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MACKENZIE VALLEY ENVIRONMENTAL
IMPACT AND REVIEW BOARD

PRAIRIE CREEK MINE
ENVIRONMENTAL ASSESSMENT PUBLIC HEARING

Mackenzie Valley Review Board Staff:

Richard Edjericon	Chairperson
Richard Mercredi	Member
Danny Bayha	Member
Peter Bannon	Member
Rachel Crapeau	Member
James Wah-Shee	Member
Darryl Bohnet	Member
Percy Hardisty	Member

HELD AT:

Fort Simpson, NT
June 23rd, 2011
Day 2 of 3

1		APPEARANCES	
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3	Chuck Hubert)	
4	Paul Mercredi)	
5	Jessica Simpson)	
6	John Donihee)	Board counsel
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9	Alan Taylor)	Corporation
10	Chris Reeves)	
11	Wilbert Antoine)	
12	Kevin O'Callaghan)	
13	Christoph Wels)	
14	Chris Schmidt)	
15	John Wilcockson)	
16	Bill Rozeboom)	
17	David Caughill)	
18	Shannon Shaw)	
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4	John Brodie)
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6	Karin Taylor) Counsel
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9	Katherine Cumming)
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17	Murray Cutten)
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3	Stephen Gooderham) Canada
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5	Grand Chief Sam Gargan) Dehcho First Nation
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10	Pete Cott) Fisheries & Oceans
11	Lorraine Sawdon)
12	Beverly Ross)
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14	Chief Jim Antoine) Liidlii Kue First
15	Lorayne Moses) Nation
16	Cheryl Cli)
17	Judy Sabourin)
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19	Jane Fitzgerald) Environment Canada
20	Anne Wilson)
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22	Michael Mageean) ITI, GNWT
23	Wilson Dimslake)
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2

3 Jonathan Tsebo) DCA Nahanni National

4 Eric Betsaka) Park

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6 Chris Aguirre) Transport Canada

7

8 Allan Bonnetrouge) DRC

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1		List of Undertakings	
2	No.	Description	Page No.
3	1	Canadian Zinc to provide updated	
4		analysis and information based	
5		on the paste backfill as well as	
6		discrepancies identified with water	
7		quality objectives by July 8th,	
8		4 p.m.	84
9	2	For Canadian Zinc to update their	
10		transportation needs assessment for	
11		this environmental assessment by	
12		July 8th, 4 p.m.	170
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1 --- Upon commencing at 9:17 a.m.

2

3 THE CHAIRPERSON: Okay, good morning.

4 I'd like to call the public hearing together this
5 morning. I think we've got everybody here. Before I
6 start anything I just want to -- it's always good that we
7 start a meeting with an opening prayer. So I'm going to
8 start this public hearing with an opening prayer. So I'm
9 going to ask Betty Hardisty to do opening prayer.

10

11 (OPENING PRAYER)

12

13 THE CHAIRPERSON: Mahsi, Betty Hardisty,
14 for doing opening prayer.

15 I want to say good morning to everybody
16 here in Liidlii Kue First Nation Traditional Territory.
17 This is the continuation of our public hearing that was
18 started in Nahanni Butte yesterday. It's the environ --
19 Prairie Creek Mine environmental assessment 0809-002.
20 That's the file number for this hearing.

21 Before we start I -- on the agenda, I just
22 want to make mention to the presenters today that again
23 we have a schedule. We want to continue to encourage
24 that presenters stick to the schedule.

25 Also, I encourage you to also maybe use

1 different language in terms of your presentation so that
2 people in the community have an opportunity to understand
3 what's going on here. And so I encourage you to take a
4 look at that for me.

5 So this morning I just want to welcome the
6 Chief from Liidlil Kue First Nation here, Mr. -- Chief
7 Jim Antoine. I want him to do opening comments, welcome
8 comments, so I'll ask him to do that. Mahsi.

9
10 REMARKS FROM CHIEF OF LIIDLII KUE FIRST NATION:

11 CHIEF JIM ANTOINE: Mahsi. Mahsi, good
12 morning. I just wanted to say that in my language, mahsi
13 cho.

14
15 (INTERPRETED FROM NORTH SLAVEY INTO ENGLISH)

16
17 CHIEF JIM ANTOINE: I'd just like to say
18 thank you, you -- the Mackenzie Valley Review Board. And
19 they're all arrived here. And there's a lot of people
20 that knows us very well. And the reason why we're
21 gathered here today is that up in the mountains there's a
22 -- they wanted to develop the Prairie Creek mine.

23 And we have previously had several
24 meetings about it and how they're going to go about it,
25 and how they're going to work on the land, how they're

1 going to protect the watersheds. Those are all the
2 information that was out.

3 And who -- it's not very sure about what's
4 happening. It'd be very important if you ask questions
5 and statement as -- as to how they're going to go forward
6 with this mine. There is a lot of information in -- in
7 the documents, and there's a lot of information that we
8 need to understand.

9 And today, all the people from Fort
10 Simpson that are here in it, the meeting, we'd like to
11 express our concerns as of today and tomorrow, going to
12 be here for the meeting. And like we're here from Fort
13 Simpson. We had several meetings with them, with
14 Canadian Zinc.

15 And we had several meetings. And whoever
16 was the Chief prior to with Chief Gargan that was in
17 time, and there was other people that were in place back
18 in 2008 with them. And I have started in June, that's
19 when I started being a Chief again, and I have worked
20 with him since.

21 And we had talked with him on several
22 occasions. And at the beginning, they said they were
23 going to fix things with them over in Nahanni Butte. And
24 because the mine was near their Community they had to be
25 the one to say the first statements and asked too what

1 was going to happen in their area.

2 And then, after that, we have the second
3 say so as to what's going to happen there. And from
4 that, there's going to be lots of things trans -- being
5 transported over there from -- to the mine, and that's
6 the reason why we all were here, and that's the reason
7 why we made the impact agreement.

8 I -- back in June 16 we had a gathering
9 here, and -- and because of that, we wanted to create
10 jobs in our area and business, and that's the reason why
11 we all had a meeting with them. That's the reason why
12 they're thankful for -- for that.

13 And it's very -- I'm sure that the meeting
14 is going to go very well today. And it's very important
15 when you ask questions and how they're going to go
16 forward with the mine, and that I'm very thankful for.

17

18 (INTERPRETATION CONCLUDED)

19

20 CHIEF JIM ANTOINE: I just want to
21 welcome everybody to Fort Simpson, the Board members. I
22 know a lot of the Board members here and from previous
23 lives. I -- I ask them, Is this where we end up after
24 retirement.

25 Well, of course, because they got a

1 tremendous amount of experience and -- and knowledge of
2 the north in different fields. And so I really welcome
3 every one of the Board members to come to Liidlii Kue.
4 And all their staff and everybody else that -- that come
5 here, well, welcome you. And whatever field that you're
6 working in, I'm sure you're good at it. And Canadian
7 Zinc team there, they have a whole crew. We welcome you
8 to Fort Simpson.

9 I -- I spoke in my language to -- to talk
10 about a few things, but I'm not going to repeat
11 everything I said because I'm going to say that in
12 English in my presentation, so.

13 I will just leave it at that, and welcome,
14 and let's have a good hearing. It's a good process. And
15 I think that some good questions will come out of it and
16 I'm looking forward to the answers. Mahsi.

17 THE CHAIRPERSON: Thank you, Jim Antoine,
18 Chief for Liidlii Kue First Nation. Mahsi for those
19 welcome comments. I also just want to acknowledge the
20 Dehcho Grand Chief that's here as well, Sam Gargan. I
21 think he's here. Yep, he's in the back there, and I want
22 to acknowledge him as well. And I want to acknowledge
23 the Nahendeh MLA, Kevin Menicoche. Mahsi.

24 Before I start with my wel -- I mean, my
25 comments, I want to go do introductions. So I want to --

1 I guess do the introduction. Maybe I'll just go around
2 and then I'll finish off with the Board.

3 Well, maybe I'll go over to Canadian Zinc,
4 and maybe I'll get you guys to do your introduction from
5 that side, and then I'll go around our table.

6 MR. ALAN TAYLOR: Thank you, Mr. Chair.
7 My name's Alan Taylor. I'm the chief operating officer
8 of Canadian Zinc, and if I can introduce the rest of my
9 team.

10 From right to left at the head table is
11 Kevin O'Callaghan, Fasken Martineau, and to his right is
12 David Harpley, and Wilbert Antoine is on the far right.

13 And in the back we have our other
14 consultants, Christoph Wels with Robertson GeoConsulting,
15 Byard MacLean with SNC-Lavalin, John Wilcockson with
16 Hatfield, and Chris Schmidt with Golder, and Bill
17 Rozeboom with Northwest Hydraulics, and Dave Caughill
18 with Golder Associates.

19 THE CHAIRPERSON: Thank you. We'll go to
20 the Review Board now. To my far right I want to go to
21 Board member -- Board member.

22 MR. PETER BANNON: Good morning. I'm
23 Peter Bannon and I live in Yellowknife.

24 MR. DANNY BAYHA: Danny Bayha, Board
25 member from Deline.

1 MR. RICHARD MERCREDI: Richard Mercredi,
2 Board member, Fort Smith.

3 MS. RACHEL CRAPEAU: Rachel Crapeau, from
4 Taticho (phonetic) near Dettah.

5 MR. PERCY HARDISTY: Percy Hardisty, Fort
6 Simpson.

7 MR. JAMES WAH-SHEE: James Wah-Shee,
8 Tlicho Nation.

9 MR. DARRYL BOHNET: Good morning. My
10 name is Darryl Bohnet and I'm from Yellowknife.

11 THE CHAIRPERSON: Okay. Thank you. Now,
12 we've also got our translators up here, as well. I think
13 we have Betty Hardisty, our translator, and Ms. Cazon.
14 She's also doing our translations.

15 So to the presenters, if -- if you see me
16 waving at you or my -- my translators are waving that
17 means you have to slow down a little bit, so maybe I'll
18 let you know that.

19 Also when we start I'm going to ask you to
20 turn off your cellphones, or put it on vibrate, or put it
21 on silent, or just so that we don't have no
22 interruptions. Okay. Thank you.

23 While we do that, I'm going to go back to
24 my -- behind me. I'm going to go to my staff, and also
25 legal counsel, so I'm just going to go to my staff behind

1 me and then some others around here as well.

2 MR. CHUCK HUBERT: Chuck Hubert, staff
3 with the Review Board.

4 MR. JOHN DONIHEE: My name is John
5 Donihee. I'm Board counsel.

6 THE CHAIRPERSON: Okay, thank you. We
7 have also other staff here. We have Martin Haefele our -
8 - senior manager of the -- the Review Board. I have --
9 we have Chuck -- sorry, Jessica Simpson and Paul
10 Mercredi, here in the back as well, so those are the
11 folks that will be roaming around with the mics and --
12 and helping out where necessary.

13 So I guess with that, I'm going to proceed
14 to start the public hearing here today. So I just want
15 to say again, Good morning to -- to everybody here. My
16 name is Richard Edjericon, and I'm the Chair for the
17 Mackenzie Valley Environmental Impact Review Board.

18 Canadian Zinc Corporation has applied for
19 a water licence and land use permit to operate the
20 Prairie Creek mine. In addition, two (2) land use
21 permits have been submitted to operate the concentrate
22 transfer facilities halfway along the winter road, and
23 another transfer facility near the Liard Highway.

24 The proposed Prairie Creek mine was
25 referred for land use assessment by Indian and Northern

1 Affairs Canada on its own behalf, and based on the
2 additional requests from Nahanni Butte Dene Band in
3 August 2008.

4 During an environmental assessment, the
5 submission of information by parties and the developer,
6 within the timeline prescribed by the Board, is
7 important. The Board would like to thank those parties
8 that did submit material within the time frame requested
9 by the Board and remind those parties that -- that missed
10 the deadline of the importance of timely response during
11 the course of the EA.

12 We have reached one (1) of the final
13 stages of the environmental assessment. Now we're in the
14 public hearing.

15 Today the Board wishes to hear the views
16 and opinions that the parties and members of the public
17 may have regarding this proposed development. Over the
18 course of the day, we've asked that you do your best to
19 help the Review Board to understand your views about this
20 proposed development, potential environmental and social
21 and cultural impacts, and the potential significance of
22 these impacts.

23 The Review Board will fully consider these
24 views while it's deliberating on its decision in this
25 environmental assessment. Once the decision is made the

1 Board will write it down in the report of the
2 environmental assessment and send it to the minister of
3 Indian and Northern Affairs for acceptance.

4 Before we go any further, again, this
5 morning I introduced you to the Board and the staff. I
6 just want to acknowledge them. The Review Board is a co-
7 management body under -- established under the Mackenzie
8 Valley Resource Management Act that makes its decision by
9 consensus.

10 Our members are northerners nominated by
11 First Nations and by the territorial and federal
12 governments. Our goal is to make decisions that will
13 benefit the north for all residents and for future
14 generations. I have some additional comments on today's
15 proceedings that I have -- I hope will help make sure
16 everything goes smoothly.

17 We have limited time, and the Review Board
18 wants to hear what everyone has to say. Please note that
19 there is an agenda for the hearing which is available at
20 the door. I ask that everyone respect the time allotted
21 for presentation and questions and use their time
22 effectively.

23 The Review Board will be producing an
24 official transcript of this hearing. This transcript
25 will be available through our website and the public

1 registry for this environmental assessment.

2 Parties should be aware that they will be
3 invited to ask questions in turn after each presentation.
4 The order of questions will follow the list of parties
5 shown on the last page of the agenda. After parties'
6 questions I will invite questions of staff, counsel,
7 experts, and members of the public. Please address all
8 questions to the Chair.

9 Canadian Zinc will give their presentation
10 first. After they have given their presentation we have
11 a schedule, a generous amount of time to allow the
12 participants to ask questions.

13 The order of questionings after each
14 presentation will be as follows: The Government of
15 Northwest Territories, INAC, DFO, Nahanni Butte Dene
16 Band, Parks Canada, Dehcho First Nation, Environment
17 Canada, Natural Resources Canada, Transport Canada,
18 Liidlii Kue First Nation, Canadian Zinc Corporation,
19 members of the public, and the Review Board and staff and
20 counsel and technical advisors.

21 Anyone here today is welcome to speak or
22 ask questions during the designated period for public
23 questions. Please identify yourself to one (1) of our
24 staff so they can help you. Questions may be asked with
25 a microphone so that everyone can hear and the

1 transcribers can properly record your name as well.

2 We have simultaneous translation in the
3 language on your headsets. You can hear English on -- I
4 believe, on Channel 1. And the Dene language is on
5 Channel 2. I ask that you speak slowly and clearly for
6 the interpreters. And so, with that, I'm going to ask
7 Canadian Zinc to come up and to start their presentation.

8 With that, mahsi. I'll turn it over to
9 Canadian Zinc.

10

11 (BRIEF PAUSE)

12

13 PRESENTATION BY CANADIAN ZINC:

14 MR. ALAN TAYLOR: Hello. Hello. Yeah.
15 Thank you, Mr. Chair. Thank you, Chief Antoine and
16 Council and the LKFN for hosting this event, and the
17 Grand Chief also for attending.

18 And with the timetable in mind, I'm going
19 to go through a few slides fairly quick here. But I
20 thought we'd concentrate on the technicalities which are
21 upcoming more so than the overview.

22

23 (BRIEF PAUSE)

24

25 MR. ALAN TAYLOR: The Prairie Creek mine,

1 it's a very unique situation here because it's an
2 environmental assessment for a mine that already exists
3 and that had been fully permitted in 1980.

4 It has 90 percent of its infrastructure
5 intact, and we're proposing not to re-establish
6 operations since it never actually produced, but to open
7 up operations with enhanced environmental mitigation of
8 today's compliance.

9 The waters at Prairie Creek have flowed
10 for a very long time indeed prior to any development
11 onsite. And one (1) of the ways that exploration takes
12 place is that we sample the waters to look for anomalous
13 metals. And there are anomalous metals coming out of
14 Harrison Creek here.

15 And while we don't have any database in
16 hand for -- to -- to document that this was the case
17 prior to any of the infrastructure being developed, we
18 can look on a regional basis and see other metal
19 anomalies in streams very similar.

20 This is an overview of the site itself.
21 Prairie Creek is running north to south. Harrison Creek
22 that we referred to runs into Prairie Creek just down
23 site of -- of the -- most of the complex.

