 312:6	364:13
312:20	double-check	94:7	driving	384:17
324:14	153:4	drained	222:22	385:24
335:12	doubled	257:22	361:14,15	dust 114:18
351:5	116:8	drank 391:7	drop 400:4,6	257:23
361:10	doubt 29:11	draw 29:6	drop-off	280:3
368:14	210:19	36:23	401:7	294:22
382:5	288:20	170:25	dropping	295:11
384:8	Douglas	263:16	94:15	296:2,6,10
387:10,14	406:10	291:10	dry 113:17	,15,16,20,
395:6	download	314:20	243:6	22 320:2
397:20	125:8	364:23,25	394:5	385:24
402:10	downloaded	365:2,4	Drygeese	dusting
Donihee 2:11	365:10	drawing	28:12	114:13,21
24:13	downstream	291:8	317:18	duties 66:4
46:2,3,4	360:24	drawings	drying	dwelt 343:3
47:3	364:9,23	314:6	243:20,22	Dyer 3:7
49:3,4,5,9	365:4	draws 375:15	ducks	dying 248:5
62:11,13,1	downward	dreamed	359:6,7	
5,20	148:9	252:9	due 7:19	<hr/>
95:23,24,2	DPRA 3:12	drew 49:16	160:9	E
5 109:6,7	dr 15:10,11	drilled 78:6	163:14,15	EA 1:7 44:23
110:12,21,	107:1,3	drink 191:14	233:22	59:17
22 112:19	109:15,24	250:2	303:5	128:20,24
115:12,13,	110:9,23	251:3	333:7	234:24
14	111:2,9	354:5	371:4	288:14
153:12,13	113:8,9	400:19	379:3	329:4
208:15,16	207:21		384:23	EA0809-001
210:23,24,			385:24	279:6
25				eagles
212:10,11				
223:13,14				
225:21,22				
229:12,14				

391:13	easier	193:13	effects 30:7	72:3,8,18
earlier 31:2	208:21	250:3	60:13	73:3,6,11,
50:20 52:1	easily	edge	69:21 75:5	16 74:2
53:22	210:1,20	71:19,25	86:14,17	75:8,17
59:11 81:9	easy 35:4	73:7,12	87:4,15	80:5 88:23
138:19	183:5	74:4,11,25	89:1	92:19
141:5	267:3	75:16	94:7,9	93:13
145:15	304:8	78:24 82:8	134:21	115:22
147:20	377:24	116:9,14	136:7,9,10	117:12
161:14	eat 245:21	118:20	,21	119:20
175:21	249:22	159:23	137:16,21,	140:3
176:23	250:2	332:22	23	172:1,3
194:3	253:11,25	336:21	140:19,23	181:16
197:12	359:1	Edjericon	141:18,25	214:12
213:7	360:5	1:11	142:2,3,5	237:9
217:22	392:7,24	279:18	143:9	280:6
220:16	eaten 142:7	Edmonton	144:3,22	335:8
234:3	EBA 29:10	67:15	145:13	336:8
235:16	EC 10:13	291:9	146:5,14,1	effort 67:1
260:10	echo 269:13	educational	5 149:20	83:7
261:21	ecological	394:23	160:1	187:10
262:3	7:17 65:15	Edward 4:2	161:19,25	291:8
263:18	189:17	EEM 140:23	162:4	335:5
313:7	232:12	EEM-type	171:2,5,21	337:2
323:8	233:20	140:6	,22	efforts 44:7
370:13	Ecology	effect 15:12	172:5,16	114:12
372:1,21	155:4	84:15	173:5	365:22
373:12	275:23	87:18	186:2,11	385:17
383:13	369:16	88:10	190:17	Ehrlich 2:7
385:21	377:22	113:23	231:10	45:23
394:21	economic	114:7	263:2,5	98:12
398:12	105:5	119:3	264:25	106:25
earliest	290:12	134:22	266:25	115:14,16,
26:12	301:21	136:11	283:18	17 118:2
early 31:4	398:14	143:4	293:21	119:12
35:5,6	economical	145:9	302:18,25	120:9,25
37:16 60:2	311:2	148:17	343:24	122:4
94:10	economically	150:20	358:23	125:23,24
104:9	39:19	190:21,24	361:2	126:7,25
107:14	economy	195:24,25	efficacy	127:4
129:15	359:5	209:21	204:9,20	128:3
147:10	ecosystem	384:6	206:14	129:4,21
148:8	369:21	effective	efficiency	131:7
193:23	ecosystems	104:19	308:18	132:14,24,
226:2	397:6	117:21	efficient	25
377:23	Ed 3:17	229:8	79:3 81:21	133:12,22
earth 380:7	192:24	304:23	110:7	151:1,2
391:16		305:21	152:8	213:3,25
393:9			298:23	215:3
earthquake			effluent	271:9
366:2			68:24	eight 30:1
			70:2,8,12	40:11

53:11 59:2 195:7 207:4,9 248:7 294:16 297:12 351:19 354:16,23	ly 110:4 elements 216:6 305:1 elevated 141:15 148:17 eleven 161:1 207:2 elimin 69:8 eliminate 69:6,8 70:19 75:22 88:11 99:1 101:15 179:5 344:8 eliminates 69:12 elimination 87:25 eloquent 245:2 402:24 eloquently 348:8 379:18 386:13 else 18:11,13 40:20 113:5 197:24 222:23 223:10 247:1 391:24 399:9 elsewhere 141:15 376:15 378:23 embarrassed 397:8 embraced 381:9 emergency	285:8 emerges 286:1 379:20 emissions 136:4 employed 152:24 employment 8:16 24:21 25:14 88:20 101:19 103:1 173:19,24 174:20 EMS 144:17 199:19 292:4 304:23 337:15,17 338:11 339:1 340:13 en 169:20 171:21 200:20 enable 370:24 encompasses 330:19 encounter 403:9 encourage 313:11 315:2 328:10 362:6 encouraged 185:13 encouraging 194:15 endeavour 231:17 end-of-pipe 102:21 238:9	endpoint 134:21 end-use 383:10 energy 34:2 44:10 179:16 enforce 237:22 380:12 enforcement 357:4 engage 23:11,19 289:4 312:13 engaged 189:19 381:15 engagement 23:7,13 189:20 255:14 288:9,15 303:18 305:5,6,9 306:15 337:14 engaging 202:1 223:6 Enge 3:14,15 39:3,7 41:4,5 43:2 194:18 198:2,3,23 ,24,25 200:3,4,16 ,17 201:18,23 269:8,9 engine 65:23 engineer 65:20 66:9,17 178:19 209:20 291:1,3	358:21 engineered 107:13 209:14,22 211:25 engineering 29:10 65:8,22,24 66:6,11,23 67:6 99:13 169:22 216:10 291:11 293:1,2 313:2 351:25 365:25 engineers 13:21 18:15 67:18 76:17 137:9,10 151:14 208:10 298:15 314:19 365:22 England 246:12 English 245:16 248:12 283:3 enhance 85:8 88:9 enhancement 70:11 enjoy 255:7 289:3 359:5 enjoys 323:18 enlighten 274:6 Enns 2:10,12 98:13,15,2 1 102:6,10 104:24
--	--	---	--	---

105:16,20	24:19	289:2,10,1	224:15	equal 12:1
133:14	243:20	9,21	228:11	55:17
134:14,16	306:6	290:8,10	241:13	329:19
141:20	403:11	291:18	263:5	equate
146:3	entirety	292:9	264:16	215:1,2
148:22	87:23	293:15	266:8	equilibrium
149:25	entitled	295:8,12	268:10	150:22
204:7,13,1	112:21	296:8	279:19	equipment
8 208:18	entombed	298:5,25	280:10,16,	107:20
211:15	194:23	302:19,22	21,23	equivalent
212:13	environ	303:7	282:22	181:4,9
220:3	199:19	306:7	284:7,8	309:7
enormous	380:10	321:22	286:5,20	ERA 134:20
137:13	environment	328:25	288:11	135:4
ensure 7:11	4:9 10:14	333:23	290:2,4	Eric 3:16
97:9	36:10	344:24	291:13	385:13,14,
117:21	38:19,21	349:20	292:5	15 386:16
120:5	45:10 71:3	369:4	293:6,14	Erica
169:20	75:20	376:13	301:20	307:20,21
232:8	85:19	396:19	303:5,17	Erik 394:14
233:12	88:10	environmenta	304:21,22	Erin 394:14
270:10	89:8,16	1 1:2,6	305:10,20	402:17,19,
290:17	93:25	22:7 30:3	311:1	20 404:14
302:13	104:8	32:22	312:14	eroded 313:5
329:6	134:22,23	34:19	316:25	erosion
340:13	135:22	37:21,24	329:5	114:13,21
343:11	136:24	39:22	331:22	300:18
375:14	137:2,11	40:12	337:8,25	error 143:5
379:3	140:7	42:1,11	346:3	errors
380:12	143:20	44:12,20,2	347:14	345:21
381:18,19	146:6	5 46:11,19	349:16,18	escapes
404:2	147:14	47:15,23,2	357:5,8	385:24
ensured	148:25	4	367:22	especially
376:5	159:9	48:3,5,21,	368:22	288:13
ensuring	170:24	24	369:10,14	313:4
123:25	187:8,14	53:10,11	374:14	322:1
124:1	189:1,2,14	54:7,14	376:25	395:7
189:20	,22 192:5	55:14,18	377:4	essence
291:17	200:14	56:1,4,7,1	380:11,16,	242:23
293:5	201:15	8 57:9	25 383:2	essential
322:6	202:6,13,1	59:3 60:2	387:19	317:6
entered	6	61:10	403:8	343:12,16
181:2	203:11,20	65:8,10,19	404:19	essentially
enters 68:25	221:23	,23 89:12	environments	26:19
70:18	222:4,5	113:20	105:1	136:21
107:16	224:4,5	130:15	envision	157:23
216:8	227:14,16	135:7	390:10	
entertaining	239:7	139:19	eons 372:3	
211:20	269:17	156:16	epidemiologi	
entire 22:2	270:21,25	161:9	cal 226:11	
	284:6	171:22	equ 181:4	
	285:20	186:4		
		199:18		

185:16	eternity	eventually	148:4	363:17
estab 119:19	314:13,14	243:10	ex 29:9 65:4	399:14
establish	315:2,13	339:6	exact 193:15	excepted
23:14	318:8	353:18	324:4,5	285:18
86:17	348:11	358:8	exactly 12:7	excess 152:3
138:24	351:8	everybody	63:12	exchange
142:2	379:18	32:24	130:14	78:22
150:21	ethanol	188:6	176:21	exciting
162:13,14	205:25	197:23	191:23	207:6
338:7,10	Europe	223:10	213:17	excuse 44:16
339:3,8	113:11	239:19	250:3	93:11
369:23	365:19	279:17	329:16	execution
established	evaluate	282:16	339:2	295:2
37:23	135:6	287:19	404:17	exempt
185:25	293:20	308:3	examined	397:3,10
238:6	evaluated	351:22,23	142:12	exercise
281:25	99:16	401:19	examines	263:19
299:10	evaluating	everybody's	285:15	exercises
338:21	56:12	227:7	examining	46:22
340:9,10	evaluation	384:23	263:9	exerts
341:12	31:13	everyone	example 74:2	149:19
establishing	124:15	39:16	94:16	exhaustive
161:24	evaluations	121:2	105:7	20:25
236:25	173:7	122:24	107:7,8,17	322:15
237:3	evasive	186:18	111:3	Exhibit 6:2
305:23	201:6	188:22	140:23	63:4,5,7,8
324:11	evening 5:21	204:14	152:1	,20,25
establishmen	10:20,22	279:4	206:11	64:5,10
t 85:9	23:24	283:20	207:20	exhibits 5:3
estimated	208:19	289:17	209:17	6:1 62:25
69:23	211:8	everything	210:5	exist 105:1
92:23	239:18,24	222:23	235:19	242:18
135:17	278:7	229:19	374:24	254:23
213:8	279:3,7,16	253:20	examples	356:23
estimation	287:19	257:6	90:15	existing
381:25	289:17	282:12	204:8,19	68:17,22
et 59:14	318:24,25	evidence	205:1	69:10
85:16 94:8	319:15	122:18	206:13	73:22 75:8
117:23	355:4	140:22	excavate	79:15,19
135:11,13	363:20	141:12,18	301:9	84:25
137:16,17	370:14	267:22	excavated	96:12
139:4,9,13	event 33:18	286:8	297:22	99:11
,21 140:17	63:15	328:2	exceeded	102:18
206:14	87:17	377:8	135:17	136:10,17
207:21	261:19	evidenced	excellent	137:23
211:6	events 16:19	345:15	293:4	178:3
eternal	107:23	evolution	except 206:4	293:24
380:6,23	372:2	147:21	223:10	
390:7		evolved		
		138:19		

300:17	99:14	356:21	346:15	372:2
305:20	214:15	357:10,11,	extend 120:3	extremely
328:20	237:15	21 358:19	300:17	138:6
330:20	expended	359:18	320:8	eyes 378:7
exists	25:20	expires	extended	
246:12	expenditure	341:14	320:6	<hr/> F <hr/>
382:21	368:12	explain	extending	face 121:13
expand 30:13	expense	151:12	286:13	351:11
39:4	105:6	156:19	324:2	391:24
118:16	expenses	165:9	346:23	faced 344:22
124:13	95:7 97:7	258:23	extends	346:20
125:12	experience	273:15	373:15	349:9
165:19	65:9,23	306:25	extensive	356:20
277:16	66:11 67:6	364:13	20:23	357:7
329:8	99:20	explained	84:24	359:15
expanded	270:3	131:3	189:3	faces 368:1
116:11,13	282:2	257:25	288:7	391:21
118:20	291:3	explaining	299:15	392:21
125:18	372:21	122:8	302:12	facilitate
299:16	375:5	323:8	321:18	109:14
expanding	experienced	explanations	373:13	facilities
131:2	117:24	383:15	extensively	66:15
expansion	experiences	explanatory	322:13	280:7
78:18	370:18	137:7	extent 116:5	facing 316:9
383:11	expert	exploring	119:14	321:21
expect 73:24	133:14	118:9	161:21	fact 16:16
76:10	138:8	314:12	162:2	17:1,2,14
77:11 93:4	151:17	329:4	323:24	31:8 39:6
143:13,16	187:4	explosives	324:8,21	41:25
172:3	205:13	74:17	332:9	55:12
185:12	218:3	exposed	346:18	72:11
236:22	244:10	212:7	extenuating	102:18
302:1	288:7	express	102:17	123:22
305:15	292:23	283:17	exterminatio	143:4
335:2	357:24	311:19	n 249:10	172:14
372:2	expertise	323:12	externalized	176:21
381:14	285:14	326:5	353:6	209:10
expectation	experts	expressed	extra 56:9	210:2
91:11	29:10	21:15	264:23	217:15
125:6	55:23 65:5	41:12	267:5	303:6
145:21	133:17	188:20	extraction	313:17
152:7	151:3,13	283:18	149:10	330:9
153:5	179:4	357:24	385:24	334:3,4
216:4	189:14	371:11	extrapolate	342:9
expectations	241:18	expressing	26:24	345:15
382:3	244:10,12	324:5	extreme	350:18
expected	291:8,10	expression	17:20	360:19
94:19	292:18	270:2	370:17	factor 11:24
expecting	308:20			140:25

197:13	147:13	358:23	feeding 78:6	81:10
factors 12:2	149:16	fascinating	feel 11:25	126:9,11
72:15	157:25	399:19	112:1	159:24
135:24	182:9,10	fast	124:4	176:18
262:12	261:17	349:6,21	178:3	261:6
322:16	309:11	366:19	220:7	267:19
factory	faith 351:11	fate 111:19	241:5	fifteen
209:19	388:4	fates 149:3	244:15	10:4,5,13,
facts 263:5	fall 69:4	father's	287:20	17 132:6
facultative	82:22	218:23	347:18	152:22
205:24	83:15	favourable	348:4,18	240:10
fail 353:18	129:25	370:6	362:23	245:4
failed	130:3,24	376:5	370:6	294:1
107:14	243:23	379:8	376:5	314:7
197:12	359:6	favourite	381:17,22	350:10
313:3,9	fallen	390:22	382:2	379:24
317:23	390:12	fear 380:13	383:16	fifth 75:1
353:16	familiar	feasts	395:16	295:22
failing	88:17	392:19	397:24	fifties
383:16	172:15	features	feeling	220:20
failure	209:9	212:2	142:11	fifty 20:18
16:10,19	229:19	February	186:19	197:8
17:2,3	345:10	82:12	270:17	293:9
101:2	372:6	83:18,22	395:12	365:9
133:5	Families	122:15,21	feelings	fifty-nine
183:6	275:22	124:14	395:15	207:17
298:16	family 244:1	February/	feet 313:14	fifty-six
345:19	355:9	March	358:4	13:12
346:8	358:16	131:1	fellow 11:2	285:15
353:9	famines	fed 135:14	224:13,18	fifty-three
366:5	392:19	federal 22:4	fellows	293:23
failures	393:13	53:2 55:18	272:6	fight 316:21
365:18,25	famous	95:19	felt 47:8	figure
fair 39:17	389:13	192:2	363:13	130:14
47:7 53:15	fan 115:1	239:6	fence 315:16	160:8
104:4	Fancott	253:4	401:1	161:5
109:9	351:17,21	279:24	fences	176:22
116:13	352:5,6	282:6	297:16	237:19
119:13	354:15	340:18	300:7	258:22
208:17	far-field	341:10,11	fertile	314:8
231:2	84:15	364:19	391:10	315:7
Fairburn	158:14	366:7	fiddling	353:1
4:11	159:10	377:24	208:9	figures
fairly 17:8	160:3	387:23	fiduciary	25:10
55:19	162:12	feedback	398:11	214:3
81:19	262:4	13:17,19	field 56:10	file 60:1,2
104:3	farmer 312:7	14:6,18,21	71:19 80:7	62:24 63:2
145:13	far-reaching	,22		157:13
				167:14

223:7,8	finalized	fire 8:9	260:19	147:3
225:15	203:2	83:14	263:23	219:2,3,11
231:7	finally	87:11	266:20,21	220:23,25
232:21	32:15 67:4	125:2	269:12,21	221:1,4
241:17	69:17	163:25	270:22	224:9
267:18,19	72:10	164:4	274:10	227:18,20
328:3	83:11	166:15,18	282:5	228:24
filed 46:9	114:15	167:5,7	288:14	229:9
109:22	253:3	168:4	295:10	231:10
155:17,22	289:1	299:9	307:20	243:6,22
229:25	financed	firm 190:23	311:5,13	245:22
256:25	388:10	firmed 53:13	313:8	247:7,9
272:15	financial	firmer 342:7	314:9	248:3,4,19
343:2	65:18	firms 67:12	318:24	249:21,24,
files 231:7	320:11	292:24	319:18	25
fill 36:15	321:3,4	293:1	325:18	250:2,11,1
138:17	340:25	first 9:18	364:20	2,15,23
363:24	374:24	11:10,15	366:9	251:7,11,1
film 311:19	finding 45:4	15:22,23	370:5,8	7
312:10	263:3	17:22	375:17,19	252:5,13,1
317:14,16	321:19	19:18	379:11	6,18,24
filmmaker	369:6	28:11,18	385:15	299:17
312:7	findings	32:2 33:13	387:18	301:4
filters	31:19	35:12	389:1,15	359:1
366:15,17	389:4	39:20 43:5	390:25	361:5,11
filth 393:17	fine 27:25	47:22	396:1	388:21
final 16:20	133:13,20	52:11,22	398:25	392:1
22:22	153:25	53:1 55:15	firsthand	fished
33:21,24	fingernail	56:5	122:18	251:16
34:17	220:21	65:4,6	fis 249:25	fisheries
37:13	369:4	70:24	fiscal	38:11,16
50:11,13	fingertips	71:17 90:9	316:21	203:24
54:22 58:6	167:13	99:6 101:9	382:24	204:1
89:14	275:12	107:5,7	fish 71:4	224:5
156:9	finish 9:16	108:14	75:9 83:9	234:12
198:11	236:14	128:19,20	84:12,13	239:7,9
203:3	318:2	135:16	86:10,12,1	271:3,4
258:10	finished	137:25	3	297:9
280:9	22:8	162:18	134:17,18,	fisherman
340:7,23	156:15	168:13	25 135:3	250:1
353:22	394:22	170:21	136:10,20	fishermans
372:20	Finland	195:17	137:16	249:23
394:9	315:11	196:12,13	139:19	fishery
402:16	Finnish	199:11	140:2,10,1	184:17
finalization	315:3	206:24	6,20,22,23	fishing
331:21	fins 391:12	227:11	,25	218:24
337:8	fir 162:18	232:19	141:4,6,10	222:24
finalize		234:20	,11,12,13,	249:23,24
299:13		235:8	21,22,25	252:14
		241:4,11	142:2,7,20	253:22
		243:17	143:6,9	263:8
			144:2,18	

359:6	flooding	205:8	29:21	37:20 38:3
365:14	107:10,15,	224:23	35:16	formalized
369:19	18	264:3	48:15	48:9
370:16	111:5,20	305:13	49:14	formation
fit 265:8	301:3,5	306:18	50:2,15,22	87:5
333:3	floor 68:9	341:21	58:8,21,23	formed 16:14
five 10:18	flow 69:2	347:22,24	252:20	206:11
36:15	70:16	348:19	280:8	369:22
73:9,14	209:20	349:22	286:2	former 65:25
108:9	219:4	350:2	313:18	273:14
113:19	296:12	351:2,14	314:4,11	274:4
187:24	297:3	follow-up	319:21	279:1
206:24	flowed 26:19	21:10,12	320:6,9,19	362:3
207:3	flowing	111:2	,25 326:20	383:9
248:7	104:2,5	140:15	344:6	392:3
255:21	107:22	177:3	348:9,10	forms 124:24
278:6	flows 70:16	180:16	350:7	196:25
310:21	152:3	food 251:4	359:15	376:11
311:15,18	371:6	253:24	366:10	Fort 275:21
312:9	fluctuations	323:19	390:13,15	281:9,13
314:5	88:12	386:6,7	forge 312:18	355:7
315:15,18	flushed	388:20	forged 391:3	360:23
334:1,2	143:20	393:18	forget 35:17	387:4
335:11,13	fly 204:10	foods 15:13	41:15	forth 49:21
349:9	392:14	fool 381:16	194:24	52:3
351:18	394:10	footprint	288:18	114:18,21
354:15	flying	79:21	328:21	175:9
390:6	274:16	216:17	353:11	186:23
fix 35:7	focus 72:24	force 108:1	356:14	245:23
114:12	75:18	forced	forgive	272:11
389:18,20	283:10	360:20	206:15	fortunately
396:20	285:21	403:9	forgot	175:8
fixing	305:8	forefront	222:24	298:1
183:17	346:22	345:14	223:2	forty 14:10
fixture	focussed	foremost	form 52:24	65:9
345:7	44:7,10	70:25	91:22	220:20
fix-up	70:25 85:1	71:17	149:12,13,	345:17
224:3,7	92:21	235:9	16 230:18	forty-five
flabbergaste	139:15	292:18	320:15	278:13
d 344:16	321:18	346:19	337:17	forty-one
345:23	focussing	foresee	338:11	378:11
flesh 141:11	65:21	198:10	369:15	forum 325:20
flexibility	123:1	199:6	388:3	forums
78:4,8	fold 146:12	foreshore	formal 276:9	325:21
floating	folks 36:20	193:10	387:19	forward
247:7	57:7	forests	388:17	21:4,21
flood 111:12	199:14	392:25	formalistic	23:20 24:7
345:2,3	201:8	forever 18:4	114:4	28:24
			formalize	

32:16	352:20	12:11,13	freshwater	37:2,13
33:16	354:8	15:23	334:10	41:8 42:2
36:22	393:4	17:24,25	fresh-water	48:14
37:25 38:3	foxes 404:4	21:9,11	335:11	49:14,17
40:8,10,15	fraction	43:8	Freshwater	50:1,9
,21,24	181:21	175:6,10,1	71:11,18	56:13 58:5
42:9,22	frame 19:1	3 177:2	72:2	77:21
48:22	156:16	178:8	Friday	256:2
50:14,25	227:12	179:19	8:6,11,16	285:12
52:13	378:13	180:6	38:2 49:1	286:2,4
53:18	framework	182:18,20,	53:16	298:19
54:1,4,6,1	34:21	23	154:6,14	299:25
5 55:21,23	frameworks	183:1,4,23	167:23	304:6,7
56:14,16,2	52:8	,24 184:3	168:7	372:16
5 59:5,19	France	185:10,11	174:21	Frum
61:5 68:14	307:20	186:15	364:5	248:16,17,
83:7	311:6,13	189:25	friend	23
84:14,23	312:1,4,5	190:9,10,1	360:12	frustrated
112:12	315:11	1	friends	397:24
124:21	318:13	192:19,21	360:10	fuels 297:20
125:12	348:8	240:25	390:8	fulfilled
134:12	351:8	241:1	friend-to	352:8
141:3	379:18	245:3,8	360:11	full 35:9
148:13	Franco 2:14	256:13	front 81:18	37:3
149:23	107:1,3	freeze 5:7	201:5,8	50:11,13
198:21	111:2,9	11:7 28:4	248:3,23	58:6 84:15
201:9,11,2	113:9	30:17	287:21	109:19
5 235:12	frank 136:21	33:19,24	308:10	110:1
257:10	Franklin	35:15,16	309:10	115:4
274:19	81:18	41:14	312:6	211:8
288:25	309:9	77:10	339:16	222:16
290:18	frankly	78:20	345:13	255:18,19
291:18	270:13	284:25	395:6	276:18
299:14	272:19	320:19	frostette	fully 221:19
304:9	Fraser	353:24	390:12	222:2,9
305:12	307:21	freezing	frozen	255:18
309:14	331:2	20:11	11:16,18	280:19
340:12	Fred 31:1	30:19	12:9,23	343:12,16
352:13	244:23,24	35:11	13:3	383:25
375:16	245:13,18	280:2	16:5,12	fun 390:16
376:1	246:1	285:22	17:18	functions
fought	256:8,22	296:21	18:3,12	339:10
360:25	257:6	French	21:16,18	fund 22:14
founding	free 349:7	314:22	23:9 28:25	341:10,12,
67:17	freely 187:4	frequency	29:4,11,19	14 344:11
fourteen	Freeman 4:6	161:22	30:15	fundamental
13:22	11:9,14	frequent	31:14	206:4
263:21		172:2	33:25	226:7
294:21		173:6	34:7,10,25	322:17
296:2		368:23	36:25	
fourth		Fresh 159:22		
295:20				

funded	197:8	64:25	364:12	295:19
341:10	246:4	91:13	401:4	341:4
343:13,17	282:8	140:21	gentlemen	385:10
383:3	284:12	329:2	217:6	396:23
404:3	286:1	372:18	genuinely	400:22
funding	290:17	generality	188:19	402:18
17:17 22:3	300:15	176:20	geochemical	Giant 1:5
31:8	301:13	generally	94:12	12:6,20
36:3,9	304:18	130:21	147:18	18:10
54:23	305:12,17	139:10	geochemist	22:5,17
55:1,14,20	307:8	149:15	147:17	23:3
56:1,7,25	312:19,24	178:2	geochemistry	24:12,25
57:1,5,8	313:4	205:23	147:8	25:6,11,23
58:11 60:9	314:25	344:3	149:9	26:1
316:19	317:3	generated	geological	32:7,9
317:1	341:22,23	199:2	65:20	33:2 46:10
331:24	343:11	generating	geology	61:11
340:14,16,	348:24	298:2	65:22	65:13
18 342:9	353:8	generation	geometric	66:2,19
352:18,23	358:1	29:22	136:22	78:16
353:7	359:22	284:12	142:24	79:2,4
370:24	360:5,14	349:1	Geoscientist	83:11 85:7
376:7	374:2,3	397:23	s 67:18	97:14
380:13	379:17	generations	geotechnical	106:18
382:17	390:11	29:22	66:9,11	108:8
383:4		35:23	Gerry 278:25	111:6,18
404:8	<hr/>	49:23,24	354:17	114:2,20
funds 382:19	G	50:24	355:3,4	128:17
383:1	Gadet 59:13	58:13,14,1	362:4,23	129:22
388:11	gain 79:12	7 194:25	gets 36:18	130:22
fur-bearing	178:15	282:9	185:5	134:7
392:1	399:14	304:18	187:3	136:4
furniture	gaining	312:19,25	189:22	155:14
345:8	242:16	313:4	296:8	169:7
furthering	gallons	314:17,25	397:2	185:24
221:22	77:17	316:1	getting	186:20,21
furthest	game 350:12	317:3	14:17	188:18,23
195:18	games 404:8	348:13,14,	21:22 37:6	190:6
future 18:5	Gameti	16,24	45:9 53:23	198:9
19:15	274:17	349:1	161:17	207:22
22:1,14	gaps 35:25	360:14	167:2	223:3
29:22	36:2,11,15	401:20	192:8	224:2
35:23	gather 102:8	generators	196:9	234:8
50:23 54:9	141:3	366:3	212:22	257:3
58:13,14,1	gathered	genetics	228:15	272:2,9
7,20	139:18	396:9,19	240:12	274:6
181:18	Gaudet 28:14	gentle	243:22	279:5,21
187:13	ge 199:1	205:20	251:9,10	283:16,22
191:8	general	gentleman		284:15,18
194:24				288:5,6,18
195:10				,25 290:8
				291:15,21,
				23 293:8