24 We'll be referring to this pond. We -- we
25 refer to it now as a water storage pond, originally a

1 tailings pond facility. No tails were put in there
2 because the mine never actually produced.

3 We also talk about a catchment pond. The
4 catchment pond is downstream of all the mine
5 infrastructure and it's the last catchment prior to
6 release into Harrison Creek and into Prairie Creek.

7 So before CZN came in, the mine water was
8 discharging for over thirty (30) years from the adit.
9 And even prior to the development of the tunnels it was
10 discharging through subterranean connections.

11 But when Cadillac set up the mine they
12 brought in a number of reagents, such as 40 tonnes of
13 cyanide, PCB waste, and large scattered waste oil
14 inventory, along with rapid construction of some -- some
15 parts of the road which weren't armoured enough to
16 protect it from the time.

17 In addition, they did not have a lot of
18 Fir -- engagement with First Nations, and we certainly,
19 when we took over, aimed to change that.

20 So what have we done since? We've more
21 than doubled the -- the mineral resource at Prairie
22 Creek. We have an application, an EA, here now which is
23 on the basis of a ten (10) to fourteen (14) year mine
24 life based on our measured and indicated resources, which
25 are in more detail than any other of the defined

1 resources.

2 So this is what we're basing our
3 operations application on. And in addition to that, we
4 have an equal amount of resources that are -- that are
5 inferred, and they -- they need to be further defined,
6 but it shows you that it could easily double the
7 longevity of this mine site.

8 And, furthermore, we're actively exploring
9 right now at this moment with two (2) drills further
10 resources outside that. So this is a long-life mine.
11 And water is now being treated at site to -- to remove
12 the zinc out of -- out of the water coming out of the
13 portal which has been coming out untreated prior to us
14 getting a water licence. We've removed all the cyanide
15 and PCBs and re-established parts of the road and
16 armoured them properly. And we continue to have good
17 direct relations with the First Nations.

18 In addition to that, throughout the years
19 we have initiated much education, training, and
20 employment throughout the region and onsite to support
21 our exploration and development programs.

22 But what's it all about? Well, it's
23 what's in the ground actually, and this is the lower
24 level portal where the waters come out and have come out
25 for thirty (30) years, and this is where we treat the

1 waters before releasing them.

2 But without what's in the ground, none of
3 us would be here. And this is what's in the ground, it's
4 a very high grade lead, zinc, silver vein and you can see
5 -- it's hard to see on this photo, but it's about 4
6 metres across and it's a fault-type structure, and it --
7 it continues on for kilometres in the property. And
8 we've drilled holes and we have also these tunnels which
9 most -- most proposed mines do not have to define this
10 resource.

11 And we're very confident of its integrity
12 here. And we have it ready to operate on 500 tonnes
13 right now. And what this also -- mineralization also has
14 created, it's in a fault zone which is a conduction --
15 conductor of -- of a significant amount of groundwater,
16 and we'll get into that later.

17 And that groundwater, of course, has been
18 going thr -- coursing through this system ever since it
19 was formed. The operation we propose is very similar to
20 what was proposed in Cadillac days in 1980. It's a whole
21 -- 100 -- a 100 percent underground operation and
22 supported by an existing three (3) levels and a mill
23 concentrator complex, a tank farm, a -- fully engineered
24 workshops, administration building, and accommodation
25 complex.

1 So Cadillac proposed putting their tails
2 and the -- and the tails represent the waste products
3 from our concentrate mill. They were -- they were
4 proposing to put it in the tailings facility, which the
5 excavated at the north end of the site. But our
6 proposal, due to the legacy issues of tailings ponds upon
7 closure, to avoid that problem, we are proposing to put
8 all our waste tails back underground into the voids that
9 we have mined out.

10 And in addition, we have enhanced the mill
11 through dense media separation. And what that means is
12 it separates the heavy minerals from the light minerals
13 and we get rid of our waste rock before we have to mill
14 it. And that waste rock, part of it will go up into a
15 new waste rock pile facility on Harrison Creek, off of
16 the Prairie Creek flood plain.

17 And we're also proposing a water recycle
18 and treatment, the existing tailings pond to be conveyed --
19 converted into a water storage pond and -- and the
20 mineral concentrates we'll be shipping out are zinc and
21 lead, and they'll be in bags. And the bags are -- are to
22 eliminate any contamination issues.

23 And we have a low risk closure plan
24 because of some of the previous proposed operations such
25 as the backfill plant, and there -- there won't be any

1 tailings on surface, and we'll get into that a bit later.

2 And we continue to have First Nations
3 partnerships and benefits. Just last week we announced
4 the IBA here and we had a previous IBA announcement with
5 Nahanni Butte in January this year.

6 This is the way the site looks today,
7 which is very similar to what it looked like when it shut
8 down in 1980. The tailings pond and -- and accommodation
9 facilities. Prairie Creek Mine site is protected by a
10 berm system that was installed in 1980 to '82, which
11 protects the mine site from any flood events in Prairie
12 Creek. And the timeframe that we've inhabited the site,
13 we've had a number of significant flood events and the
14 mine site has survived those without any significant
15 problems.

16 Unfortunately, we've looked at alternative
17 energy sources, but we are strapped with diesel at this
18 time, diesel generation and that'll be supported by our -
19 - our tank farm, which has the capacity to store around 8
20 million litres of diesel, and that's -- that's a
21 sufficient amount of diesel to run the mine for one (1)
22 year.

23 The tank farm is fully engineered,
24 enclosed by a closed berm system. And we have regular
25 checks with tank engineers to ensure that it's compliant.

1 At this time we only utilize one (1) tank. The -- these
2 three (3) tanks are empty.

3 I referred to the catchment pond earlier.
4 This is the last catchment that's available onsite to
5 catch any possible spills onsite with a controlled
6 release so that this can be shut off if there's any
7 spills and -- and any spills could be cleaned up before
8 they enter the environment. And this pond will be
9 utilized in our proposed water scheme too.

10 Geological resources, they're big numbers,
11 12 million tonnes of -- of zinc, lead, and silver and
12 copper. 60 million ounces of silver. Billions of pounds
13 of lead and zinc. It's a very, very rich ore body and
14 has been -- had a -- had a site facility set up for many
15 years. It's an opportunity waiting to happen here.

16 The present mine entrances will be
17 utilized in the -- in the proposed operations to mine out
18 the areas above the mill level, but we need to put
19 additional portal to mine at depth in the ore body.

20 We're proposing to mine at rates of 1,300
21 tonnes per day and milling at one thousand (1,000). And
22 we -- we get rid of the three hundred (300) because of
23 our dense media separation before the -- before it goes
24 into the mill. We're able to reject that. And all --
25 and with that, we enhance the amount of metal that goes

1 into the mill without actually having to expand the mill.

2 It's a basic crush and grinding flotation
3 process, and we will be adding the dense media separation
4 plant and a backfill plant for the paste backfill and
5 producing zi -- zinc and lead concentrates.

6 This is a long section. If you -- if you
7 cut an -- an angle through the mine along the workings
8 you see the three (3) levels of workings here. And this
9 pink area is the defined resource which has in the order
10 the 12 million tonnes. But we're basing this application
11 just on our measure indicated, which are just in this
12 area here, where we have the most detail and closest to
13 the mine.

14 The mine complex is here. The -- the way
15 you'd mine is everything is dropped down to here, this
16 level is tracked and taken out to the mill. Probably
17 some people can't see this, but basically the -- the mi -
18 - the proposed mining operation, these are the existing
19 three (3) levels here which would be dropped down, taken
20 out. And this is the additional at-depth ramp that we'd
21 need to put in to mine further at depth on the vein, and
22 it continues out to the north here.

23 Mining would be by cut and fill methods
24 mainly, partly with some -- some shrinkage. And for the
25 cut and fill we'd be bringing in our backfill. And when

1 we mine up into the stopes we'd be filling it with
2 backfill and then continuing to ramp up our equipment to
3 mine further up the stope. So you're -- so you're
4 driving on your waste -- waste material.

5 The -- this is the present ore stockpile
6 that we're proposing. It's a small twenty thousand
7 (20,000) temporary ore stockpile located at the portal.

8 This is a schematic of the existing mill.
9 The existing mill is in -- oops, sorry. The existing
10 mill is in black. We'd be adding on and -- but re --
11 replacing the main things would be in the power plant.
12 We have new generators making them more fuel efficient.
13 We'd be adding on a dense media plant on this -- on the
14 crushing circuit side, along with a paste plant. And on
15 the other side, on the out -- outfeed side of the
16 concentrates we'd be adding on a bagging plant and
17 concentrate storage sheds.

18 But, as I said before, the basic process
19 in the mill remains what it was set up for. In the site
20 itself, this is the mill complex here with the additions
21 of the plants and the -- and the storage sheds. We'd be
22 replacing some of the accommodation complexes by a
23 double-storey modular unit up against our admin building,
24 adding on a temporary ore storage, and replacing our
25 existing polishing pond with ore storage.

1 Inside the mill it's about 90 percent
2 complete. This is the grinding and flotation circuit.
3 And it wouldn't take much to bring back life to this
4 mill. We'd be upgrading the mill regarding electrics and
5 adding in the paste backfill plants. Replacing the main
6 generators with units such as this, much more fu -- fuel
7 efficient. And of course, new incinerators. We have a
8 incinerator on camp right now. Never had a wildlife
9 problem, we have good waste control management, and we'd
10 continue to do that with an upgraded incinerator.

11 And our metallurgical summary, a process
12 summary per tonne, how can we put all that material back
13 underground, well, basically we're -- we're shipping out
14 20 -- 26 percent of that material in the form of
15 concentrates and we're producing 24 percent as a dense
16 media separation reject. And we produce 50 percent of --
17 of the per tonne of rock as waste flotation tails.

18 So this -- this is only a per tonne of --
19 of -- of rock mined, and so we can contemplate putting
20 this material back underground to replace the voids we
21 mined out. And, in addition, we have our waste rock
22 development and existing stoppage (phonetic) voids. It's
23 a unique situation that most mines do not have the
24 opportunity to -- to contemplate. And paste backfill has
25 been around for twenty (20) years and it's a -- it's a

1 proven technology.

2 So with that, I'll ask my colleague Dave
3 Harpley to take over.

4

5 (BRIEF PAUSE)

6

7 MR. DAVID HARPLEY: Good morning. In the
8 interest of time I'm going to skip through a little more
9 quickly on material that we covered yesterday and then
10 slow down on the bits that we didn't cover yesterday,
11 particularly on the -- the water management side of
12 things and the water quality.

13 Alan has given you a quick overview of the
14 -- the Waste Management Plan, but it -- it is essentially
15 all the float tails go underground, approximately half of
16 the DMS rock. The remainder of the DMS rock go to the
17 waste rock pile and also go -- that goes to the waste
18 rock pile is a development rock.

19 The cornerstone of the Water Management
20 Plan is the conversion of the large pond, which was
21 intended for tailings disposal to a water storage plan.
22 This will allow us to store water and recycle to the mill
23 and also send water to the water treatment plant on a
24 controlled basis. The large pond will also include up to
25 50,000 tonnes of tailings on the startup period before

1 stopes are available underground for backfill.

2 This is the location of where we propose
3 to put the waste rock pile. There is a draw off Harrison
4 Creek. This is Harrison Creek here and this is the draw.
5 It's a -- a nice location for waste rock. There is
6 usually no water flow in this draw here. There will be a
7 collection pond at the toe of the pile to collect seepage
8 and that water will be fed into the -- the water
9 management system for treatment. And you can also see
10 that there is plenty of room at the back here for
11 expansion if we need to.

12 One (1) thing we didn't cover yesterday is
13 we propose to have a solid waste facility and it would be
14 within the footprint of the -- the waste rock pile, the
15 intention being that on closure the facility would be
16 buried within the pile and covered within the cap placed
17 on the pile itself.

18 The waste -- the solid waste facility will
19 compose of a -- a lined cell so that we're prepared to
20 manage any soil or material contaminated with
21 hydrocarbons. We will store the slew -- sewage sludge
22 from the sewage treatment plant, and this material would
23 be useful as a soil amendment for closure.

24 And we'll also have our incinerator up
25 here to burn camp waste on a daily basis and another spot

1 here for some of the inert material waste from the
2 facility.

3 So this is more or less what the site --
4 that we expect the site to look like when it's been
5 redeveloped. We still have the tank farm here, and the
6 mill, there are the additions to the mill that Alan
7 mentioned. In addition, we would have a large shed here
8 to store the concentrates before the -- the winter
9 season. And then there'll be storage facilities for
10 reagents.

11 All this here is already in existence.
12 There'll be a new accommodation block in here, and then
13 the reconfigured water storage pond with two (2) cells
14 and a divider in-between.

15 Essentially, this is the Water Management
16 Plan. It's a schematic. And stockpiles and mine water
17 here feed into this cell here, Cell B, and the process
18 water feeds into Cell A in the water storage pond. And
19 then both cells feed water back to the process plant, and
20 both cells feed water to the treatment plant, which
21 discharges to the catchment pond and, along with site
22 runoff, discharges to Prairie Creek.

23 The reconfigured water storage pond will
24 look something like this. When it was originally built
25 there was some instability on the back slope here. The

1 solution our engineers have developed consists of three
 2 (3) components. One (1) component is an apron here of
 3 fill to be placed along the base, and then a buttress
 4 here of fill along the back slope. And then the third
 5 component is a minimum water level given that the water
 6 in the pond itself acts as a buttress.

7 I mentioned using the water from the pond
 8 in the process. What I didn't mention either yesterday
 9 or -- or before until now is that part of that process is
 10 that the water -- the process water needs to be aged in
 11 the pond. The reason being that when the process water
 12 comes out of the mill it still contains residues from the
 13 flotation process. And those residues at different stages
 14 of flotation force different concentrates to either float
 15 or sink.

16 So you can understand that if those
 17 residues go back into the mill they will interfere with
 18 the separation, going through the steps of concentrate
 19 separation. So it is important that the process water
 20 stay in the pond for several months so that those
 21 residues can degrade because they're primarily organic.
 22 And then we can recycle the water and it won't interfere
 23 with the process.

24 At this point, we have conservatively
 25 assumed that we can recycle 65 percent mill water, 35

1 percent mine water as our feed to the mill. And I say
 2 "conservative" because our -- our process engineers tell
 3 us that we could likely recycle a little more than the 65
 4 percent figure, but we don't want to at this point be too
 5 aggressive in that assumption.

6 The -- the essential reason we limit
 7 ourselves at this point to 65 percent is principally to
 8 avoid the long-term buildup of major ions in the water,
 9 things like sulphate, and particularly sodium, which
 10 could at some point interfere with the -- the mill
 11 process separation.

12 That doesn't mean that periodically we
 13 couldn't increase this number to 70, 80, even a hundred
 14 percent on a short-term basis because it's the long-term
 15 buildup we're concerned about, not the short-term. We
 16 could periodically put 100 percent process water into the
 17 mill feed provided we come back to the -- the steady
 18 situation on a more longer-term basis so we don't end up
 19 influencing the quality of the water that's going into
 20 the process. But this has significance in terms of
 21 contingencies, which I'll get to in a minute.

22 The water treatment for discharge, we will
 23 have two (2) basic waters that we will treat for
 24 discharge. One (1) is the mine water and the other is
 25 the process water. They have -- they have different

1 chemical signatures and they also have different flow
2 rates.

3 The process water has a slightly different
4 metal signature in it and higher concentrations of
5 metals, so it requires a more sophisticated treatment
6 process which consists of, firstly, pH reduction using
7 acid. And then we add sodium sulfide in order to
8 precipitate the metals as particulate, followed by lime
9 addition to bring the pH back up to neutral, and then as
10 a clari -- clarification step, the secondary step, to
11 remove the -- the fine material.

12 The mine water is a fairly simple process
13 used pretty much everywhere, lime addition to raise pH to
14 approximately nine (9) or a little above, and precipitate
15 metals as a sludge, and followed by clarification.

16 The -- the important thing to note is that
17 the process water stream, the flow rate stays much the
18 same. At least the process water flow rate going into
19 the mill and coming out of the mill stays constant. So
20 it's a known quantity.

21 The mine water is a little difficult, more
22 difficult because, at this point in time, it is a little
23 more difficult to predict exactly how much mine water
24 we're going to get out of the mine. And we'll get into
25 that in a minute.