296:4,10	105:4	goddesses	257:7	graded 298:7
302:17	145:22	391:6	267:8	gradient
306:3,12	146:18	gods 390:25	272:9,10,1	76:1
309:4	151:25	391:5,11	2,17	gradually
312:8	172:19	392:3	273:17	145:2
313:1,2	249:17	gold 396:23	279:24,25	grandchildre
314:14	290:14	Golden	281:1	n 247:24
323:14	311:23	207:22	288:3	312:21,22
324:14	333:8	Golder 2:23	289:12,22	355:10
325:17	334:13	66:9 135:4	290:5	362:24
327:24	337:4,16	142:6	292:11,14	396:16
330:18	346:14	292:25	301:24,25	402:12
342:25	377:20	gone 61:18	312:15	grandchildre
345:6,12	384:18	246:3	315:3	n's 402:12
347:7,8,24	395:20	249:15	316:20	granddaughte
355:24	gives 142:10	251:6,24	321:9,13	rs 355:19
356:8	283:24,25	252:24	325:11	grandfathers
357:8	315:13	253:10,14	328:25	312:24
362:10	401:15	257:2	341:7	grandmother
364:12	giving 65:5	305:6	342:3,8	218:22
369:1,15,1	347:10	322:14	345:15,16,	312:23
7,22	355:5	344:25	19	grandson
370:11	395:8	359:3	356:17,20	219:1
372:7	glaciologist	367:17	357:2,4,10	grant 212:19
374:9	s 314:18	368:12	,11,21	granted
375:7	glad 59:6	goods 25:17	359:22	148:16
376:16,21	136:2	301:23	362:8,9	grass 352:11
377:16	211:19	Gordon 3:23	364:19	401:5
381:9,23	402:3	governance	366:8	grateful
383:10	glade 211:25	17:16	377:24	56:2
385:22	glass 392:22	governed	381:12	grave 218:23
387:7	GNWT 2:22	387:19	387:23	402:22
388:16,17	43:20	government	governments	403:13
389:18	227:25	19:24,25	53:3 67:12	gravel 80:18
390:11,24	228:1	21:20	282:6,7	gravely
Giant's	289:14,23	22:4,8,23	291:17	403:23
139:5	368:5,19	23:6	293:20	great 27:18
389:22	374:8	31:18,21	321:24	75:25 85:9
gift 401:19	385:16	32:15,20	329:18	102:25
gifted	GNWT's	34:22	340:19	118:17
395:9,13,1	229:16	36:9,18,20	341:22,23,	143:21
7	goal 178:17	43:19 48:8	24 361:7	146:15
gifts 395:8	282:7	53:2 67:3	404:8	182:9
gigantic	295:7	95:19	government's	190:16
18:12	god 389:3	161:7	38:1	197:23
gilokrams	392:15	162:19	Governments	219:1
70:3	399:20,23	226:14,18	293:15	246:5
given 12:1,4	400:11	228:7	302:16	
39:6 92:11	401:12	229:1	grab 115:24	
95:4			398:16	
104:16			grace 393:3	

251:22	grounds	93:21	guidelines	147:6,7
269:21	370:16	96:12	34:23	149:7,8
296:12	groundwater	98:23	71:10,13	150:6
300:16,23	76:2	112:22	76:14 80:2	159:19,20
331:15	296:11,15	134:20	146:12,13,	161:16,17
347:17	300:1	142:1	14	171:18,19
350:21	group 15:8	150:1,13	157:11,13,	176:11,12
358:7,9	18:14	155:2	22,23	180:20,21
383:11	34:19 35:1	160:8	159:22	184:22
390:16	37:22	165:7	171:23	193:20,21
395:15	47:10,16	170:10	177:10	196:5,7
greater	52:24	171:3	235:20	213:5
103:22	56:19,24	177:4	236:1,9,10	214:2,3
330:22	199:19	179:19	,13 333:8	225:6,8,9
334:14	338:1,4,6,	190:14	335:2	236:19,20,
386:1	23	223:16	guys 61:22	21 262:7
388:14	339:2,3,16	226:6	146:21	half 120:11
greatest	340:9,11	229:17	197:21	121:9
346:18	369:13	231:2	223:8	149:14
greatly	401:11	237:18	227:8	181:19
356:4	groups 15:5	242:1	235:25	199:11,24,
358:5	275:11	257:17	240:18	25 203:6
380:13	288:9	263:17	325:6	213:8,12,1
greed 392:20	340:1	264:12	334:20	7 226:13
397:2	374:2	266:11	356:20	240:1
greedy 398:4	grow 23:16	272:12	378:8	339:12,13
green 34:1	253:11	274:10,22		355:20
81:15	386:6,7	277:18	<hr/>	hand 133:10
309:5,12	393:18	319:1	<hr/> H <hr/>	270:4
352:11	growing	321:2	ha 76:16	289:13
Greg 2:24	327:5	323:5,12	260:10	377:25
grew 355:7	352:12	324:5,23	266:10	394:17
360:23	357:18	326:19,24	habitat	399:25
393:7	guarantee	327:9,14,2	297:4	handle 167:3
grey-hair	350:17	1	301:4,6,11	handled
367:23	358:2	334:23,24	hair 220:20	257:7
gri 76:7	366:16,18	335:20	247:15,16	hands 253:5
groceries	guarantees	336:3,24	369:4	317:3
222:23	224:18	337:9	Halbert 3:3	hang 341:5
ground	357:25	347:17	65:6 67:23	happen 40:1
14:3,4,5	guardians	350:14	68:2,4	42:7 52:13
21:22 78:3	318:7	351:1	75:13	61:2
138:16	guess 10:12	356:8	84:19,20	107:18
209:19	21:14	361:21	92:16	114:13
359:24	22:5,12	guessing	93:20	130:2
ground-	24:6 29:24	274:22	103:16,18	206:6
freezing	52:6 59:19	guidance	117:9	240:20
302:10	60:1 61:9	268:17	119:1,18	255:14
	91:18	guide 54:19	131:24	260:14,17
	92:11	389:4	132:20	264:11
		guideline	138:14	284:5
		74:12	144:13	

320:4	273:23,24	354:9	190:14,17,	187:8
322:12,13	281:8,9	357:7	24,25	healthy 71:2
327:18	harm 143:19	359:16	191:4,6,8,	254:8
356:12	356:23	370:8	9,23	hear 21:23
365:21	harmful	372:9	192:14	22:6,13
366:4	320:15	402:25	200:13	46:14
372:4	harvest	Hayden 2:5	201:15	61:12
381:10	324:9	hazard	220:17,22	122:25
385:18	325:2	101:16	221:4,15	134:16
happened	harvests	135:25	222:11	142:1
32:8 60:11	391:9	136:20	223:6,10,1	170:12
246:19	hatched	hazardous	9	175:12
247:22	294:23	123:4,5	224:3,8,20	186:23
254:8	hats 171:4	294:11	225:11,13,	201:24
269:24	haven't 18:1	hazards	24	204:14
283:21,22	40:13 54:3	295:3,19	226:9,15	211:17,19
313:19	99:17	297:15	227:14,17,	247:25
happens	126:11	head 127:7	22,23,24	282:13
58:11	135:3	243:23	228:2,8,10	283:2
209:8	137:14	391:22	,20	290:19
317:22	160:10	heading	229:2,3,5,	308:3
357:25	161:3	365:20	18,20	328:12
365:18	166:4	heads 313:17	230:12	329:14
happy 109:9	179:13	391:11	231:8,11	350:9
110:17,19	208:17	head's 245:6	232:8,11	368:16
163:5	225:15	headset	233:12,19	395:14,18
174:5	255:16	283:2	238:7	396:1
210:19	260:2,5,16	healing	248:13,19	397:7
252:6	262:19	32:17	254:11	402:1
276:8,25	264:3	60:10	270:10	404:18
277:4	327:8	health	272:13	heard 29:9
321:14	333:5	7:11,16	290:7,10	30:22
327:18	355:15	9:24 11:19	291:18	33:20
329:14	398:2	65:8,14	292:1	35:12,19
367:25	having 11:10	86:12	293:13	39:19
385:6	21:5,17,20	95:18	295:8	41:13
hard 32:14	86:18	125:14	301:19	46:19
151:12	104:7	134:17,25	306:8	55:22 79:8
183:18	112:3	135:3,7,22	322:6	112:14
237:3	126:18	136:11	324:17	121:1,23
291:20	131:14	141:10,18,	341:18	122:11
302:8	159:10	22,25	342:1	131:14
332:13	168:24	142:2,20	344:24	155:18
350:15,16	173:17	143:9	346:20	158:13
351:5	187:2	144:2,18	356:5	160:14
357:10	197:10,21	186:16,22,	361:6,9	168:13,24
361:22	224:22	25	366:12	169:14
403:10	263:19	187:4,11	368:24	177:20
Hardisty	277:3	189:2,4,17	369:19,20	179:20
1:16	323:3		377:21	220:2,9,15
51:7,8			387:11	222:8
215:6,7			399:16	241:2
			health-wise	

247:8	heat 115:19	helped 56:14	296:4	138:10
251:3	389:21	60:11,14	297:1	249:14
260:10,19	heavily	114:5	316:10	272:2
261:20	294:12	helpful	334:13	290:14
262:3,7	298:14	56:22	337:4	306:2
263:6,10	heavy 99:9	276:19	371:14	357:1
288:9	105:1	288:13	374:17	387:7,10,1
327:7	heck 358:20	324:7	higher 92:25	2
329:3,22,2	hectares	helping	121:20	hits 91:4
3 330:6	294:9	274:5	140:25	Hockley 3:9
359:17	298:1	helps 133:1	178:15	12:25 13:6
365:12	heirs 382:15	213:25	247:16	16:25 17:1
371:18,25	held 1:20	305:2	270:15	76:8 209:5
372:12	129:6,18	Henry 3:6	298:24	217:21
379:10	130:1	here's 29:2	377:9	hold 23:22
395:21	138:25	hero 389:13	385:23	80:18
398:2	328:22	he's 60:21	highest	115:8
399:22	338:17	61:17	206:25	122:19
400:15	397:8	65:6,12,16	346:25	123:5
401:14	helicopter	66:14	369:9	246:14
402:6	263:17,20	219:2	high-flow	holding
hearing 1:6	hell 350:2	225:6	297:3	253:5
9:4	He'll 66:6	244:23	highlight	holds 65:7
32:23,24	Hello 281:6	245:1	310:11	350:22
44:19,24	318:22	255:22	highly	hole
134:7	351:21	307:17	149:12	196:20,22
165:4	385:14	331:8	293:2	holy 315:19
185:11	help 13:25	hesitant	333:9	394:3
190:11	25:1,3	276:24	335:3	home 191:21
260:23,25	27:16,17	heterotroph	375:6	355:22
270:9	29:12	c 205:24	high-tech	360:7,8
274:15	53:25	Hewlett	316:7	399:1,18,2
279:4,6,18	54:18	362:5,8	highway	2 405:22
280:11	56:22	366:25	222:22	homeland
282:17,20	93:12	Hi 333:14	hill 142:9	254:23
286:24	96:21	342:23	243:21	homelands
348:7	112:4	347:5	historians	395:3
368:17	192:7	hide 396:20	314:19	homes 249:25
371:2	210:13	high 102:17	historic	homicide
395:12	252:25	104:10	94:9	247:21
hearings	280:14	136:6	193:10	honest 44:6
10:21	282:11	139:11,12,	200:2	355:13
235:1	307:8	13 141:14	historical	honestly
239:18	310:24	142:17	201:10	321:17
267:3	329:20	160:25	388:21	hope 21:7
279:8	343:18	165:3	historically	57:11
280:12	387:17	208:3	94:22	112:4
368:12	389:21,22	248:7,19	history	
378:14				
heart 385:2				
heartened				
134:16				

124:10	204:24	293:13	119:5,9,24	260:7,9,12
194:24		295:7	,25	261:8,9
254:24	huge 137:13	316:4	hydraulics	262:13
265:7	142:8	320:16	119:21	267:21,24
282:11	183:20	341:18,25	hydro 108:13	268:12
284:4	221:12	344:24	hydrodynamic	299:8,16
312:17	274:11	359:12	82:23	309:20
317:20	319:10	369:4,9	hydrology	343:25
335:18	364:24	396:25	349:13	349:7
336:21	383:16,20	400:13	350:22	363:22
342:21	Hull 2:23	humans 386:2	hydrometric	371:5
352:10	66:8,17	Humble 3:22	82:23	384:2,6,7
377:8	68:11	hun 309:3	234:22	icing 90:12
379:2	71:20	hundred	hydroxide	icon 315:19
384:22	79:23,24,2	72:19	205:7	390:10
385:5	5 90:21,22	108:9	206:12	I'd 26:23
hopefully	123:17	197:8	hypothetical	29:2 50:6
23:15	124:12,13	206:22	117:3,8	62:24
182:16	126:17	207:3,8		64:23 65:4
214:21	127:12	214:19		67:4,22
264:7	128:8,9	244:2		79:22
274:18	129:16	249:10		95:10
370:12	130:12,17,	269:22		109:2
hoping	18 141:5	298:11		111:24
54:2,17,18	145:15	313:22		134:6
142:1	151:23	315:15,18		153:20
157:12	153:3	363:11		190:15
329:16	157:20	380:1,2		209:13
389:24	158:5	381:16		227:11
horizontal	216:3	hundreds		228:3
205:19	309:1,2	243:21		257:12
hospital	310:13	315:8		265:22
247:14	332:16,22,	358:4		273:13,19
hostage	25	hunger		274:4
347:19,21,	human 7:16	392:21		276:8,25
22 348:19	29:20	hunt 359:1		279:17
hot 81:23	50:21	hunting		281:19
hour 240:1	65:14	200:21		289:13
376:19	135:22	359:6,7		303:9
hours	186:25	370:16		314:20
25:15,17	189:3,17	Hurst 3:12		315:1
183:10	200:13	hurt 249:15		317:15
216:25	201:15	395:14,16		328:12
house 364:18	224:10	397:8		329:8,12
housekeeping	225:13	hurtful		331:2,18
24:5 62:18	227:14,16,	249:15		351:22,24
Hubert 2:2	17 231:11	hybrid 30:18		355:4
Hudson's	232:11	hydraulic		357:9
	233:19			361:20
	238:7			367:20
	290:7			378:9
	291:18			379:6
	292:1			

389:9,13	254:22	187:15	25	3 165:18
390:17,21	I'll 9:4,22	191:21	42:23,24	167:2,12
idea 35:8	12:15	193:18	43:4,15	168:16,23
49:22	16:23	196:2,5	45:21 47:5	170:11
52:25 77:4	17:21 20:6	198:18	49:9 50:6	172:10,15
99:16	24:6 26:6	199:8	52:15 54:2	175:2,9
146:22	43:16	200:16	59:19	178:6,19
210:9	48:25 49:5	211:14	64:16	180:9,21,2
211:20	58:2 61:14	216:22	68:4,9,16	4 184:20
237:24	75:10,18	217:20	72:6,23	185:11
265:5	85:12	225:5	83:23 92:1	187:4
317:7	91:15,23	230:14	95:22	190:8,11
319:20,24	92:4,14	232:23	96:14	191:15,18
338:14	93:15	236:6,11,1	97:12 98:9	192:4,5
358:21	94:25	9 237:21	99:2,14	193:1,8
359:16,19, 20,21	101:3,7,24	238:3	100:18	194:20
ideas 28:21	103:11	239:21	101:22	197:20,24,
44:14	104:23	256:13	102:13,22	25 198:13
identified	105:10	265:12	103:13,16	200:18,25
25:22	106:4,24	268:7	105:14	201:6
36:11 87:2	108:16	269:1	108:3,23	202:6,17
90:22	110:1,2,12	272:20	109:13	204:11
127:17,24	,25 111:21	277:24	110:3	208:8,14,1
139:7	112:17	278:11	114:23	8 209:8,9
162:23	113:7	279:9	115:1	210:21
164:23	116:20	281:3,4	116:16,19	211:9,18,1
196:14	118:1,2	287:22	117:6	9 212:22
229:3	119:16	290:21	118:3,9,13	213:5,9,20
285:16	120:23	302:8	,22 119:10	215:22
309:11	121:17	303:19,20	122:5	216:15
349:12	122:3	308:15,19	123:11,12	217:17
identifier	123:13,16	310:18	124:10	218:11
390:9	124:7	312:8	126:14	219:22
identifies	130:11	327:21	131:9	221:16
73:21	131:5,22	335:9,10	134:11	223:4,9,12
84:21	135:22	336:13	135:8	,18,24
identify	144:8	352:17	137:2	226:16
81:2 85:16	147:4	353:25	138:1,7	229:18
87:14	149:5	386:14	143:11,23	230:17
89:11	153:22	394:19	146:19	231:22
149:11	155:10	im 80:20	149:1	232:2
176:20	156:12	I'm 9:5	150:4	233:25
232:18	162:18	10:23	151:6,7	235:20
identifying	169:1	11:1,14	152:22	237:18,20
36:2	170:11	12:25	153:17	239:18,19
identity	171:16	15:21	154:21	240:4
243:14	173:1	19:8,16	155:6,24	241:1
ignored	174:1,6,12	22:22	156:22	242:1
	176:5	26:7,9,14	157:11,15,	244:21
	179:3,8	31:15 33:4	18 159:18	245:18
	183:1,11,2	38:6,8,18	160:8	256:8,9,10
	2 185:9,18	39:3,12,15	161:12	,14
	186:13	41:1,5,17,	163:12,17	260:21,25
			164:2,22,2	261:15,22

264:12	374:4	197:10	44:1	252:2
265:5,11,1	378:4,7,11	198:7	45:3,10	275:9,25
4 268:6,20	,12,20	200:20	200:10,12	290:16
269:6	379:14,23	225:25	201:9	319:13
270:20	383:9	226:3	340:12	341:17
271:7,12	384:1	232:7	342:11	368:13,14,
273:22	385:6,13	233:10	implementati	15 375:9
274:22	387:2	246:5,9	on 23:9	379:8
275:1,18	389:8	279:20	201:14	380:9
276:23	394:25	290:2	289:6	389:12
277:2,4	395:1,3,4,	367:23	322:1	importantly
279:19	6,24	374:14	331:21,24	146:14
287:5,10,2	396:2,4,11	375:1	337:8,15,1	294:20
0,24	,14,16	388:17	7,19	388:6,15
289:17	397:3,8,9,	impacted	340:20	impression
290:25	10	12:6 80:21	342:2	31:16
303:14,15	399:18,22,	199:5	372:20	improve
308:18	24 401:4	200:22	implemented	94:15
312:6	402:3,6	impacting	77:10,21	173:23
313:20	403:17,19	197:4	87:20	187:8
318:18,23	405:9,10	360:17	340:13	189:22
321:9,13	image 389:23	impacts	359:9	216:7
323:13	imagination	80:15	implementing	227:15,16
325:5,9	352:24	88:24	78:17	297:6
326:16	imagine	89:16	198:10	305:22,25
327:14	107:24	102:20	201:5	353:20,21
328:13	179:15	117:13,19	289:1	382:4
329:14,16	237:16	159:8	imply 195:22	improved
330:10	349:8	199:6	211:23	70:2
331:8,14	390:17	241:13	importance	194:2,7
333:12	396:24	264:16	155:19	300:8
336:7,11,2	imagining	280:16,18	382:14	improvement
4 337:22	19:9	284:14,15,	important	58:25 89:7
341:1,4	immediate	18	13:9 15:18	94:19
343:2	288:23	286:16,17	20:8 31:7	148:2
345:21,22	343:9	290:11	47:17	214:16
347:6,19,2	348:5	303:5	56:15	222:4,5
0,21	immediately	311:2,4	144:24	292:8
350:14	99:15	350:21	151:11	303:7
352:5,9,10	145:3	369:21	184:16	improvements
,13,15	227:14,15	370:10,11	189:11	288:23
354:23	302:23	371:4	191:5	improves
355:23	316:6	376:25	193:25	288:23
357:19	impact 1:3	403:9	194:11	300:13
358:21	7:10 81:24	404:20	203:14	301:5,6,10
360:9	84:17 89:2	impasse	221:2	,16 302:22
362:4,6	94:21	376:2	242:3,21	improving
365:4	137:10	imperative	243:3	148:11
366:25	144:8	404:9	244:8,16,2	197:9
367:12,25	186:22	imple 77:21	0 245:23	302:18
368:4,7,15	188:25	implement	251:25	
,16,17				
370:12				
373:9				

INAC 254:5,11 285:17	25:18 71:3 74:6 102:15 197:23	independent 15:3,4,7 31:9 42:10 48:6,18	372:12 377:12 399:1	inflow 86:3 99:24
inaccessible 296:18	199:14 246:10	52:25 57:1 241:10	indirect 16:7	influence 53:25 237:9
inactive 149:16	276:5 281:1	254:10,13 285:13	indisputable 37:1	influences 350:21
inadequate 343:23	292:17 304:5,9 306:11	291:12 327:12 329:14	individual 277:3	inform 285:2 390:11,13, 14
inappropriat e 335:2	374:17 387:21 388:20	343:17 352:21 354:9	individuals 275:10 276:1,11,2 4	information 8:4,7,12 25:4 26:11,18 27:4 36:11 76:17
inches 251:20	inclusive 45:1 395:2	375:3,14 377:4,20 380:18	277:1,10,1 2	82:20 83:9,12 84:12
include 11:23 42:1 81:7 85:15 95:13 214:5 299:16 302:10 304:16 323:23 366:9 375:18	incorporate 79:10 198:20 199:1	404:3	indulge 108:23 115:7	124:14,18 125:3,13 126:22 127:22 138:24
	incorporated 12:22 13:1	India 315:19	indulgence 130:12 226:21 230:6	139:17,21 140:2,18 141:4,23 147:7 149:22 153:16,19 154:1,12 157:1 167:13,19 168:2 170:5 174:4,8,11 ,16 179:2 189:16,21 191:10,25 217:17 229:3 230:18,19 231:4
	incorporatin g 186:7	Indian 24:7 60:4 252:2 398:10	industrial 330:17,23 372:25 373:19 383:14,19 399:15	
	incorporatio n 198:4	indicate 76:22 116:25 117:5 138:12	industrial/ residential 1 285:5	
included 12:22 67:11 73:15 95:14 109:10 195:3 275:17 309:15 364:15 369:18 400:23	increased 371:19	indicated 81:9 92:8,23 94:23 95:14 123:7 135:20 159:20 194:3,13 197:5 213:7 217:11	industrious 393:14	
	increases 305:15		industry 36:9 65:11 80:1 169:18 273:18 357:2 361:8,14	
	increasing 371:18 375:5			
includes 71:2 82:23 83:8 84:25 87:23 124:19,21 149:9 177:23 195:15 227:20 280:2,6 296:4 368:5 387:10	incredible 314:17 350:9	indication 46:6 99:17 141:22 212:16 372:5	inert 149:16 infer 195:22 403:7	
	incremental 146:9 263:14 264:4 267:7	indicators 25:22,25 26:18,22	infinite 371:24	
including	indeed 370:18 388:21	indigenous	inflexible 195:12	333:5 336:16 343:23 344:1 362:14

informative 273:15	304:12 305:1	insulated 80:14	14:19	INTERPRETED 245:16
informed 269:15	339:24 388:6	insulting 403:20	interest 74:16 110:6 211:4,10 246:16 302:6 324:6,10 345:20 380:21	interpreters 283:5
infrastructu re 79:19 98:8 298:12 301:14	inputs 208:3,4 213:11,12, 14	intake 77:25 78:4 371:7,10		interrupt 334:19
infrastructu res 314:10	inquiry 247:19	integrate 66:5		interval 184:6
Ingraham 284:24	insight 104:1 140:19 141:9	integrity 30:8	interested 41:14 47:14 48:4 54:8 211:20 292:6 323:19 367:13 381:15 383:10	intervals 80:18
inhabitants 113:13	Insofar 144:22	intend 29:1 79:17 102:10 114:20 158:14 211:23 315:23		intervention 50:22
inherent 374:13,21	inspect 296:16	intended 84:8 176:13 177:21		interviewed 248:24 364:6
ini 94:10	inspections 66:21	intends 25:25	interesting 24:18 28:21 108:2 211:17 256:24	introduce 11:3 64:17,24 65:4 67:4 281:3 311:8 394:25
iniqu 343:23	inspector 239:3	intense 305:8		introduced 64:23 241:11
initial 16:15 87:13 88:25 106:20 127:25 383:2	inspectors 237:21	intensive 179:16	interests 41:10 121:23	introduction 5:22 278:22 279:10 303:10
initially 94:2 138:21 369:21	instability 398:15	intensively 13:4	interim 37:3,5 49:18,21 50:1,9,17, 19 68:19 296:13 372:18	introduction s 278:8
initiated 87:6	installation 143:10,14 145:6 390:13	intent 75:23 77:1 216:24 266:23	intermittent ly 216:20	introductory 209:3 222:16
injustice 389:1	instant 237:20	intention 175:24 176:2 177:19 338:6 339:14	internally 156:9	invent 317:7
input 11:23,25 12:8 13:7,8 16:1 22:12 34:5 66:23 94:7 181:25 199:13 206:17,21 207:2,7,12 ,16 217:16 225:15 302:6	instantaneous sly 206:7	inter 196:24	international 113:21 291:10 293:1	invertebrate s 86:20 136:20
	instead 14:22 19:24 171:9 299:5 300:23	interact 339:11	international lly 292:23	inves 323:9
	instilled 365:23	interacting 196:24	interpretati on 136:1 245:25	invest 320:20
	instrument 48:19	interaction		investigate 320:14
				investigated 86:10

investigation n 247:20	involving 292:6	268:9,12,1 9 274:11	358:5	144:24
investigation ns 132:3,10 291:24	inward 76:1	317:19	it's 9:14	146:8,18
investing 320:21	ion 78:22	321:15	11:3 14:20	149:12
involve 37:12 67:9 69:14 356:9 381:3	Iowa 369:3	326:15	15:24	151:1,12
involved 13:4 14:8 18:2 29:4,18 33:23 39:7 47:15 53:1 94:12 132:4 140:14 171:3 176:16 225:16 234:11 235:5 241:16 255:15,16 257:18 276:1,4 277:15 337:11 384:24	iron 147:15	331:23 356:5 358:3 370:2 384:24	19:1,3,8 20:7 21:13,23 22:1 24:10 25:5 28:18 29:15 30:5 31:7,23 35:17 36:24 37:3,5,19 39:12,17,2 2 42:5 43:8,24 44:1,20,21 ,23 46:5,17,18 47:7 48:23 50:7,16,23 52:1 53:15 55:20 56:3,13 59:21 61:12,18 62:11 63:16,17 71:22 78:15,16 79:16 80:10 81:19 87:15 90:8,12 94:18 98:7 100:21 103:5 106:17 107:7,10,1 1,17,19 112:23 113:11,14 114:9,10 115:16 119:6,21,2 4 122:19,21, 22 125:24 132:25 133:9,18 142:12	155:17 156:9,20,2 5 158:20,25 159:1 160:23 162:14 164:19,21 165:25 166:12 173:4 174:4 175:8 176:3,11,2 4 177:18 178:14 179:1 180:2 187:5 189:11 191:2 192:11 193:10 194:23 197:2,19,2 4,25 202:12,24 203:14 206:7 210:14 211:3,24 213:25 214:1,21 215:2,12 216:9 220:2,8 221:11 223:15 227:15 229:8 230:4,14,1 6 231:15,19 236:2 241:24 244:13 245:5 249:6,11 250:13,15 251:1,12,1
involvement 22:1 29:6 30:22 31:12 46:18,21 48:5 59:14 234:13 370:22	ironic 243:12 398:9	issues 29:5,14 30:6 33:8 39:18 52:6 148:15 151:12 164:12 206:8 240:21 257:15 258:12 262:12 266:10 289:5 295:3,25 296:13 317:1 319:17 327:23 331:19 343:25 344:2 348:3 368:24 369:14,19, 20 374:22 377:11 378:24 383:24 386:13 403:14		
involvements 59:16	irrespective 181:20			
involves 68:18 70:15 71:17 161:21 284:3	IRs 128:20 129:15			
	island 80:11 81:13 85:25 196:19 250:2 254:6 310:1,15 356:6			
	isn't 19:9 191:4,9,23 220:15,17 254:22 322:24 345:12 396:10			
	isolate 136:19			
	Isolation 314:23			
	issuance 229:5			
	issue 16:5 30:21 35:11 36:19 39:13 54:23 160:21 179:2 223:16 228:2 237:21 259:11 262:2,20 264:9,14	Italy 111:13 113:19 item 24:5 62:18 239:15 items 9:12 it'll 50:20 157:6 173:18 216:25 282:23		

5,20,24	365:9	352:6	298:22	274:2,3
252:7,12,1	367:12	355:8,16	349:1	276:14,16
3,16	379:13	356:1,12	351:11	277:8,9
253:10,12,	380:9	372:15	382:5	278:3
13	381:2	378:14	397:20	281:6
254:22,23	383:10	384:24	jobs 25:2	309:1
255:9,10	385:1	385:5	252:2	310:13
256:3,5,21	386:21	394:24,25	301:22	332:16,22,
,25	390:16	395:13,17,	John 1:13	25 333:21
257:5,9	395:15	20,21,23	2:11,23	389:14
258:5,7,15	397:2,11,2	397:4	26:3	John's 163:8
259:11,22	3		46:1,3,4	272:4
260:3,4,17	398:9,13,1	<hr/>	49:4,5,10,	join 15:17
262:5,21	9 399:13	J	11 51:2,4	338:3
268:6,18,1	400:4	James 1:15	62:11,15,2	joined
9	401:3,18,1	9:5,10	0 66:8	369:13
272:1,2,15	9,21	51:11,12	68:11	jointly
,16,19	403:4,10,2	215:9,11	71:20	28:17
274:7,8	3 404:9,11	273:12,13	79:23,24	32:15
275:3,9,25	405:7	281:10	87:5 90:21	279:23
276:23	itse 156:7	390:1	92:22	Jonas 4:7
278:5	I've 20:20	jammed	95:23,24,2	Jones 3:17
282:24	52:20 72:4	363:21	5 109:6	192:24
284:1	107:8	Janes	110:22	193:12,13
285:25	108:5	307:20,21	112:19	250:3
302:8	112:14	Japan 366:1	115:13,14	journal
309:3,6,10	115:2	Jeff 3:22	123:17	206:15
,16 315:25	121:1	jig 260:15	124:7,12	journey
319:8,10	122:16	Joan 3:20	126:17	43:25
322:14,22	135:1	28:8 55:21	127:12	joy 392:19
323:19	141:18	58:16	128:8,9	395:15
325:24	150:16	353:11	130:18	jud 377:9
327:1	170:22	Joanna 2:17	132:3	judge 377:10
332:13	171:3	26:16,17	141:5	judgment
333:14	182:16	43:21	145:15	162:6
334:15	184:23	45:19	151:7,9,23	juices
335:1	194:21	188:15,16	152:18,19	391:17
336:17	220:15	190:4,5	153:3,8,9,	July 155:12
341:17	242:13,15	191:20,21	13 154:18	160:18
343:12	244:21	287:18,24	157:20	June
345:1,7,13	245:1,4	289:16	158:5	259:15,18
,18	272:6	305:4	176:22	jurisdiction
346:2,12,2	288:2	321:11,12	196:17	s 137:15
2 347:25	298:13	325:12	208:16	justice
348:1,2,17	311:18	328:15	210:24	387:3
,25 350:24	322:9	341:3,4	212:11	justifying
351:1,8,10	323:13,20,	Joan's 28:20	216:3	
352:10	21 325:21	job 219:16	223:13,14	
354:11	328:17	285:19	225:19,20,	
356:19	331:16	293:4	22 229:14	
359:12,19,	342:21		230:25	
20 361:7	347:7		231:1,21	
362:12,13	351:25		232:16	
364:22,24				

31:22	155:8,9	1 148:6	Kuyek's 28:8	360:24
	156:13,14	181:4,9,11		371:19
<hr/> K <hr/>	157:8,9	,14,17,19	<hr/> L <hr/>	378:13
Kat 146:3	158:11,12	184:25	laboratory	lakes 259:3
148:22	159:5,17	197:7	369:3	400:19
149:25	160:7	213:15,16	labour 39:21	lakeshore
204:7	161:12	214:10,12,	387:12	394:5
211:15	163:18	20 362:16	lack	lamentations
Katherine	164:15,18,	363:2	17:16,17	392:20
2:10,12,20	20,21	kilometres	32:5 39:5	lamp 310:16
98:13,14,2	166:11	113:12	126:8	land 21:18
1 102:6,10	167:9,11	196:11	170:2,6	48:2 186:4
104:24	168:9,11	253:15,18	191:2	236:18
105:16,20	170:8,9,10	324:15	329:13	237:16
133:14	,18,19	kindly 24:13	352:24	238:8,13,1
134:14,16	172:11,12,	kinds 42:8	369:25	4,23 241:9
141:20	13 173:12	131:14	375:12	246:25
146:3	174:25	226:9	379:16	283:14,22
148:22	256:9,20,2	391:5	387:15	285:6
149:25	1 265:9	393:5	393:12	289:25
204:7,13,1	266:3,5,6	king 391:23	lady 11:2	296:9
8 211:15	267:10	Kirk 390:1	laid 53:12	300:15
220:3	268:5,6	Kitikmeot/	117:1,6	301:13
Kefalas	271:23,24,	Slave 36:8	121:21	302:13
43:12	25	knew 59:18	122:1	313:4
90:7,8	275:1,2,3	256:4	131:25	323:15,16
91:16	276:22,23	363:17	132:8	330:19
92:6,7	277:22,23	391:15	163:1	339:22,23
93:10,11	key 66:7	knowledge	lake 70:12	356:23
95:2,3	161:22	79:12	72:20 76:1	357:3,17
96:8	223:2	198:5	85:10	360:3,13
97:3,5,21	224:12	199:4	88:23	361:10,18,
269:3,4	296:1	242:14,16	92:20,25	24 374:3
Kelowna	299:19,21	252:23	93:6,7,12,	387:6
255:7	301:23	274:5	23 116:2,5	388:19,22
Kennard 2:25	304:23	282:2	118:17	393:18
Kevin 3:19	387:20	316:14	120:6	398:25
9:16	kicking	396:7	143:21	399:1
24:4,6,9,1	254:3	399:12,13	144:23	401:16
0 27:19,24	kidding	401:8	152:9	landfill
28:5,6	352:14	known 257:16	182:9	298:19
38:5,24	397:24	370:12	198:8	lands 79:17
39:11,12	kids 222:25	372:11	243:8	274:16
41:21,23,2	kill 249:5	385:21	252:8	283:19
4 43:22	363:4,7,8,	kukom 402:13	269:21	398:23
47:3,4,5	10 365:3	Kuyek 3:20	296:12	land-use
50:3,5	kilogram	55:21	300:17,23	304:18
52:16,17,1	145:25	353:13	331:15	language
8 55:4,6,7	kilograms		350:21	46:16
57:24,25	69:24		354:4,5	225:1
59:25 60:1	70:1,3,7,1		358:7,9	

315:14	250:19	397:5	142:12	316:25
396:8	254:1	laws 253:8	145:18	legend
403:17	263:18	lawyers	172:14	316:12
lar 101:5	288:8,10	352:25	177:6	legends
large 104:3	291:24	lax 357:4	211:20	316:15
117:15	305:5,7	lay 48:17	244:6	legislation
119:14	313:19	239:3	259:12	235:24
153:6	314:3,4,11	layer 150:14	345:17	238:18,19
171:5,13	317:15,17	183:19	346:7	legislative
182:6	323:20	layers	375:25	378:12
227:20	331:17	205:19	leave 58:15	legislators
293:1	353:12	298:7	170:11	239:6
297:7,24	361:20	le 281:4	246:7	lend 101:23
330:19	390:23	342:10	252:19	269:12
332:14	393:15	leachable	308:12	lending
373:23	394:7	149:12	317:13,16,	274:8
387:22	Lastly 86:19	leaching	24 330:5	lends 101:17
largely	294:20	217:13	379:14	length 183:7
150:11	383:24	lead 67:7	395:18,22	258:20
376:10	388:15	73:17	402:14	315:21
larger 81:24	late 61:4	135:20	leaving	347:17
153:5	62:21 69:3	136:1	116:1	less 33:4
195:8	368:21	280:1	led 17:18	58:6 79:3
334:5	403:4	289:22	32:4	116:2,7
387:12	405:1	leaderships	304:13	117:16
largest	lateness	53:7	left-hand	120:21
113:10	376:19	leading	114:9	145:3
172:20	later 23:24	15:12	legacies	146:7
294:11	46:15 49:6	308:21	61:6	148:9
313:13	157:3	314:24	legacy	159:25
last 9:17	161:2	leads 135:9	39:18,22	179:12
10:24	184:10	learn 58:18	113:14,16	185:14
15:1,19	282:15	learned 28:9	188:18,23	194:14
39:15	363:18	363:7	194:23	207:24
52:21	369:21	375:4	273:16	262:10,16
66:16	latest 79:11	376:14	274:6	300:24,25
108:11	Latham 80:10	377:16	283:22	315:10
116:10	81:13	396:19	306:2,6,12	320:15
128:10,22	85:25	397:4	357:13	387:22
129:7,25	196:19	least 16:3	400:1	lessons 28:9
130:21,24	310:15	55:19	402:14	58:18
148:23	356:6	61:11 70:3	legal 26:3	376:14
158:21	lathered	87:14	46:1 151:4	377:16
159:1,6	345:4	110:1	261:25	lethal
163:21	launch	113:6	271:11	362:18
165:1,5	310:16	119:14	359:16	363:3,8
173:13	Laurie	125:7	383:6	let's 14:14
184:15	15:10,11		legally	20:10
189:10	law 349:19		48:9,11,16	
192:2			,20 54:4	
242:15				

235:22	141:10,13	lieu 20:14	311:23	4:10
288:18	182:11	262:22	limitation	list 5:3,4,5
letter	210:15	life 67:21	126:18	6:1 7:1
46:9,17	286:9	71:3,11,19	limitations	8:1
47:7,10	333:11	72:2 75:9	119:9,24	10:10,12
53:19	334:4,7	88:3	150:15	24:2
95:11,12,1	335:5	144:15	limited 65:7	38:7,9
4 155:16	337:3,4	159:22	71:21	89:23,24
248:14	342:8	175:24	104:19	109:19
343:2	385:21,22	177:25	119:5	110:1,3
347:16	386:1	242:7,17	123:18	175:7
382:8	394:23	246:9	125:17	192:22
letters	leverage	251:14,24	145:14	265:11
248:12	326:22	253:7	150:9	276:18
272:11	327:16	255:7,12	162:2	277:4
403:6	328:7	316:4	165:11	307:18
level 48:6	liability	333:1	282:12	311:5
69:23	380:11,17	334:10	311:15,16	347:3
72:3,8,13	381:8	335:11	limiting	354:22
73:2,11	liaison	341:13	121:8	355:2
74:10	369:24	347:8,9	limits 238:9	385:12
75:25	licence	355:8	294:8	listen 22:15
78:3,7,8	32:23	356:22	300:18	254:24
119:23	236:16,17,	357:16	limnology	256:5
120:19	22 237:23	358:25	203:15	279:20
121:14	238:8,13,2	359:2,4	linchpin	282:16
135:16	4 247:2	361:18	349:12	303:22
142:25	252:2	385:25	350:22	311:25
178:15	261:16	401:15	line 15:19	327:22,23
182:5,6,13	267:20	light 168:16	72:24	397:15
183:19	338:16,21	lightly	122:6	399:21
247:16	340:10	351:4	127:2	404:23
270:15	licensed	lights	131:2	listened
288:9	237:10	317:15	133:15	248:14,15
290:15	338:12,17	likely 70:4	159:6	353:10,11
296:4,14	339:21	104:8	176:21	357:11
306:9	licensing	145:24	252:13	395:22
328:20	176:25	158:22	310:3	listening
329:6	235:23	169:12	339:5	197:21
330:2	266:2,12,2	170:6	366:3	352:7
360:11	2 267:23	176:16	lineage	357:10
377:23	268:2,18	334:5	396:5,10	396:3,18
levels	305:16	344:19	lineup	lists 87:21
73:19,21,2	338:12,18	345:24	244:10	Literacy
3 74:2,19	339:6	346:12	linguists	275:23
78:10	lichen	371:14	314:18	literature
88:7,24	139:20	lime 209:18	link 107:9	135:1
93:1	lie 316:6	limit 245:4	Lisa 3:7	litre
94:11,16	lies 316:5	294:7		72:1,4,5,7
116:14		310:20		,9,14,18
118:15				
139:12				

73:3,4,8,1	351:17	329:18	374:24,25	127:5,13
2,13	352:11	345:2	377:3	128:18
74:4,6,8,2	362:24	349:25	381:11	175:21
3	370:4	381:17	382:9	196:14
76:8,13,25	375:24	loa 104:10	387:6	234:20
93:3	381:22	146:8	388:7	334:16
94:17,19	382:2	load 69:25	locale	Lockhart
104:7	live 34:9	94:24	224:22	394:13,19,
119:7	44:3	146:7	locally	20 395:4
181:2	187:14	178:2	223:20	405:13,14,
182:12	245:21	181:2,22,2	Locals	21
194:4,14	246:15	5 182:7	381:17	Lois 347:4,5
197:13	249:13	184:23	locate 96:22	351:16
litres 72:19	251:1	185:5,7	located	long 17:16
77:17	252:3	194:9	79:16 80:9	18:2 22:18
little 20:6	255:6,7	197:6	81:12 84:7	37:9 43:25
21:13	273:16	214:16,25	113:12	57:4 80:19
27:17	289:2	loading	141:8	81:15
29:11	347:6	69:22	176:24	102:24
31:12	355:14,20	70:6,10	234:11	131:25
34:15	356:6	87:24	294:7	132:8
57:23	357:19	99:12	297:25	146:17
59:11,20,2	358:5,9	146:9	309:2	167:15
3 70:16	359:13	148:2	locating	175:7
77:7 95:5	360:6	181:7	196:8,13,1	178:10
122:20	365:1	loads 104:10	8 309:15	188:17
124:8,9	366:13	180:23	location	209:21
127:15	377:15	214:5,9	79:14 81:4	218:22
141:17	378:23	219:7	82:13 83:3	227:9
144:14	385:2	loc 85:5	84:9,11	230:4
157:12	401:16	141:8	85:25 86:4	234:4
165:19,24	lived 31:3	196:8	91:10,12	241:12,21
168:12	244:4	loca 197:2	127:6,8,15	244:4
175:17	317:25	local 25:3	,18 128:9	252:24
184:9	323:21	84:8	130:22	258:16,23
187:13	331:16	101:19	176:13,17,	292:2
195:14	345:9	158:18	21,22	293:25
197:22	352:1,6	159:11	185:3	295:10
211:5	355:7,8,14	160:11	193:15	302:24
217:23	livers	224:21	195:15,23	304:6,8
222:12	136:14	227:16	202:15	306:1
225:9	lives	259:15	234:5,7,9,	309:6
245:19,20	246:5,23	262:12	19 235:8	314:4
276:23	247:5,6	277:15	258:3,14	316:20
282:15	251:13,23	289:7,10	335:3	317:2
294:13	319:11	323:19	371:10	319:8
329:22	346:6	324:11	locations	320:3
334:25	360:17	356:9	83:17	327:12
335:10,13,	377:15	359:13	85:3,6,11,	329:21
18 337:13	392:25	367:25	21	332:18
343:5	living 142:8	369:5		340:19
345:22	242:5			342:10
347:4,5,6				

347:9	246:23	102:24	339:22	352:19
348:22	247:5		349:12	382:14
350:4,5,17	359:8	low 136:22	358:7,10	maintains
360:18	382:15	162:1	367:22	340:12
369:6	388:19	182:5,6	374:14	maintenance
379:24	400:11	208:6	385:16	58:7 140:5
380:6	lot 31:17	lower 70:4	387:4	288:4
387:7	39:13,18,2	73:25	Maddis 218:2	293:5
394:1	4 42:3	117:23	magic	376:8
405:7	44:13 47:9	lowest 11:19	44:20,21	major 186:22
longer 101:5	48:25	34:2	45:7 392:9	268:18
132:6	52:20 56:3	Lowman 4:10	magnitude	315:14
172:6	58:1 76:2	low-	161:21	majority
251:15	79:8	solubility	162:1	365:1
255:23	107:25	298:2	313:12	373:13
286:9	109:20	luck 317:24	315:5	Makin 2:9
319:22	113:23	Lukas 2:13	316:9	malformation
360:4	114:1	lunch 10:7	370:21	s 136:15
384:21	122:14	134:8	380:10	malfunction
386:12	132:4	151:12	mahsi 51:8	263:13
longevity	160:14	167:23	215:7	264:5,24
45:13	170:2	240:1,2	245:13,14	man 58:7
long-term	239:14	lunchtime	256:6	314:12
20:13,14	247:2	133:19	273:4,24	manage 37:8
21:2	254:9,20		281:8	216:5
23:12,13	259:9	<hr/>	318:17	301:3
58:10	261:4	<hr/>	362:4	348:6
88:14	287:4	<hr/>	386:20	354:10
108:14	305:9	ma 124:25	402:15	managed 67:2
143:18	319:11	286:6	405:3	100:22,24
145:20	324:1	machines	main 66:4	216:7
226:9	330:3	125:15	293:22	272:10
293:18	336:16	Mackay 243:8	294:6	288:19,22
294:3	339:20	Mackenzie	296:9,24	293:14
296:19	348:13	1:2,10	302:2	296:14
300:14	354:5	48:2 55:16	323:8	303:3
302:9	356:10	57:9	343:4	322:23
304:3	357:23	186:3,4	344:21	management
340:16	360:9	229:9	387:16	5:14
350:17	367:24	236:17,18	mainly 69:3	10:2,9
380:5,22	372:2	237:16	72:6,24	12:24
381:6,7	399:1,2	238:8,13,2	mainstay	26:20
388:11	lots 135:2	1,23	361:12	29:20
Lorraine	305:5	275:21	maintain	34:19
362:5,8	330:18,19	279:19	23:15	44:20
366:25	358:8	281:25	maintained	47:13,15,2
406:10	367:13	283:23	50:14	4
loss 370:16	399:22	285:8	354:3	48:3,5,24
losses	Louder	286:21	maintaining	56:19
387:10	204:18	289:25		
lost 240:3	lovely	290:2		

61:20 62:6	201:7,8	213:24	141:24	25 208:6
64:20,25	326:1	230:16,22	146:19	219:15
65:3,18	342:17	231:6,18	156:17	222:12
66:20 68:6	manger	232:21	164:16	225:18,19
77:23	316:20	255:25	165:1	226:20,22
89:15		362:17	205:9	228:15
112:22	map 85:12	materials	208:9	234:15,16
115:21	128:23	109:11	225:1	240:1
132:21	175:23	284:18	231:10	250:22
159:7	176:7	301:15	240:16	252:20
199:18	219:3	math 362:20	247:9	254:7
238:22	307:1	363:7	259:16	259:6
240:7,15,2	310:10,12,	matter	261:1	260:14
4 256:19	13 332:14	160:25	271:16	262:18
257:11	334:5	252:1	286:9	264:4
280:5,7	mapped 386:7	400:25	302:24	276:17
281:25	mapping	matters	307:8	287:2,5,6
282:1	196:15,18	65:10	312:15	306:24,25
283:23	385:25	97:23	314:9	307:2,6
284:7	March 52:23	Mattes	315:23	308:12
285:9	82:12	204:22	322:20	310:11,20
286:22	83:18,24	206:14	327:11	317:10
292:5	124:14	207:21	328:1	318:19
293:17	Margaret	209:10	341:19	325:6
294:4	4:11	210:3,4	348:23	327:21
298:4	marina	211:21	363:13	334:19
300:20	127:14	maximize	364:5	367:6
302:9,24	Mark 3:5	196:23	367:20	405:11
303:11,17	marked 87:13	290:12	378:24	McGill
304:3,10,1	markers	maximum 74:3	396:20	253:16
3,15,16,17	58:15	142:23,25	401:24	McPherson
,22,24	314:3	maximums	maybe 14:15	4:16
306:10	Mars 314:12	142:17	19:19,23	mean 19:1
319:24	Mary 317:18	may 30:18,19	23:24 24:6	121:12
322:19	318:6	31:2 44:24	27:16,17	142:24
331:22	massive	51:25	36:3,19,22	146:21
337:9	371:24	53:17	52:11 55:8	178:11,19,
338:1,5,11	372:10	54:22 60:6	57:19,20	20 185:4
,23 339:8	master's	72:7 73:10	59:22	191:5
340:9	65:8,21	81:11	61:16,21	197:20
350:20	match 83:13	89:11	90:15	203:2
352:20	material	97:24	105:7	223:7,10
377:4,5	109:8	109:22	108:25	225:25
manager 66:3	114:16	122:22	113:3	231:3
291:1,4	137:14	126:7	145:17	236:12
292:13	205:21	127:1	154:4	241:21
303:15	208:18,21	128:13	156:19	244:9,11,2
managing	212:13	132:15	161:14	1
272:17		137:19	164:17,18	259:20,23
325:16		138:16	165:8	266:1,2
mandate			172:22	286:18,22,
192:11			182:24	23 314:8
			197:19,24,	

329:17	5,22 124:2	25 159:21	272:24	memory 396:8
332:13	198:10	163:10	273:3,7,12	men 393:19
334:14	199:6	177:21	,23 274:2	mental 345:8
345:6,10,1	241:4	235:20,23,	277:8	mentality
3 384:24	261:22	25	281:19	380:14
390:6	262:1	237:17,18	282:1	mention 9:19
400:4	346:17	243:23	318:23	43:16
meaning	measuring	296:25	326:17	61:16
20:11 58:4	161:24	297:3	336:25	134:17
222:4	403:8	298:23	339:24	197:12
315:23	mechanical	330:21	340:8	287:3
334:10	116:10	335:12	342:6	337:10
meaningful	mechanics	337:3	378:12	mentioned
26:25	65:21	373:1,5	members	57:21
54:22	mechanism	meeting	33:14	68:23 73:9
370:24	327:11	71:18	44:24 45:5	75:23
375:11	mechanisms	160:18	49:9 68:3	76:25
meaningless	52:8	177:19	187:23	85:23 87:5
315:17	305:21	237:5	188:20	88:17,25
means 72:17	328:24	244:14	189:12	93:4
132:15	338:7	255:20	199:17	122:14
136:22	350:6	298:22	204:5	125:25
209:15	376:6	334:7	215:6	126:22
261:16	med 245:22	355:12	225:2	138:19
329:16	media 139:19	405:5,21	257:8	139:23
343:11	205:22	meetings	275:11,17	141:2,23
344:8	316:16	255:18	276:11	147:20,23
359:1	346:23	372:16	277:2	149:8
meant 261:14	medicinal	375:21	281:3	150:8
320:23	15:15	meets 118:18	282:4	163:8
meantime	medicine	199:15	303:8,13	181:6,23
322:4	245:23	373:14	312:12	182:10
meas 346:7	251:5,18	melodramatic	319:14	215:20
measure	253:22	345:1	326:11,13	216:17
37:15	medium	melodramatic	368:23	217:7
54:6,13	142:24	ally	405:1	228:23
87:4	medium-sized	member	membership	242:20
261:20	297:13	1:12,13,14	67:21	250:3
265:3,7	meet 40:17	,15,16,17	274:22,23	259:10
285:8	71:25	51:7,11,15	275:14	271:17
403:3,10	73:25	,18,22	276:18	277:4,11
measured	76:14	57:15	277:6	287:1
73:16	78:23	67:17	381:3	288:6
74:21 93:2	100:8	151:6,8	memberships	292:10
measures	116:15	153:15,21	275:6	298:14
34:16	118:16,19	234:1	memo 155:13	305:4
45:13	119:7	237:12	Memorial	353:19
87:19	121:19,22,	238:15	257:1	367:7
90:11,13,1		244:22	272:4	373:12
		271:14	memories	379:25
			246:20	382:18,24

mentioning	30:15	78:3,7	187:17	140:16
244:14	34:13	80:9,10	202:23	252:13
323:7	37:1,2	81:12,15,1	203:9,17	Mike 20:6
Menzies 2:8	41:8 42:2	6,25 82:1	209:1	64:22 68:2
mercenaries	49:17	83:23,24	211:2	91:25
274:13	50:15	92:24	212:23	100:21
Mercredi	54:25	127:16,17	220:1	103:5,16
1:14 2:3	135:10	152:4	221:18	105:12
51:15,16	195:14	195:20,22	290:24	106:7
215:16,17	219:14,19	196:19	333:14,19	108:19
216:13,14	285:12,17,	258:16,17	334:1,8	110:14
217:3,4	25 286:4	294:13	335:9,24	112:10
218:7,8	372:16	309:3,6	336:15	115:1
273:7,8	379:11	310:15	Michele	116:25
281:12,13	methodology	332:18	248:10	121:19
mercury	376:10	mic 27:20,25	microbes	123:16
229:9	methods	38:12	205:22	133:9
369:10	13:12,21,2	175:11	microgram	138:6
merely 344:5	2 14:1,3	204:12	94:19	141:2
merge 294:3	88:6 136:5	287:2	194:14	144:2,14
merit 67:19	344:12	308:2	micrograms	153:25
merits	379:17	Michael 2:18	71:25	154:9
235:11	methylation	20:5 64:21	72:4,7,9,1	156:7,25
mess 313:24	148:24	91:25	4	162:11
348:6	149:3	100:20	73:3,4,8,1	165:11,25
350:20	150:3	103:5,15	1,13	167:1,21
390:1	Metis 3:14	105:11,24	74:4,6,8,2	173:4
399:25	10:10,13,1	106:6	3 93:3	174:4
met 34:20	7 32:1	108:18	94:17	177:18
177:22	38:24	110:13	104:6	179:1
272:6	39:7,8	111:23	119:7	202:24
338:4	41:2,5,16	112:9,13	181:1	203:18
metals 73:17	43:1,2	114:25	182:12	209:2
99:9,12	56:6 155:6	116:18,24	194:4	211:3
100:4	192:22	121:18	197:12	212:23
105:1	194:17	123:15	mics 197:22	220:2
204:9,20	195:2	124:13	279:12	221:19
205:1,4,6,	197:19	133:8	mid 122:20	290:22,25
7 206:1	198:1,3,4,	138:5	middle	308:17
212:7	8,20,25	144:1	122:21,22	333:14
335:7	199:3,4,14	153:24	123:2	335:24
391:3,21	,16	154:8	252:12,13	miles 251:10
method	200:4,16,2	156:1,6,24	275:13	milestones
11:17,19	1,23	162:10	302:7	305:7
12:3,23	269:7,9,19	165:10,23	309:9	military
13:3	270:3,8	166:25	midst 139:1	65:25
16:6,20	metre 84:7	167:20,24	migrating	milk 377:19
29:5,11	150:9	173:3	399:3	mill 209:18
	metres	174:3,12	migration	milligrams
	71:21,22	177:17		72:5 74:23
	77:6	178:25		76:8,13,25
		180:15		