1 We do plan to treat mine water year round.
2 We will treat less in winter, but we have to treat mine
3 water at this point year round because the flows, we
4 expect, will be sufficient enough that we cannot store it
5 indefinitely, or at least for an extended period.

6 We can have a little better plan for
7 process water. At this point, we -- we do not plan to
8 treat process water in February and March. And, again,
9 we will also substantially reduce the quantity of water,
10 process water that we discharge in the other winter
11 months.

12 The contingencies we have available for
13 upsets or things going wrong. First of all, the main
14 contingency is the available pond storage. It is a
15 substantial structure with a substantial volume, so
16 that's the first obvious place to keep water for a period
17 of time to fix any upset.

18 As I -- as I mentioned, we can also in the
19 short-term increase the proportion of process water going
20 through to recycle back to the mill. And this is
21 important because if we recycle more process water, then
22 we can manage mine water more -- more in a -- in a better
23 way.

24 If we needed to we could in fact stop the
25 treatment of process water altogether and -- and use the

1 process water treatment circuit to treat mine water as
2 well because the process water circuit includes lyme
3 treatment just like the mine water circuit does.

4 We will also have redundancies in terms of
5 pumps and power supply, a backup power supply for the
6 treatment plant, so the down time for that operation
7 would be in a manner of a few hours.

8 And if really, you know, we came to a
9 crunch in terms of storage and everything else, there's
10 still a freeboard in the storage pond that typically you
11 would not to use, but in an emergency situation it's
12 available. And, you know, a 1 metre freeboard on a very
13 large pond translates into a significant quantity of
14 water.

15 So this is one (1) of the significant
16 variables that we had to contend with in terms of
17 development of the overall water management strategy.
18 What this shows you is that depending on what the mine
19 inflow, perhaps is a better way to describe it, scenario
20 is, here are the scenarios here on the left-hand side.

21 You can see that the numbers of predicted
22 inflow in litres per second vary quite substantially
23 depending on what the scenario is. We made our best
24 estimate of what we think it is, and you can see that it
25 peaks in the summer and it drops down in the winter

1 months. And we know that will occur because it's what we
2 see currently onsite.

3 There is a fairly close relationship
4 between precipitation and the open water season, and then
5 infiltration to the mine and flows coming out of the
6 adit. However, there's a possibility that the flows
7 could be less than we've estimated, and there's also
8 obviously a possibility that the flows could be higher
9 than we've estimated, so we've put some brackets on
10 these.

11 And, in addition, we were asked by
12 regulators to consider what would happen if there was a
13 connection between the mine and Prairie Creek. We argued
14 that we did not think there is a connection because
15 there's no evidence that there's a connection there.
16 There's no mineralization in the -- the valley area.
17 It's been drilled from an exploration standpoint, and
18 there is no mineralization there.

19 And in addition to that the drilling would
20 indicate that there's no structure for any movement of
21 groundwater, which probably explains why there's no
22 mineralization there.

23 So despite the fact that we don't think
24 the structure exists in the valley, we still went ahead
25 and assumed like a worst case, what if there was a

1 structure and there was a connection, and -- and this is
2 the answer that our consultant came up with in terms of
3 the flows on a monthly basis.

4 So what the consultant also did is, based
5 on his experience, tried to best estimate what he felt
6 was the probability of these scenarios occurring. And
7 you can see by far and away he's -- he's most confident
8 about the best estimate here, 70 percent. There is a
9 possibility of being -- it being a little higher or
10 lower, and a very small probability of it being this
11 extreme situation.

12 So that's the one (1) of two (2)
13 significant variables in terms of water management. The
14 first one (1) is the mine water. The second one (1) is
15 what the creek is doing.

16 This is a hydrograph of Prairie Creek
17 measured at the flow station by Water Survey of Canada
18 just upstream from the mine. And you'll notice that if
19 we look at the shape of the curves here, the mean curve
20 is the middle one (1) here, the dark one (1), and you can
21 see as you might expect, it is very low here in the
22 winter period, and then it increases substantially
23 through freshet into the summer period and then it
24 declines off again. And there are certainly monthly lows
25 on record and that is the -- the lower shape here. And

1 you can see that it's also significantly lower in the
2 wintertime. And there's also peaks and flow, this shape
3 here.

4 So the reason I think this is very
5 important to bear in mind is our management strategy and
6 our distance -- discharge strategy is inextricably tied
7 to this hydrograph. What we intend to do as best we can
8 is manage our treatment and discharge so that we mirror
9 as closely as possible this shape. The reason being that
10 if we do that then we try our best to maintain the
11 resulting concentration in Prairie Creek, and by doing
12 that minimize the potential for any impacts.

13 This also has a great significance in
14 terms of how we regulate the discharge. You might
15 imagine if we had limits on our discharge that were based
16 only on concentration, those concentrations would likely
17 be based on these very low flows here at the bottom of
18 the hydrograph. And what that means is it basically puts
19 this hydrograph off limits for our discharge and removes
20 an awful lot of flexibility from the operation in terms
21 of putting more water out there, which would not exceed
22 objectives.

23 So we did water balances for the water
24 storage pond based on those four (4) mine flow scenarios,
25 and it gets a little confusing until you've really worked

1 with the information for a little bit of time, but to try
2 and crystallize it we've used three (3) ranges of creek
3 flow: minimum flow, mean flow, and maximum flow in terms
4 of the creek.

5 And then for the -- the water balance on
6 the site we've used the -- the four (4) mine inflow
7 scenarios, which is the low, the best, the high, and the
8 extreme. So I'll try and stick to those words so we
9 avoid the confusion between mine flow and creek flow.

10 Well, this is the first water balance for
11 the water storage pond and -- and it's based on the low
12 mine flows, and you can see here there are a number of
13 graphs. The -- the pink graph is our predicted mine
14 inflow that we looked at.

15 And the -- this kind of truncated shape
16 here is the water from Cell B, which is the mine water
17 cell being sent to treatment. And then this shape here,
18 the blue, is the process water that's from Cell A that's
19 sent to treatment. So you can see that these two (2)
20 shapes here mirror the inflow of the mine water and also
21 that hydrograph we were just looking at.

22 There are some constants in the water
23 balance. There's a certain amount of water that we lose
24 to moisture in the concentrates and also in the waste,
25 the backfill. And up here we have the proportion of

1 water that's being recycled back into the mill.

2 So that -- that's kind of the -- the
3 pattern of how things go and in the wintertime here the
4 treatment ramps down and then the water going into
5 storage is increasing because the mine water is still
6 flowing in underground.

7 So you'll notice the scale here of flows
8 on the left-hand side, zero to -- to fifty (50) and
9 you'll notice as we go through the scenarios that this
10 scale is going to increase in terms of flow, and the
11 shapes are going to start to change a little bit. We
12 still have the primary shape of the inflows and we still
13 have the water treatment, but the fixed amounts are
14 decreasing in -- in -- in location on the graph here
15 because the scale is changing.

16 When we go to the high mine flows, similar
17 pattern, the scale has changed again. Now we're seeing
18 that the mine water treatment is almost the same as the
19 mine inflow. And if we get to the extreme situation you
20 can see that it's almost identical here, and then the
21 other flows are down on the bottom. So it really is
22 dominated this one (1) by the mine water.

23 As far as the discharge side of it goes,
24 everything will go to the catchment pond as it does
25 currently. We do plan to line the pond so that we're not

1 concerned about losses in direct discharge.

2 The discharge strategy we've elected to
3 use is a double pipe system an ex -- in an exfiltration
4 trench which will discharge to Prairie Creek directly
5 from the catchment pond, not via Harrison Creek as it
6 does at present.

7 The -- the trench, the benefit of the
8 trench is it mixes with the creek water very quickly so
9 that the size of the initial dilution zone is -- is quite
10 small, and we've assumed 100 metres, primarily for
11 monitoring of receiving water quality. The mixing
12 actually occurs predominantly well before 100 metres, or
13 would. This is the -- kind of distance where the vast
14 majority of mixing would be expected and that range
15 covers the -- the -- the different situations, seasonal
16 situations in the creek between open-water season and
17 ice-covered season.

18 In addition, the -- the trench does not go
19 all the way across the -- the creek channel. We leave
20 part of the channel open for fish -- fish passage just in
21 case fish don't find swimming over the trench agreeable.

22 So what does it look like? I apologize,
23 the quality here is not too great, but here's Prairie
24 Creek and here's our catchment pond. So the -- the
25 trench will come out of the catchment pond rough --

1 roughly here just upstream of Harrison Creek. And here
2 is the -- the pipe extending underneath the channel
3 partway in this location. One (1) pipe is a little
4 longer than the other. The plan would be that we would
5 use the -- the shorter pipe during winter when the width
6 of the channel is narrower so that we maintain that
7 passage zone.

8 A little better picture shows you a little
9 -- a little more clearly where the pipe would be and
10 where the pipe extends buried under the creek bed.
11 Design-wise the pipe comes underneath the existing berm
12 of the catchment pond and then it has these several slots
13 here. The idea of these slots is that we get an even
14 discharge of the effluent and the effluent will move
15 through this coarse cobble layer, and up into the bed of
16 the creek.

17 And then the -- the blended -- primarily
18 the mixing is going to occur right in this zone here, and
19 the hundred metre location is right here where there's a
20 natural riffle, and this is a good location for the --
21 the first monitoring of water quality for compliance and
22 reporting as part of the SNP Program.

23 And then the creek continues. Galena
24 (phonetic) Creek is right here. And, in fact, the
25 discovery outcrop for the vein is in the cliff here just

1 upstream of Galena Creek. And the creek continues.
2 Quartz (phonetic) Creek is down here. And then the --
3 the creek takes a bend and narrows further down --
4 downstream.

5 Part of our control on the water quality
6 of the discharge is that we've done toxicity testing. We
7 -- we know that the treated process water is -- is -- has
8 some toxicity in it, whereas the mine water is pretty
9 much nontoxic across the board, which is why we can plan
10 to treat mine water and discharge it year round.

11 But to -- to put some safeguards on the
12 process water and to avoid the possibility of acute
13 toxicity in the discharge we can ensure that the process
14 water never exceeds more than 20 percent of the
15 discharge, and that avoids the -- the acute toxicity
16 potential.

17 As I've mentioned, the trench ensures the
18 apid -- a rapid mixing, so the zone of chronic toxicity
19 in the creek is -- is very small. In determining our
20 water management strategy and ensuring that we don't have
21 significant effects we went through a process of
22 developing water quality objectives.

23 And the steps we took were to -- to start
24 with our database on upstream water quality. And this is
25 a database that is a combination of different sources.

1 There's our own sampling that we conducted. A large part
2 of the database is in fact from Environment Canada, a
3 program that they've had underway since the early part of
4 the last decade, at least on Prairie Creek. And then
5 some other researchers have also done sampling in the
6 catchment, so there's a number of different contributors
7 to the -- to the database.

8 Using that information, we set about
9 determining what the natural background in the system was
10 and what the variability of that ba -- that background
11 was. And so what this -- this is what it means when it
12 talks about the -- the computed mean for each parameter
13 in the -- in the background, and also the range of
14 variation in background is based on a statistical two (2)
15 standard deviations from the mean. And -- and this is a
16 documented approach to determine the background var --
17 range of variation.

18 So in our process of looking for suitable
19 objectives, we started here, and we basically looked at
20 our first estimates of water quality predictions in our
21 discharge. And those first estimates indicated that
22 there was some parameters that would stay within the
23 background range. And for those parameters we basically
24 said, Okay, that -- that's protective, we don't need to
25 go any further.

1 The next step was to consider those
2 parameters that could not stay within the natural
3 background range. Then the next step was to consider
4 what the effects might be for the concentrations, the
5 parameters of the concentrations that would be outside of
6 the background range. And for that step we looked at the
7 toxicity database. And for some parameters there's a
8 very large toxicity database, and for others, not so
9 much. So where the parameters exceeded this mean plus
10 two (2) standard deviations we went to the toxicity
11 reference.

12 Before I get into kind of the details of
13 what we came up with as objectives for all parameters,
14 this is a summary of the parameters and the assumed
15 objective values that we took and also how we derived
16 them. And you can see that on this chart iron, selenium,
17 and TDS are based on the -- the background approach.
18 It's called here RCA, and that stands for reference
19 condition approach.

20 The other parameters were based on
21 toxicity information, and that toxicity inma --
22 information also included information for species that we
23 know to be present in the system. So these are site
24 specific objectives for our location.

25 A lot -- for a number of the parameters a

1 majority of the toxicity information was present in CCME
2 factsheet material. That's typically where all the
3 toxicity information is assimilated and collected. It's
4 not the only place, but it's certainly one (1) of the
5 main places.

6 So let's look at some of the individual
7 parameters. This is antimony and you'll notice here the
8 toxicity concentrations for different species, and with
9 different peaks of concentration here on the left.

10 And there is no CCME guideline for
11 antimony. There is an Ontario guideline, and that's --
12 that's this concentration here. This bar here is a
13 concentration of 580 micrograms per litre. And Ontario
14 picked the guideline of twenty (20) as being protective,
15 so that's -- you can do the math. That's twenty-nine
16 (29) times lower. The -- we looked at the Ontario
17 guideline, which is the -- the twenty (20) and that's
18 what we assumed for the time -- for the present time.

19 This is arsenic and, again, here are all
20 our species in terms of toxicity information. And here
21 are some of our northern species, at least for the fish,
22 and invertebrates and vertebrates here, these symbols.
23 And we have some plant species down here. You can see on
24 the bottom here, the concentration. The lowest
25 concentration is ten (10). The concentration we assumed

1 as an objective was five (5), so it's off the chart here.

2 This is the cadmium. Here again, we have
3 our northern species. Here's bull trout, we do have some
4 invertebrates down here at this concentration. Cadmium,
5 the -- the concentration we assumed is in this range
6 here. You can see it's close to these numbers.

7 But there's another factor to consider
8 here, and that is cadmium is one (1) of the parameters
9 that is -- toxicity is sensitive to water hardeners.
10 Cadmium, copper and zinc's toxicity is hardness
11 dependent. These tests are conducted based on fairly low
12 hardness waters, which means the toxicity is effectively
13 higher for the given concentration.

14 So because we have hard waters at Prairie
15 Creek, the same concentrations are less toxic. This is
16 the copper, and again we have our peaks and the northern
17 species. We have two (2) arctic grayling bars in here.
18 You can see that the one (1) bar is actually lower than
19 the CCME guideline.

20 It's the same situation as for cadmium.
21 This test is based on a low hardness water. And if you
22 do a hardness calculation using the CCME numbers, this is
23 where the CCME guideline would be. So because this
24 number is lower doesn't mean that this is more toxic,
25 this -- it's just that the hardness assumptions are

1 different between -- between the two (2).

2 And here's lead, there's arctic grayling
3 there and CCME. So a -- a number of these are quite
4 similar. That's the one for zinc and that's the ammonia
5 one.

6 So I want to try and illustrate what those
7 objectives mean in terms of our discharge. Here's the
8 antimony one, this is the objective we assumed, it's the
9 20 micrograms. This is shown in milligrams, that's why
10 the number is different.

11 And what these charts show is the computed
12 upstream concentration is this black diamond down on the
13 bottom here. And then the computed RCA number, the green
14 one here, is the background range, it's also down there.
15 It's very close to the background, the mean, for
16 antimony. And then this orange diamond here is our
17 highest predicted concentration in our discharge.

18 And you can see that we can't get down to
19 the background range for this parameter. We can get
20 fairly close, but we can't get down to it. But despite
21 that, we're still a long ways from this objective up
22 here, which itself is a long ways below any established
23 toxicity information.

24 So this is the chart for arsenic. It's a
25 little similar, except that our predicted concentration

1 is a little bit below the green, the background range, so
2 we're just within the background range here and, again, a
3 long way from the objective.

4 A similar situation with cadmium. In this
5 case, we're right on top of the background range.
6 Copper, we're well within the background range here. And
7 lead, we're on top of the -- the background range. So
8 you can see it -- the situation differs depending on
9 which parameter we consider. Zinc, we're well within the
10 range, and ammonia just above.

11 I should point out that this highest
12 predicted concentration is based on the low, the best,
13 and the high mine flows. We did not include the extreme
14 mine flows in this concentration prediction because we
15 felt that it would bias the numbers unacceptably.

16 There -- the main reason for that is the
17 assumptions that we've made for treated water quality and
18 the water quality of runoff and other things that
19 contribute to the discharge are really based on what we
20 see onsite and expect to happen during the operation
21 under normal circumstances. If we had extreme mine
22 flows, that would indicate that we have a connection to
23 Prairie Creek. And in that case, the quality of the mine
24 water will be much better than we expect to find during
25 normal operations. So we don't think it's appropriate to

1 continue our assumption on water quality for mine water
2 on that basis.

3 As for sulfate, we're close to the range
4 but -- background range but just above it. Mercury is a
5 parameter that is a little -- causes a little more cause
6 for concern. We do know that the background
7 concentration in Prairie Creek is -- is very low. It's
8 so low that most times, during normal sampling, it's
9 undetectable.

10 We have just started to sample with --
11 with low detection limits to determine just how low the
12 concentration is. We also know that the concentration of
13 -- in -- in mine water is very low. It's also non-
14 detectable after treatment.

15 There is a little bit of mercury in the
16 process water, but most of that is actually in the
17 suspended form. It's in sediment form. Only 15 percent
18 of it is dissolved. The reason that is important is that
19 one (1) of the difficulties we have with simulating water
20 treatment in the laboratory and trying to mirror the real
21 world situation is it's very hard to simulate the effect
22 of sediment removal in the laboratory because it's a --
23 it's a physical process and you really need a large tank
24 to simulate it accurately. So provided we remove the
25 sediment effectively as we expect to do, then we would be

1 left with primarily the dissolved component.

2 We expect the water quality discharge for
3 mercury to be pretty much at background levels once we've
4 actually determined what the true background is. So we
5 don't expect that there will be actually a significant
6 discharge of mercury and would not lead to any
7 accumulation in fish and other species.

8 Currently, this is what the mercury chart
9 looks like. You can see that the background range,
10 here's the mean, and here's the mean plus two (2)
11 standard deviations, and the objective is sitting real
12 close to it. However, because of the non-detects, there
13 are problems with the calculation of these two (2)
14 numbers. And, right now, this is what our highest
15 predicted concentration is.

16 So now it gets kind of complicated, and I
17 don't usually want to throw a lot of numbers into a
18 presentation because I know it's hard to follow, but I
19 felt it was important to try and consolidate all the
20 predictions to give you a flavour of -- of what we were
21 finding.

22 And, you know, I won't dwell too much on
23 the precise numbers and the detail, but a couple of
24 things that I do want to point out. Here, on the left-
25 hand side is our computed upstream water quality in

1 Prairie Creek. These numbers here are our objectives
2 that we assumed. This is the water quality that most of
3 the predictions are based on, treated water quality for
4 the mine water and the process water. And you can see
5 that there are some differences. By and large, the
6 process water effluent has high numbers. That's not
7 always the case. For example, for ammonia obviously the
8 mine water's a little higher.

9 And then here are our predictions for the
10 low to high mine flow scenarios, and then the predictions
11 for mean creek flows, low creek flows, and high creek
12 flows. So for each flow situation we've got on here the
13 low concentration for these scenarios and then the high
14 concentration for these scenarios. And down at the
15 bottom here we're saying if any of the numbers are bold,
16 then they exceed these objectives. And you can see that
17 none of them do exceed the objectives. None of the
18 numbers here are bold. So our actual predictions of
19 discharge based on our management plan keeps us
20 comfortably within these set of -- set of objectives.

21 Now, if we go to kind of an iteration of
22 that, we've got the same data on here except that we've
23 added in a column here. And this is the situation. If
24 we include all those background range numbers, those RCA
25 numbers I mentioned, the mean plus two (2) standard

1 deviations, these are these numbers here, now what we're
2 saying is the bold numbers are those that exceed RCA or
3 exceed the background range as we currently estimate it.

4 And you can see that there are a few
5 parameters here that are in bold. There's arsenic here,
6 high concentration during low creek flow. There is
7 antimony here which actually exceeds in most creek flows.
8 Even the low concentrations are above the mean plus two
9 (2) standard deviations. And there's ammonia down here
10 as well. So what this tells you is that to try and use
11 the background range for something like antimony just
12 doesn't work because we exceed it across the board. But
13 -- and -- and for arsenic we exceed it in a situation
14 when the flow in the creek is very low.

15 That's if we don't do anything else with
16 our management strategy. We have the opportunity still
17 to influence this number because this number here is
18 based on, primarily, the quality of treated process
19 water. So if we have low creek flow, abnormally low,
20 and provided we have the ability to measure the creek
21 flow continuously, we can make an additional management
22 decision and reduce the amount of process water that's
23 being discharged temporarily and avoid the exceedance
24 from occurring. There's nothing we can do with this
25 antimony situation because the limit, if it was based on

1 background, is so low.

2 But the other thing I want to point out on
3 this slide here is that here in this column we've got
4 downstream water quality based on the current record, and
5 this is based on a similar amount of data that the
6 upstream is based on. This -- this information is
7 primarily based on the Environment Canada database. And
8 what you can notice here is that arsenic and antimony
9 and, in fact, total phosphorus in this area already
10 exceed the background range.

11 So the question is: Why is that? Part of
12 the question might be -- certainly one (1) option is that
13 the historical discharge from the mine has released water
14 and has influenced these concentrations. Another con --
15 solution or potential is that we know that the area is
16 naturally mineralized. It's quite conceivable that the
17 natural mineralization which extends across the creek and
18 is downstream of the mine contributes runoff and -- into
19 the naturally mineralized waters and is responsible for
20 these numbers.

21 But whatever it is, we do know that the
22 downstream currently is different from the upstream. And
23 part of the logic for using RCA is that if you can stay
24 within the background range, then you can't possibly have
25 an effect on what lives in the creek because they're

1 already used to that range. Well, the point is then that
2 whatever's in the creek downstream now is already used to
3 this.

4 Another step in our management that we're
5 considering, some of this is perhaps premature because it
6 comes in the -- the permitting stage, but we did want to
7 consider the effect of effluent quality criteria from the
8 perspective that it's one (1) thing to predict what the
9 actual discharge is going to be, but it's another thing
10 to consider how you regulate that discharge.

11 And the regulation becomes quite difficult
12 when you're managing a discharge that you don't know what
13 your bounds are in terms of the amount of water you're
14 going to discharge. And because you don't know the
15 amount of mine water, you don't know for sure what the
16 concentration of that discharge is going to be.

17 And, also, you don't know in advance, or
18 at least not within actual before -- with actual surety,
19 you don't know what the flow in the creek is going to be.
20 So that -- that poses some real challenges for setting
21 effective effluent quality criteria that protect the
22 environment and ensure you meet objectives but, at the
23 same time, give the operation the flexibility to operate
24 and to discharge more water when the creek has more flow
25 in it.

1 So the typical way of setting these
2 criteria, or EQC as they're called, is to set
3 concentrations for grab and average samples to count the
4 discharge. We feel that these numbers should be based on
5 the highest possible flows in the creek. The reason we
6 say that is because we want to maintain the flexibility
7 to discharge when we have high creek flows.

8 But, at the same time, we understand that
9 we can't be allowed to discharge at that quality in all
10 creek flow situations because then we would have
11 exceedances of objectives during mean flows and minimum
12 flows. So we need an additional regulatory step, and the
13 step we've proposed is to use load limits, which are
14 applicable for all creek flows and are intended to ensure
15 that we never exceed the objectives.

16 So what does that mean practically, these
17 load limits? How -- how can we do this? How can it be
18 applied and give regulatory confidence? This is
19 described actually, or at least our proposal and how we
20 do this is described quite nicely in the technical report
21 by Environment Canada on page 11. And they go through
22 the assumptions that are given here and -- and it's
23 pretty much accurate. There's one (1) element of it that
24 we -- we might modify, but, essentially, it's got the
25 right intent of what we're trying to do here.

1 So what we're saying is that we need to
2 know what the creek flow is all the time. That's the
3 only way we can determine what load we can discharge to
4 stay within objectives. So we're proposing to monitor
5 the creek flow continuously, to re-establish the flow
6 station on the creek, and then to relay that information
7 to the treatment plant and to anywhere else, for that
8 matter, because it's all based on telemetry, digital. So
9 we always know what the creek is doing.

10 Then we have predetermined upstream
11 concentrations based on our database, although this could
12 be reviewed periodically. And then we have predetermined
13 objective concentrations. And then, effectively, the
14 difference between the objective and the upstream
15 concentration is the concentration multiplied by the
16 creek flow which determines how much load you can
17 discharge, the allowable load, if you like.

18 So then provided we know what the
19 allowable load is, which for the operator sitting in the
20 treatment plant is basically showing on his screen
21 because it's computed by the computer based on the creek
22 flow, then he knows he has to track the -- the volume of
23 the discharge from the site and also the concentration of
24 the discharge from the site. The flow readings will also
25 be on his screen because it'll be constantly monitored.

1 And then, so what he's really doing is he's monitoring
2 the discharge concentration as you would with typical
3 EQCs based on taking samples. So from an operational
4 standpoint it's not complicated. It's fairly simple.

5 From a -- from a regulatory standpoint, if
6 an inspector comes along, the differences for him really
7 are as follows. He might come along. He would need to
8 know what the creek flow is, so he would need to go to
9 the computer or to the printout and -- and be -- and find
10 out what the creek flow is at that particular point. He
11 would need to go to the same location and find out what
12 the flow of the discharge is.

13 So, basically, he's going to have two (2)
14 numbers, the same as the operator does. And then he's
15 going to go and take his sample, which he does currently.
16 And then with those three (3) numbers he can, with this
17 relationship, go back to his office, get the results from
18 the lab, and then compute what the load was of the
19 discharge, compare it to the calculated allowable load
20 and compare the two (2).

21 So whereas before he's comparing discharge
22 concentration versus allowable concentration, he's di --
23 he's comparing discharge load to allowable load. It's
24 much the same. It's slightly more complicated, but it's
25 not overly complicated.

1 THE CHAIRPERSON: David, I got a question
2 for you, I guess, in terms of time. How much time do you
3 figure you need to conclude your presentation because
4 it's almost quarter to 11:00 now?

5 MR. DAVID HARPLEY: My colleague here is
6 suggesting it might be a good time for a break. But to
7 answer your question, I would estimate maybe ten (10),
8 fifteen (15) minutes.

9 THE CHAIRPERSON: Okay, I'll give you
10 fifteen (15) minutes to --

11 MR. DAVID HARPLEY: Okay.

12 THE CHAIRPERSON: -- to conclude your
13 presentation. And we'll take a break after that.

14 MR. DAVID HARPLEY: I'm going to skip
15 through a lot of this material quite quickly because we
16 did cover it yesterday. But the -- the -- how we man --
17 plan to manage the operation, it'll be two hundred and
18 twenty (220) people full-time, a hundred and ten (110)
19 onsite at one (1) time on a rotation, two (2) mine and
20 mill shifts, one (1) admin shift, three (3) weeks on,
21 three (3) weeks off rotation by air. And then, in
22 addition to that, there would be the -- the winter haul
23 out of concentrates and haul in of supplies.

24 Concentrates would be going out in sealed
25 3 tonne bags. We will, I'm sure, cover the -- the dust

1 control side of things in questions so I won't go into
2 that now. Essentially, the trucks are -- collect the --
3 the bags from a clean bay and the bags, which will be
4 frozen at that point, will be taken out, initially early
5 in the winter, to the first transfer station on the -- on
6 the winter road. The -- the transfer facility is this
7 kind of a structure. And you can see an example of the
8 kind of bags we're talking about here.

9 Transportation. Here's our winter road.
10 Here's the mine. And we go out -- proposing to go out
11 here to the Liard Highway joining into Nahanni's access
12 road in here. This solid line is the existing winter
13 road and we're proposing some realignments in this
14 location here in Silent Hills and also these two (2).
15 The first transfer station is here, Tetcela, and then the
16 second one is here, Liard.

17 We've made the realignments -- or
18 proposing the realignments to -- to get out of wetlands,
19 this was a request from Nahanni Butte. We're also
20 avoiding Poljes features which was a request from Parks
21 Canada. We've also been working hard to improve the road
22 to reduce risk, reducing grades and tight turns. And
23 we're also putting in some bridges on a couple of the
24 creeks. And there are some additional things that we're
25 working on. Speed limits will be part of the operation,

1 again, to manage risks and minimize the potential for
2 accidents.

3 This is a -- kind of a conceptual view of
4 what one (1) of the spans might look like over Sundog
5 Creek. And here's the first proposed bypass, this is
6 Poljes Creek. Here's the existing route and it currently
7 bisects the Poljes. And here is sinkholes in this
8 plateau up here, so the new route would avoid those
9 features. This realignment we can't do because the slope
10 is unstable, but what we are looking to do is to revise
11 the switchbacks to make them safer.

12 Here's one (1) of the other alignments
13 along the foothills of Silent Hills as opposed to through
14 the valley. And here's another one along the front range
15 to Nahanni Butte, as opposed to through the wetlands to
16 the Liard Landing. This would be our ice bridge crossing
17 near Nahanni Butte, tying into their logging road.

18 The road construction, the -- the plan is
19 to -- basically to start from the west when -- because of
20 the higher elevations temperatures would be lower and
21 freezing should set in earlier. And so we're still using
22 frozen ground. We would also be using a snow/water mix
23 initially to firm up a frozen surface quicker.

24 And water sources, there's a couple of
25 sources that we know we can rely on at this point, but

1 we'll be doing more work on that to confirm some of them
2 and maybe to look for others.

3 Stream bank protection will be part of the
4 construction and we expect that we'll need to use fill-in
5 places for potential permafrost, but we have more
6 investigation to do on the permafrost side of things.
7 But always the operation during construction and
8 maintenance will be subject to inspection and careful
9 control.

10 This is the overall use schedule proposed.
11 It's in the -- the DAR, we covered it yesterday, I'm not
12 gonna go through it again. But it's -- basically it's a
13 start in early December to start moving the concentrates
14 to the midway station, and then by middle of January to
15 open the whole road and move out the concentrates all the
16 way and then bring in supplies pre -- preferably well
17 before March 31.

18 So a number of road management initiatives
19 we'll intend to employ to minimize risks. Spill
20 contingency is a significant consideration, particularly
21 on the road. And again, we've come up with a number of
22 strategies to -- to mineri -- to minimize the risks and
23 to mitigate the impacts if, in fact, we do have a spill.

24 Access cro -- control is very important to
25 Nahanni Butte because it's their territory basically.

1 And we're also keen on access control because it's going
2 to be a busy road when it's open and we want to minimize
3 the potential for accidents and -- and also people using
4 the -- the road to get into -- to do things that Nahanni
5 or others don't really want them to do. But it's a
6 public road, so we can -- only so much we can do. We can
7 try and deter public access but we can't prevent it.

8 This is the traffic at the Liard transfer
9 facility and the dates. I won't dwell on that one.

10 We have a fairly good database from the
11 Cadillac area on where wildlife was at the time and we've
12 since done more work to validate that information. But
13 essentially we're going to assume that we could find
14 wildlife on the road at any point and we've adopted a
15 mitigation strategy on that basis.

16 This is a list of the residual effects
17 that our consultant determined needed to be mitigated,
18 and these were largely addressed in the subsequent
19 management and monitoring plan that the consultant
20 developed. And then there are other plans that we
21 actually already have in place, but they'll be reviewed
22 and modified along with the -- the other initiatives to
23 mitigate wildlife issues.

24 Mine closure is obviously a very important
25 consideration. We've largely covered the main mine

1 closure aspects, the filling the mine to stop portal
2 drainage covering the waste rock pile, monitoring the
3 groundwater to confirm that our assumptions are correct,
4 and then restoring the site.

5 Post-closure water quality I'm sure we'll
6 get into. I won't dwell too much now, but basically we
7 expect the majority of the groundwater to flow around the
8 backfill as opposed to through it, and carried in the --
9 the full structure. And we've done predictions and all
10 metals are within the objectives that we've determined,
11 except for potent -- potentially zinc. But zinc we
12 expect is going to be at or below pre-mine because there
13 is a natural signature that would have been there before
14 any mine operations. But, again, this will require post-
15 closure monitoring to verify.

16 This is a similar chart to what I had
17 before. Here's our upstream/downstream quality and
18 here's the objectives in here. And, again, for the post-
19 closure situation based on the objectives here we're not
20 exceeding.