145:24	46:10	298:5	250:10	minute 27:15
181:1	59:15	299:3	291:5	61:15,16,2
362:19	61:11	300:2,3	368:25	2 77:18
millimetres	65:10,13,2	301:2	370:11	103:6
80:24	5	302:7,17	Mine's 387:7	105:25
million 60:9	66:2,6,19	306:3,12	minimal	154:22
99:24,25	68:18	312:7,8	88:10 89:2	183:25
113:13,16	69:7,23	313:1,2	minimize	187:18,24
142:23	74:22 76:4	314:14	84:4,8	225:20
206:23	78:1,17	317:20	88:8 114:6	311:18,19
207:1,3,5,	79:5,15	323:14,25	117:13,18	312:9,10
8,10,17	85:7 94:11	324:3,15	142:18	351:18
208:2	97:14	325:17	145:11,19	354:15
280:4	101:17	327:24	295:20	minutes
294:15	106:18	330:18	minimizes	10:4,5,13,
333:16	107:10,11,	342:25	302:23	15,17,18
346:3,4	12 108:4,8	343:9	minimizing	138:17
362:22	111:6,18	345:6,12	34:2,3	227:1
363:4	113:11	346:10	79:20	240:10
millions	114:2,20	347:7,8,24	114:17	245:5
348:16	134:7	355:24	mining 65:11	278:13
382:22	136:4	356:8	66:15	307:10
403:22	147:11	357:8	67:12	310:21
mills 361:1	155:14	362:11	74:18	311:15
mind 16:3	183:19,21	364:12	107:12	390:6
29:5 52:14	185:24	368:5,22	108:12,13	Miramar
59:22	186:20,21	369:1,7,15	151:14	66:20
107:16	188:18,23	,18,22	190:20	mirror 270:7
142:4	190:6,15,1	373:5,13	246:6	mirrors
195:13	6 191:6	374:9	276:5	270:3
218:15	198:9	375:7	353:4	mis-
315:25	207:22	376:16,21	384:25	communicat
372:14	221:9	377:17	385:2	ion 17:10
380:14,19	223:3	381:9,23	Minister	mishap 364:7
381:1	243:9	383:10	244:18	missed 10:24
385:9	246:1,4,8	385:22,23,	289:14,18	155:2
minded	251:25	25	328:4	278:12
396:12	255:3,10	388:16,18	ministers	313:9
mindful	257:3	389:14,18	280:25	mitigable
41:25	272:2,9,11	390:8,24	333:22	169:17
minds 180:22	274:7,16	mined 294:24	minor	mitigate
345:14	279:5,21	296:3	82:15,16	169:19
mine 1:5	283:16,22	297:13	91:13	323:10
12:6,20	284:15,18	mineral-	Minster	mitigated
18:10	288:5,6,18	bearing	280:23	90:11
22:5,17	,25 290:8	217:14	minuscule	169:25
23:3	291:15,21,	mines 34:24	178:12	mitigation
24:12,25	23	48:1	179:6	124:4
25:7,11,23	292:18,24	113:15		
26:1 32:13	293:3,8	152:1		
	294:7,14	172:15		
	295:18,24	246:23		
	296:4,10,1			
	4 297:17			

mitigations	332:23	308:8,10	82:19	76:20
162:24,25	336:21	modes	83:15	161:1
241:7	MLA 368:5	16:10,19	84:22	189:10
mitigative	378:5	17:3 101:2	85:14,22	192:2
87:18,19	MMER 140:7	114:6	86:8,10,14	328:6
90:15	171:22	modify 90:23	,21 87:3,9	Montreal
124:2	mo 173:5	91:2	89:12	386:18,21
mix 72:19	226:23	102:19	124:3,9	Montreuil
80:4 152:2	mobile	moment 51:21	125:1,9	386:20,21,
209:18	146:19	126:18	130:23	24
mixed 92:20	147:16	138:3	131:11,12,	moon 314:12
117:22	model	156:1	17 132:1	moons 391:12
mixing 8:5	80:4,8,25	179:13	134:18,21	moose 361:11
70:12	82:3	180:7	137:22	Morag 4:16
71:20,25	118:4,8	211:22	140:15	moral 312:24
72:20	137:5	213:22	143:6	315:6
73:7,12	165:13,14	222:12	144:16	397:13,20
74:5,12,25	modelled	273:5	146:5	398:18
75:6,16	76:16	283:5,9	149:2	401:22
76:15	modelling	307:6,15	163:25	morally
78:24 80:5	16:12	389:23	166:15	397:19
81:21,24	80:3,6	money 33:10	168:6	morning
82:8 84:17	81:7 83:7	36:4,18	169:23	9:3,4,6,13
88:9,22,25	89:3	121:10	170:23	,18,22
90:25	91:8,10	179:20	171:2,5,11	43:17
92:9,19,22	94:4,6	190:16	,15,21,22	62:3,23
115:21	123:20	320:20,21	172:1,5,16	109:8,11
116:9,13,1	124:16,19	366:11	173:5	208:22
5	126:1	391:19,20	175:21	211:8
118:7,17,2	127:22	392:4,8,11	176:13	234:4
0	137:22	,15 393:11	184:5,12	239:18
119:3,4,13	147:1,19	monitor 37:8	186:3,8,11	277:24
,19,24	158:15,17	87:1,6	199:18,22	404:22
120:6	159:11,16	146:17	237:7	405:23
150:8	161:4,7,10	175:24	261:10	Mosher 310:1
151:16,19,	163:20	304:8	264:25	mouth 70:18
24	164:25	monitored	265:5	85:6,24
152:2,7,21	165:16	50:14	266:25	140:8,24
,24	166:1,2	73:18	267:24	141:7
153:5,6,16	260:3,11,1	288:19	299:8,15	366:11
154:14	6 261:6	320:25	302:12	395:23
159:23	262:4,15,1	monitoring	305:1	396:2
160:2,3	9,23,25	8:10 21:1	329:5	move 10:9
175:16,25	264:22	23:20	338:7	27:13,17
176:14,15	266:22	29:20 34:7	344:9	28:24
177:5	267:18,22	35:2 37:14	380:12	32:16
178:1	309:15	46:11,19,2	381:1	33:16
196:24	316:16	2 47:18	382:23	36:22
216:17	models 36:6	48:24 58:7	383:3	
219:10	123:24	68:14	386:11	
221:10	221:25	72:12	388:6	
299:4			month 203:2	
			months 53:5	

37:25 38:3	148:9	Nahir 2:18	naked 111:14	226:8,11
40:10,21,2	185:2	20:5,6	NAPEG	379:1
4 48:22	349:4	64:21,22	67:19,20,2	380:23
52:13	376:1	91:25 92:1	1	392:22
53:18 54:4	402:1	100:20,21	narrowed	397:25
56:14 61:4	mud 39:16	103:5,6,15	14:2	navigate
64:16	251:20	,16	nation 11:15	313:10
84:14	254:3	105:11,12,	15:22	Nazi 315:20
90:24,25	multiple	24 106:6,7	17:22	N'Dilo 14:15
91:9,12	199:12	108:18,19	19:18	188:21
93:7	237:4	110:13,14	28:11,18	234:10
104:16	multi-	111:23	32:2 33:13	235:4
122:5	stakeholde	112:9,10,1	35:13	246:21
126:23	r 36:13	3 114:25	39:20 43:5	247:11
127:1	municipal	115:1	47:22 53:1	248:11
131:19	381:12	116:18,24,	56:5	255:20
160:13	Munroe	25	241:4,11	289:9
163:22	281:20	121:18,19	246:11	355:10,14
166:12	mushing	123:15,16	269:21	356:2,3,7
168:12	218:18	133:8,9	279:1	near-field
170:12	mushrooms	138:5,6	282:5	72:20 80:5
173:24	139:20	144:1,2	288:14	82:9 92:22
202:6	mushum	153:24,25	370:8	119:4
204:12	402:13	154:8,9	375:17,19	159:23
206:1	muskrats	156:1,6,7,	389:1	necessarily
237:1,2	136:15	24,25	national	106:16
240:4	mussels	162:10,11	224:21	189:13
257:10	253:24	165:10,11,	263:19	226:4
299:14	MVEIRB 2:2	23,25	276:5,6,12	316:10
301:1	myself 14:13	166:25	291:8	348:21
353:25	64:23	167:1,12,2	346:23	368:18
364:8	107:23	0,21,24	377:23	necessary
moved 10:13	347:8	173:3,4	Nations	30:18
250:15	368:18	174:3,4,12	270:22	36:22
258:6	378:20	177:17,18	natural 91:5	42:19 55:2
movement	394:25	178:25	209:15,22	160:3
67:9	mysterious	179:1	211:24	161:4
moves 21:4	392:11	180:15	212:2	229:6
53:25 93:5	mysteriously	187:17	217:13,15	261:7
219:5	247:12	202:23,24	289:19,21	280:7
336:9	mystifies	203:9,17,1	295:23	343:20
movie 107:5	371:16	8 209:1,2	345:18	373:20
moving 42:22	<hr/>	211:2,3	349:16	376:5
50:25 54:6	Nahanni	212:23	397:5	382:11,22
56:16,25	372:4	220:1,2	398:1	necessity
59:5 68:14	<hr/>	221:18,19	naturally	380:19
83:7 84:23	<hr/>	290:22,24,	219:7	negative
117:23	<hr/>	25	296:4	87:18
124:21	<hr/>	308:15,17	nature 18:19	140:23
125:11	<hr/>	333:14,15,	54:25	197:10
126:20	<hr/>	19 334:1,8		
141:2	<hr/>	335:9,24		
	<hr/>	336:15		

293:21	405:23	239:20	243:23	279:25
302:25	nine-fifty	nor 96:24	249:3	280:24
negligible	78:6	318:3	256:18,21	282:4
320:3	ninety	381:4	263:12	287:25
negotiated	142:22	normal	265:15,23	288:1
60:3	214:19	247:17	266:2,6,15	290:12
negotiation	ninety-nine	248:9	267:17	291:2,6
195:14	401:4	374:22	268:6,22,2	325:10
negotiations	ninety-two	Normally	5	357:6
60:16	352:9	209:7	269:7,9,19	398:11
neither	nitrate	north	270:5,8,23	northerners
404:12	74:16	3:14,20	271:16,25	41:10
nervous	nobody 32:23	5:10,19	273:20	270:11
122:20	248:13,14	7:5	274:21	282:5
372:19	249:9	10:5,6,10,	275:3,10,1	301:22
net 219:2	250:5	12,17 27:9	6,23	398:24
222:4	251:8,13	28:3,7	277:23	400:22
netted 243:6	nobody's	32:1 36:7	282:8	northwest
network 85:1	251:11	38:23 39:4	299:3,4	24:20
neutralize	nod 212:22	41:2,6,24	301:24	43:19
344:12	nodding	42:25 43:6	309:17	101:15
newest	133:21	47:5 50:8	310:5,14	157:11,23
281:19	noise 228:15	52:11 53:2	338:2	172:20
Newfoundland	249:9	55:7 56:6	347:20	226:14
272:5	nominate	57:25	349:13	228:7
Newman 2:24	15:6,9	80:10	350:18,22	238:20,22,
news	nominated	87:25	360:7,8	25 257:22
30:16,20	282:5	88:21 91:9	369:16	269:20
364:6	non 374:23	101:11	375:17	289:12,22
newspaper	non-	125:16	377:22	290:5
364:4	Aboriginal	127:20	398:21,23	292:12
nice 402:1	270:11	148:7	399:4	293:16
nickel 73:17	none 48:13	151:20	400:3,9,13	301:25
135:21	363:17	155:4,5,6,	,18 401:6	302:16
136:1	383:4,5	7,9 157:9	northern	325:11
139:9	400:13	158:12	6:3,6,10,1	341:8
night 10:24	non-	160:22	4	349:7
367:17	government	164:21	24:14,21,2	362:9
402:11	369:16	170:10	2	Northwestern
404:23	375:19	172:13	25:9,13,15	111:12
nine 76:9,11	nonlinear	175:1	,17,18	nose 396:13
84:3 93:7	16:8	192:22	43:18	note 89:14
207:12	noon 8:6,11	193:22	55:12 60:4	96:1,3,9
333:24	154:6,14	194:6,17	63:2,5,20,	106:7
399:22	168:6	195:1	25 64:5,10	167:2
		196:19	65:15	275:9,25
		197:19	67:11,16	282:16
		198:1,20	104:18	368:8
		199:4,14,1	190:7	noted 63:17
		6,20	196:10	65:10
		200:16	207:23	82:18
		240:9	239:5	
			275:19,22	

83:25	Nuna 293:3	401:23	356:17	321:13
84:10	Nunavut	obligations	occurring	officiating
342:19	24:20 67:8	401:12	119:5	61:10
noteworthy	nursery	obliged	120:6	oh 111:11
391:23	140:17	318:2	286:12	180:9
nothing	nursing	Oboni 2:14	296:4	204:13
113:5	396:6,8	107:2,3	occurs 69:3	244:23
154:18	NWT 65:19	109:15	93:25	353:13
169:14	67:8,17,20	110:9,23	Ocean 358:8	oil 297:19
181:8	80:1	111:2,9	Oceans	okay 10:11
182:13	275:23	113:8,9	38:11,17	11:9 12:14
241:19		Oboni's	203:25	17:21
247:20	<hr/> 0 <hr/>	109:24	204:2	21:25
254:10	Oak 293:9	observation	224:6	22:21
342:5	ob 74:7	57:7	239:8	23:21
357:15	objective	obviously	271:3,5	27:1,2,13,
393:7,25	71:9,16,18	52:3	297:10	24 28:5
399:14	,19,24	146:22	o'clock 27:5	29:1 38:18
notice	72:2,21	178:20	233:5	43:4,15
122:17	73:1,14	183:20	278:6,16,1	45:20 49:8
198:5	74:8 89:6	236:24	7 405:23	57:18
noticed	100:9	259:8	October	59:10 61:8
85:15	120:1	311:20,22	39:14	62:3 64:15
195:18	121:25	341:13	122:21	91:14
notified	197:11,14	370:10	128:22	94:25
374:1	236:1,2	371:17	129:9,10,1	96:14
notify	237:6	372:7	3,17	97:12
227:24	295:17	occasional	130:21	98:9,16
November	objectives	382:8	160:22	103:11
129:7	68:8	occasions	362:12	104:22
nowhere	71:12,13	73:11	offer 23:17	105:9,14
18:11	73:25	occupational	28:7 30:24	106:3,23
253:1	74:12	399:16	289:7	107:6
nozzle 84:6	75:1,2,16	occupy 71:22	offered 31:9	112:11
nozzles	121:19	92:23	264:3	115:11
80:24	197:1	occur 92:25	offering	117:25
177:6	235:19	111:6,7	88:19	118:22
NT 1:23	236:25	165:1	offers	119:10
nuclear	238:6	259:16	103:23,24	120:7
314:22	295:4,9	286:17	office 78:19	121:16
315:5	332:20	384:9	249:5	122:2,4
399:7	333:10	occurred	329:1	128:1,11
400:6	336:6,7	69:3	official	133:6,20
nuisance	obligated	107:10	282:20	134:6
212:3	320:18	143:5	321:9	143:22
numerous	obligation	193:22	officially	151:5
67:8	321:3,4	198:7	9:13	153:22
	20 398:18	305:10	officials	154:21
				155:2
				156:11,22
				157:5,18
				158:9

160:5	271:12,22	83:1 131:3	openness	104:15
161:11	278:1	170:3	379:16	177:8,11
163:16	279:2	195:6	open-pit	195:8
164:5	308:14,22	227:20	107:12	196:23
167:17	310:17	234:24	operate 79:6	228:6
168:9	311:7	298:4	88:18	270:6
169:10	318:12	306:14	258:9	282:16
172:10	321:7	317:5	operating	290:19
173:10	325:5	328:7	108:3	318:25
174:9,23	327:20	337:16,18	operation	326:4
175:2,14	329:10	340:9	66:19	329:19
176:5	330:24	376:9	69:14	342:24
178:23	331:7	381:8	79:12	347:11
180:5	335:25	382:13	88:12	351:24
182:2,25	337:20	online	94:11	355:5
183:3	338:19	9:13,14	104:10	368:15
187:15,22	340:2	34:10	147:11	376:18
188:11	353:25	on-site	148:8	377:20
190:8,19	367:19	288:24	173:25	378:10
192:16,20	378:4	Ontario	193:23	385:5
193:18	394:18	204:22	223:8	387:2
197:15,18	396:14	207:23	250:10	394:23
198:12	old 191:15	onto 104:2,5	297:18	opposed
199:7	194:20	296:9	385:23	69:15
200:15,24	247:8	365:10	operational	104:17
201:17	248:11	oops 158:23	376:6	106:16
202:5	302:21	op 88:18,19	384:15,16	143:20
203:8,19,2	314:5	140:4	operations	172:4
3 204:3,18	316:13	284:25	66:15 99:6	195:20
205:14	361:16	open 82:24	293:7	335:13
207:20	389:17	106:13	384:17	337:3
208:13,14,	398:13	173:6	operators	opposite
24 210:21	399:23	211:10	88:17	73:20 86:4
211:13	401:4	220:4	opinion 33:3	355:23
212:21,22,	older 194:21	279:12	145:7	optimistic
24,25	Olivier 4:13	300:6	317:19	33:5
215:5	one-fifty	378:7	357:25	optimization
216:21	214:14	opening 5:22	360:16	30:17
217:19	ones 44:14	9:6,8,11	oppor 104:15	33:20,24
218:6	110:5	55:11	opportunitie	285:1
225:7,18,2	210:2	278:8,22	s 33:4	optimize
0 226:25	239:10	279:9	103:23	117:18
227:6	250:7	289:15	289:6	optimum
229:11	319:16	399:9	290:13	120:6
231:12	354:25	openings	374:3	option
232:14	365:17	294:17	opportunity	20:8,13,14
233:6	384:4	295:18	79:10	,15,18,24
235:13	401:20	297:14,17	88:19	21:2
236:20	ongoing 23:6	300:4	97:22	101:10
238:17	42:10,15			106:11,20
239:2,11	48:18 75:7			220:7
245:8				
265:21				
266:13				

358:17	57:20,24,2	s 31:10	ours 401:18	192:14
options	5 59:25	276:5	ourselves	286:4,20
17:4,15,19	60:1 62:23	277:14	47:22 53:2	297:21
20:14	63:12	375:20	320:12	309:9
56:12 79:4	155:8,9,24	organized	358:16	355:21
259:7	156:12,13,	130:25	361:10	386:4
292:22	14	organs	381:16	overall 68:5
300:15	157:7,8,9	141:11	outfall	70:9,23
301:12	158:10,11,	original	69:18,19	71:9,15
305:25	12 159:5	128:18	70:13	72:16
320:14	160:6,7	129:11	72:16	89:6,7
orchard	163:17,18	134:19	86:16,18	114:22
324:12	164:20,21	234:20	87:13	117:18
order 9:4	166:10,11	265:6	88:21	124:15
72:13	167:10,11	315:16	99:13	144:19
94:17,18	168:10,11	380:16	105:6	147:22
100:8	170:8,9,10	originally	134:23	148:2
103:12	,18,19	127:5	137:9,19	186:22
106:4	172:11,12,	129:23	142:15	195:12
109:13	13	234:21	144:23	214:24
117:13	173:11,12	originate	145:6,10	215:2
145:24	174:24,25	147:9	150:19	292:13
148:5	256:9,20,2	orphans	185:3	295:5,6
160:4	1 265:10	391:16	196:8,13	304:9
163:9	266:4,5,6	osmosis	259:5	306:8
165:13	268:4,5,6	78:22	outflow	307:7
194:4	271:23,24,	others 20:21	85:24 86:4	309:16
279:13	25 273:1	31:2	99:25	372:19
293:14	274:23	109:10	outlast	388:13
307:18	275:1,2,3	123:7	313:24	overlap
366:19	276:21,22,	160:22	314:1	244:3
orders 89:23	23	175:9	outline 29:2	overnight
ore 294:24	277:19,22,	276:7	284:23	322:13
296:5	23	297:16	outlined	oversees
O'Reilly	O'Reilly's	326:13	71:17	387:9
3:19 9:16	45:17	376:22	75:15	oversight
17:5	organisms	384:1,3	124:2	37:23
24:4,6,9,1	147:2	404:1	370:12	42:10
0 27:15	organization	otherwise	output	46:15 47:9
28:5,6	6:3,6,10,1	283:21	206:23	48:7,18
38:11,24	4 47:14	388:25	207:1,4,9,	52:25 57:1
39:10,11,1	63:2,21	Ottawa	13,18,24	241:10
2	64:1,6,11	226:16	208:1	303:11,18
41:5,22,23	224:21	248:14	217:16	304:3
,24 45:22	275:7	249:4	outset	305:21,22,
46:4	276:6	257:3	379:13	23 306:10
47:3,4,5	314:22	272:8	outside	327:7,12
49:12	369:16	291:9	40:23	328:20
50:4,5	organization	381:14	141:16	329:2,7,14
52:16,17,1	al 277:5		160:2	,15,20
8 55:5,6,7	organization			337:16
				338:11,13,

14 339:9	page 5:2 6:2	16	229:24	72:23
340:1	7:2 8:2	129:9,10	parents	104:13
343:17	144:20	130:10,11	249:17	111:3
354:8	206:16	138:3,4	parked	137:19
370:2	214:1	169:6,7	144:16	141:11
374:25	248:23	180:7,10,1	Parliament	171:12
375:4,14,1	345:13	1 185:23	341:15	175:22
6,18	362:14	193:4,7,8	382:20	177:10
377:4,20	390:4	196:4	parti 370:23	186:20
380:5,6,18	paid 364:19	198:17	partial	237:9
,20,22,23	366:8	199:9,10	206:9	242:13
381:3,19	pain 255:10	200:8,9	partially	263:2
383:4	painful	201:3	113:22	288:10
386:11	387:12	213:22	partici 55:2	369:1
388:3,5	pains 315:6	224:1	participant	370:9
404:3	painted	225:5	31:8	384:4
overview	391:4	226:20	55:1,13,20	403:14
5:23 64:25	pale 350:24	227:9,10	56:1,7	particularly
68:5	Palmer 3:5	228:23	57:5,8	73:17
278:10	Pamplin	230:3,12,1	202:2	137:7
279:11	389:6,7,8	3	289:23	337:4
287:17	394:13	231:14,22	290:3	369:14
290:23	panel	232:5,17,2	participate	370:7
ownership	15:3,4,7,9	5 234:18	56:21	373:15
339:7	285:13,15	235:1,7	199:21	parties 9:25
381:7,9,17	291:12	236:8	224:14	10:1,8
oxidization	351:14	238:4,20	228:12,21	28:14
150:13	paper 53:6	239:4,14	274:17	33:21
oxyanions	206:14	265:21,22	375:10	44:11,22,2
206:11	207:21	266:19	participated	3 49:6
oxygen	211:21	267:16	65:14	54:8
150:14,15	220:4	268:23	325:21	63:1,9
oxygenation	248:22	290:22	participatin	122:12
148:23	272:14	303:10,12,14	g 281:22	128:19,23
	382:9,21	307:5,12,1	participatio	140:14
	383:6	5 308:7,14	n 44:22	155:3
	402:1	330:15	54:23 55:3	199:19
	papers 55:24	332:10	56:18,24	234:23
	204:21	337:24	101:19	240:6
	209:7	338:25	199:1,2	265:11
	210:19	339:1	370:3,7,20	269:5
	211:4,22	344:17,18	,23,25	283:10
paced 258:18	Paradis 2:19	parallel	377:3	288:13,14,
paces 258:19	12:19 23:2	344:9	particular	17 292:6
pack 246:6	96:19	parameters	13:8,17	304:12,20
package	97:14,15,2	73:16	34:12	305:9,19,2
83:20	4 98:3	74:15	41:10 47:1	4 329:4
132:22	128:13,15,	237:17	71:12	337:11
		pardon		338:3
		182:20		339:3
				368:3
				375:22

partner	345:21	245:11	58:20, 21	313:1, 3
275:14	353:6	256:16	77:4 79:7	315:7
partners	360:1	265:18	87:14	316:2
255:18, 20	396:13	266:17	103:2	318:19
partnerships	path 252:19	267:14	115:20	319:7
329:17	314:25	287:15	122:18, 19,	324:9, 11
party 15:18	patience	306:20	23 123:3, 6	325:2, 19
24:1 195:5	28:6 119:2	308:5, 24	125:15	328:20
271:5	173:13	311:10	142:8	329:18
339:13	patterns	330:13	151:13	342:25
party's	242:18	331:5, 11	173:21	345:4, 9, 15
121:1	Paul 2:3	332:6	175:18	351:14
pass 79:22	pause 12:17	346:18	178:9	353:3, 19
84:18	19:21 20:3	362:1	183:8	354:5
101:8	22:25	367:3	187:5	356:11, 15
110:25	27:22 39:1	405:16	189:23	357:7
138:8	62:9 67:25	pausing	217:24	358:11
203:3	89:19 90:4	39:12	218:3, 15, 2	359:14, 18
236:19	93:18	pay 142:9	0, 21	360:3, 5, 6,
297:7	96:17	263:14	220:19, 23,	10
passage	98:19	264:23	25 228:16	361:6, 9, 13
349:7	102:4	267:5	235:4	, 24
390:23	103:9	353:3, 5	243:7, 25	362:22, 23
passed 24:16	106:1	paying 264:4	244:3, 7, 12	363:4, 6, 9,
247:12	116:22	353:5, 7	245:21	18
250:7	118:25	peace 1:22	246:6	365:1, 3, 5,
316:14	130:8	10:21	247:8, 20	13
396:22	143:25	23:25	248:13, 18,	366:1, 12
passionate	144:11	142:4	19	369:6
366:25	150:24	276:7	249:7, 12, 1	372:12
passive	152:16	279:8	3 250:11	378:23
209:11	154:25	360:24	251:3, 25	389:11
past 67:19	156:4	peak 74:22	252:3	390:11
76:20	159:3	Peddler	254:24	396:21
113:12	165:21	135:11	255:6, 21	398:16, 24
133:16	166:23	peer	260:23	399:1, 3, 13
158:16	169:4	15:3, 4, 7, 9	261:1	, 24
190:13	170:16	, 17, 19	269:19, 23,	400:17, 22
192:10	172:8	285:13	25	401:21
195:6	176:9	291:12	270:8, 11	402:21, 23
202:19	180:13, 18	pen 312:16	273:16	403:5
245:19	184:1	402:9	274:7, 8, 15	404:9, 24
254:19	185:21	people 13:19	, 16, 21	people's
260:8	187:20	15:6 31:10	279:13	142:4
275:18	188:9	32:14	283:19	191:6, 7
283:8	198:15	33:13 36:4	284:2	219:20
309:24	200:6	40:3 41:11	287:8	226:9
314:2	201:1, 21	44:3	289:9	322:6
320:25	202:10	45:2, 4, 11,	293:15	356:6
	204:16	14 55:21	296:7	per 69:24
	219:24		300:13	70:1, 3, 7, 1
	230:9		307:19, 22	1 71:25
			310:19	72:4, 5, 7, 9
			311:20	

,14	208:9	38:15 90:6	382:23	333:2,17,2
73:3,4,8,1	219:16	91:6	388:10	4
2,13	perfectly	108:13,14	404:11	334:2,12,2
74:4,6,8,2	112:23	148:5	perpetuate	3 335:20
3	113:1	265:20	388:25	336:2,23
76:8,13,25	performance	321:25	perpetuity	338:20
77:7,17	6:5,8,12,1	342:10	108:11	340:4,7,24
93:3	6 24:15	periodically	317:2	342:4,18
94:17,19	25:6,10	378:16	354:11	phase 80:6
99:24	34:16	periods 21:5	376:7	81:6,9
104:6	37:15	82:25	390:5	135:16
119:7	63:3,6,22	138:20	person	149:17
142:23	64:2,7,12	peripheral	15:9,10	202:25
145:24	216:7	214:6	25:14	322:1
148:6	performed	permanent	218:2	339:19
181:2,5,9,	17:19	30:6	323:18	phases
11,14,17,1	perhaps	35:9,10,14	391:23	202:25
9 182:12	17:12	37:3,19	personal	305:17
184:25	18:4,16	permission	31:16,25	phone
194:4,14	19:7,12	127:1	42:6	224:16,23
197:12	29:15 33:9	133:13	319:11	phoned 249:2
206:22	47:10,18	permit	342:5	phones 9:20
207:1,3,5,	48:13	246:24	personally	283:6
8,10,17	53:16	247:1	49:22	phonetic
208:2	105:7	252:1	171:3	4:11 59:13
213:15,16	109:15	384:20	222:13	196:20
214:10,12,	110:4	permitted	personnel	204:22
20 275:6	167:14	102:6	48:12	206:17
322:19	171:19	perpe 354:11	persons	218:2
326:2	175:17	perpetual	25:14,16	248:10
333:16,19,	182:14	28:9,13,22	275:24	255:22
23 334:9	184:12	29:24 30:4	perspective	278:24
335:15	185:13	34:3 37:8	20:17 21:1	390:12
362:22,23	187:2,13	49:21	30:24	395:1
363:3,4	190:24	57:22 59:4	81:16	402:13
percent	191:7	79:8	150:7	photographs
149:14	208:6	303:16	181:13	307:8
185:7	217:23	304:1,14,1	182:2,17	phrase
213:17	242:10	5,16	221:21	353:23
215:1,2	244:23,24,	316:18,19	225:10	physical
217:17	25 259:3	319:19	244:19	145:12
294:24	276:17	322:2	381:13	150:20
368:9	320:16,22	323:2	pervasive	169:22
perception	334:25	327:6	372:14	172:18
11:24 39:5	353:3,6	343:7,13,2	Peter 307:21	304:2,5
Percy 1:16	363:12	0 352:23	331:8,13,1	323:10,25
51:7,8	perimeter	366:9	4	324:3
215:6,7	332:20	375:6	332:8,12,1	physicists
273:23,24	period	376:3,4,15	9,24	369:2
281:8	5:11,15,20	377:5		
perfect	36:15			
167:3				

pick 43:22	96:13	125:6,11,2	385:19	19,22
picked	133:5	5 143:3	planet	155:15,20
127:19	364:16,20	175:15	390:15,24	156:17
picking	365:7,8	195:4,10,1	planned	173:18,22
49:12	366:8	2	20:25	174:18
253:21	pliss 390:22	198:7,19,2	79:15	177:12
323:18	pit	1 200:11	144:16	178:18
359:7	107:16,17,	201:6,9,14	184:5	179:11,12,
picture	20 108:4	222:21	290:20	15,16
111:11	111:5	286:2	342:15	180:4
114:10	300:7	288:7,23,2	387:19	181:16
115:24	pits 294:16	4,25	planning	182:4
132:2	297:13,16	289:7,24	67:2 77:5	183:6,17
138:17	300:6,8,9	292:1,23	132:17	184:24
182:4	pla 292:1	293:25	149:2	205:5
218:23	placed	294:1	289:19	206:3
274:14	193:21	295:2,10	304:19	210:9,11
294:5	placement	296:19	322:2	216:24
302:1	195:18	297:15	plans 34:24	219:15
399:11	places	298:6,18	47:24	236:23
pictures	243:13	299:20,21,	48:1,3,24	257:20,21
307:7	placing	24	66:15	258:4,8,11
pie 399:12	124:21	300:3,6,10	68:14	262:9
piece 162:12	plagues	,17,20	123:22	298:21
401:25	393:12	301:1,8,15	184:11	299:1
pieces	plain 345:3	304:15,16	198:10	300:21
115:24	plainly	305:2	200:20	366:15
piezometry	163:13	314:11	255:13,19	386:2
196:15	plan 12:24	321:20	338:5,11,1	plants
pile 142:8	29:24	322:18	5	251:5,18
Pilot 314:23	30:2,4	323:22	339:11,15,	252:6
pink 248:5	32:16 37:8	326:24	20,24	253:22
pinpoint	40:12	327:4	374:17	play 129:1
17:6	44:2,9	331:19,25	377:3,5,7	195:8
pipe 69:19	48:5 57:22	336:12	379:24	237:25
80:22 81:1	58:9,22,23	338:21	381:23	267:9
82:1,4	,24 59:2,4	340:20	plant 8:14	355:21,22
91:4	60:3 65:2	341:11	68:23	362:24
120:19	66:7,19	342:11	69:14,15	397:5
216:8	83:13	343:7,13,2	76:18,24	404:8
236:22	84:22 95:9	0	78:1,6,14	played
364:14	98:5	355:16,17	79:9,13,15	100:23
piped 253:19	100:23	356:3	,19,21	225:24
pipeline	115:6	358:14	80:12	318:10
68:12	117:1,6	359:9	81:23 82:7	playing
80:13	123:22	361:23	88:16	56:10
95:7,13	124:8,17,2	366:10	93:24	ple 76:18
	1	370:21	102:12,16	please 20:1
		373:19	105:4	62:19
		376:7	116:1	68:16
		377:10	118:5,6,14	69:5,20
		379:4	120:17,18,	
		380:4		

70:23	237:2	236:23,24	393:9	149:18,19
71:15	plumes	237:9,11	poke 327:21	port 28:15
72:22	219:10	240:12	policy 26:20	32:13,17
75:14 76:6	plus 82:14	277:11	polished	59:13
77:3,13,25	198:9	302:8	210:12	60:11 81:1
78:12	219:11	310:3,23	polishing	90:23
79:14	podium 27:19	322:15	210:10	portion
81:11,20	64:17	331:22	political	71:23
83:16 84:3	318:19,20	332:3,9	11:12	92:12
85:20	362:7	333:24	349:17	133:17
86:7,24	point 13:25	336:4,17,2	374:23	310:6
87:21	18:5 20:16	4 337:7	politicians	portions
88:15 89:5	28:19	338:6	404:7	91:21
97:25	37:1,7	339:5	pollutants	301:2
98:1,17	43:22 75:3	340:14	361:3	373:25
103:7,12,1	76:15,19	344:17,21	369:15	pose 90:16
3 105:25	77:1,2	353:10	polluted	posed 7:4
110:10	82:16	354:12	248:4	11:19 27:8
111:4,10	83:19,23	371:22	357:17	290:8,15
113:10	84:1,2	387:18	pollution	325:17
114:8	93:7	388:2,8	359:13	poses 298:15
126:3	103:12,22	pointed	pond 101:15	314:17
130:17	104:14	145:17	257:22	position
136:18	108:19	353:15	363:21	5:9,17,19
155:22	110:15,18	points 11:13	364:5	28:3
165:19	111:24	20:23	365:19	153:17
180:16	116:7,8	49:19	ponding	168:14,19
183:25	119:8	93:21	100:9	240:23
187:18	120:12	103:19	101:13	256:18
204:12	121:2,5	145:16	ponds	positive
205:13	122:12	237:4	68:18,20,2	40:16
232:1	123:18	310:2,4	5 69:6,12	56:19
282:16	132:9	327:16	70:20	69:20
283:5	148:14	338:8	75:22 88:1	188:25
307:14,16	151:11	342:19	294:15	302:18
313:15	154:19	343:4,6	297:21	Possi 180:1
317:15	175:16	344:14	352:12	possibility
331:3	176:19	387:16	poor 33:19	312:14
334:22	190:15	389:10	135:12	possible
337:23	193:25	poison 346:4	145:5	35:7
346:18	194:11	358:16	382:5	106:17
355:3	206:23,24	362:21	popsicle	110:1,3
pleased	207:4,5,9,	379:22	390:19	114:6
115:9	12,14,15,1	403:21	population	178:20
157:21	8,19	404:11	184:14	219:17
368:16	209:13	poisoned	363:10	260:15
plenty 123:3	212:18	247:15,17	pore-water	298:17
plotted	213:5	393:16		299:7
137:3	222:10	poisoning		317:2
plume 90:24	225:17	269:25		
93:5	234:6	poisons		
117:23	235:9,12			

330:4	282:14	predicted	25:11 67:3	3
343:25	354:10	74:11 93:2	72:12 81:5	256:10,18
344:9	389:21	160:2	82:3	257:11
346:18,25	399:12	235:17	127:18	259:13
355:2	powerful	predictions	157:21	265:10,16
378:2	241:25	159:12,15	194:5	268:22
392:7	283:17	160:10	284:17	270:5,6
403:9	powerfully	162:17	292:19	273:5,9,15
possibly	283:18	263:1	309:2,19	,20
369:11	PowerPoint	predictive	379:1	278:9,12
post 46:21	327:8	262:23	presentation	279:11
213:15	powers	prefer 50:17	5:9,13,17,	287:11,17
post-design	389:17	109:4	19,23	290:22
46:22	pr 343:21	preferably	9:16,24	307:2
poster	344:11	205:20	10:1,8	311:18
351:12	practical	preference	24:3	318:15,16
post-water	131:1	266:7	27:15,20	342:20
268:2	155:14	268:8	28:3,8,25	347:3
potable	216:10	preferred	38:6,8,12,	367:18
95:21	practice	127:7	25 43:7	404:17
97:10	80:1	130:19	45:18,22	presentation
potential	169:18	379:13	46:15,25	s 14:11,16
71:4 91:7	practised	preliminary	49:15	40:9 44:13
97:8 99:11	69:16	66:4,25	55:11	65:2,5
102:25	pray 394:9	76:18	57:21 58:2	189:13
103:1	400:2,11	123:20	59:11	240:5
131:20	401:12	126:19	61:19	266:15
135:6	prayer	163:5	62:6,17	270:23
142:25	9:6,8,11,2	165:14	64:19 68:5	273:1
160:15,19	3	prepare	75:10,18	317:17
196:14	405:8,12,1	264:25	84:19	327:9
227:25	8	266:24	89:23,24	350:9
264:16	praying	280:22	90:1,10	371:1
280:15,17	395:24	311:17	92:8	378:18,20
293:20	pre 162:19	prepared	108:22,25	380:1
300:19	precipitate	26:5 34:24	111:25	381:22
311:1,3	205:6	35:20	115:4,5	382:25
323:15	206:1	40:17	157:10	403:19
324:12	preclude	53:20	158:13,20	presented
374:12	102:12	60:15	163:23	31:19
383:11	precursor	66:14	169:10	72:23 77:4
404:19	272:12	204:20	170:13	126:20
potentially	predict	263:13	173:15	135:21
82:16	177:22	293:20	175:5	220:6
150:13	260:8,12	326:16	184:9	271:19
potion	262:4	344:15	202:8	368:18
194:19	power 81:23	400:21	215:12,14	385:5
263:21,25		present	218:10	presenters
		20:19	220:3	64:16
			234:3	202:7
			235:17	265:12
			239:22	286:25
			240:6,14,2	

329:25	96:20 98:4	probability	365:24	192:15
379:5	146:8	11:20	388:12	202:2
382:18	147:23	probably	procedure	205:7
presenting	181:6,23	22:23	161:20	206:6
66:6 68:5	184:23	23:23 27:4	162:5	212:12
225:13	305:4	55:10	346:5	225:25
270:17	primarily	60:22	proceed	229:7
presents	13:4 20:13	101:5,8	62:19	234:25
100:11,12	196:9	125:11	98:17	235:5
126:10	204:25	140:13	195:13	264:2
president	234:21	144:20	203:7	267:9
65:17	235:8	146:19	261:25	279:15
67:19	238:24	148:19	278:14	281:22
269:9	321:18	166:12	279:10	282:3
pressing	principal	182:12	308:2	288:11
345:16	66:9	220:8	355:3	290:9
pressured	principle	222:15,16	proceeding	292:5
360:1,20	65:7	231:16	229:25	299:14
presumably	106:14	232:3	proceedings	308:20
102:20	205:3	234:9	282:11	312:13,14
pre-tech	prior 61:15	239:15,25	290:4	322:15
128:24	143:9,14	276:3	proceeds	327:25
pretend	266:22	277:12	50:16	328:8
353:17	priorities	335:1	process	332:4
pretty 47:6	48:12	367:17	11:18 12:8	346:2,5
138:15,16	301:24	368:9	13:10	355:15
141:17	priority	372:5	16:3,15	356:16,17,
150:17	34:25	379:7	18:2	19 357:13
179:22	114:4	396:12,16	22:2,18,20	358:12
220:24	160:25	problem	31:24 32:3	385:24
269:14	165:3	18:16,24	33:6	387:9
365:4	342:3	19:6 90:16	36:3,13	processed
prevail	pristine	207:23	40:13	69:9
380:14	79:17	231:23	53:24 59:1	processes
prevent	private	261:3	69:11	78:23
121:9	41:18	313:2,13	78:16,17,2	94:12 97:7
285:24	pro 16:11	316:9,18	5 79:3	374:25
295:10	69:11,21	321:19	91:20,22	processing
297:17	74:10 83:8	322:22	92:12,13,1	294:24
prevents	144:22	359:12,15,	8 101:21	produce
300:1	282:19	25 361:24	110:7	159:12
previous	343:13	371:17	115:23	205:25
310:10	proactive	379:17	120:4,22	208:5
327:9	35:13	386:25	135:7,14	361:3
386:10	37:17	389:23	137:18	produced
previously	102:22	397:9	139:3,6	28:17
68:23 73:9	proactively	404:10,11	155:19	36:10
79:16	344:7	problems	162:17	229:23
		46:8	163:2	296:5
		106:15	167:6	357:8
		226:10	179:11	362:10

producing	166:15	158:22	293:21	403:14
282:20	168:6	168:15,22	295:1,5,7	projected
361:4	172:16	169:7,11	302:17,22,	148:11
	173:5	171:12	23	
production	186:3,12	172:20	303:5,15	projection
241:16	190:5	181:8	304:9,22,2	147:1
323:19	237:7	185:24	4	projections
productive	265:1,5	188:24	305:3,7,17	148:12
242:6	266:25	189:3	,24	
	287:25	190:6	306:6,13,1	projects
professional	288:2	192:4,12	5 311:3	61:1 65:15
319:10	299:15	193:8	313:12,15	66:12
343:7	301:20	196:5	314:23	67:8,11,16
347:9		198:18	319:4,7	,20
360:11	programs	199:10,15	321:23	151:19,25
	47:18	200:9,13	322:13	152:25
professors	86:25	201:4,7	323:9	171:6
257:1	140:1	209:6	325:15	283:8
272:7	171:5	213:7	326:1,13	325:22
profile	186:1	221:10	327:24	356:12
136:4	316:22	222:3	328:21	361:2
150:16		223:4	330:17,18,	376:15
	progress	224:2,15	22 337:25	387:23
profiles	33:22 47:9	225:14	339:1	
147:2	375:24	227:13	341:5,14,1	project's
158:16,19	376:21	228:22	8	61:6
		230:4,13	342:1,2,25	projet
program	progressing	231:15	343:15,19	330:16
6:4,7,11,1	86:23	232:6	344:19	
5 8:11	project 1:5	234:19	345:23	Prominent
18:21,22	12:20 13:5	236:9	346:1	375:8
19:14 21:1	23:3,5,20	238:5,11	355:7	
24:14,23	25:2,23	241:12	356:8,14	promise
35:14	32:7,10,22	253:2	362:11	155:15
37:18	33:17	257:14	364:12,15,	251:15
42:15	40:10 45:9	260:5,21	19 365:8	promised
63:3,6,22	47:20 48:7	261:17,24	368:19	155:13
64:2,7,12	54:6,14	263:3	369:24	202:18
69:11	56:14 59:5	264:17	370:20	251:14
77:10	66:3,17,24	265:22	374:8,9	promises
78:20 83:8	69:21 89:6	266:20	376:16,22	356:14
84:22,24	95:13,15	268:24	377:4	357:16
85:9,14	96:13,20,2	279:6,22	379:23	
87:3,5,9,1	3,25 97:15	283:7	380:6,8,20	promon
0,22 89:12	98:3	284:14,16,	,23	344:10
91:2 99:10	100:11	20,22,25	381:7,15,1	promotes
105:8	108:11	285:3,21	8,19	374:16
125:12,18	114:20	289:12,23	382:13,17	
130:24	121:4	290:6,12,2	383:7	proof 364:8
131:2,25	128:17	3,25	384:9,15,1	proper 124:5
140:15	130:11	291:3,4,7,	8 386:11	298:18
141:3,5,6	132:1	14,19,21	388:2	
143:6	138:12,21	292:7,13,1	389:16	properly
144:16,19	139:5	5,20		96:21
149:2	144:15			298:16
163:25				

375:14	78:14	295:7	8:3,7,12	292:21
property	380:25	298:5	20:6	375:10
181:12	proposed	306:7	26:2,4,10,	provides
proponent	50:10	317:3	18,25 27:7	78:19
90:14	54:25 58:5	341:25	35:5 56:21	140:19
212:21	68:6,15	345:19	66:5 77:8	207:21
238:12	69:5,21	360:13	83:9	300:14
327:2	70:1,5,19	361:24	136:18	301:12
343:15	73:24	366:10,12	154:11	337:18
344:10	82:13 83:3	protected	155:16	388:5
346:11	84:22,25	80:14	157:21	providing
368:13	85:8,14,21	107:11,12	158:1,4	71:2
Proponent/	86:3,10,15	322:7	168:1	104:19
regulators	87:22	356:22,24	171:10	189:13
370:1	88:13,21	358:25	174:5,6,15	276:24
proponents	91:19	protecting	180:22	292:25
320:13	116:7	71:4,6	204:8,19	293:4,18
326:19	121:3	253:6,7	212:13	provisions
350:3	123:24	302:19	220:10	324:24
368:2,20	127:13	341:18	228:23	375:13
374:8,10	129:23	protection	229:20	proximity
375:23	130:2	70:25	231:18	113:17
376:3	170:23	71:11	240:2	172:19
377:2	173:5	201:15	267:21,22	prudent
380:25	185:8	238:7	276:18,25	91:11
387:20	257:13	291:17	277:4,24	psychologica
405:1	279:21,24	293:6	289:1,15	lly 372:13
Proponent's	280:15	299:11,12	290:23	pub 374:18
377:6	284:16	361:9	293:2	public 5:24
403:18	285:12,21	protective	303:10,16	9:4
proportion	290:6	45:11	310:7	10:18,25
373:23	311:1	220:7	329:20	13:13,14,2
proposal	336:12	298:25	341:20	4
58:22	341:6	299:11,12	342:24	14:11,21,2
129:11	proposing	334:10	382:21	3,24 28:19
133:1	78:15	protects	provided 7:5	32:6,8,9
198:11	86:19	200:13	8:16 10:7	33:14
257:19	118:10	protest	24:13,19	34:12
258:9	131:11	370:2	25:4 27:10	36:25
270:15	151:16	protocols	31:9	37:14 67:2
280:2	211:9	167:6	55:13,20	95:8,17
342:24	prosecution	proud 360:9	56:17 60:8	107:8
357:22	238:11	prove 137:15	62:21	134:7
proposals	prospering	237:4	66:23	142:12
128:18	242:5	261:7	83:20	157:16
147:24	protect 45:4	proven	109:11	158:23
343:21	89:9 212:5	20:10,11	117:1	160:18
351:4	227:17	89:3 210:4	128:23	168:15,22
propose	246:16	218:4	174:20	169:13,21
25:21 63:1	289:9	provide 7:3	182:16	171:14
	292:1		189:4	
	293:15		192:3	
			202:16	

172:21	369:17,24	132:11	115:22	quarter
179:21	370:1,6,23	163:14	119:15,20	346:3
256:25	371:4	323:9	121:20	que 208:11
260:4,18,2	372:11,15	pursue 326:2	145:3	225:6
0 261:3,24	374:18	376:9	147:21,22	Queen 246:12
264:14	375:4,9,14	pursued	158:14	quest 221:20
268:18,19	,22	333:13	159:22	question
272:2,15	376:12,20,	pursuing	160:11	5:11,15,20
274:11,12	22	325:25	168:18,25	11:13
275:19	377:3,7,8,	pursuits	186:2	15:22
278:10,14	13,19	71:7 359:6	194:1,12	16:21
279:6,12	378:3	push 350:15	197:10	17:23
280:10,12	398:18	pushed	235:20	19:18,24
282:22	403:3,7,11	348:5,20	238:6	21:7,10,12
284:3	,18	351:3	252:17	,25 22:22
285:17,24	404:3,18	pushing	253:7	24:7
286:8	405:3,10	178:22	257:16	26:10,15
287:12	publicly	puts 77:15	258:12	29:6 38:15
288:8,16	261:10	252:14	262:2,4,5,	46:5 50:6
289:5	267:25	putting	15,18	52:19
290:7,18,2	404:3	18:20	264:13,14,	54:22
0 292:1,13	published	44:19	17,20,21	89:24
293:5	110:16	115:23	266:21	90:6,9,19,
295:8	135:11	118:14	267:5	20
300:5,9	pull 83:11	119:22	269:15	91:18,24
301:12,17	125:8	144:23	300:14	92:2,15
303:9,13,1	158:6	185:3	301:11	96:10,15
8 305:9	307:6,12	259:5	331:20	97:4
306:7,9,12	308:9	321:20	332:1,20,2	98:13,22,2
,14,16,18,	pulp 209:17	PWGSC 3:5	3,25	4
23 310:19	361:1	pyramids	333:4,10,1	99:7,8,15
311:12,21	pump 78:2	314:4	5	100:4,14,1
318:23	364:17	qualified	336:6,7,8	8,19
319:14	pumped 68:22	<u>Q</u>	337:1	102:7,11,1
326:17	74:22	46:17	352:19	4 103:14
327:23	pumping	293:2	354:2,3	105:21
328:10	68:18	qualities	358:15	107:1
329:6,24	pumps 78:7,9	137:24	384:3,14	108:10,15
334:13	314:1	quality	quality's	109:10
335:1	purchase	70:2,25	159:13	110:24
336:25	25:17	71:10 72:1	quantified	111:17,22
337:14,16,	pure 294:24	74:7 75:5	149:21	112:7
18	purpose 96:1	82:20 86:8	quantify	113:3
339:23,25	110:19	89:7 91:18	173:20	114:19,24
340:8	156:20	93:2 94:14	quantifying	115:3,8,9
342:7,13	162:13	95:8 97:9	8:13	116:17
343:5,11	344:5	quantities	174:16	117:2
344:14,20,	purposes	376:11	quantity	118:3,23
22		384:8		119:17
345:20,24				120:15
346:13				121:10,17
347:11				124:11
366:12				
368:15				

126:6,16	220:15,16	27:8	270:21,25	193:9
127:11	221:12,17	38:6,10,17	271:5,8,10	206:5,17
128:4,7	222:17	,22,24	273:21,25	208:3
131:9,23	226:19	41:3	278:2,3	209:12
133:15,20	229:17	43:3,6,9,1	287:3,4,7,	230:5,14
135:9	234:3,16	3	12 308:1	243:12,24
137:25	235:3,16	45:17,19,2	310:18,21,	257:9
138:2	238:3	2,24	24	270:13
142:13,14	255:24	51:9,13,17	319:1,6,12	272:19
143:23	263:11,12	,21,25	,15 320:10	297:18
146:5	265:20	57:20	324:19	313:23
147:5	268:14	89:25	326:25	321:16,17
148:23	269:11	91:17 96:7	331:1	347:9
149:6	271:16	97:2,19,23	334:21	382:18
150:5	272:1	98:11,14,2	337:12,21	383:24
151:10,22	273:5,9	3 107:4	383:5	quote 259:14
153:2	274:23	108:22	385:7	389:13
154:20	275:4	112:7,12,1	403:1	390:4,21
155:25	277:19	4,23	quick 28:7	quoted 210:7
156:23	319:18	115:15	78:13	quotient
157:19	321:1,10,1	117:8	155:11	135:25
159:18	2,14	125:20	183:2	quoting
161:6,15	322:10	133:15,25	216:15	214:4
162:8	323:5,21	134:9,11,1	225:6	
163:19	324:24	3,15	256:11	
164:15,16,	325:8,13	151:2,6	351:18	
19	327:1	154:17	352:15	<hr/>
165:8,12,2	328:16	155:6		R
5	330:6	164:8,11	quicker	Rabbi 317:25
166:13,21	337:10	170:14	27:18	Rachel 1:17
173:2,14	340:15,17,	175:1,9	quickly 9:22	51:18,20
175:4	23 372:23	182:19,22	162:3	218:12,13
184:21	373:7,10	189:15	242:11	219:21
185:19	390:3	192:1,18,2	247:12	220:13,14
186:6,23	398:19	3 194:17	265:12	222:19
188:14	401:9	201:18	308:13	223:12,13
189:25	questioning	202:7	326:20	244:1
191:1,5,13	109:14	203:24	352:22	273:3,4
192:25	122:6	204:2	355:1	281:14
193:3,9	127:2	208:11,20	quiet 249:11	racks 243:20
195:17	133:17	215:5,8,12	quietness	radiation
198:3,6,19	208:13	,19 218:10	103:13	190:19
199:11,25	259:10	220:13	quite 30:22	radio 330:6
200:18	questions	223:22	38:1 44:5	Radium 28:15
201:12	5:6 7:4	226:5,7	71:22	32:13,17
202:14,22	9:24	231:9	76:10	59:13
204:6	10:4,6,14,	240:8,16	84:24	60:11
205:11	16,23	247:22	88:14 92:2	radius
208:25	11:3,7,10	256:8,11,1	100:6	253:13
213:1,20,2	12:12	3 259:1	140:18	rain 391:8
1 216:15	15:24	265:12,15	160:1	raise 35:13
217:20	23:22,23	266:14	162:1	
218:14	24:2,11	268:21,24		
219:22		269:4		

78:9 319:7	1 191:23	334:3	56:22 58:4	322:22
raised 30:14	192:17,19,	reached	59:21 61:2	rear 81:1
35:11 63:1	21 240:25	280:9	101:23	reason 17:9
112:23	241:1	reaches 74:3	104:19	61:1 108:2
151:11	245:8	277:17	137:2,14	146:13
160:16,19,	256:12	reactive	145:9	192:13
21 164:15	range 82:6	205:21	149:19	242:19
168:18	206:17,21,	readily	208:4	286:3
209:9	23	133:10	211:21	355:11
231:10	207:2,4,7,	174:5	219:15,16	359:10
259:11	9,12,13,16	182:10	221:2	367:12
263:11,12	,18,24	reading	223:9	371:16
321:16	208:1	46:16	226:7	reasonable
325:20	285:14	125:5	234:13	125:19
331:23	290:15	reads 159:6	242:11,21	143:14
340:15	rapid 88:22	ready 11:11	246:3,9	reasonably
355:9	Rapids	37:24,25	247:4	206:19
377:21,22	243:19	156:15	248:2	342:10
389:11	rashes	240:7,25	249:20	reasoning
394:24,25	368:24	243:22	250:10	195:23
raising	rather 41:15	279:2	251:2	reasons
268:12	171:7	352:10	252:1,15	101:12
396:17	209:22	real 44:6	254:2,24	196:21
rambling	223:16	142:5	255:14,15,	235:9
57:4	259:5	370:20	16	284:8
ramp 81:13	302:20	398:15	256:11,22	316:23
309:4	321:18	realignment	257:5,8,25	reassure
310:16	377:8	100:7	259:20,23	187:12
ran 180:5	388:4,11	reality	261:14	reassured
263:20	rationale	119:2	264:10	187:7
391:17	171:11	398:21	272:16	rebuild
393:16	Ray 2:22	realize	311:17	387:17
Randy 4:6	228:4,5,6,	63:12	318:16	rebuilding
11:9,14	14,18,19,2	134:19	319:8,12	297:5
12:11,13	0	144:25	320:5	recall 13:15
15:23	289:13,16,	155:10	324:7	14:13
17:24,25	17	313:24	335:3	127:4
21:9,11	373:11,12	realized	336:5	129:24
43:8	re 16:15	253:3,4	344:25	receive
175:6,9,13	29:19	really	348:17	403:6
177:2	87:23	18:1,20,25	350:14	received
178:8	96:11	19:4,9	355:15	7:15 56:7
179:19	149:17	21:14,22	357:9,22	67:19
180:6	262:10	29:21 32:5	360:18	179:3
182:20,23	285:4	34:8 35:22	367:15,21	232:11
183:1,4,23	reach 54:4	40:5	368:14	233:18
,24 184:3	72:9 76:9	42:1,24	370:5	receivership
185:10,11	158:21	45:8 46:18	384:22	
186:15	159:14		389:19	
189:9,25	160:12		399:19	
190:9,10,1			403:1	
			reapproach	