21 And this is what we hope the site to look
22 like after closure, the same as it was before mining.
23 And this is how it looks now.

24 And I was going to ask Wilbert to come up
25 to run through these last couple of slides. In the

1 interest of times -- time, maybe I'll just quickly leave
2 that up here. But essentially the economic benefits are
3 -- there's a long list here of how we plan to provide
4 benefits to the Community, the sharing of profits and
5 provided training and trust funds and a number of other
6 things. Because we obviously want to benefit from the
7 mine, but we also want the Communities to benefit and
8 we're trying hard to include them and their wishes in
9 everything that we do.

10 We recognize that there could be negative
11 social issues because of the development and so we're
12 proposing a number of initiatives for the staff revolving
13 around, you know, how to manage more money and how to
14 stay healthy and protect the family. The Company has had
15 a long history of sponsoring and putting on community
16 events and we expect to continue that.

17 And, as Wilbert said yesterday, a large
18 part of all this that we're talking about is about the
19 youth, it's about opportunity. So, workshops for youth
20 so they know that there are jobs here, they don't have to
21 go and leave the region to get them.

22 And we also want to make sure that workers
23 have the opportunity to do their traditional pursuits in
24 the fall and perhaps other times, and we will work with
25 government to try and bring forward programs for these

1 things and access money that can benefit the Community
2 and minimize the potential for social issues.

3 Thank you.

4 THE CHAIRPERSON: Thank you, David
5 Harpley and Canadian Zinc for your presentation. It's
6 now five (5) to 11:00, so we'll take a fifteen (15)
7 minute break. We'll come back at ten (10) after 11:00.
8 Then we'll go on to the next presenter with Liidlii Kue
9 First Nations.

10 Oh, sorry -- oh, sorry. Yes, we have
11 questions after that. Sorry about that. We'll come back
12 with questions after that. We'll take a break.

13

14 --- Upon recessing at 10:55 a.m.

15 --- Upon resuming at 11:14 a.m.

16

17 QUESTION PERIOD:

18 THE CHAIRPERSON: Okay. Thank you.
19 We'll continue on with the public hearing for today. A
20 couple of comments here is that I was just handed a note.
21 The developer's presentation that was done this morning,
22 any questions regarding the geochemistry, Shannon Shaw is
23 not here this morning, so if there's anybody that have
24 questions, we could probably hold that off until after
25 lunch, but we'll go into questions now.

1 But before we go into questions there's --
2 this afternoon when we come back from lunch, after Jim
3 Antoine for the Liidlii Kue First Nation will do his
4 presentation, the Grand Chief Sam Gargan wants to make a
5 statement. So we'll -- we'll entertain that at that
6 time.

7 So for now I'm going to go into questions
8 now from the -- I've got a list of orders the way it's
9 presented here, questions to the Canadian Zinc, Alan
10 Taylor and David Harpley. So I'm going to go to the
11 Government of Northwest Territories. Is there a roaming
12 mic here somewhere? Staff, if we could get a mic.

13 I'll go to the Government of Northwest
14 Territories for any questions, but before we do that you
15 could state your name and what department or government
16 of the Northwest Territories you represent. So I'm going
17 to go to the Government of Northwest Territories. Is
18 there any questions to the presenter on their present
19 made here today -- on their presentation, again? Sorry?

20 MR. KEVIN MORRISON: Kevin Morrison,
21 GNWT, no questions, Mr. Chair.

22 THE CHAIRPERSON: Thank you, Kevin
23 Morrison, Government of Northwest Territories. I'm going
24 to go to Indian and Northern Affairs Canada. Most --
25 Teresa Joudrie, most likely will be talking, so questions

1 to the presenter?

2 MR. ROBERT JENKINS: Sorry, it's Robert
3 Jenkins, I'm with INAC. And with me today I've got John
4 Brodie and Barry Zajdlik, and they're retained
5 consultants for INAC. And Mr. Zajdlik's got a couple
6 questions, and Mr. Brodie's got a couple questions, so
7 thank you, Mr. Chair.

8 THE CHAIRPERSON: Thank you. Just state
9 your name again and -- and then put your questions out
10 there and then I'll turn it over to Canadian Zinc, one
11 (1) question at a time.

12 MR. BARRY ZAJDLIK: My name's Barry
13 Zajdlik and I'm a consultant to INAC. Mr. Chairman, my
14 first question has to do with the presentation. And
15 there was a statement made that if RCA benchmarks, that's
16 the reference condition numbers, could be met, that the
17 mine would adopt those as water quality objectives.

18 Can I confirm that's correct?

19 THE CHAIRPERSON: Thank you. I'm going
20 to go over to Canadian Zinc, David Harpley.

21 MR. DAVID HARPLEY: Dave Harpley. As I
22 said in the presentation, the process was that when we
23 had made our initial predictions if we found at that
24 point that the concentrations were above the RCA
25 benchmark then we went to the second step in the process

1 in considering objectives based on toxicity.

2 THE CHAIRPERSON: Thank you. I'm going
3 to go back to INAC, again, Barry.

4 MR. BARRY ZAJDLIK: Mr. Chairman, my
5 question follows the first one still. The question was
6 if the -- the RCA benchmarks could be met, will they be
7 used as water quality objectives, not what happens if
8 they can't be met.

9 THE CHAIRPERSON: Okay. Thank you. I'll
10 go back to Canadian Zinc.

11

12 (BRIEF PAUSE)

13

14 MR. DAVID HARPLEY: Dave Harpley. The
15 question is kind of -- I -- I assume is coming to the --
16 where we are now, and the question, I assume, is asking
17 if we can now meet an RCA, will we adopt that as an
18 objective. And that is a complex answer that we can't
19 give at this point because, as my presentation showed,
20 there are some parameters where we are comfortably below
21 the RCA concentration and we could give some
22 consideration to adopting those as -- as objectives, but
23 there are others that we are -- that say uncomfortably
24 close to the benchmark or above it, and those we can't.

25 And the other part of the answer really is

1 you -- I don't believe you can make a determination on
2 objective independent from the management plan and the
3 discharge control, in other words the regulation of the
4 discharge control. From my perspective all of those
5 components are interrelated and you can't decide one (1)
6 without considering the others.

7 THE CHAIRPERSON: Okay. Thank you. I'm
8 going to go back to INAC again. Just state your name.

9 MR. BARRY ZAJDLIK: Mr. Chairman, it's
10 Barry Zajdlik again with a followup question. Could we
11 put slide number 46 on the screen, please?

12

13 (BRIEF PAUSE)

14

15 MR. BARRY ZAJDLIK: I know it's the slide
16 that has copper and the various objectives and numbers.

17

18 (BRIEF PAUSE)

19

20 MR. BARRY ZAJDLIK: No, keep going. That
21 slide. In the -- in the slide in front of you, you see
22 that the highest predicted concentration provided by the
23 proponent is 1.3 micrograms per litre of copper. It also
24 shows that the estimated reference condition plus two (2)
25 standard deviations is 2.43 micrograms per litre. So in

1 that picture it shows that the reference condition can be
2 easily met.

3 The proponent is suggesting that the
4 objective is not the reference condition, but something
5 that's even higher. They're proposing that the objective
6 for copper is 4 micrograms per litre. That value of 4
7 micrograms per litre is one point six (1.6) times higher
8 than anything that's seen in the natural background.
9 It's also three (3) times higher than the -- than the
10 highest predicted concentration they can meet.

11 So my question is: Why wouldn't you adopt
12 the RCA benchmark in this case when you can easily meet
13 it? Why are you going instead to something that's triple
14 what your highest prediction is?

15 THE CHAIRPERSON: Thank you. Thank you
16 for your question and I'm going to go over to Canadian
17 Zinc.

18 MR. DAVID HARPLEY: Dave Harpley. I've
19 explained the process that we went through and I would
20 agree that copper is one (1) of the parameters that we
21 could consider to modify our assumption of -- as an -- as
22 an objective.

23 But at this point we've elected to not,
24 let's say, change horses in mid stream. We went with our
25 process, we've described our process. I wouldn't want to

1 at this process suggest change this or that. I'd rather
2 do it in a, you know, overall constructive fashion.

3 THE CHAIRPERSON: Okay. Thank you. I'm
4 going to go back to INAC and you'd be okay with the
5 response, or do you have more questions?

6 MR. BARRY ZAJDLIK: Mr. Chairman, I think
7 we heard that the proponent is willing to engage in a
8 process to discuss the objectives and that's something
9 that we would heartily encourage.

10

11 (BRIEF PAUSE)

12

13 THE CHAIRPERSON: Okay. Thank you.
14 We're going to continue on with more of your questions
15 and then -- because we're going to have an opportunity to
16 -- when you guys do you're presentation, as well, we're
17 going to be engaging some further technical questions.
18 So please proceed.

19 MR. BARRY ZAJDLIK: Thank you, Mr. Chair.
20 It's Barry Zajdlik again with a question on mercury data.
21 I don't know if people can flip to documents very
22 quickly, but Appendix G of the submission by Hatfield on
23 May 9th of 2011, on page 3 states that:

24 "All mercury measurements are less than
25 the detection limit."

1 On slide 46, I believe it's -- is it ahead
2 or behind this one? It's ahead of this. If we could
3 slip -- flip forward to it. It's the slide with the --
4 all the numbers on it, the very complicated slide. That
5 one, the next one.

6 If you look carefully at mercury and slide
7 across from the -- to where it says, "Percent Detection
8 Limits" it says that 88 percent of the observations are
9 less than the detection limit, whereas in the report that
10 was submitted on May 11th it says that 100 percent of the
11 observations are less than the detection limit. What is
12 the source of this discrepancy?

13 THE CHAIRPERSON: Thank you. I'm going
14 over to Canadian Zinc.

15

16 (BRIEF PAUSE)

17

18 MR. JOHN WILCOCKSON: Mr. Chairman, my
19 name is John Wilcockson, with Hatfield Consultants. In
20 answer to your question, when we put out the -- the memo
21 initially, we looked through the data and we noticed that
22 some of the data had even numbers that looked suspicious
23 that they may be non-detects.

24 And at that point we erred on the side of
25 caution and we assumed that they were non-detects.

1 Subsequently we have gone back and looked again at the
2 data and it appears that those values are measured.

3 THE CHAIRPERSON: Thank you. I'm going
4 to go back to INAC.

5 MR. BARRY ZAJDLIK: Mr. Chairman, I have
6 one (1) final question and it has to do with the RCA
7 benchmarks that are provided on slide 46. When we look
8 at the Hatfield memo of May 11th, 2011 on water quality
9 objectives, the RCA benchmarks presented here today don't
10 match.

11 And I'm wondering what the discrepancy is.

12 THE CHAIRPERSON: Thank you. I'll go
13 over to Canadian Zinc.

14 MR. DAVID HARPLEY: It's David Harpley.
15 Can we first confirm which slide we're talking about,
16 please?

17 THE CHAIRPERSON: Slide 46.

18 MR. BARRY ZAJDLIK: Mr. Chair, it's slide
19 65. It's the slide we just had up.

20 THE CHAIRPERSON: Okay. Okay, we'll go
21 to 65.

22 MR. BARRY ZAJDLIK: It's the next slide.

23

24 (BRIEF PAUSE)

25

1 THE CHAIRPERSON: This -- that's --
2 you're talking about this slide or the next slide here?

3 MR. BARRY ZAJDLIK: This slide, Mr.
4 Chair.

5 THE CHAIRPERSON: Okay. Okay, I'll go
6 over to Canadian Zinc.

7

8 (BRIEF PAUSE)

9

10 MR. JOHN WILCOCKSON: Mr. Chair, my name
11 is John Wilcockson, from Hatfield. Yes, the numbers are
12 different. The reason is when you calculate RCAs it can
13 be done in a number of ways and there's been some
14 discussion back and forth between regulators and Canadian
15 Zinc.

16 There is some discussion about concern
17 that -- of how non-detects were handled. So the numbers
18 that we've presented here today, what we have done is
19 with the non-detects we have assumed that they have a
20 value of half the detection limit.

21 And also what we've done to be additively
22 conservative, is we've taken the lowest non-detect, and
23 we've assumed that all the non-detects are that value and
24 that thus results in a lower -- a lower RCA value or
25 should result in a lower RCA value.

1 THE CHAIRPERSON: Okay. Thank you. I'm
2 going to go back to INAC to see if they clarified your --
3 your question.

4 MR. BARRY ZAJDLIK: Mr. Chair, that does
5 clarify the question, thank you. We have further
6 questions from John Brodie.

7 THE CHAIRPERSON: Please proceed.

8 MR. JOHN BRODIE: Good morning, Mr. Chair.
9 My name is John Brodie.

10 My first question concerns the water
11 storage pond and the freeboard provision. It's
12 conventional in management of dams to maintain freeboard
13 to protect the dam from being overtopped during a -- a
14 storm or a hydraulic event. And this morning we heard
15 that the freeboard might be used as a contingency storage
16 for water management of water that may not be treated and
17 discharged.

18 And so my question is: How will the
19 integrity or the safety of the dam be protected if the
20 freeboard provision is consumed with water for storage?

21 THE CHAIRPERSON: Thank -- thank you,
22 Mr. Brodie. I'm going to go over to Canadian Zinc.

23 MR. DAVID HARPLEY: David Harpley. My
24 presentation also included the comment that use of
25 freeboard in the dam would be a last resort, it would be

1 an emergency situation. So the expectation would be that
2 it would not be con -- consumption of the full freeboard,
3 it would be a portion of freeboard and also it would be a
4 short-term situation that would be rectified very shortly
5 thereafter. It's basically just acknowledging that we've
6 got an arbitrary 1 metre which normally is a -- a good
7 assumption to maintain always, but that, you know,
8 there's a -- in a emergency situation there is that as an
9 option.

10 THE CHAIRPERSON: Thank you. I'm going
11 to go back to INAC and John Brodie, if there are any
12 further questions.

13 MR. JOHN BRODIE: Mr. Chairman, John
14 Brodie speaking. I'm going to move on to my next
15 question. It concerns the placement of tailings in the
16 underground mine. And we heard this morning that the
17 objective is to put all the float tailings in the
18 underground mine and that there's a surplus, or a
19 contingency capacity to deal with this.

20 And my question is: What is this
21 contingency consist of and what does it represent in
22 terms of a percentage or a tonnage of space for
23 additional tailings?

24 THE CHAIRPERSON: Thank you. I'm going
25 to go back to Canadian Zinc.

1 MR. BYARD MACLEAN: Byard Maclean. After
2 receiving the comments back from INAC in the most recent
3 reports we went back to our mine plan and put a more
4 detailed package together as to how the mining would
5 proceed on an -- an annual basis in terms of the
6 sequencing of ore coming out of the mine and ore going
7 back into the mine. And out of that we developed a void
8 balance, which means how many voids are there at any one
9 (1) time that are available for paste.

10 And based upon that analysis and the other
11 -- the previous analysis hadn't been done on the paste,
12 we feel that at the end of the mine's life there will be
13 about an 11 percent premium, or contingency, or extra
14 void space than -- then that -- than as is required to
15 put the paste back underground.

16 THE CHAIRPERSON: Thank you, Mr.
17 Maclean. I'm going to go over to INAC.

18 MR. ROBERT JENKINS: Thank you, Mr.
19 Chair. It's Robert Jenkins with INAC.

20 It appears that there's been some updated
21 analysis and information. And INAC is wondering if it
22 would be possible to have an undertaking of the developer
23 to receive this updated analysis based on the paste
24 backfill as well as discrepancies we've identified with
25 water quality objectives.

1 (BRIEF PAUSE)

2

3 THE CHAIRPERSON: Okay. Thank you.

4 Thank you, Robert. I guess the -- the time is very
5 important in regards to -- for this Board to make a
6 decision, so I guess I'm going to go to Canadian Zinc and
7 if you want to respond to that question.

8 MR. DAVID HARPLEY: I think we are
9 amenable to undertakings to provide additional
10 information. In fact, we submitted a letter to the
11 Review Board just prior to the Hearing saying that we
12 anticipated these questions would come up based on our
13 review of the technical report.

14 So -- and as we indicated in our letter,
15 there are details that were requested that are very
16 difficult to transmit in this type of forum. So while we
17 did not want to put additional material on the record at
18 that time, we did want an opportunity to -- to place the
19 material on the record at some point. So perhaps
20 undertakings is a vehicle to do that.