293:10	293:2	96:2,3,9	330:8	4
receiving	372:9	109:22	337:5	334:2,12,2
75:20	recognizes	112:5	rectify	0,23
88:10	92:19	120:18	148:19	335:20
93:25	380:17	144:14	red 365:20	336:1,2,3,
343:24	recognizing	153:11	redirecting	23,24
recent 24:14	72:7 132:9	180:11	70:8	337:21
72:12	recollection	190:3	reduce 70:3	338:20
134:24	15:7 130:1	195:1	88:2,6	340:3,4,7,
138:24	recommend	201:24	90:24	23,24
139:23	54:5	229:19,25	99:6,12	342:4,5,19
140:11	195:11	230:7,15,2	101:12	reenforce
218:1	340:11	1,22 268:8	179:12	244:25
225:16	346:25	276:19	189:1	refer 129:5
259:13	360:16	285:24	295:17	142:6
recently	recommendati	286:8	301:2	reference
17:8 55:19	on 261:12	304:15	306:8,11	46:6 86:16
138:23	264:19	325:8	377:7	140:9
243:16	265:7	335:23	reduced	141:1
281:21	268:3	352:4	99:22	157:10
355:16	321:3	378:3	179:22	286:11
375:2,22	328:4	382:3	197:6	325:9
recessing	342:16	recorded	206:12	336:18
61:25	recommendati	394:8	records 7:9	369:23
134:3	ons 144:4	58:12	reduces	referenced
188:1	244:18	107:9	69:25	382:16
227:3	254:21	229:24	301:5,11,1	references
354:19	312:16	232:6	7	109:20
recla 67:1	361:22	233:9	reducing	referred
reclaimed	375:15	257:3	100:9	17:4 62:22
383:13	recommended	272:9	185:7	175:18
Reclamat	15:17	304:16	217:16	212:13
330:16	54:12	recover	reduction	218:2
reclamation	261:5,20	242:10	69:22	313:6
67:1 97:15	265:3	recovered	70:6,9,21	337:9
223:3	324:17	194:13	77:11	referring
330:7,21	reconstructi	recovering	87:24 88:2	129:6
recognition	ng 95:7	145:2	94:23	171:20
327:5	record 17:6	recovery	213:17	333:22
370:22	18:20	86:22	214:20,24,	re-filed
388:4,17	19:12	184:16,19	25	17:7,8
recognize	22:6,13	recreation	redundancy	refining
55:12	24:11	177:24	95:5 96:13	285:3
61:17	38:13	263:8	Redvers	reflect
278:25	61:12	299:12	307:22	337:6
290:14	62:24	302:5	331:9,13,1	368:19
376:19	63:11,15,1	recreational	4	384:16
recognized	7 68:4	71:7	332:8,12,1	387:25
292:23	75:13	163:14	9,24	reflected
	84:21		333:2,17,2	

47:10	303:14	on 113:20	relative 8:4	25:23
147:17,19	regions 67:6	reinforce	147:24	remaining
149:18	117:23	242:2	151:19	300:8
reflection	registry	reinstalling	153:16	373:25
104:9	28:19	96:12	154:13	remains
reflections	157:16	reiterate	241:22	286:2
319:6	231:19	270:13	relatively	remarks 5:22
reflects	256:25	reiterated	151:24	9:23 55:11
316:9	272:2,15	155:15	183:5	278:8,22
refrigeratio	282:22	relate	release	279:9
n 322:18	regret	131:16	11:21	289:15
regard 24:12	283:13	139:5	70:15	344:18
55:18	378:14	related	115:18	remed 331:25
168:20	regular	65:2,11	116:8	remediate
264:13	57:12	133:15	118:10	330:22
370:8	80:18	140:6	121:3	372:25
375:13	regularly	206:8	145:5	remediated
regarding	199:15	272:9	247:2	285:4
8:8 90:9	regulate	274:15	280:5	383:22
91:17 95:8	359:22	368:25	295:11,20	remediating
97:23	regulated	relates	300:1,22	289:8
99:13	328:21	115:22	released	291:20,22
100:15	339:21	118:4	85:18	322:5
102:11	regulation	284:19	177:14	remediation
115:3	236:5	331:20	215:20,23	1:5 11:19
122:11	237:19	337:7	216:19	12:3 16:20
168:2	regulations	340:14	318:3	22:18
209:3	140:7	relation	371:6	25:2,23
321:16	236:4	46:25	releases	30:2 32:13
327:24	238:23	267:18	189:1	40:12
361:23	239:1	337:1	213:9	46:10
372:16	328:22	371:6,9	relevant	65:2,13,24
386:8	357:5	relations	141:24	66:2 77:20
regardless	399:17	261:3	231:7	89:6 95:9
286:17	regulator	369:18	286:16	98:5
regards	343:16	relationship	relish 49:22	100:1,23
144:2	regulators	32:5 118:7	relocated	140:12
162:16	372:11	239:8	67:14	147:24
193:10	374:9	246:11	relocation	148:1
regimes	regulatory	267:6	284:24	173:17
359:23	261:8	273:17	relying	187:3
404:6	267:21	388:22	40:22	190:6
region 91:8	359:23	398:13	93:10,12,2	200:10,12
199:5	404:6	relationship	2	201:6,9,14
388:22	rehabilitate	s 16:8	remain 242:9	213:16
regional	295:22	48:17	372:19	214:17
227:21	rehabilitati	313:3,9	376:22	241:6
228:12,21,		317:23	403:25	255:19,22
25 229:4			remainder	279:5,21
				283:8

284:16,19	283:9	341:16	37:14	requests
288:5,7,25	284:13	373:20	48:8,18	191:25
289:6,24	346:18	replaced	136:13	201:11
290:20,23	reminded	79:9 365:9	137:23	require
291:4,5,14	392:2	replacement	171:6	19:10
,21	remote	262:22	reports	23:10
292:19,22,	334:16	replacing	17:12	29:20
24	removal	96:12	24:15,18	50:21 58:7
293:3,17,2	204:9	364:16	25:6 62:22	107:25
1,24 294:2	remove 41:15	365:7	140:4	163:8
295:2,7,10	114:16	report	141:19	206:8
,25 296:18	214:13	6:5,8,12,1	241:17	208:9
298:6,18	218:5	6 7:18	254:12	302:9
299:19,21	300:3	25:25	368:23	388:10
301:20	301:15	28:10,16	represent	required
302:2,3,17	373:20	34:7 36:10	181:25	40:5 44:8
303:1	removed	42:12	274:21	84:13
306:6	111:16	54:12,16	representati	89:11 97:7
323:9,22	113:22	57:6 60:20	on	124:19
326:24	114:17	63:3,4,6,2	381:11,12	126:22
327:4,24	206:2	3	representati	137:15
330:16	297:11	64:3,8,13	ve 22:23	158:1
331:19,25	removes	87:11	378:22	261:13
336:12	177:12	129:12	representati	265:4,24
340:20	178:18	208:3	ves 109:16	286:14
342:25	removing	213:10	represented	292:16
343:19	204:20	214:1	309:12	344:11
362:11	219:16	232:13	representing	346:17
364:12,15,	295:18	233:22	378:20	347:1
18 365:8	remuneration	254:14,15	represents	370:24
379:3	352:8	257:7	29:21	376:8
380:4	remunia	261:10,12	181:17	382:13
383:2	352:8	267:1,25	reprieve	387:23
385:19	render	271:17,18,	226:22	requirement
388:16,23	320:15	20 280:22	reputation	75:18
389:16	renewal	290:1	389:22	172:2
remedies	275:14	293:19,22	req 201:11	176:25
350:16	rep 35:2	295:6	request 25:3	requirements
remedy	repair 299:6	362:10,12,	26:8	23:10 34:3
198:11	302:20	15	153:10	78:24
202:3	repairs	363:1,23	167:18	297:3
remember	66:23	364:3,4	366:7,23	requires
15:2 58:17	repeat	369:8	requested	19:10 80:8
127:6	164:18	377:16	129:15	101:10
194:25	389:11	reported	158:2	291:7
230:5	replace	25:5 72:4	254:10	370:21
249:21	96:23	73:19	310:8	374:20
312:18	reminded	140:4	research	388:2
380:8	reminded	172:18		rerouting
remembered	reminded	reporting		99:5 297:5
394:20	reminded	26:19		
remind 164:7	reminded			

18:22	residential/	respect	responses	114:4
19:14	industrial	100:21	213:7	131:21
32:17	372:24	101:7	319:16	136:7
35:14	residents	141:21	responsibili	145:9
36:14,17	90:17	142:14	ties 53:13	148:1
37:17	263:6	160:9	responsibili	159:8
42:10,15	282:8	163:3	ty 137:8	162:21
48:19	288:24	285:11	170:4	214:17
60:10	289:1	332:1	288:4	241:12
205:17	372:12	333:7	312:24	262:10
208:10	375:1	337:18	317:9	290:11
314:24	377:12,13	369:17	341:25	302:18
317:5	382:7	respectfully	345:20	357:12
320:20,21	383:18	166:4	348:25	370:4
321:5,16,1	residual	226:23	349:3,19,2	377:1
7	148:15	respective	0 351:2	resulted
322:8,12,2	residuals	53:7	397:14,19	32:4
5 323:1	74:17	respects	398:12	resulting
324:25	resolutely	212:3	399:21	74:5,24
344:12	345:16	respond	responsible	93:6
353:19,20	resolution	19:19	65:17	373:22
369:2	175:22	103:17	190:5	results
376:9	resolve	129:22	201:5	16:14
404:10	39:23	157:2	267:8	33:19 34:7
researched	200:20	161:14	280:25	37:14
383:25	260:6	172:25	293:16	72:22
researchers	264:2,8	188:6	396:5	76:21
272:3	268:15	211:11	rest 346:7	102:2
resentment	376:10	261:11	377:15,24	132:16
39:24	resolved	328:9,14	restatement	135:19
reside	258:12	335:10	92:1	138:25
355:10	383:25	339:18	restoration	140:21,23
373:24	388:13	responded	66:18	145:3
residences	Resource	192:3	114:12	147:17
113:18	238:21	responding	restore	202:20
368:6	281:25	148:10	295:22	227:21,25
resident	283:23	response	restored	228:24
67:13	285:9	9:25 41:19	313:6	261:10
347:6,19,2	286:22	49:13 57:5	restoring	297:8
0,21	resourced	134:25	297:4	373:22
378:11	375:15	136:9	restricted	384:11
382:1	resources	142:3	206:7	resuming
395:4	31:9	146:4	result	62:1 134:4
residential	56:11,22	170:12	70:5,7,12,	188:2
302:5	118:5	201:25	20 73:6	227:4
330:7,20	226:18	225:6	75:4	354:20
373:1,4,5,	251:23	265:2	89:6,15	retain
6,14,24	289:20,21	305:2	90:12	206:10
383:14,20,	357:3,6	374:7	94:24 95:9	rethink
23 399:17		377:24		358:19
				return 49:5

108:7,12,1 3 revegetate 300:11 revegetated 298:9 reverse 78:22 274:18 346:17 reversibilit y 30:14 34:1 revert 380:15 review 1:3,10 7:10 12:25 13:13 15:3,4,7,9 ,17,19 18:7 20:23 25:4 26:11 35:20 40:22 50:12 53:25 83:21 104:23 106:24 115:17 118:1 119:11 120:8,24 122:3 125:22,24 126:15 128:2 129:2,7,18 ,19 131:6 132:12,25 134:12 146:2 148:20 151:2,3 152:14 155:17 157:14 208:21 210:22 212:16	213:4,23 218:14 225:11 231:6 232:7 233:11 234:24 257:8 267:3 270:15 272:16,21 274:14 277:24 279:20 280:14,19 281:24 282:13,19 283:7 284:21 285:13,18 288:8 290:2 291:12 305:24 310:25 312:14 319:5 321:24 326:11 338:15 339:17 342:16 367:23 374:14 404:21 reviewed 138:23 139:23 156:9 224:8 322:14 reviewing 35:25 reviews 12:23 372:22 revised 262:8 Richard 1:11,14 51:15,16 215:16,17	216:13,14 217:2,4 218:7,8 273:7,8 279:18 281:12 Rick 4:14 Ricki 3:12 rid 295:19 353:25 ride 394:16 riding 368:5,10 378:13,21 right-hand 114:11 rights 202:2 246:10 251:16 356:22 rigour 372:19 377:2 Ripley 307:20 318:18,22, 23 323:4 326:3,8 rise 82:16 rising 286:16 risk 7:17 11:20 14:24,25 16:6 29:21 44:6 50:23 65:15 88:3 94:1 99:6 100:10,11 109:19,20 110:15,18 114:4 135:6,14,1 5,19 136:20 137:4,5,6 138:18 139:22	140:2 146:25 147:23 148:12,13 149:24 189:4,17 221:4 222:1 224:12 225:13 227:24 228:10 229:2,3 232:12 233:20 262:6,21,2 5 290:15 292:24 298:16 301:2,5,11 319:24,25 382:15 risk-based 114:5 risks 11:17 70:21 100:22 113:23 133:5 135:21 290:7,10 295:17 300:5 301:17 302:23 306:4 319:23 320:3,5 321:20 325:16 river 86:3 94:8 95:16,20 107:16,25 142:7 152:13 180:25 181:1,4 218:16,24 219:6 221:1 242:6	243:2,5,19 250:18,21, 22,23,24,2 5 253:22 269:18 309:24 349:12 358:7,10 360:24,25 363:15 364:10,17 365:20 riders 152:12 393:16 ro 325:19 road 40:20 43:23 79:19 379:21,25 380:3 roaster 104:11 294:11 298:14 roasting 296:5 robust 88:5 304:7 rock 65:21 205:19 217:14 259:5 296:3 300:11 rods 222:24 role 115:21 190:2 195:9 225:24 228:7 229:1,16 369:23 374:25 375:9 376:1 roles 53:13 rolled 391:17
---	--	---	---	--

Roman 275:21	216:24	124:1	176:17	403:8
room 30:25	220:25	125:15	228:24	scares 350:1
31:6 48:13	250:18,22	162:20,22	309:23	scattered
78:18,19	running	163:14	sand 254:6	297:20
79:11 81:2	196:11	169:20	393:21	scavenge
115:20	217:14	260:18	Sandra	100:4
205:21	250:21,24	268:19	394:13,15,	scenario
258:18	267:25	270:10	19,20	18:4
283:20	283:16	288:24	395:3	111:17
308:10	302:10	290:7,10	405:13	304:17
318:7	309:9	292:2	sands 361:4	scenarios
395:19,22	384:10	293:5	400:5	16:13
401:6,19	runoff	295:8	Sangris	17:20
402:15	214:10	297:14	4:2,7 31:1	schedule
rooted	runs 250:24	299:8,11,1	241:3	108:20
111:15	294:17	2 300:5,9	244:23,24	scheduled
roots 111:14	380:19	301:17	245:13,18	108:21
rose 317:18	396:7	306:8	246:1	schematic
318:6	397:1	322:6	256:8,12	78:13
392:22,23	rus 301:2	341:19	269:14	scheme 68:15
Rosemond		342:1	274:5	Schmidtke
135:11	<hr/>	343:11,25	364:6	3:10 65:16
Ross 4:15	sacred 59:22	356:5	370:13	68:10
38:16	313:7	361:9	Sarah 4:13	75:11,12,1
204:1	safe 44:9	362:17	sat 404:22	3
271:4	45:11	371:4	satisfies	science 44:8
rotation	177:7	399:14,16	80:1,4	65:21
287:9	220:8	Sahtu 281:17	satisfy	scientific
roughly	241:9	sake 74:1	75:17	32:17
213:8	259:22,23,	142:4	162:24	60:10
round 69:15	24 260:2	303:19,20,	satisfying	scientist
77:15	298:24	21 314:25	178:4	358:22
88:12,18	302:14	sample 83:20	saturated	scientists
104:21	324:21,22	247:14	150:18	18:15
128:20	325:1,3	369:3	saturation	scler 136:14
routinely	344:7	sampled	371:22	sclerotic
73:16,18	360:4	205:15	Saturday	136:14
87:12	366:13	samples	363:19,20	scope 41:25
Royal 293:9	386:6	83:17	saw 101:16	46:24
Rudy 3:10	405:22	122:15	259:13	95:13,15
65:16,20	safeguards	139:20	327:7	96:23,24
66:2 68:10	300:4	158:15	scale 76:21	284:14,22,
75:10,12,1	safely	171:8	308:9	25
3 88:17	288:19,22	220:21	313:15	285:1,6,7,
ruled 136:1	safer 289:2	227:19	315:13	10
rules 387:24	safest	228:24	335:12	286:4,7,20
run 125:8	374:16	369:4,10	372:8	
	safety 11:20	sampling		
	90:17	85:15		
		162:12		
		172:17		

386:4	321:8	81:8 82:21	151:17	government
387:13	331:21	84:5,8,11	195:14	60:15
scrambling	334:19	94:12	234:4	sell 270:19
11:12	337:7	102:18	249:9,11	357:21
screaming	352:18	111:14	327:3	sen 163:3
253:1	353:9	135:12	352:9	send 280:23
screen 176:7	377:19	139:13	376:14	394:18
361:17	388:2	142:14,15,	seen 30:16	sending
screening	391:19	19,21	59:24	13:21
135:16	seconds	143:1	74:25	SENES 3:2
139:2,9	107:19	144:7,24,2	94:22	65:7
se 181:9	secretariat	5	99:17	292:20
275:6	224:7	145:4,19,2	107:23	senior 33:9
322:19	section	2	122:17,24	47:13
326:2	64:24	146:12,23	135:3	66:3,9
Seabridge	285:8	147:8,9,18	141:12,14	290:25
243:9	sections	148:16,24	150:16	sense 39:25
sealed	80:23	149:3,11,1	170:22	42:24
297:17	297:5,11	5 150:12	208:17	121:12
searchable	secured	254:4	250:4	142:21
282:23	317:1	294:19	269:23	146:4
seas 393:17	376:7	296:25	327:8	226:1,2
season	383:1	297:10	395:21	235:21
123:6,11	securing	371:14	seeps 85:15	276:10
125:14	296:20	seeing 41:14	select	343:8
126:9	sediment	274:12	128:4,5	364:22,24
seasonal	86:21	seek 199:13	selected	sensors 83:1
68:22	111:19	238:12	11:16	sent 15:2
69:16	131:15	267:17	16:6,12	28:12
88:11	133:15	339:24	71:10	204:21
104:17	134:17	344:7	74:13	253:16
173:22	135:2	seeking	119:25	314:12
seasons	137:24	47:12	127:7,22	sentiments
218:17	143:15	210:8	128:9	269:13
seats 403:4	145:11,23	277:3	130:20	separate
second 15:22	146:17	seelie	234:21	15:4
16:5 77:17	147:22	391:12	selecting	110:24
99:8	148:12	seem 49:19	16:20	126:13
100:14	149:9	191:3	selection	224:13
107:6	150:14	195:12	12:2,8	September
171:1	158:19	226:7	16:15	1:24
198:3	181:24	379:20	31:13,14	7:6,19
199:24,25	219:7	seemed 46:20	42:6	27:4,10
203:5	251:19	390:6	127:18	60:18
210:25	262:13,17	seeming	130:19	124:18
228:14	297:9	379:15	202:14	233:5,23
287:9	356:2	seems 18:1,3	selections	septic 100:3
295:13	sedimentatio	49:20	12:23	204:25
	n 68:25	131:13	self 236:4	
	69:12		self-	
	sediments			

sequential 149:10	353:11	401:7,8	shoreline 80:13,15	175:21
sequester 206:1	sets 58:20 178:12	shameful 272:19	195:19,21 251:5	309:2,5 400:12
series 13:23 307:7 310:2 338:5	setting 37:14 62:16 68:7 237:17 393:22	Shannon 2:5 307:20 318:18,22, 23 323:4 326:3,7	373:16 shorelines 247:7	shows 35:23 78:13 85:20 107:7 219:3 294:5 352:24
serious 344:23 369:20 377:13,21 399:21	setup 287:22 seven 204:23 278:16,17 348:13,14 353:14	share 191:11 203:7 245:18 290:18 319:1 329:24 386:14	shores 356:3 358:9 short 17:17 101:6 107:5 108:12 138:6 145:8	shut 183:7 221:9 shutdown 183:8
seriously 306:4 372:7	seven-fifty 78:8 183:19	shares 284:2	150:21 155:10 311:18 312:9 317:14,16 348:24 389:19	shuttle 394:16,18
seriousness 387:13 388:1	seventeen 310:21	sharing 269:20 274:5 401:8	short-lived 303:2	si 283:24
serve 306:11 350:6 387:24	seventy 250:16	sharp 405:23	317:14,16 348:24 389:19	sic 40:13 155:4 386:18
service 228:20,21 275:19 348:24	seventy-five 191:15	she'd 133:21	short-term 72:8 293:25 350:16	sickness 251:10 346:9
service/management 280:4	several 66:25 94:3 103:19 125:12 146:12 152:1,11 161:23 175:14 197:5 225:12 252:21 280:4 310:4 355:10 381:16 386:21 393:5	shee 9:11 215:16	shortly 85:13 193:23,24	sight 243:18 380:14
services 25:17 67:3 95:18 228:8 229:5 292:14,16 293:3,5 301:23	severed 391:22	shelf 254:13,15	shot 318:5	sign 250:4 315:17,20 357:14 393:3
session 5:21 112:21 113:7 160:24 278:7	shake 53:25	she's 133:21 249:3 281:20 378:5	shoulder 123:6,11 125:14	signed 279:13 287:1 307:23 356:25 358:24 382:21
sessions 39:14 129:6 160:23 189:7 195:5 285:17	Shakespeare's 315:16 shallow 102:19 146:18	shift 18:3	showed 13:11 76:8 77:14 176:22 255:21 364:3	significance 161:19,25 263:2 280:17 311:3
	shame 274:11	shocking 257:9	showing 75:8 140:21	significant 11:20 14:6 32:6,8,9 36:25 87:23 89:16 137:16
		shore 80:9,12 81:13 125:2 127:14 300:16 355:22	shown 61:1 72:25 74:15,19 81:15 83:18 87:15,17 94:15	

143:4	340:15	147:24	6:4,7,11,1	207:14
158:23	simply 72:17	173:22	5 24:23	328:6
159:8	102:16	181:8	26:20	sixty 206:22
161:24	118:16	182:14	63:3,6,22	207:13
162:4	126:8	209:11	64:2,7,12	size 81:3
168:14,21	160:1	214:6,7,8,	65:12,25	88:8
169:13	162:1	9,11,16	100:3	107:16,17
171:13	183:16	217:12	113:19	118:16
172:21	231:6	255:3	117:24	119:3,7,13
194:9	244:22	259:3	131:11,12,	,19 141:23
195:9,25	344:9	272:18	18 259:2	150:8
241:13	Simpson	285:4,6	286:9	151:19
258:2	281:9	286:14	287:25	152:20
260:18,20	simul 283:1	288:5,18,2	291:4	177:5
263:4	simultaneous	0 289:5,8	295:14	258:24
264:13,16	283:1	290:8,15,1	324:2,13	313:15
290:11	single 402:9	6	341:11	332:3
292:8	sir 49:7,25	291:16,20	368:23	392:4
303:5,6	62:15,20	292:18,24	375:6	sizes 8:5
334:3	63:15	293:3,4,12	388:10	152:9
344:20	115:15	,17	site-	153:4,11,1
345:24	121:1	294:6,13,1	specific	6 154:13
346:12	232:17	8	135:24	Ski-Doos
368:11	310:14	295:19,21,	333:10	361:15
376:20,22,	sit 35:21	24,25	336:6	skiers
25 388:20	52:5	296:1,24	sits 227:22	259:24
significantl	189:12	297:21	sitting	skill 58:20
y 152:5	190:18	298:4	181:24	skin 136:15
300:25	255:4	300:20	255:25	368:24
signs 250:1	397:15	301:11,17	366:6	392:7
300:7	399:21	302:2,3,24	situated	skip 256:8
Silcock 2:20	401:1	,25 306:4	197:2	Slack 4:3
silenced	404:22	307:8	situation	Slave 3:14
249:6	site 39:18	315:8	18:10,19,2	10:10,12,1
silent	42:17,23	319:12,21	2 19:10	7 32:1
249:12	44:6	322:5	31:21	38:24 41:2
253:6	58:12,15,2	323:14,15,	132:23	43:1 56:6
silt 145:11	1 66:23	16,25	197:9	76:1 85:9
similar 63:7	68:7 79:18	324:3,15	198:11	118:17
78:15,17	85:7,16	325:3,17	348:1,17	143:21
206:3	99:23	332:19	353:21	155:6
207:16	104:2,5,13	364:24	366:17	182:9
238:11	110:17	365:3	372:6,9	192:22
similarities	114:17,22	368:6	382:15	194:17
114:1	121:11	372:8	387:8	195:2
similarity	127:22,23,	373:5,14	situations	197:19
113:24	25 128:5	374:3	117:3	198:1,20
Simon 2:4	130:19,20	376:4	374:13	199:4,14,1
simple 200:9	139:5	382:14	six 53:5	6,21
	140:20	383:10,11,	84:2 85:4	
		13,21,22	195:6	
		385:22		
		sites		

200:16	205:20	smoke 361:16	35:9,10,15	somewhat
269:7,9,19	slowly 145:4	smoothly	37:3,4,5	141:15
,21 270:8	161:13	282:12	41:8	162:14
296:12	249:11	snapshot	45:3,10	184:12
300:16,23	283:4	58:3	49:18,21	371:20
331:15	367:7	snow 125:15	50:1,9,11,	somewhere
350:21	sludge	snowmobilers	13,18,19	18:14
358:7,9	365:20	259:24	58:6	195:21
361:12	small 71:23	snowshoeing	102:22	253:5
sleep 402:11	81:19,21	218:21	261:2	son 402:21
slide 13:11	88:25	social 95:18	316:16	sonar 124:21
15:20 34:1	131:17	228:8,21	320:23	songs 392:19
68:16	145:8	229:5	321:19	sooner
69:5,20	151:24	311:2	344:7	289:7,8
70:23	152:6	316:16	348:5	340:9
71:15	162:11	387:3	353:22	sorry 10:11
72:22,23	178:1	socially	379:22	11:2,14
75:14 76:6	216:17	39:19	397:17,25	24:8 50:7
77:3,13,15	259:3	Society	solutions	56:13 57:4
,25	274:15	389:17	19:15	62:13,14
78:12,13	297:12	socioeconomi	316:7	78:12
79:14,25	302:7	c 24:11	366:1	83:23 85:4
81:11,20	303:2	25:25	solve 365:24	105:25
83:16	309:11	241:9	somebody	110:22
84:3,21	319:25	280:16	10:24 34:9	120:17
85:20	320:3,5	398:8	40:23	126:15
86:7,24	372:5	404:19	61:17	128:14
87:21	392:4	soft 248:5	101:8,24	155:5
88:15 89:5	396:11	soil 114:13	223:21	158:23
107:5,7	399:11	297:19	235:25	159:5
111:10	smaller	300:11	244:14	165:24
113:10	107:23	301:8	246:23	170:18
114:8	146:8	323:25	247:1	171:9
131:10	189:7	324:13	249:4,5,18	175:9
157:9	310:10,11,	356:1	259:24	176:12
158:21	13	373:21	275:6	177:1
159:1	smell 250:13	soils	399:5	180:1,9
163:23	252:17	139:4,12	somehow	183:14
166:13	395:18,19	297:22	255:2	198:25
169:10	smelled	301:9	359:21	200:18
170:12,18	391:16	373:17	400:10	203:5
173:15	395:22	386:1	someone	204:11,13
175:20	smelter	solid 149:17	18:13	208:15
234:4	142:8	solution	122:8	223:13
258:13	Smith	18:5,17,23	329:23	230:22
267:10	275:21,22	19:11	390:18	231:22
309:3	281:13	29:16 30:6	someplace	261:5
345:3	355:7		396:21	275:14,18
slides 107:5	360:23		something's	276:8
307:7	387:4		35:6	283:14,17,
slope				20,24
114:9,14				