21 While I'm talking on the subject, I just
22 wanted to add a little more to the tailing story, because
23 I think it's an important one (1) that will come up
24 again.

25 That's why I'd mentioned essentially what

1 INAC had recommended in their technical report we have
2 now done. We've been through the process in detail and
3 confirmed for ourselves that a) the tailings would all
4 fit, and b) there was a contingency and there is not a
5 sequencing problems in terms of getting all the material
6 underground.

7 But also, in addition to the 11 percent
8 contingency that he mentioned, we think there's
9 additional contingency in the sense that as the tailings
10 are placed underground, as Alan described this morning,
11 the nature of the cut and fill is that each layer of --
12 of -- of paste is placed on top of the -- the last layer.

13 So what happens is you get compaction and
14 the density increases. And we've made conservative
15 assumptions on the density, but in reality we know that
16 the density will go up. Therefore, we should have more
17 space, so that's an additional contingency.

18 And as I say, I think it's worth
19 reiterating that now, because there was a lingering and
20 common theme in the reports about the tailings won't all
21 fit and the consequences of that. And we are extremely
22 confident that they will all fit.

23 THE CHAIRPERSON: Okay. Thank you. I'm
24 going to go back to Robert, so I guess if you could just
25 repeat that undertaking, then I'm going to go back to

1 Canadian Zinc and I'm going to suggest maybe a date, but
2 Robert give response to Canadian Zinc's question -- I
3 mean, comments.

4 MR. ROBERT JENKINS: Well, I -- it's
5 Robert Jenkins with INAC. I guess, Mr. Chair, that this
6 is information that we'd be interested in reviewing. It
7 was a concern that we'd raised and we will discuss it
8 this afternoon.

9 We haven't had the opportunity to review
10 this new analysis, so we can't obviously comment on it at
11 this time, but we're interested in reviewing it, so
12 that's why we requested an undertaking. Thank you.

13 THE CHAIRPERSON: Okay. Thank you. I'm
14 going to go over to Canadian Zinc, so you're -- you'd be
15 open for -- for an undertaking here? And then I'll
16 suggest a date.

17

18 (BRIEF PAUSE)

19

20 MR. DAVID HARPLEY: David Harpley. On
21 the issue of the -- the tailings, we've pretty much done
22 the analysis, so I don't think we would need more than a
23 week to place that material as an undertaking on the
24 record.

25 The initial question was two-pronged in

1 terms of both tailings and water quality objectives. I
2 think we still need to have some more discussion on the
3 objectives, because that may have a -- or may -- will --
4 will have a different schedule, but we are amenable to
5 discuss it.

6 THE CHAIRPERSON: Okay. Thank you.
7 Okay, so tomorrow's the 24th and sometimes we usually
8 allow for a week or two (2) weeks for this thing, but
9 since you're asking for a week, maybe what we could do is
10 suggest maybe, you know, July 4th.

11 Would that be enough time to submit your
12 undertaking and -- and then send it to the Review Board
13 and then we'll post it, but -- that would be good? We
14 can work with that.

15
16 --- UNDERTAKING NO. 1: Canadian Zinc to provide
17 updated analysis and
18 information based on the
19 paste backfill as well as
20 discrepancies identified with
21 water quality objectives by
22 July 8th, 4 p.m.

23
24 THE CHAIRPERSON: We'll continue on with
25 your questioning again from INAC.

1 MR. JOHN BRODIE: Mr. Chairman, this is
2 John Brodie. I have a follow-on question to the comments
3 on consolidation of the tailings backfill. My
4 understanding is that the objective of producing paste
5 backfill is to produce a very dense product as it relates
6 to mining purposes and that in this case it's also
7 proposed to have cement added to it.

8 So my question is: How much consolidation
9 would actually occur in that kind of material and what
10 does that actually represent as a contingency in terms of
11 percentage additional storage space?

12 THE CHAIRPERSON: Mr. Brodie, I'm going
13 to go over to Canadian Zinc.

14 MR. BYARD MACLEAN: Byard MacLean, the
15 model that was set up to assess the additional void space
16 or contingency void space contains a -- is a -- a fairly
17 large spreadsheet that contains a number of assumptions
18 and -- and also information that we've got from previous
19 testing. And I think it would be simpler for Mr. Brodie
20 to review that flow -- spreadsheet, because I think it --
21 it presents all of our bases.

22 THE CHAIRPERSON: Thank you. I'm going
23 to go back to INAC, Mr. Brodie.

24 MR. JOHN BRODIE: Mr. Chairman, John
25 Brodie. I think that's probably an appropriate way to

1 proceed on this question.

2 My next question concerns the mine closure
3 scenario. And we heard this morning that the -- there's
4 a prediction that 99 percent of the water -- groundwater
5 will flow around the paste backfill in the underground
6 mine. And also that the zinc concentrations in Prairie
7 Creek are predicted to be lower than the pre-mining
8 condition.

9 And so my question relating to these
10 predictions is: Did the company consider the water flow
11 in or through low density backfill material that may be
12 placed in the mine, rocky ore type material that may be
13 left in stopes, or in the wall of stopes, and may -- and
14 finally, water flow through the disturbed layers of -- of
15 tailings backfill that result from the drilling, blasting
16 and removal of ore process that breaks up the backfill
17 surface.

18 THE CHAIRPERSON: Thank you, Mr. Brodie.
19 I'm going to go over to Canadian Zinc.

20 MR. CHRISTOPH WELS: Good morning, Mr.
21 Chair, it's Christoph Wels speaking. I will respond to
22 the question that relates to the groundwater flows, and I
23 will refer to Shannon Shaw this afternoon regarding some
24 of the assumptions related to the geochemical
25 assumptions.

1 In terms of flow, what we have done, we
2 have estimated how much water would actually be in
3 contact with the paste backfill, the cemented paste
4 backfill, by simulating an idea -- presenting an
5 idealized groundwater flow model.

6 And those model predictions show that the
7 vast majority of the groundwater moving in the fractured
8 vein fault will circumvent or avoid the paste backfill
9 and stay in the open fracture surrounding the actual
10 cemented paste backfill.

11 And that's where this number of 99 percent
12 flow not contacting -- not contacting the cemented paste
13 backfill is coming from. We don't say that 99 percent of
14 our groundwater is circumventing the entire mine area.
15 We're just saying for calculating, and again, I'll refer
16 to Shannon Shaw this afternoon, how that was taken into
17 account for the geochemical source concentration
18 estimates.

19 But we are estimating that only a small
20 portion of the flow through the mine, through the
21 fracture zone that's later backfilled is actually in
22 contact with the bulk of the paste.

23 THE CHAIRPERSON: Okay, thank you. Mr.
24 Brodie, to conclude part of your question that was posed
25 to Canadian Zinc, Shannon Shaw is going to be here this

1 afternoon, so we could come back to help answer that
2 question you put out to Canadian Zinc?

3 MR. JOHN BRODIE: Yes, we could answer
4 that part -- it's John Brodie speaking. Yes, I -- I'd
5 like to hear that answer this afternoon. But for clarity
6 on -- on this groundwater flow aspect my question really
7 might be phrased differently.

8 Is it possible that there would be
9 backfill material or rocky debris in -- in and around the
10 low permeability backfill that might be subject to
11 groundwater flow that would result in flushing of zinc?

12 THE CHAIRPERSON: Thank you, Mr. Brodie.
13 I'm going to go over to Canadian Zinc.

14

15 (BRIEF PAUSE)

16

17 MR. CHRISTOPH WELS: Mr. Chair, Christoph
18 Wels speaking again, responding to this question.

19 I'm not a paste backfill expert but -- I'm
20 the hydro-geologist, but we have tested the paste
21 backfill and the broad permeability of the paste backfill
22 is about three (3) orders of magnitude lower than our
23 estimate of hydraulic connectivity in the fractured rock
24 surrounding the paste backfill.

25 It's my understanding that the paste

1 backfill is a -- is a processed engineered material
2 that's placed, so I wouldn't expect too much variability
3 in this hydraulic connectivity of this low permeability
4 material. My paste backfill expert here sitting behind
5 me was telling me that he would not expect that we have
6 very coarse material left behind by -- when we place the
7 paste backfill. All the coarse material will be removed
8 from the stopes and then the paste backfill will be
9 filled, it's my understanding, from the bottom up.

10 So we -- we're -- we're removing the waste
11 rock, cleaning out the entire stope, and then coming back
12 in three (3) metre intervals, placing paste backfill
13 which is a fine grain material, so I wouldn't expect to
14 see large boards or large coarse material that could
15 create significant permeability.

16 I think the only potential room where this
17 could occur is at the very roof of a stope as you walk
18 yourself up to the very, very top. The only complication
19 could be at the very, very top of an eighty (80) metre
20 stope, you might have the very top, I don't know, 50
21 centimetres, maybe a metre, where you might have a little
22 bit of void space left behind potentially, although I --
23 my understanding is that Canadian Zinc will try to
24 minimize any of those voids.

25 However, those voids will be fairly

1 isolated, if you think about it, from the entire fault
2 zone that's running through the mine. I still contend
3 that the vast majority of the groundwater flow will not
4 move through the vast majority of this block material
5 that's being placed top -- on top of each other every 3
6 metres, but it will avoid these -- this block of cemented
7 material and it will move in the fractured bedrock that
8 surrounds this block of engineered placed material
9 because it is vastly more permeable than this block that
10 you are placing.

11 I hope that answers your question.

12 THE CHAIRPERSON: Thank you. We'll go
13 to INAC, Mr. Brodie.

14

15 (BRIEF PAUSE)

16

17 MR. JOHN BRODIE: Mr. Chairman, John
18 Brodie speaking.

19 In principle I agree with the -- the
20 response that the engineered backfill material will be
21 low permeability. However, the -- the prediction that
22 there's virtually no flow through this material and that
23 the loadings coming out of the mine after closure seem
24 quite optimistic, in my opinion. And it's not the flow
25 through the cement, the bulk of the tailings, that is --

1 is of concern.

2 My question really is -- pertains to the
3 flow of water through the tailings that might be
4 disturbed by blasting processes, by the excavation of ore
5 as ore is taken out of each succe -- sequential lift
6 through the mine, and small pockets of ore type material
7 that remain in the wall rock ore cannot be cleaned up at
8 the wall of each stope.

9 And it's these sources of material that I
10 think make the prediction quite optimistic, so I'm -- I'm
11 trying to understand how the company has -- has
12 incorporated these inconsistencies or imperfections in
13 the natural mining process into their prediction.

14 THE CHAIRPERSON: Thank you, Mr. Brodie.
15 I want to go over to Canadian Zinc. And I think there
16 was a second part of that question, so I wanted to give
17 you guys to think about it, and then try and best answer
18 that question.

19

20 (BRIEF PAUSE)

21

22 MR. BYARD MACLEAN: Byard MacLean. I'd
23 like to make it -- in an attempt to answer the question,
24 I'm going to make a general statement about how we've got
25 our -- how we've prepared our mine design and our paste

1 design because they're both the same thing.

2 Starting back in about 2007 our mining
3 engineers, who have forty (40) years experience designing
4 underground mines, picked up the project where it was and
5 developed an underground mining plan.

6 We brought in Golder Paste Tech, who are
7 paste people, that's all they do for a living. And we
8 said, Because of this special situation, we have to put
9 all the tailings underground. That's -- and -- and I've
10 said that to meetings regarding this permit for a couple
11 of years now.

12 And so we brought in the Paste Tech, and
13 they did the sampling, and -- and they did the testing,
14 and they did the design. And then principles of Paste
15 Tech moved over a company called Mine Paste Engineering,
16 so the same people picked up the project, and they have
17 done the design. And we have talked to those folks
18 about, How do you get the paste underground? What's the
19 best method of doing it?

20 We've gone from truck -- from pumping it
21 underground to trucking it underground on their basis.
22 They've gone, What is the best density you can get
23 underground, 10 inch slump, 7 inch slump, 6 inch slump?
24 That not might not mean anybo -- anything to anybody, but
25 it means a lot to them.

1 We made a selection of what they thought
2 was best. We talked to them about underground problems,
3 how do we get the stuff underground. Thou shalt not
4 leave development muck underground because that's taking
5 up space. Thou shalt not do a number of things.

6 And then we talked to them about how do we
7 get this material underground in -- in -- so we fill up
8 the voids the maximum way of doing it, and that's a
9 combination of trucking it and it's a combination of,
10 once you get down there, pumping it, and it's different
11 in each individual zone.

12 And for -- to -- to answer questions about
13 what -- what I consider minor issues about what happens
14 if there's a bit of rock there, I mean, you deal with
15 those problems when you're operating a mine when you're
16 operating a mine.

17 But at the des -- the design stage we look
18 at every possible -- possibility of how we can mitigate
19 not putting tailings on the surface. That's the
20 principal driver. In most under --paste operations it's
21 not the principal driver; it's fill up the stopes.

22 And so we can go back with a specific set
23 of -- of issues that INAC may have on -- on what do you
24 do with this if you -- if you can't get little bit --
25 bits and pieces out of the mine, and -- and we can review

1 those and get back to them.

2 But generally speaking, we brought the
3 best people we can find that only do paste work to do our
4 design, and we've -- we've pushed them and we've beat on
5 them to give us the best possible design.

6

7 (BRIEF PAUSE)

8

9 MR. CHRISTOPH WELS: Mr. Chair, it's
10 Christoph Wels speaking again. I just wanted to follow
11 up on this question just to have strength in my argument
12 about the flow calculation and that we're using 99
13 percent as a con -- 99 percent of the flow will not
14 contact the bulk of the paste, which I think John's
15 question is -- is driving at.

16 I just referred to a model study that was
17 performed and is documented in our RGC responses to
18 Information Requests Prairie Creek Mine Northwest
19 Territories, dated September 6th, 2010.

20 In this document there is an Appendix 1 in
21 which I outline our modelling work that was performed to
22 estimate how much of the groundwater flow will be in
23 contact with the bulk paste tailings.

24 I just want to expand a little bit on
25 this. We actually developed a flow model, a three (3)

1 dimensional groundwater flow model for the mine site in
2 order to estimate the bulk permeability of the fracture
3 zone itself, which is an important number, which is our
4 $5E$ minus 5 metres a second.

5 It's a very high permeability that we're
6 estimating for the fracture zone in which the -- the ore
7 zone is hosted, and in which we will place this backfill.
8 The backfill has been tested in the lab as $5E$ minus
9 8. So there's three (3) orders of magnitude difference.

10 We then used these numbers and looked at
11 the local effects of this variation and permeability
12 between the fracture zone that's hosting initially the
13 ore, and later it's hosting the cemented paste -- paste
14 backfill.

15 We simulated it as a much larger -- much
16 more detailed scale. And again, I refer to Appendix 1
17 where this is documented. And looking at these flow
18 simulations we estimate that 99 percent or less will
19 contact the paste backfill.

20 Now going to the question that Mr. Brodie
21 asked here is what he's referring to, the way I
22 understand, is are marginal effects of imperfections
23 where the paste backfill doesn't touch the wall rocks.
24 That is essentially very similar to what we have assumed
25 in our calculations where we have an extension of a

1 fracture zone that's going beyond where you place your
2 paste backfill.

3 So we're actually estimating that the
4 fault zone is on average about 10 metres wide, we're
5 placing about 5 metres of paste backfill in the middle.
6 So on either side we have actually 2 1/2 metres of
7 fractured highly permeable rock that allows the
8 groundwater to bypass the cemented paste backfill.

9 If we have an imperfection on the side of
10 the wall because it's not a perfect fit, or there's some
11 loose rock, it will just become the fractured bedrock and
12 is essentially very similar to what we've simulated in
13 this idealized flow section.

14 So I still -- I still maintain that I
15 think -- and we estimated, in fact, lower contact flows
16 than 99 percent. But the 99 percent that we used for our
17 loading calculations, in our -- in our estimation is
18 conservative in allowing contact of the water with the
19 cemented paste backfill.

20 And again, I -- I'd suggest that we
21 revisit this question in terms of explaining to you how
22 we use this 99 percent contact in terms of estimating
23 geochemical sources when Shannon Shaw is here this
24 afternoon. There's additional conservatism built into
25 our modelling to then calculate how much load will come

1 from having this 1 percent of groundwater flow contacting
2 the actual matrix of the cement paste backfill.