284:1,10,1	110:14	154:23	speaks	140:18
1 286:23	sour 88:1	184:8	317:18	speech
287:23	source 71:4	191:23	special	366:25
291:4,16	95:16,20,2	196:6	132:10	speed 312:5
319:20	1 97:11	197:23	specialist	spelling
326:16	194:9	199:10	122:9	386:19
332:24	205:21	201:12	217:10	spend 33:10
333:19	211:6	222:11	specialists	spending
334:18	259:8	228:4,16	15:12	24:21
341:3	263:10	270:4	specialized	301:23
342:22	363:14	283:4	132:3	spent 122:16
373:13	364:9	287:1,8	specializing	190:17
403:19	365:16	303:23	65:10	242:15
sort 18:21	sources	307:19	species	326:14
19:13,14	323:10	308:15	140:10,20,	359:4
34:1,11	388:20	310:20	24 141:16	spill
39:15	south 81:14	325:7	147:15	363:21,23
40:19,22	86:5	331:18	386:2	364:3,5
42:11	142:16,22	334:20,22	401:22	365:19
47:11	310:5	339:12	specific	spilled
53:23	361:12	347:11	20:23 59:7	192:25
55:16	southern	355:6	65:1	193:14
56:11	25:13	368:15	101:25	297:20
154:5	224:22	378:10	143:9	363:25
187:11	space 78:19	384:2	184:12	377:18
190:20	92:23	385:5	200:23	spills 97:8
226:12	119:8	387:4	271:18	98:5,7
236:4	120:5	397:12,13	286:3	spillways
242:18	121:11	399:17	295:9	298:8
244:3	Sparks 4:9	402:25	324:2	spite 365:21
258:1	38:20	405:10	332:20	spoke 196:17
259:7	270:24,25	speaker	340:17,24	248:11
263:23	spatial	398:22	371:3	spoken
266:11,12	161:21	402:17	specifically	254:16
329:17	162:2	speakers	83:12	343:1
368:7	323:24	310:22	85:10	sporadically
390:9	324:8,20	351:19	102:1	139:18
404:4	spawning	354:17,24	117:7	237:7
sorted 266:7	140:17	362:6	169:9,16	spot 196:9
sorts 38:3	speak 26:6	368:9	190:17	spring 83:15
199:13	53:16 56:4	386:10	200:19	359:7
244:7	60:21 72:6	394:13	291:5	SRK 3:9
371:1	109:16	404:15	331:24	292:19
soul 401:18	110:2	speaking	specifics	St 272:4
sound 115:19	129:5	13:7 97:15	144:21	stabile
200:13	130:12	176:12	331:18	
263:1	140:12	178:2	specify	
sounding	146:15	287:20	236:22	
268:7	151:18	336:25	spectrum	
sounds		367:7		
108:12		368:4		
		387:2		

147:13	stage 267:23	226:3	starts 56:10	393:25
149:13	339:6	234:22	309:23	step 21:20
stability	345:5	stands	state 36:10	52:11,22
297:2	stages	241:24	89:14 90:1	56:19
388:14	280:10	start	98:25	139:25
stabilizatio	stakeholder	34:11,18	117:11,20	210:10
n 294:3	305:1	37:2,10	162:18	228:17
296:19	stakeholders	47:23	286:11	238:12
374:17	295:16	49:17 52:1	293:13	Stephen
stabilize	stand 121:20	54:16 59:8	307:25	351:17,21
286:10,14	261:19	60:13 61:5	333:13	352:5
299:24	265:6	84:21	335:23	354:14
379:12	377:17	98:23	380:16	steps 13:1
stabilized	390:13	123:16	stated 16:11	52:8 63:11
322:23	standard	124:15	72:17,21	94:3
stabilizing	121:20,22	125:18	73:1 96:20	137:15
114:20	135:7	136:9	184:23	198:9
296:21	163:10	137:17,22	265:24	199:5,25
372:17	169:18	138:21	267:2	200:1
stablation	178:1	163:6	295:6,9	stewards
374:17	285:5	180:24	388:19	348:14,15
stacks	296:25	183:8	404:1	stir 262:17
104:11	298:22,24	188:5	statement	stone 393:21
Stacy 2:8	330:22,23	227:16	101:9	stop 126:3
staff 2:2	335:17	239:19	102:7	133:21
33:13	372:25	256:20	208:4,13	257:23
45:25	373:2	268:7	217:22	272:20
103:6	377:9	274:4	241:24,25	278:6,15
118:1	383:14,20,	279:3	statements	300:8
119:11	23	281:3	121:2	321:8
120:8,24	standards	348:12	241:3	361:14,15
122:3	97:9	367:20	328:11	393:2,14
125:22	107:13	398:4	states	398:3,5
128:2	116:15	399:7,9	66:13,17	stopes
129:3,20	118:16,18,	405:23	135:15	294:21
131:6	19 236:15	started	314:23	296:3
132:13	299:11	13:12	315:12	stopped
133:17	324:17	28:23 30:9	363:1	193:23
146:2	330:17,20	52:22 59:1	388:8	250:20,24
148:21	346:25	81:5	static 242:9	stopping
151:3	372:24	124:17	stations	37:6 300:9
204:5	373:4,6,14	125:13	132:4,7,15	storage 67:9
210:22	,19,24	126:23	status 370:9	68:19 69:6
213:2	399:15	130:25	stay 48:14	75:24 88:1
271:11	standing	234:20	50:1	183:20
291:8	111:14	246:2	209:21	372:10
368:2	306:2	249:10	246:8	store 75:23
385:11	395:5,9	293:8	282:15	101:17
405:2	standpoint	309:19	381:15	
	109:25	363:21		
		starting		
		124:23		

320:18	402:9	40:19	194:2,13	135:16
stored 88:2	strong 35:23	48:6,14	substantiate	171:12
101:14	145:9	49:14	d 32:1	suggesting
104:9	199:20	139:23	substantive	46:20
296:2	241:25	170:20	375:24	102:13
stories	260:4	190:16	substitute	suggestion
247:8,18,2	261:24	235:23	262:25	57:6,11
5 248:1	381:11	258:3	success	99:4
249:2	stronger	subject	34:16	324:23
251:3	319:16	39:21	37:15	suggestions
storing	strongest	62:25	305:3	28:22
183:15	200:11	111:25	338:9	40:8,16
344:6	strongly	286:21	successful	59:8
story 246:18	386:5	339:11	32:21	254:20
248:20,25	struck 115:2	382:19	99:21,25	suggests
249:4,5	285:13	subjected	109:1	72:13 76:7
257:5	structure	269:24	199:23	91:11
313:2	327:12	submarine	380:22,24	335:12
364:6	structures	364:16,20	381:24	suitability
straight	314:3	365:7	382:10	234:22
54:11	struggle	366:8	suck 389:22	suitable
Strategic	249:8	submersion	sudden	41:9 301:4
289:19	studied 20:9	206:9	222:22	suitcase
strategy	studies 28:9	submission	Sue 200:16	246:7
14:21	81:5,7	55:10	suffer 360:3	sulfur
23:13 68:6	84:10	submit	397:22	253:19
Street 81:17	132:16	224:10	suffered	Suliak
309:8,10,2	134:17	submitted	370:10	394:14
5	135:4,11	55:24	sufficiencie	402:17,19,
strength	136:11,12,	95:11	s 377:10	20 404:15
111:16	17 142:10	129:12	sufficient	sulphur
346:16	184:14	156:8	175:23	246:25
402:4	186:25	227:21	190:14	sum 210:17
stretch	187:11	230:16	233:2,6	summaries
102:24	190:14	289:24	370:6,23	26:25
150:10	205:2	290:1	suggest 54:5	summarized
stretched	224:9	347:16	63:14	139:22
85:6	254:11	subsequent	140:24	summary
strictly	309:19	100:10	232:17	68:14
214:8	323:1	128:21	239:19	210:17
stringent	324:1	149:4	287:5	272:3
71:13	353:12,14,	369:8	385:25	299:20
177:25	15 361:10	subsequently	386:5	302:15
236:13	studying	196:16	387:16	303:16
strive 337:2	18:15	substantial	suggested	306:1
stroke	129:23	123:23	47:21	summer 69:3
312:15	stuff 34:10	substantiall	54:15	125:9
	35:15	y 94:15		

130:2	42:24	surrounding	244:5	304:2,22
202:19	45:12	295:21	sympathetic	308:21
203:6	58:11,12,1	297:16	188:19	316:8
254:1,2	6,19,20	323:17	symposiums	331:22
258:8	109:18	324:3	205:16	334:17
summertime	110:3	surveillance	system 30:19	337:9
355:23	143:17	85:1	37:16	338:1
sun 393:22	146:19	survey 237:8	44:20,21	341:19,21
sunny 255:6	163:12	373:3	45:12	350:20
281:19	164:11	Susan 3:15	47:15	358:20
sunshine	193:9	39:3,7	68:17,25	398:5
391:8	260:25	41:4,5	69:5,10,19	systems 16:9
supplementar	261:13	43:2	,25	35:2 79:6
y 220:14	277:2	194:18	70:2,5,14,	141:15
suppliers	282:12	198:2,3,24	19	208:5,7
25:18,19	302:13	,25	73:22,24	209:22
supply 196:1	307:11	200:3,4,17	75:4,15,19	283:25
197:5,17	316:24	201:23	,21 78:9	304:4,5
365:2	317:21	suspect	79:11	
386:9	327:14,17	110:6	86:23	<hr/> T <hr/>
support 25:1	329:15	sustainable	87:22	table 5:1
41:16 66:6	335:23	329:1	88:13	13:15,18
71:1 107:4	358:20	396:25	89:15	32:15
224:3,11	359:23	sustained	92:18	36:20
251:23	370:12	288:21	94:8,21,24	73:15
255:10,11	374:15	Suzette	95:4,5,6	74:9,14
274:8	378:8	386:18,20,	104:18	104:1
292:22	384:1	24	105:5	106:12
337:18	395:6	swam 251:4	117:18,20	188:5,7
368:7	surface	254:1	122:8	197:24
372:17	69:6,9,13	swastika	124:1,5	213:10
supporting	70:20 74:7	315:19	137:18	214:4
121:22	75:22	sweeping	140:16	tables
293:23	77:24 78:4	100:6	145:1	299:18
supports	86:8 88:1	swim 250:3	146:18	tailing
304:24	89:7 91:1	254:7	148:3,10	364:4
suppose	99:1	swimming	150:21	tailings
46:24	101:13,15	71:8 254:3	159:7	66:14,22
231:5	103:21	369:19	163:9	68:19,21
352:19	115:3,4,5	sylvan	179:5,7	69:7 77:23
supposed	159:21	211:24	181:23	113:17
129:25	183:21	symbol	182:7,8,11	147:10
210:25	196:23	315:20	185:8	192:25
253:6	213:9	390:12,14	194:10	193:10,14,
395:24	214:10	symbolic	197:7	21 194:8
396:2	294:23	243:14	206:19	257:22
sure 13:16	295:13	symbolically	209:12,14	280:5
39:15	297:25		217:8,11	294:15,16
	299:2		284:6	297:20,21,
	surprised		292:5	22,24
	223:4,9		302:11	298:1,3,6,

8	402:5	Tarfon	199:15	106:24
300:10,13,	talked 40:3	317:25	201:4	107:1
16,17	42:12	target 72:16	209:7	112:18
352:12	59:12	73:3,8	220:18	128:24
363:20	60:16	76:14	222:14	129:6,18
365:19	75:19	335:15,18	224:2,4,11	130:1
403:22	144:17	targets	,15 225:12	133:14
taking 61:15	166:14	25:21	226:14	146:2
73:5	175:16	336:20	230:4,14	160:22
134:15	189:9	Tartan	232:6	195:5
171:8	248:18	243:19	234:8,19	204:5
181:18	275:5	task 318:3	236:9,11	209:6
182:4	398:2,22	326:12	255:23	210:22
240:1	talking 18:3	390:17	265:22	211:14
249:12	46:18	tasked	266:20	235:9,10
349:18	48:25 53:4	325:15	268:24	241:16,18
351:10	58:1,16	tasks 66:25	291:11,21,	257:15
389:9	103:21	taste 250:12	23	261:2,12
398:5	110:9	252:16	292:17,20	271:8
talk 24:5	113:24,25	395:21,23	303:15	285:14
28:12,15	141:5	taught	325:15	291:10
29:3 34:15	152:3,4	395:25	326:1,13	292:20,21
38:1 40:17	167:16	taxpayers	330:16	308:20
46:23	180:23	137:13	337:25	344:8,9
53:8,21	181:18	320:12	339:1	351:5
68:10	185:6	383:18	351:5	372:22
79:23	226:8	tea 251:4	386:5	379:1
103:6	242:20	teachings	teams 67:7	technique
112:25	255:12	396:3,18	295:7	100:1
143:11	256:2	team 12:20	319:7	techniques
184:17	266:10	13:5	tear 301:15	353:22
199:21	268:11	23:3,5	teas 15:15	technologies
214:8	271:20	46:10	tech 28:1	35:25
226:24	280:8	65:13 66:2	236:12	78:22
245:20	347:13	76:16	241:18	technology
246:21	348:15	83:11	308:19	18:8 20:11
249:6	353:12	96:20	316:10	21:4 34:2
257:12	394:21,22	97:15 98:3	technical	44:8 50:12
258:17	396:11	101:25	2:12,13,14	78:14
259:7	399:16	128:17	,15 12:2	79:1,11
262:7	402:6	129:22	13:13	88:8,16
275:6	talks 46:10	130:11,22	29:5,9,13	106:17
303:22	163:24	169:8	35:20	117:11
305:13	171:2	170:3	39:14	151:18
328:8	173:16	185:24	42:12	155:14
343:4	tampered	193:16	45:21,24	210:18
348:13	316:3	196:5	54:12,15,2	286:1
350:10	tapped	198:18	4 57:6	352:18
384:4	376:16		65:1,12,18	353:9,16,1
392:17	tar 361:4		98:10	7 379:19
394:21	400:5		104:23	temp 316:3
398:19			105:15	

temperature	294:1	279:24	11:9 12:14	106:3,6,21
82:5,9,11,	295:10	281:1	15:23	,23 107:3
13,14,15,2	302:24	282:6	16:23	108:16,18
4 83:25	304:6,8	340:19	17:24	109:5
91:3	319:22	Territories	19:16,19	110:11,13,
124:20	320:3	24:20	20:5 22:21	19,20,22
158:18	327:13	43:19	23:21	111:8,11,2
206:7	329:21	157:11,23	26:6,7,16	1,23
215:22	348:22	172:21	27:1,18	112:9,17,1
216:5,11	350:4,5	226:15	38:4,5,18,	9 113:9
219:11	379:24	228:8	21,23 39:9	114:22,23,
309:21	386:12	238:21,22,	41:1,4,21	25
temperatures	389:19	25 239:1	42:25	115:9,11,1
205:2	403:18	269:20	43:3,4,10,	3,16
temple 391:4	terms 24:21	289:13,22	15,21	116:16,18,
temporal	37:5 42:9	290:6	45:16,20	24 117:25
286:6	47:12	292:12	46:3 47:2	118:22
temporary	120:10	293:16	49:1,2,4,8	119:2,10,1
302:25	141:24	301:25	,11 50:3,6	2,16
353:24	151:15	302:16	51:2,4,6,1	120:7,14,2
ten 10:15	152:20	325:11	0,13,14,16	3,25
18:7 19:2	157:25	341:8	,20,24	121:15,16,
35:20	167:6	355:8	52:15,18	18 122:1,2
50:12	192:8	362:10	54:21	123:12,13,
61:15,22	216:10	territory	55:3,4	15
197:13	219:9	152:1	57:12,14,1	125:21,23
204:23	221:23	Terry	6,18 59:10	126:5,14,2
247:16	223:3	389:6,7,8	61:8,12,23	5 127:10
263:21	237:22	394:12	62:15,20	128:1,6,8,
287:5	269:15	test 140:2	63:16	11
294:2	276:17	147:17	64:21,22	129:2,8,19
311:17	277:1	149:10	67:23 68:2	130:5,12
316:13	286:11	206:19	75:12	131:5,7,22
321:25	301:22	testimony	84:19	132:12,14,
348:15	311:16	356:10	89:17,22	24
350:10	322:25	testing 75:7	90:7,18	133:6,8,22
tend 145:4	328:7	76:19,21	91:13,14,1	,25
194:19	332:14	147:18	6,23	134:13,15
237:2	333:17,20	149:10	92:3,4,6,1	138:1,5
tens 276:3	335:1	172:4	4 93:8,15	141:19
term	336:18	267:19	94:25	143:22
17:16,17	340:19	324:14,16	95:2,22,24	144:1
37:9 80:19	369:23	335:12	96:5,8,14,	145:25
132:1,6,8	373:2	tests	25	146:3
146:17	374:21	384:5,8,11	97:1,3,12,	147:3,4,6
150:21	376:6	,16	17,22	148:22
188:18	379:11	text 318:14	98:9,16,21	149:5,7
241:12	terrible	378:2	100:16,17,	150:4
265:4,24	39:21 61:6	385:10	20 102:9	151:5,9,20
292:2	territorial	thank 9:10	103:3,15	,21 152:19
	53:3		104:22	153:13,24
	226:17		105:9,11,1	154:3,8,19
			3,14,18,23	,21
			,24	155:1,2,8,

23	210:21	273:1,2,6,	374:4,6,7	268:5,19
156:6,10,1	211:11,13,	8,11,14,19	376:19	271:24
1,22,24	15 212:8	,21,22	377:25	275:2
157:3,18	213:19	274:1,3,4,	378:1,4,6,	276:22
158:9,25	215:3,5,9,	9,24,25	9	277:6,22
159:17,19	11,14,15,1	275:8,23	385:4,7,8,	308:22
160:5	8	276:13,14,	11,15	323:4
161:11,16	216:1,12,1	16,19,20	386:15,16	325:13
162:10	4,21	277:7,17,1	387:1	326:5,10
163:16	217:2,4,19	8,25	389:4,5,7	353:13
164:5,20	218:6,8,11	278:1,5,15	394:11,12,	390:4
165:9,10,1	219:20,21	279:3	18	that'd
7	220:1,11,1	281:18	395:5,7,15	279:14
166:8,9,20	2	287:12,18	397:11	that's 10:14
,25	221:15,16,	289:15,16	399:23	13:20
167:8,9,17	18 222:17	290:24	402:16,19,	15:25
,20 169:1	225:2,4,8,	303:8,12,1	24	16:21
170:7,20	22 227:10	3	404:12,14,	20:16,17
171:16,18	228:5,18,1	306:17,22	16,25	21:13
172:10	9	308:17	405:2,20,2	23:7,8,12,
173:1,3,9,	229:10,11,	310:17	2,23	17 24:2
10,25	14	311:24	thanks 21:8	29:4,15
174:1,3,8,	230:1,13,2	312:1,3	24:9 28:6	30:20
13,23	3,25	318:8,12,1	29:1 39:11	31:25
175:2,6	231:12,21	3,16,25	40:25	33:22
177:2,15,1	232:16,17,	319:3,4,13	41:23	34:11,19
7	23,25	321:7,11,1	42:24 47:4	36:16
178:4,8,25	233:1,3,6	2	50:5 51:1	37:1,7,18
180:20	234:2,14,1	325:3,5,12	52:17	38:2 40:5
183:11,24	5	326:5,7,10	54:19 55:6	42:18
184:3,20	235:2,13,1	,12 327:20	57:24	44:22,23
186:12,15	5 236:5,6	328:15,16	59:9,25	45:16
187:17	237:14	329:10	61:7 103:7	47:11,17
188:15	238:1,2,14	330:10,24,	122:4	48:1 49:6
190:8,10	,19	25 331:13	156:13,21	50:15 51:5
191:20	239:11,12,	335:25	157:8,17	54:11,17,2
192:16,21	13,14	336:13,23	158:11	5 55:25
193:3,7,17	240:21	337:22	160:7	56:15,19
,20	241:1	338:19	161:10	57:4,17
194:15,18	245:13	340:2,22	163:18	58:25
196:2,6	256:7,12,2	341:1,4	164:4	59:21
198:2,12,2	2	342:4,17,1	165:6	60:16 61:9
4 199:7	265:8,9,10	8,19,23	166:11,19	68:6,23
200:3,14,1	266:3,12,1	347:1,2,3,	167:11,16	72:24 80:5
5,17,24	3	10	168:11,25	84:22
201:16,17,	268:20,25	351:9,14,1	170:9	95:18 96:1
23	269:1,6,8	6,22,23,24	171:15	98:6 99:6
202:4,5,12	270:19,20,	354:13,14	172:12,25	101:4,6,11
,21,23	24	355:5	173:12	102:21
203:8,9,13	271:1,2,7,	361:25	174:25	108:14
,17,19,22,	9,12,15,21	362:3	211:16	112:4,10,2
23 204:3	,22,25	366:23,24	218:9	2 113:1
208:24	272:22,23,	367:5,19	266:5	117:17
209:1,4	25	373:7,8,11		

118:9	260:15	themselves	164:7	164:25
120:4	261:3,7,23	147:18	175:3	260:11
121:25	262:24	242:23	191:1	261:6
123:11	267:2,3	374:11	192:13	267:18
124:5,6	277:6	thereafter	204:23	thermosyphon
128:25	287:19	10:18	207:20	s 30:18
132:5	301:10	154:7	238:5	316:3,17
137:8,24	307:4	thereby 76:2	239:9,10	they'd 253:1
140:3,8,9,18	309:22	306:8	241:19	they'll
142:23,24,25	311:6	there'd	247:19	53:16
144:3,17	319:8	335:4	250:21	208:8
145:7	320:18	therefore	253:23	339:17
148:11,18	321:1	316:19	255:17	they're
153:25	323:14	there'll	256:24	24:16 26:5
154:9	326:24,25	113:6	260:9,20	52:4
161:4	327:1	300:24	261:21	53:19,20
162:5,14	330:18	338:16	262:16	54:8 58:13
163:4	331:23	339:19	263:4	63:12
166:7	333:2	there's 9:19	265:15	100:5
167:8	335:6	12:20	272:10	122:13,20
170:20,23	337:6	18:3,14	277:10	141:13
173:22	342:15,17	20:20,21	282:17	152:2,5,12,13
175:1	346:14	23:4,5,23	287:3,4	157:16,25
181:2,9,22	347:12	24:5	294:16	208:12
184:5	348:7,18	29:11,13,23	297:2	209:15,21,22
193:3	349:9,15,18,25	30:3,7,13	305:5,8	222:11,13,14 223:9
194:15	350:8,12	31:5 32:9	306:1,3	224:6
196:25	352:11	33:18	310:2	230:7
197:3	353:18,23	38:21	319:24	236:11
203:21	355:11	39:24	321:13	241:23
204:6,9	358:13,17	44:14,16	324:1	246:8
208:13	359:18	45:17 46:9	327:10,25	250:17,18,21,22
209:25	362:10	58:24 59:6	328:24	251:6
210:12	363:7,10	80:25 83:8	334:3	252:6,25
212:3,21	366:6,22	84:10	335:7	253:4,6,25
214:17	371:8	86:25 87:5	347:23	254:3
215:5	372:20	91:7 93:21	350:17	257:15
221:13	375:25	94:12	351:4	260:25
222:15	377:25	97:16	352:14	264:22
225:25	382:24	101:4	354:23	270:18
227:13	383:20	106:19	355:16	272:6
229:7	386:21	109:24	362:20	276:2
231:1,23	389:19,22	132:4,6	366:17	292:19,23
235:6,16	390:15	134:9,10	367:13	293:1
236:1,20	396:15	140:2,6,11,17 141:17	370:6	320:6
239:2,12	397:1,15,18	146:9	371:22	345:6,9,10
241:22	398:15	148:15	372:24	357:23
247:21	399:5	161:19	383:15,24	361:5
253:8,13	400:12	162:7,25	394:16	
256:2	401:22		403:12	
258:3,19,21 259:17	402:14		404:2	
	404:17		thermal 82:3	
			161:4	

365:17	258:11	thousand	58:1 59:9	133:11
368:13	259:15,20	19:3,5	thus 125:13	141:5
370:9	260:9	76:9,11	270:16	148:8
384:4	268:12	108:6	tick 389:11	157:3,6
they've	343:25	127:16	tidy 393:23	160:15
48:10	371:5	148:9	tie 317:3	168:17,24
55:19	384:7	207:7	tied 147:13	174:6,10
158:15	thinning's	249:17	149:11	181:13,17
168:23	260:12	255:5	Tier 134:20	183:19
171:11	third 73:20	313:20,21,	135:15	185:5
257:2	127:23	22,23	136:19	194:10,14
259:2,4	254:13,14	314:5,7,17	137:3	195:4
261:2	271:20	316:13	Tighem 3:23	197:8
264:22	295:17	317:6,10	til	220:3
270:16	331:22	318:1	239:17,20	221:14
352:16	340:14	348:15	till 394:22	222:8
370:9	352:18	362:22	timebomb	240:3
thi 349:24	354:2	380:3	194:22	246:12
thick 122:19	388:8	thousands	timelines	247:22
123:3,5	392:15	242:8	326:21	251:8
165:24	thirty 19:2	315:8	timer 245:7	252:4
362:13	66:10	316:2,14	tired 402:18	253:2
thickness	207:8	317:10	tissue 86:13	254:20
8:10 82:20	220:19	381:6	141:21	256:6
83:15,17,2	244:2	threat	221:4	259:14
2,24	251:10	344:23	224:9	260:22
87:1,6,12,	276:4	345:18	227:18	282:25
16 89:2	314:7	346:17	369:5	283:12
122:11,12,	346:24	347:1	title 63:4,8	284:7
14 123:2	thirty-five	349:22	190:3	290:9
124:25	67:5	377:13	Tlcho 32:19	291:22
158:16,18	294:16	threaten	245:16	292:19
162:16	297:13	376:12	274:16	299:6
163:24	352:1,6	threatened	283:2	313:7
166:15	thirty-two	357:16	today 9:21	317:8
168:5	107:19	threats	24:3 29:3	321:22
299:17	tho 31:3	312:13	30:23 42:4	322:14,23
309:20	thorns	thresholds	44:3,4,16	348:7,8,23
thin 260:3	391:11	338:8	45:4	349:1,15
thinned	thorough	throughout	46:13,20	355:12
261:9	20:21,22	44:11 67:8	62:4 65:1	359:11,17
267:22	125:25	267:2	76:12	360:15
thinning	285:19	297:21	108:3	368:4
123:4	344:1	303:24,25	112:21	397:5,7,18
131:16	379:2	throw	113:5	401:11
160:14,15,	thoroughly	397:6,25	115:2	today's
20 161:3	117:22	Thunderbird		282:11
164:22	thoughts	395:1		Todd 4:3
165:1	319:5	Thursday		toll 249:12
168:18,25				251:12
257:16				252:3
				tomorrow

24:1	Toogood 2:4	365:20	396:6	374:18
103:21	tool 381:24	375:24	traditionall	transparent
106:8		376:9	y 243:4	137:6
108:21	tools	Towers	traditions	transportati
109:3,4,12	317:8,9	392:22	370:17	on
112:1,4,8,	375:10	town 113:18	tragic 257:5	114:6,18
16 115:6,8	382:10	122:24	Trail 99:20	transports
135:23	top 86:2	274:15	135:4	364:17
140:13	113:19	325:23	206:17	trap 359:1
157:3,6	114:3	town-site	209:9	Trapper
185:5	127:7	373:18	210:5	85:2,5
211:8	150:18	tox 147:1	211:18	trapping
215:13	181:23	toxic 75:9	212:1	200:22
239:18,24	206:15	194:23	284:24	trasi 304:19
240:1	285:16	364:24	training	trat 88:15
277:24	352:12	365:3	25:15,16	travel
404:23	topic 109:3	toxicity	365:23	218:16,18
405:6,23	343:5	75:7 140:2	tramway	243:7
tomorrow's	topics	147:1	114:16	treat 10:8
113:7	303:23	149:20	transact	76:3,12
tonight	topsoil	172:1,3	237:8	77:5,14
279:4,5,7	111:15	toxicologica	transcript	116:6
280:13	Toronto	1 100:12	5:25	195:10
287:20	248:17	toxicology	282:20,21	210:10
311:22	249:1,4	149:4	transcripts	217:25
312:6	291:9	toxins	9:12	299:2
327:7	total	343:10	160:24	300:21
329:25	25:13,15	361:4	282:24	treatable
343:1	77:13	trace 253:18	transfer	210:1,3,4
344:15,22	112:14	track 24:11	29:21	treated
354:12	181:15	382:3	50:23	55:17 69:1
357:24	182:3	tracking	135:24	70:12
371:2	213:11,14	26:23	transient	77:12
379:10	380:21	tradeoff	237:1	88:23
387:2	totally	29:4,18	transitional	115:18
389:15	122:5	257:18,21,	304:19	210:14
398:3,17	378:25	25 258:1	translate	214:12
399:11,18	touch 59:23	traditional	327:11	215:20
404:16,17	116:10	15:13	translation	254:19
405:3,6,9,	tough 256:22	198:4	283:2,3	280:6
21	towards	199:3	367:8	296:15
tonnes	52:22	242:14	transmitted	297:22
113:17	86:5,6	252:23	229:4	298:5
255:5,25	90:25 93:7	274:5	transparency	300:22
280:3,4	187:10,11	283:19	45:13	358:3
294:15,21	202:1	316:14	305:22	371:6,20
363:6	219:6	337:5		treaties
403:21,22	243:7	359:5		251:15
404:11	313:3			
tons 346:4				
Tony 3:2				

treating	184:24	111:13,15	truly 312:23	122:7
195:15	195:4			123:12
219:14	197:7	tremendous	trust 32:6	130:13,23
	204:8,19,2	39:22 44:7	39:5,14	160:8
treatment	4,25	trend 150:3	40:6	161:17
5:13 8:14	205:1,5,10	274:18	44:16,17	177:5
10:2,9	,13 206:3		45:5 59:21	186:1
61:20 62:6	207:11	trespass	61:5	199:13
64:19,24	209:12	315:17	313:4,7,9	201:6
65:3 66:7	210:9	tri 253:14	329:23	214:21
67:9	212:5	trial 206:19	330:3	220:4
68:10,23,2	217:7,10,1	tried 58:18	342:13	237:19
5	1	268:14	374:19	252:25
69:14,15,1	219:15,19	314:3	377:9	258:16,22
6 70:1	221:25		387:9,15,1	262:24
72:3 73:22	236:15,23	trigger	7	265:25
78:1,14	240:6,14,2	338:8	truth 254:14	270:19
79:13,15,2	3 256:19	trillion	try 23:14	314:16
1 80:12	257:11,13,	363:9	32:16	315:7
82:6 85:18	20,21	365:3	36:15	335:5
88:6,7,13,	258:4,8,11	trioxide	39:23	345:22
16	262:9	12:24	40:18,21	362:6
91:19,22	263:14	246:25	46:8 47:6	tsunami
92:12,13,1	264:23	253:14,19	58:2	366:2,3
8 93:23,24	267:6	280:3	61:3,4	Tuesday
94:20 97:7	298:21	294:22	93:21	363:13,20
99:2,10,23	299:1	296:2,6,10	113:4	turbulence
100:16	300:21	299:23	118:2	148:25
101:11,18,	302:11	320:2,15,2	120:10	150:2,11
20,23	304:10	2,24 321:6	133:10	turbulent
102:11,12,	308:21	362:18	138:17	119:4
15,16,23,2	366:14	363:6,8	143:11	Turin 113:12
5 104:20	381:8	366:6	155:10	turn 9:20
105:4,8	382:13,14,	372:10,17	174:7	24:6 27:20
115:23	23	379:20	180:21	30:21 35:8
116:1,2,3,	treatments	389:25	183:1	67:22 68:9
4	104:25	trip 222:21	198:18	75:10
117:12,20	treats	405:22	230:20	113:7
118:5,6,14	294:13	trouble	242:1	179:3,8
119:15	treaty	400:25	254:24	281:4
120:11	246:10,12,	trout	257:12	283:6
121:7	14 251:16	221:7,8	264:2	287:10
143:12	356:18,25	250:12,16,	312:4	290:21
147:25	357:1,13,1	20	333:9	303:9
155:14,19	4 358:24	truck 222:24	339:3	346:15,16
156:17	400:17	trucks	353:20,21	360:2
173:18,21	Tree 1:22	361:15	359:11	turned
174:18	10:21	true 14:20	360:16	357:12
177:11,24	23:25	209:25	trying 23:13	393:19
178:17	279:8	348:1	34:21	turnout
179:4	trees		35:15 40:9	
181:16			45:3 118:4	
182:4			120:5	
183:6				

274:12	295:24	285:22	324:1,7,25	63:13,18
368:16	typically	294:17	326:3,19	153:10,20
turnover	152:12	295:11	347:12	154:3,7
374:22	171:24	296:2,21	363:12	232:4,18
turns 360:22	Tyson 2:15	297:14	375:21	233:8
twelve 13:22		298:20	380:10	315:5,11
14:1 66:16	<u>U</u>	300:2	understandin	318:4
207:17	ugly 400:12	315:4	g 33:10	380:9
288:8	ultimately	320:19	59:16	undertakings
291:24	184:25	344:6	111:4	5:4 7:1
305:5	293:10	underlying	127:21	233:4
twenty 19:2	339:20	323:10	131:8,19	undertook
27:15	376:10	underneath	132:23	67:7
48:13 84:3	377:11	186:4	134:10	underwater
194:20	unable 136:8	339:21	142:11	108:4
206:22	378:14	403:22	165:15	251:5
216:24	unacceptable	underpin	167:1,4,8	underway
276:3	298:16	341:17	170:2	82:19
277:10,12	343:23	underpinning	190:23	84:11
313:22	361:19	s 100:13	191:3	undiluted
355:9	383:17	understand	201:10	70:17
362:22	unanswered	11:23 20:8	205:12,18	undiscovered
twenty-eight	247:22	31:7 35:4	221:23,24,	389:25
65:22	unc 126:12	42:22	25 307:4	undoubtedly
twenty-five	uncertain	47:11	330:8	209:25
242:16	374:23	60:12,14	339:14	unequivocall
286:10,13	uncertaintie	92:2	346:1	y 101:3
350:11	s	115:21	375:25	162:22
379:25	126:3,10,1	118:4,10	378:24	unexpected
Twenty-four	3	123:1	382:12	16:10,18
253:15	unclear	133:1	understood	unfortunate
twenty-seven	90:12	142:5	61:2 88:8	21:24
67:13	undergoes	156:17	344:1	353:23
twenty-six	315:14	159:11	388:9	unfortunatel
258:19	undergone	169:16	undertake	y 40:11
twice 118:14	288:7	170:1	35:20	53:18
125:7	underground	186:6	67:15	375:5
two-ninety	5:7 11:8	188:17,22	223:19	Union 275:19
214:13	28:4,25	192:7	231:7	unique
type 16:6	35:10,11,1	205:13	321:24	18:10,19,2
104:8	6 69:7	211:5	undertaken	1 19:10,11
186:8	74:18	213:12,18	59:12 75:7	20:10
types 14:25	75:24	220:5	86:11,15,2	370:22
25:12	85:17	221:19,20	1 89:4	unit 125:9
126:12	183:15,17	222:10	94:1,2	United
typical	255:4	225:24	132:3	66:12,13,1
135:18	280:3	257:18	140:8	6 275:20
141:17		277:14	undertaking	
		280:14	19:14	
		286:7	26:5,9	
		310:25	27:7	

314:23	updated	347:23	77:15	versions
315:12	47:19 94:3	urging	135:25	53:11
388:8	138:22	350:15	282:2	vertical
units 72:6	262:8	usually	Van 3:23	80:23
74:24	upgrade	136:6	Vancouver	via 167:2
university	79:11	utilize	66:10	viability
253:17	upgraded	79:18	291:9	105:5
257:1	196:17	utilizing	variables	viable
272:4,7	upgrading	212:6	121:8	104:15
unknown	383:19		variances	vice 65:17
363:25	uphold	<hr/>	117:4	279:1
364:1,2	397:19	vague 261:15	varied 84:1	VIDEO 318:10
unless 63:9	upon 9:1	265:4	382:10	videos
328:8	61:25 62:1	valid 246:13	variety	108:25
unlike 81:22	134:3,4	validate	66:12	view 20:17
unload 390:1	188:1,2	163:8	101:11	30:5 31:25
unpredictabl	227:3,4	173:8	106:9,15	34:24
e 372:3	278:19,20	Valley	123:8	36:24
unravelling	291:8,10	1:2,10	162:25	37:19 50:8
349:21	305:25	48:2 55:16	172:17	148:14
unresolved	354:19,20	57:9	177:19,20	168:20,24
29:5 30:6	375:12,15	186:3,4	325:21	257:15
257:14	406:1	229:10	various	258:11
266:10	upper 73:22	236:17,18	14:25 17:3	260:4,23,2
unsafe	135:17	238:9,13,2	56:15	4 262:21
301:15	upsets 72:8	1,23	67:20	336:4
370:15	upstream	279:19	132:11	368:19
unsaid	85:2,7	281:25	205:4	views 40:24
378:19	104:3	283:23	288:9	270:2
unsecured	181:7	285:9	322:16	280:15,17,
372:10	214:6	286:21	376:11	20 290:20
unsettling	364:25	289:25	393:8	310:25
313:23	365:2,5	290:2	404:7	311:2
unsupported	upwards	339:22	vast 373:12	368:18
263:5	145:17,18	367:22	vegetation	villages
untended	150:12	374:14	86:20	152:12
380:15	uranium	385:17	139:20	violated
untreated	190:16,20	valuable	venue 47:17	246:15
69:22	urge 143:7	388:5	199:20	violation
unusually	205:16	value 55:25	230:17	246:10
141:14	257:8	56:3,9	venues	251:16
upcoming	272:21	57:8,10	325:22	virtually
305:16	346:14,24	79:4 106:9	verification	257:6
update	351:3	301:7	124:4	visionary
138:23	357:9	370:22	verify	400:11
	375:13	valued	123:23	visited
	urgency	254:17	Vern 2:6	188:21
	42:16,22	values 23:19		

393:13	297:8	296:6	,21	197:5,10,1
visitors	waiving	300:3	97:9,11	1,16,24
390:14	161:13	314:22,23	99:1,9,12,	210:9,11,1
visual 389:9	Walbourne	315:5	22	4,15 213:9
390:9	4:14	364:24	101:13,14,	215:20,23,
visualize	walk 308:13	365:3	16,17	24
332:14	walked 256:4	399:6,7	102:12,16	216:4,8,10
voice 269:13	walker	400:4,6	104:2,5	,16,19
360:16	352:11	wasteland	107:20,21	219:4,5,9,
379:9	walkers	398:25	108:1	11
399:20	259:24	wastes 401:7	111:16	221:10,25
401:13	walking	watch 255:9	112:21	235:19,23
volcano	125:16	276:6	114:3	236:17,18
345:2	194:22	343:18	115:18,22	237:15,16,
volume	401:4	watching	116:1,2,3,	23
77:5,6,8,1	wall	250:19	4,6,10	238:6,7,8,
1,14,20	258:18,21,	water 5:13	117:15,21	13,14,24
119:22	24	8:14	118:5,6,14	239:1
137:14	walls 30:12	10:2,8	119:15,23	240:6,14,2
183:20	391:4	30:12	120:11	3 241:8
volumes	warm 81:23	32:23 37:6	121:20	242:3
113:25	warmer	48:2 61:19	122:9	244:6,13,1
153:6	104:20	62:6	124:20	4,19
297:7	215:23	64:19,24	135:12	247:2,3
volunteer	warmth 392:9	65:2 66:7	139:4	249:17
405:11	warn	67:10	145:2,6	250:3,9,11
votes 389:9	390:10,14,	68:6,10,18	147:21,25	,13
vulnerable	19	,22	148:12,14	251:2,3
88:14	warning 35:5	69:7,14,15	150:17	252:1,15,1
	37:16	,23	151:13	7
	113:6	70:12,16,2	153:7	253:7,12,2
	warrant	5	155:14,19	3,25 254:7
	227:25	71:4,5,10	156:17	256:18
Wah 9:10	Wars 393:12	72:1,19,20	158:14,16	257:11,13,
215:15	wasn't 31:24	74:7	159:7,13,2	16,20,21
Wah-shee	128:4	75:5,15,24	2 160:10	258:4,7,11
1:15 9:5	211:1	,25 76:4	168:18,25	,12 261:16
51:11,12	307:1	77:5,8,11,	170:19	262:2,4,5,
215:10,11	324:4	20,24	173:17,21	9,15,18
273:12,13	329:15	78:1,6,9,1	174:18	263:8,10,1
281:10	330:8	3 79:21	176:24	4
wait 35:21	395:17	80:10	177:7,11,1	264:4,13,1
326:20	400:12	81:22,23	3,20,24	4,17,20,21
394:22	waste 194:23	82:4,9,12,	178:17	,23
waiting	209:17	20,25	179:3	266:2,12,2
	294:23	84:17 86:8	183:6,15,1	1,22
		88:1,3,16,	6 185:15	267:5,19,2
		23 89:8,15	186:2,5,20	0,23
		91:3,4,5,1	187:9	268:2,18
		7,21 92:20	191:14	269:16
		93:2 94:14	194:1,12,2	280:5
		95:8,16,20	1	283:14,15
			195:3,10,1	289:25
			5 196:1	294:14

296:9,14,2	193:2	266:1	61:21	405:6,22
5 297:7	198:9	322:5	62:4,7	well-being
298:3,4,21	200:21,23	Wednesday's	63:10 70:9	387:5
299:1,3,15	238:21,22,	239:23	77:22	well-proven
300:19,20,	25	weeds 393:24	103:3,12,2	88:5
21,22	248:2,19	week 46:15	1 106:4,8	wells 78:6
302:11,14	343:22,25	49:6	108:25	393:15
304:9,10	344:3,4	153:19	113:4,5	Wendy
305:16	361:3	154:2,5	115:9	378:4,6,10
308:21	watershed	158:8	133:21,24,	390:5
309:21	104:3	167:14,19	25 134:11	we're
314:1	wave 82:25	174:10,13	140:12	9:17,25
331:20	124:20	220:17	146:1	10:1,9,11
332:1,20,2	309:22	280:11	153:1	11:4,12
3,25	ways 12:21	303:24,25	154:1	18:9 20:22
333:3,4,10	33:11	345:13	155:4	21:21
,15 334:16	37:13	378:15	173:7	22:9,10
336:6,7	40:24	384:2	174:5	23:22,25
337:1	42:20 55:8	404:22	176:16	34:6
338:12,18,	56:15 61:3	week-long	177:15	37:24,25
22	123:9	39:14	179:24	39:22
339:6,7,22	199:12	weeks 26:24	187:23,24	40:9,17,19
,23 346:10	290:17	27:2 108:5	188:11,13	,22 41:13
350:20	329:24	217:9	203:6,10,1	44:2,18,19
352:19	330:1	232:20,21	6 210:18	45:13
354:2,3	352:23,24	233:2	212:13	46:14
355:23	353:4	weighs	216:1	48:4,21
358:3,4,12	359:25	372:14	227:1,6,7	49:20
,14,22	361:16	weight 12:1	230:1,20	53:23
359:2	401:10	weighted	231:13,17	54:2,17,18
361:5	wear 392:8	12:8	239:20	56:2 57:25
363:15	wearing	weither	240:2	58:3
364:8,17,2	171:4	325:20	256:13	59:6,7
3 365:2,14,1	website 7:10	Wekweeti	270:5	61:10,14
5,17	24:17	274:17	274:18	64:15 65:1
366:14,21	87:12	welcome	278:14,15,	71:24
369:19	158:7	195:8	16	72:18
370:15	232:8	279:4,17	279:3,11,1	74:24
371:6,8,20	233:11	338:3	2,13	86:19
377:5	282:21,24	Weledeh	282:15	88:5,7,11
384:2,13,1	336:17	368:5,10	286:16	90:19
6 386:9	we'd 9:15	welfare	287:12	92:17
388:20	24:10,24	272:13	294:6	93:22
400:5,16,1	25:3 31:18	we'll	307:24	94:23
8,24	48:6,7	10:19,22	308:1	96:21
403:14	110:19	27:2,3,13	311:24	106:13,15
waterfowl	164:8	28:1 38:1	328:3	107:3
70:21 88:4	180:8,15	49:9 59:7	329:11	109:9
waterline	182:6		339:18	113:24,25
96:24	183:25		351:17,18	119:22
waters 74:21	187:18		352:25	120:4,5
			354:15,16	121:24
			398:5,6,25	
			402:2	

126:20	256:1,2	103:1	121:21,23	354:16
138:4	257:19	104:13,18,	122:1,11	359:21
140:21	268:11,16	25 105:5	123:19,24	360:1,13
144:20	274:12	106:10	125:18	361:10
145:23	275:11,13	143:13	126:19,23	371:18,25
148:4,8,9	276:4,11	205:10	127:22	372:12
151:25	280:8	206:16,18	141:12,14	400:10
152:4	290:9	207:11	148:4,11	wha 260:9
154:4	291:13	210:12	155:18	whatever
155:10	292:5	211:24,25	159:20	33:11
162:19,21	297:8	212:5,7	160:14	35:2,25
163:5,6,10	306:15	217:25	162:25	61:1
165:15	308:15	wetlands	163:4	114:13
166:1,5,6	311:25	99:10	165:14	195:7
171:14,20	319:20	100:16	166:1,5	244:25
173:6	320:18	101:7	168:17	339:16
174:10	323:2	102:11	169:14	395:24
178:1,4	327:23	104:4	176:19	Whati 274:17
179:6,7	332:17	106:14	177:20	Whenever
180:23	335:16	204:8,19,2	179:2	357:20
181:17,19	336:19,20	4,25	181:20	where's
182:3	339:13	205:2,4,13	182:2	58:8,23
183:18	341:9	209:15,23	183:15,18	366:16
185:6,7	347:13	210:4	184:14	wherever
186:1	348:4,14,2	217:7,10,1	189:9,18	176:24
188:25	1,22	1,15 218:5	191:25	whether
192:10	349:4,9,15	219:18	197:5	25:24 71:7
197:6,8,9,	,25 354:24	220:3	211:8	85:17
13,15	359:8	wetting	213:1	96:11
200:10	360:24	30:8,15,17	220:6,9	100:15,22
201:16	371:2,23	we've	222:2,19,2	102:1
203:1	390:15	20:15,25	0 232:11	105:3
210:8,13	394:19	21:3 29:9	233:3	106:13
212:22	396:11,21	30:16,22	241:17	138:24
214:13,15	397:6,21,2	33:20	242:3	149:12
220:4,6,24	2 398:21	34:20	247:25	161:2
222:3	400:16,21,	35:19	248:1	168:20,21
226:8	24,25	39:19	249:15	172:24
227:12	401:10	40:8,15,19	250:19	175:23
228:15	402:1,17	42:3 44:11	254:19	211:7
231:3	403:8	53:4,23	280:12	212:17
232:3	405:10	54:15	288:8	223:21
236:25	west 36:7	55:23	290:3	226:17
239:16,24,	181:11	58:1,8,14,	292:17	229:17
25	214:7	19 74:1,14	295:8	231:3,4
240:5,11	Westermann	77:7 79:8	321:17	250:18
242:11	3:6	94:22	322:2,23	259:2,4
243:12	Western	100:23,25	324:12	260:17
247:22	113:11	101:1,2,9	329:3,22	285:4
249:7	wetland	112:22	335:12	297:10
251:8,9	101:23	117:10	344:22	
252:4,5,25	102:15,24	119:25	345:8	
254:2,18,2			348:3,5,9	
2 255:12			349:5,17	

399:2	wild 70:21	wise	226:17	4 150:16
White 395:1	wildlife	351:13,14	313:20	163:4,20
whitefish	70:21 88:3	393:19	321:2	165:3,6
250:24	137:16	wisely	323:22	173:21,23
whittled	139:19	317:19	333:12	179:8
175:8	200:22	wish 52:13	wood 193:16	202:18,25
whoever	212:6	56:10 81:2	391:1,2	203:13
129:21	300:5	128:12	Wootin	209:24
whole 12:22	301:18	317:23	204:22	210:13
13:23 18:2	willing 42:8	377:19	wor 60:7	217:8
21:16	46:7	389:2	work 15:16	218:1
110:7	52:4,5	wishes	23:14	226:16
118:8	96:21	188:22	28:20	227:19,23
122:8	105:16,21	283:21	29:13,15,1	229:18,19
161:19	189:20	withstand	7 30:10,19	231:16
162:25	192:10	383:6	31:17	232:21
163:6	200:1	woman 317:18	32:14	233:2
194:13	235:18,20	395:1	33:4,7,12,	244:22
223:2,3	willingness	wonder 46:23	14,21,24	245:22
244:10	52:2	62:17	34:6,17,21	251:19
248:8	379:21	259:2,4	35:1	252:7
255:3	Wilson	326:22	36:7,19	254:17
306:7	202:12,13	332:2	37:10,24	261:7
319:19	203:12,21	371:22	39:23	262:20,23
349:5,13,1	winds 391:9	378:18	40:2,16,18	268:14
9,20	winter 82:22	403:3	42:15,17,1	270:10,16
350:11	83:18 87:8	wondered	8,23 44:15	291:20
367:24	91:6 123:2	363:5	45:5	293:18
384:15,25	124:23	wondering	46:7,8	299:13
390:1	125:5	39:3	47:23	314:15,21
392:24	126:2	41:6,17	48:2,22	319:17
401:11	131:4	59:20 92:1	50:20	341:9
who'll	132:17	99:2	52:4,5	346:5
303:10	158:17	102:22	53:12	347:8
who's	166:6	108:23	54:8,19	351:5,7,25
122:9,24	203:14	109:13	56:20 57:2	367:21
259:25	218:20	133:3	59:12 61:4	368:13
399:12	219:12	149:1	67:15,20	370:24
wide 66:12	260:8	153:17	77:22	372:22
71:22	263:18	164:2,22,2	82:21 94:1	374:2
81:16 82:1	299:12	4 167:12	96:21	376:8
285:14	winter's	168:16,23	122:7	378:16
309:6	165:16	193:1	126:11	384:18
332:18	wintertime	202:18	127:25	387:9,13,1
widespread	90:12	208:18	130:16	8 388:1
284:5	196:25	215:22	131:1	389:3,4
width 81:17	206:10	216:16	132:5	worked 14:1
150:10	215:25	217:17	138:18,20	28:10,20
309:7	wires 263:20	219:13	139:2,23	29:14
		223:18	140:3,6,12	32:20
			,14	44:11 60:3
			149:9,10,2	205:14
				206:19

209:10,12, 16 316:19 369:1,6,23 374:1 worker 11:19 workers 275:19 288:24 working 15:14 32:5 34:19 37:22 39:5 45:12 47:9,15,25 52:24 56:19,24 115:20 199:19 202:1 242:16 249:2 297:9 302:13 304:20 305:18,19, 24 319:4,8 326:14 338:1,5,6 339:2,3 351:12 359:4 369:5 workings 78:2 296:21 299:24 works 67:2 112:24 122:8 292:14 315:16 339:10 364:14 388:5 workshop 13:13,14,2 0,24 14:5,8 28:12,17 31:20,23 60:17,20	128:22,23 130:1 255:17 workshops 31:3,17 128:25 129:5,18 130:21 375:3 world 18:11,14 113:16 218:4 313:13 348:2 349:5,16,1 7,24,25 394:5 world-class 346:2 world's 15:12 292:18 363:10 worries 369:18 worry 315:21 398:7 400:21 404:6,7 worst 246:19 247:10 worst-case 16:13 worth 60:22 142:4 worthwhile 220:9 wrap 10:19 68:13 313:16 wrapped 180:23 wrecking 398:5 write 248:12 writing	192:3 writings 314:8 written 55:9 248:1 wrong 35:6,7 152:22 170:21,22 248:4 250:22 320:7 wrote 248:14 <hr/> Y <hr/> Yamoria 316:12 YDKFN 288:16 Ye 85:23 193:22 year-round 8:14 101:10,18, 20 104:17,25 173:17,24 174:17 258:9 year's 125:10 Yel 86:2 yelling 253:2 yellow 148:7 194:12 294:22 Yellowknife 1:23 3:23 8:9 10:16 36:12 43:11,13 67:13 69:18 70:8,10 71:1,5,6 72:12 74:19 85:10,12,2 2	86:1,2,5,1 1 87:11,25 88:18,22 89:10,25 90:9 91:9,15,21 92:5,7,9 93:9,11 94:4,8 95:1,9,16, 20,21 96:6 97:2,5,8,1 0,20 101:24 103:2 116:12 117:14 121:5 122:13,17 125:16 127:20 129:24 131:11 141:4 142:16,17 148:7,16 159:14 163:25 164:4 166:15,18 168:4 177:14 180:24,25 181:3,4,14 182:8 184:25 185:4,14 186:21 187:1 193:1,14,2 2 194:6,12 196:12 197:16 213:14 214:14 215:1,24 218:16,24 219:5 221:1 242:9 243:2,3,18 ,19 247:6,9 248:3,21,2	2 249:13,14, 22,23 250:9,17 251:8,17,1 8,20 252:20 253:12 255:1 257:4 262:6,11 263:7,9 264:18 269:2,4,18 272:8 273:14 275:20 281:7 288:16 289:9 291:9 294:8 299:4 300:25 303:15 309:17,24 310:5 329:19 331:15,17 338:2 343:22 347:6,20 352:1,6 354:6 355:8,14 358:6 363:14,16 364:9,10,1 7 365:11,14, 16 369:9 371:7,11,1 5 375:3,20 378:12,13 382:1 383:18 386:1,9 387:21 389:8 395:4 400:20 403:13 Yellowknifer
--	--	--	--	--

364:6	375:16,19	9,23 41:7	youth 194:19	4 82:8
Yellowknifer	387:11,21	175:3	YouTube	84:17
s 79:5	388:18,19,	177:1	107:9	88:9,25
346:20	24	178:7	108:25	90:25
Yellowknife'	Yeo 307:22	179:18	you've 41:17	92:9,19,22
s 363:15	342:20,22,	180:6	46:24	115:21
Yellowknives	23 347:2	183:23	116:10	116:9,13,1
11:14	Yep 245:8	185:10	118:11	5
12:5,7	yesterday	186:10,14	122:14	118:7,18,2
13:8,14,16	9:13,15,17	189:25	125:25	0
,18	11:11	192:21	127:8	119:3,4,14
14:8,13	13:11 17:5	234:23	131:14	,19 150:8
15:5,8,14,	24:4,8,10	235:4	138:15	151:16,19,
22	27:14 28:8	240:7,23	183:20	24 159:23
16:18,22	30:23	265:10,15	222:8,23	160:2,3
17:22,25	35:12	266:15	223:10	175:17,19,
18:25	41:12,13	268:22,25	261:20	25 176:15
19:17	42:4	271:19	263:6,25	177:5
21:14	55:11,22	338:2	308:1	178:1
22:2,11,15	58:16	YKDFN's	318:4	206:1
,16	62:21	186:7	328:11	216:18
28:11,17,2	64:23,25	Yose 2:21	360:18	219:10
1 32:2	168:13,24	you'll 44:12	379:10	221:10
33:13	241:2	74:9	395:6	299:5
35:12	261:21	122:24	397:17	309:22
39:20	270:14	126:2	398:6	332:4,9,11
43:5,9	282:24	174:9	399:11	,23 334:4
47:21 53:1	yet 34:14	206:14	402:10	336:21
56:5	89:3	212:19	Yukon 24:20	375:1
122:25	126:11	230:5	YWCA 275:22	zones 8:5
123:6	131:18	248:23		152:2,7,21
155:5	155:18	276:10		,24
175:10,14	184:17	402:11	<u>Z</u>	153:5,6,17
178:9,16	190:14	young	zero	154:14
184:7,17	255:16	249:23,25	179:14,23	
186:17,22	260:6	250:1	182:6	
187:12	262:14	younger	207:4,9,14	
198:6	283:24	13:18	,18 394:3	
241:2,4,8,	314:24	193:16	zero-six	
11,15	346:11	yours 152:21	207:18	
242:4,17,2	364:19	yourself	Zieky 248:10	
2	376:16	11:3 64:17	zinc 73:18	
243:15,22	383:25	272:22	zone	
244:4,5,9,	384:15,16	311:8	71:20,25	
11,22	YK 384:3	325:7	72:20	
251:7	YKD 180:5	yourselves	73:7,13	
269:22,25	YKDFN 4:2	52:5	74:5,12,25	
270:22	5:17	205:17	75:6,16	
283:16,17	10:3,4	346:19	76:15	
288:13	11:2 12:21		78:24	
318:6	23:11,14,1		81:14,21,2	
370:7				