3 Okay? Thank you.

4 THE CHAIRPERSON: Okay. Thank you. So
5 I'm going to stop there. Mr. Brodie, I think what I'll
6 do is we'll come back after -- after lunch. We -- we're
7 going to stop, we're going to come back at 1:30. And
8 this will give us time to have Mr. Sheldon (sic) show up
9 here to help with some of the questions you guys have and
10 for clarification.

11 At the same time, we will be running
12 behind schedule, so I'm okay with that. I want to
13 accommodate all the presenters and people in the
14 community that's here, so that people have a better
15 understanding of what Canadian Zinc wants to do here.
16 And -- and also it helps our Board, as well, to
17 understand what's going on here in terms of some of the
18 technical questions.

19 With that I'm going to -- just one (1)
20 thing I want to recognize, an Elder from Liidlii Kue
21 First Nation is Ant -- Jonas Ant -- Antoine. I just want
22 to say mahsi. He's an Elder from this community, so it's
23 good to see you.

24 With that, we'll stop, and we'll come back
25 at 1:30. Mahsi.

1 --- Upon recessing at 12:00 p.m.

2 --- Upon resuming at 1:45 p.m.

3

4 THE CHAIRPERSON: I'll get everybody to
5 sit and we can start. I'll get everybody to come in.

6

7 (BRIEF PAUSE)

8

9 THE CHAIRPERSON: Okay. If I can get
10 everybody to come in and join us, we're gonna start. I
11 know that we -- we're a little bit behind schedule here,
12 but I just want to, again, thank Canadian Zinc and -- and
13 then INAC for taking the time during lunch hour to sit
14 down and -- and iron out some of their issues or
15 questions they may have. And I'm hoping you guys had a
16 good meeting.

17 So we can continue on with the questions
18 to the presenter here today. Also, there's -- after
19 we're done with the questions, the Dehcho Grand Chief
20 wants to make a statement so I'll -- I have -- I want to
21 accommodate that.

22 So I guess my question will be is, coming
23 back to INAC and their questions to the presenters here
24 today, my -- I guess, the -- I -- I'll go back to INAC
25 and -- and to the -- if you guys are able -- if you guys

1 have any more questions to the presenter?

2 And maybe what we could do is we could get
3 you to, again, state your name for the record and --
4 because the reason why -- I also want to emphasise that
5 there's a lot of people here who also wants to -- may
6 want to ask questions. So I'm gonna ask that maybe --
7 we'll go back to INAC and maybe we can limit our
8 questions. Thank you.

9 MR. ROBERT JENKINS: Thank you, Mr.
10 Chair. It's Robert Jenkins with INAC.

11 Yes, Mr. Brodie does have two (2) more
12 questions, so thank you for that.

13 THE CHAIRPERSON: Yeah, please proceed.

14 MR. JOHN BRODIE: Mr. Chairman, it's John
15 Brodie.

16 Before lunch we were discussing the issue
17 of groundwater flow in and around the backfilled mine,
18 and I think that unfortunately the question was not as
19 clear as it might have been. So I'd like to just provide
20 a description of how I see this mine and create a mental
21 picture that I think will help people better understand
22 the question.

23 So what I'm thinking is if -- if you
24 envision standing in a tunnel and on both walls is the
25 host rock, or the country rock that's not ore, and you're

1 standing on backfilled tailings -- this is the low
2 permeability tailings that they're planning to place in
3 the mine -- and in the roof above your head is the ore.
4 And the mining procedure will be that they will drill the
5 roof and blast that rock and it will fall on the floor.
6 And subsequently the mining equipment will then come in,
7 drive on that cemented tailing surface and remove all of
8 the ore, and they will repeat that sequence through the
9 ore body.

10 And as that work is being done, each time
11 they remove the ore from on top of that tailings they
12 will in -- the mining method will tend to break up the
13 tailings, so it will be disturbed; it won't all be low
14 permeability material like the bulk of it that was placed
15 there. And more importantly, at the wall -- at the
16 corner where the floor and the wall meet on both sides
17 there will tend to be a small amount of diluted ore --
18 maybe wall rock, maybe ore -- that is impractical to pick
19 up. And that material will remain in the stope and be
20 encapsulated in part by the backfill, but it will have
21 one (1) side against the fractured wall rock; this
22 permeable rock around the ore.

23 So my question is: At the end of the mine
24 life, when we have groundwater flowing through fractured
25 rock and it's contacting wall rock, it's contacting the

1 side of the backfill, has the predictions for the amount
2 of zinc also accounted for that small quantity of ore
3 that will remain in the stope at the edge of the ore
4 zone? And the second question that follows on from that
5 is: If that did become a problem, what is the
6 contingency to deal with that?

7 THE CHAIRPERSON: Thank you, Mr. Broda --
8 Brodie. I want to go back to Canadian Zinc.

9
10 (BRIEF PAUSE)

11
12 MS. SHANNON SHAW: Hi, this is Shannon
13 Shaw, with Phase Geochemistry. The geochemical load
14 predictions accounted for that scenario by assuming the
15 surface area of the mine workings were essentially
16 behaving like host rock, waste rock, for a half metre
17 depth into the wall, so it adds a load from a reactive
18 fringe through the whole surface area up to about a half
19 a metre.

20 So that would account for tho -- the
21 rubble rock, essentially, that would fall into any open
22 spaces. And the paste backfill was assumed as 10 percent
23 of -- of the entire volume that would release a reactive
24 mass into the water flowing into that, so the contaminant
25 loading source term predictions accounted for it on that

1 basis.

2 MR. DAVID HARPLEY: This is David
3 Harpley. I guess it was a two (2) part question. The
4 first part was the geochemistry side, and the second part
5 was the contingency, so I'll talk to the contingency.

6 I guess we feel that our predictions are
7 such that we have confidence that we understand the
8 system and -- and the expectations of what's going to
9 happen. But as with any form of predictions, you always
10 want to do monitoring to confirm your assumptions. And
11 we will have a lot of opportunity to monitor through the
12 life of the project to validate the chemistry assumptions
13 that were made and, indeed to get more representative,
14 perhaps, samples of paste and -- and do more leachate
15 testing.

16 So monitoring will be definitely part of
17 the equation. And the fallback position, if the leachate
18 was worse than expected, would be to have a -- some kind
19 of a pumping system, at least temporarily after closure,
20 to control the system before we get to the point where
21 it's not controlled anymore. And the point at which it's
22 not controlled, and we basically accept that it's -- or
23 feel that's it's steady state and -- and not going to get
24 any worse, would also be verified by monitoring. So
25 that's the contingency.

1 THE CHAIRPERSON: Thank you. I'm going
2 to go back to INAC and ask Mr. Brodie, do you have any
3 further comments or questions?

4 MR. JOHN BRODIE: It's John Brodie. No
5 further questions right now, Mr. Chairman.

6 THE CHAIRPERSON: Thank you. Okay, I
7 want to continue on. And before I move that, I want to
8 say thank you to the staff, and, again, Canadian Zinc for
9 taking the time to sit down and talk about some of the
10 common issues and questions, and I think it's a great
11 idea that we continue to do that.

12 I'm going to go back to -- I missed the --
13 I guess the GNWT earlier when I mentioned that if there's
14 any questions. I believe Aileen Stevens, on the GNWT, is
15 she here? She has a question?

16 MS. AILEEN STEVENS: Hi. Aileen Stevens,
17 with ENR. During your presentation you just glazed over
18 some of the dust control measures you were going to be
19 implementing, specifically about the concentrate during
20 transport, haulage, bagging, that type of process.

21 I was wondering if you could please just
22 go over that for the people here.

23 THE CHAIRPERSON: Thank you, Aileen.
24 Canadian Zinc...?

25 MR. DAVID HARPLEY: Dave Harpley. Yeah,

1 we glazed over because we had covered it in -- yesterday,
2 to some extent, and in trying to save a bit of time, that
3 was the result, the -- the reason for the glazing. But I
4 think we will probably discuss it in a little more detail
5 when we get to Environment Canada's technical report and
6 the discussion thereafter.

7 But we're aware that dust is a potential
8 issue. As far as the concentrates are concerned, our
9 intent is to have a bagged concentrate there -- where the
10 bag on the outside is essentially clean and the vehicle
11 that picks it up from the storage shed is also clean when
12 it leaves the shed. So that's the basic premise of the
13 dust management from the concentrate side of things. And
14 then the -- the additional dust management is related to
15 site operations and dust ball monitoring.

16 And does that answer your question, or was
17 there something else in addition you had in mind?

18 THE CHAIRPERSON: GNWT, Aileen
19 Stevens...?

20 MS. AILEEN STEVENS: Aileen Stevens, ENR.
21 No, that's fine. We can discuss it later during the
22 presentation. Thanks.

23 THE CHAIRPERSON: Thank you. Continue
24 on, questions for the -- to the presenters, Canadian
25 Zinc, on their presentation.

1 Any questions from Fisheries and Oceans
2 Canada?

3

4 (BRIEF PAUSE)

5

6 MS. LORRAINE SAWDON: Thank you. It's
7 Lorraine Sawdon, with Fisheries and Oceans. We've just
8 got a couple of questions for Canadian Zinc. The first
9 one has to do with the exfiltration trench. And
10 throughout this assessment the diffuser design has
11 changed about four (4) times, most recently to the
12 double-piped exfiltration trench.

13 Can Canadian Zinc please provide an
14 explanation for the rationale for the progression of the
15 designs?

16 THE CHAIRPERSON: Okay, thank you.
17 Canadian Zinc...?

18 MR. DAVID HARPLEY: It's David Harpley.
19 I've heard the number 4 mentioned a few times. Quite
20 honestly, my memory's getting a little fuzzy, whether
21 it's three (3) or four (4), but I know it's three (3).

22 I'm not -- I'm not sure we ever intended
23 to discharge through the Harrison Creek culvert as we do
24 currently. I believe our first proposal for the
25 discharge was a diffuser, consisting of a pipe with --

1 pipe with ports that would discharge water into a deep
2 channel of the creek.

3 There were two (2) other options at that
4 point, one (1) was a simple culvert direct to Prairie
5 Creek, and the third was an exfiltration trench. We did
6 say at the time that we needed to do more investigation
7 of the three (3) options, and, specifically, the diffuser
8 option, which we subsequently did, and we determined a
9 couple of things: The first one was that there really
10 weren't any large, deep channels in the immediate
11 vicinity of the catchment pond. And, secondly, having
12 discussed the situation with our hydraulic engineers,
13 there was significant concern that whatever structure we
14 placed within the flow of the creek would be subject to
15 damage from flood events.

16 So based on those two (2) results, we
17 basically ruled out the diffuser as our option. At that
18 time, our consultant indicated that of the two (2)
19 options remaining there were the issues of construction
20 manage -- management of construction impacts associated
21 with an exfiltration trench, and that the option with
22 least construction impacts would be the culvert.

23 So at that point we elected to recommend
24 the culvert, and at the same time we were doing mixing
25 analysis modelling to determine what sort of plume we

1 would get from the discharge. And what we found was that
2 the plume was reasonably significant, to the point that
3 regulators were not comfortable with the size of the
4 plume.

5 So, therefore, we went back and
6 reevaluated, as one tends to do through an EA process,
7 and went back to the third option, which was the
8 exfiltration trench. And we've proposed an approach
9 whereby we developed the necessary program for protection
10 and construction management and everything that would be
11 associated with partial excavation of the creek bed,
12 placement of the exfiltration system and then
13 reconstruction of the bed and the habitat, and
14 considering whether or not we need compensation as a
15 result.

16 We do have confidence that the trench will
17 be an effective and stable solution and that's why we've
18 proposed it. We're comfortable that it would not be
19 susceptible to damage from erosion, and we're also
20 confident now that we can manage the construction side of
21 things and minimize those impacts.

22 THE CHAIRPERSON: Thank you. I'm going
23 to go back to your second part of your question. I'm
24 going to go to the GNWT. Have any statements -- oh,
25 sorry, Fisheries and Oceans, sorry.

1 MS. LORRAINE SAWDON: Thanks, it's
2 Lorraine Sawdon with Fisheries and Oceans. A second
3 question then would be: Can you please indicate how
4 mitigations to impacts to fish and fish habitat have been
5 developed as these designs have progressed?

6 THE CHAIRPERSON: Thank you. I'll go to
7 Canadian Zinc.

8 MR. DAVID HARPLEY: David Harpley. The
9 mitigations we have in mind for construction and
10 implementation of the exfiltration trench really start
11 with an understanding with the habitat in the area and --
12 and also the -- the utilization of the area by certain
13 species of fish.

14 We know that it's migration habitat for at
15 least bull trout and mountain whitefish. We also know
16 that we have slimy sculpins in the area both upstream and
17 downstream. Our -- our expectation is that migration
18 likely occurs upstream in the late summer or fall to
19 spawn, and then migration back again later on after
20 spawning, sometime in -- in the August period. So that's
21 what we mean by migration.

22 We also have, at this point in time,
23 habitat data for a number of different locations, both
24 upstream and downstream of the exfiltration trench,
25 sufficient to give a fairly good indication of what the

1 actual habitat is at the trench location.

2 And that was the basis for the design of
3 the construction and the mitigation at this point. What
4 we -- what we have said though, is that we will send our
5 consultants into the field and do specific habitat
6 mapping of the exact location of the trench so we have a
7 clear picture of what the habitat is at that location, so
8 we know what it is that we have to recreate when we've
9 installed the trench and -- and give consideration for
10 compensation requirements at that time.

11 The other mit -- mitigations that we have
12 in mind after the construction is we will have screens on
13 this trench. The water that goes into the trench will be
14 coming out of the water treatment plant which has been
15 through a clarifier.

16 So we're really expecting very little in
17 the way of sediment and material being discharged to the
18 trench, which means very little in the way of sediment
19 being released into Prairie Creek. We've also done the -
20 - the modelling of water quality parameters including
21 things like TDS and sulfate, and the dilution ratios that
22 we see based on the -- the water management for those and
23 metal parameters is the same for things like temperature.
24 We don't expect there'll be a -- a substantial difference
25 between the temperature of the discharge and the creek

1 water itself because of the dilution and mixing
2 mechanisms that are built into the system.

3 So that's kind of a quick, off the top of
4 my head, summary of the mit -- some of the mitigations
5 that we will employ for this system.

6 THE CHAIRPERSON: Thank you. Going back
7 to Fisheries and Oceans Canada; is there any further
8 questions you have?

9 MS. LORRAINE SAWDON: Yeah, I've got --
10 I've got two (2) further questions. Is that all right?

11 THE CHAIRPERSON: Yeah, please proceed.

12 MS. LORRAINE SAWDON: Thank you.
13 Lorraine Sawdon, Fisheries and Oceans again. Thanks,
14 David, for the last answer.

15 Regarding the site runoff, on one of the
16 slides, I believe it was the water management slide, the
17 site runoff is shown to be directed to the catchment
18 pond. And I'm curious, have the predictions for the TDF
19 -- or sorry, TSS to be discharged to Prairie Creek
20 incorporated sediment brought into the catchment pond
21 from the site runoff?

22 THE CHAIRPERSON: Thank you. Canadian
23 Zinc...?

24 MR. DAVID HARPLEY: David Harpley. Yes,
25 in fact, it has because the two (2) pieces of evidence

1 that we've used for the -- the site runoff -- the -- the
2 first piece of evidence is that from visual operation,
3 from being on the site for many years, we know that even
4 during intense rainfall events, because of the majority
5 of precipitation infiltrates before it actually arrives
6 in the ditch, the ditch water actually stays quite clear,
7 and during those rainfall events, considerably clearer
8 than Prairie Creek is. So there's the visual side of it
9 and -- and we're actually observing that there's not a
10 lot of sediment being carried into the ditch and into the
11 catchment pond.

12 The second part of the data base is that
13 we did sample the ditch for metal parameters and others
14 as part of our water management plan and overall
15 discharge planning, and that analysis included TSS, and
16 as we expected the concentrations were low.

17 THE CHAIRPERSON: Thank you. I'm going
18 to go back to Fisheries and Oceans for your final
19 question.

20 MS. LORRAINE SAWDON: Great, thank you.
21 Lorraine Sawdon, Fisheries and Oceans. For this would we
22 be able to turn to slide 30 of Canadian Zinc's
23 presentation.

24

25 (BRIEF PAUSE)

1 MS. LORRAINE SAWDON: Yeah, that's the
2 one. Could you, while you're there, just circle the
3 waste rock pile for us, please.

4 MR. DAVID HARPLEY: Right here.

5 MS. LORRAINE SAWDON: Perfect, thanks.
6 And sorry, David, could you please also go to slide 30.
7 My question is about the collection pond at the base of
8 that -- or sorry, the -- slide 28. The coll --
9 question's about the collection pond at the base of that
10 waste rock pile.

11 And from this slide, the collection pond
12 looks -- well, it looks very small. And -- sorry, my
13 questions is: What factors were considered in the design
14 of the collection pond, and were high precipitation
15 events, or a high snow pack years incorporated into the
16 design?

17 If you can also explain how water from the
18 collection pond will be delivered to Cell B, and what the
19 contingencies are in the event of an over-capacity
20 situation I'd really appreciate it. Thanks.

21 THE CHAIRPERSON: Thank you for your
22 question. I'm going to go to Canadian Zinc.

23 MR. DAVID HARPLEY: David Harpley. The -
24 - the engineering was done by Golder. And, Dave, next to
25 me can jump in if I miss anything, but I think the

1 assumption for the design of the -- the pond is -- it
2 would be based on a one (1) in one hundred (100) year
3 return period precipitation event.

4 And, also, as far as management of the
5 water, the intention would be one (1) of two (2) things.
6 Either we would pipe it down to the mill and integrate it
7 into the water management system, as we plan to do with
8 the stockpile runoff. Or another possibility, and, at
9 this point, perhaps it's more likely, we would drill a
10 borehole from surface in the immediate vicinity of the
11 collection pond and direct the water into the
12 underground. The reason being, that the underground is -
13 - is underneath the location of the waste rock pile, so
14 it's a convenient opportunity to route the runoff into
15 the underground where we already have an established
16 collection system and large pumps. And it would easier
17 to -- to manage the water on that basis and avoid the
18 issues with a long pipeline and winter freezing and that
19 sort of stuff.

20 I'm not sure -- I caught the end of your
21 question -- did that cover everything you were looking
22 for?

23 THE CHAIRPERSON: Thank you. Fisheries
24 and Oceans Canada...?

25

1 (BRIEF PAUSE)

2

3 THE CHAIRPERSON: I take that as a "yes".

4 MS. LORRAINE SAWDON: Yeah, thank you.

5 We're -- we're happy.

6 THE CHAIRPERSON: Okay. Thank you.

7 Questions to the -- do you have a -- from Nahanni Butte

8 Dene Band to the presenters. Any questions from Nahanni

9 Butte Dene Band on the presentation?

10 MR. PETER REDVERS: Peter Redver --

11 Redvers, representing Naha Dehe Dene Band. Rather than

12 asking questions now, and with the agreement of the --

13 the Board, INAC, and Canadian Zinc, what I'd prefer to do

14 is take it -- because there's some questions relating to

15 sort of resolution of the water quality issues that are

16 the sort of primary concern with the community.

17 What I'd prefer to do is ask some

18 questions following the INAC presentation, but be allowed

19 to ask questions both of INAC, and also at Canadian Zinc

20 at that time because they -- it may require both to

21 respond to. I've spoken to David Harpley, and -- and

22 he's agreed to do that. So as long as INAC or AANAC

23 (sic) or -- and the Board are willing to, if I could just

24 hold questions until then, that would be preferred.

25 I'm not quite sure how to say it, as does

1 anybody else, and...

2 THE CHAIRPERSON: Okay. Thank you. I
3 presume that's okay with INAC. I always wonder why they
4 changed their name. I always thought it was Indian
5 Repairs. Thank you.

6 Okay, moving on. We're going to go to
7 Parks Canada. Any questions for the presenter?

8

9 (BRIEF PAUSE)

10

11 MS. KATHERINE CUMMING: Good afternoon.
12 My name's Katherine Cumming. And for a change of pace,
13 I'm going to start with questions on the road.

14 You've said that the permafrost is
15 expected in places, but you don't know how much you're
16 expecting to find. You said that the mitigation for
17 permafrost is to cover it. How can you estimate --
18 provide an accurate estimate of the aggregate needs when
19 you don't know the extent of permafrost?

20 THE CHAIRPERSON: Thank you, Katherine.
21 I'm going to go to Canadian Zinc.

22 MR. DAVID HARPLEY: It's David Harpley.
23 I guess the -- the answer is really that we don't know
24 for sure how much permafrost they are, but what we do
25 know, based on the experience of our consultant and on

1 the recognisances that he's undertaken, is there an a --
 2 is an expectation of the possible presence of
 3 discontinuous permafrost.

4 So it's not that we're expecting
 5 continuous and extensive stretches of permafrost. We
 6 just want to investigate for and be prepared for the
 7 possibility of permafrost occurring.

8 The other factor that's relevant is that,
 9 as you know, there is an existing winter road, and it was
 10 built and operated for two (2) seasons previously. And
 11 to our knowledge, speaking to -- speaking to a number of
 12 people that operated on the road and were involved in the
 13 construction, it doesn't appear that there were any
 14 issues of permafrost that were encountered previously.

15 THE CHAIRPERSON: Maybe David -- maybe if
 16 you could -- Dav -- David, if you could just back away
 17 from the mic a little bit more too so we don't get the
 18 feedback. Okay.

19 MR. DAVID HARPLEY: Okay. It sounds like
 20 it's going off periodically, that's why I'm getting
 21 closer.

22 So I guess our expectation is -- is that
 23 there won't be a lot of permafrost. So our -- at this
 24 point, our approach is really to deal with the situation
 25 where we may encounter some. And that's why we're

1 suggesting that we -- we may well need to use aggregate
2 to -- to insulate those areas to -- to keep them stable,
3 but we would prefer not to use a significant quantity of
4 aggregate, and certainly no more than we need to.

5 THE CHAIRPERSON: Thank you. I'm going
6 to go back to Environment Canada. Again, maybe --
7 Katherine, maybe you could let me know your last name. I
8 didn't hear your last name again.

9 MS. KATHERINE CUMMING: Katherine
10 Cumming, with Parks Canada. So in your answer, my
11 understanding is that you haven't taken an estimate of
12 the amount required to mitigate permafrost into your
13 estimate -- partial estimate of aggregate needed for the
14 road?

15 THE CHAIRPERSON: Thank you, Katherine.
16 I'm going to go back to Nahanni -- I'm sorry, Canadian
17 Zinc.

18 MR. DAVID HARPLEY: Dave Harpley. We've
19 made allowance for areas of permafrost in our overall
20 estimate of aggregate, and we certainly never think that
21 we're going to be limited in terms of aggregate
22 availability. Because we will be creating a certain
23 amount of fill ourselves just in some of the areas where
24 we will need to do some side hill cutting, and that will
25 generate material, some of which we believe will be

1 useable as aggregate or as base material.

2 But in addition to that, we know of at
3 least two (2) significant sources of aggregate that would
4 be far in excess of any needs we would have. The second
5 part of the answer is that while we don't know for sure
6 if there's permafrost and how extensive it is, we have
7 planned to do further investigation -- and I can't
8 remember whether we committed to it, but we -- it's --
9 it's certainly something we intend to do -- to do some
10 further investigation on the ground with some intrusive
11 work, to do a further assessment of just how much
12 permafrost might be out there and -- and how we would
13 best manage it.

14 THE CHAIRPERSON: Thank you. I'm going
15 to go back to Katherine Cumming.

16 MR. KATHERINE CUMMING: Kath -- Katherine
17 Cumming. You said that you had taken into account
18 permafrost in your estimate of aggregates, but I'm
19 looking at your response, IR-2-1, and you made your
20 estimate based on 20 kilometres of cut and fill and the
21 area and have no mention of permafrost in there. So I
22 would -- just would like some clarification.

23 THE CHAIRPERSON: Thank you, Katherine.
24 I'm going to back to Canadian Zinc for clarification on
25 that.

1 MR. DAVID HARPLEY: David Harpley. Well,
2 20 kilometres of cut and fill is quite some distance of
3 cut and fill, and we would hope it will be less than
4 that. But it is our expectation that any requirements
5 for permafrost insulation would be encapsulated within
6 that estimate.

7 THE CHAIRPERSON: Thank you. I'm going
8 back to Parks Canada, Katherine Cumming.

9 MS. KATHERINE CUMMING: Katherine
10 Cumming. Thank you. I'll move on. You mentioned the
11 sources of aggregates. And in the response to IR Round
12 2, Appendices C, you showed a map where there were two
13 (2) aggregate sources identified in the park. One (1) of
14 those sources is near the Tetcela River and would require
15 a stream crossing. According to that map, there's --
16 there's just no way you could get from the road to that
17 label without crossing a stream. And yet, in your
18 response to IR-2 -- DFO-2-2, you said there would be no
19 stream crossings to aggregate sources.

20 Can you explain this difference?

21 THE CHAIRPERSON: Thank you. Canadian
22 Zinc...?

23 MR. DAVID HARPLEY: David Harpley. At
24 present, what I would consider to be three (3) aggregate
25 sources in total. The first is the quarry that we've

1 utilized before at the mine site. The other two (2) are
2 on the road. The first one of those is the Sundog Creek
3 area itself. And of course, it's a long creek, but for
4 many stretches the access road alignment traverses
5 terrain right at the toe of significant talus slopes; and
6 in fact, even crosses those slopes. And part of the
7 maintenance of the road includes a requirement, probably
8 on an annual basis to recreate the roadbed where it does
9 cross those talus materials because they will creep.

10 So that process provides the availability
11 of aggregate, both to recreate the roadbed and for -- as
12 a source for other needs. And it's a source that we can
13 readily access; there's no additional stream crossings,
14 and we are above the high water mark of -- of the creek.

15 The third source of aggregate is outside
16 of the park and it's Grainger Gap. There is similarly
17 extensive talus areas in the Gap area, both inside the
18 range and on the -- the east side of the range. And this
19 area is also accessible from the existing alignment
20 without an additional creek crossing.

21 THE CHAIRPERSON: Thank you. Going back
22 to Katherine Cumming, Parks Canada.

23 MS. KATHERINE CUMMING: Katherine
24 Cumming. Thank you. So that's new information, I guess,
25 confirming that you won't be applying for any other

1 aggregate source in the park except for -- at Sundog?

2 MR. DAVID HARPLEY: David --

3 THE CHAIRPERSON: Back to Canadian Zinc.

4 MR. DAVID HARPLEY: David Harpley.

5 That's correct.

6 THE CHAIRPERSON: Thank you. Parks
7 Canada...?

8 MS. KATHERINE CUMMING: Thank you.

9 Katherine Cumming.

10 And on the same map, the -- the label at
11 Sundog Creek was approximately 1.5 kilometres long. How
12 large do you expect this borrow source to be and -- and
13 what impacts would you expect to have from it?

14 THE CHAIRPERSON: Thank you. We'll go
15 back to Parks Canada -- I'm sorry, Canadian Zinc.

16 MR. DAVID HARPLEY: David Harpley. I'm
17 not sure I understand the question how large. The
18 quantities of aggregate that we would require that we've
19 estimated I think are really quite small in relation to
20 the size of those talus fans which are extensive and all
21 along that stretch. So I think it would be very unlikely
22 we'd make any major dent in any one of them.

23 So I -- I don't think it will be like a
24 kilometre and a half; that's more to do with exactly
25 what's the best location to draw the aggregate. And in

1 terms of an impact, frankly, I would consider it to be
2 minimal because of the sheer size of these talus fans.

3 THE CHAIRPERSON: Thank you. I'm going
4 to go back to Parks Canada.

5

6 (BRIEF PAUSE)

7

8 MS. KATHERINE CUMMING: Katherine
9 Cumming, Parks Canada.

10 I'll turn now to water. You haven't
11 provided any information about the Mosquito Lake volume
12 of bathymetry, and -- and it could be that that's a
13 perfectly fine source of water. If -- what lakes would
14 you have to draw from if it turns out that that isn't
15 though?

16 THE CHAIRPERSON: Thank you. I'm going
17 to go back to Canadian Zinc.

18 MR. DAVID HARPLEY: David Harpley. We
19 have done some preliminary work on Mosquito Lake. We do
20 know that the lake is greater than 1 1/2 metres deep
21 below a 1 metre ice cover in mid-winter, so we are
22 confident that Mosquito Lake will be an acceptable source
23 of water for our road construction.

24 We also know that we need to do additional
25 survey work to create a volume estimate and provide other

1 details before we can have that verified and approved by
2 DFO. But at least the preliminary work indicates that it
3 will be a significant source.

4 Beyond that lake other sources of water we
5 feel that we can rely on at this point. One (1) is the -
6 - the mine well at the site where we currently draw water
7 for potable water and where we would continue to do
8 through operations.

9 And that's coming kind of the -- from the
10 west end. From the east end of the road, we start at the
11 Liard River, in practical terms. So -- so that is an
12 additional water source. And we've also done preliminary
13 work on some small lakes, approximately midway between
14 the Liard River and Grainger Gap, and we've also found
15 that these lakes are deep enough to likely be considered
16 water sources. But again, we need to do more surveying
17 to verify that.

18 So at this point those are our kind of
19 expectations of water sources, and we probably will do
20 more work to find additional suitable and acceptable
21 sources between the west and east ends, just so that we
22 can reduce the -- the amount of travel trucks will have
23 to make to collect water from those sources.

24 THE CHAIRPERSON: Thank you. I'll go
25 back to Parks Canada.

1 MS. KATHERINE CUMMING: Katherine
2 Cumming. So if I understood correctly, if Mosquito Lake
3 wasn't a viable option, you would either be at Grainger
4 Gap and beyond, or the mine site; that's a long distance
5 in between.

6 Is that correct, as your water sources?

7 THE CHAIRPERSON: Thank you. I'll go
8 back to Canadian Zinc.

9 MR. DAVID HARPLEY: David Harpley. Yes,
10 that's correct. But as indicated, we have confidence
11 that we will be able to use Mosquito Lake, and we will
12 also be looking to identify other sources between there
13 and Grainger Gap.

14 THE CHAIRPERSON: Thank you. I'll go
15 back to Parks Canada.

16 MS. KATHERINE CUMMING: Katherine
17 Cumming. What other sources would those be?

18 THE CHAIRPERSON: Canadian Zinc...?

19 MR. DAVID HARPLEY: There are other lakes
20 in the area and also stretches of water that we could
21 either verify their suitability for extraction, based on
22 the water withdrawal protocol. And we might also
23 contemplate doing some fisheries work on some other water
24 bodies in the area to see in fact whether they are fish
25 bearing. Because it may be that there are water bodies

1 that would not comply with the -- with the withdrawal
2 protocol, DFO's protocol, but they may actually not
3 contain any fish, so on that basis they -- they might be
4 suitable sources.

5 THE CHAIRPERSON: Okay, thank you. I've
6 got to go back to Parks -- Parks Canada, but before I --
7 I do that I just want to maybe ask how many more
8 questions you have?

9 MS. KATHERINE CUMMING: Quite a few, I'm
10 afraid.

11 THE CHAIRPERSON: Like when you say a
12 few, like give me a number.

13 MS. KATHERINE CUMMING: Ten (10), twelve
14 (12).

15 THE CHAIRPERSON: Okay. Well, what we'll
16 do is we'll take a -- we'll take a five (5) minute break.
17 We'll come right back.

18

19 --- Upon recessing at 2:27 p.m.

20 --- Upon resuming at 2:34 p.m.

21

22 THE CHAIRPERSON: I'll get everyone to
23 come back in and we can start.

24 Okay. We're going to continue on. I'm
25 going to ask that Parks Canada, if you take a look at

1 your ten (10) questions that you counted anyway, and, you
2 know, we'll -- I would like to take a look at what you
3 have that's, you know, relevant to -- to the Hearing
4 today, and -- and if there's something that we need to
5 hear, I'd ask you to, you know, put your questions
6 forward. And I'm -- I'm gonna ask again, just to -- if
7 we could limit, because there's gonna be other
8 opportunities where people are gonna be questioning you
9 as well. So I just want to kind of listen to what you
10 have and let's continue on.

11 So I'll go back to Parks Canada, Katherine
12 Cumming.

13 MS. KATHERINE CUMMING: Katherine
14 Cumming. Thank you. Just to clarify, the sort of reason
15 we're asking these questions is that we believe there's a
16 lot of uncertainty with the boia -- with the road and what
17 the road is going to be -- how the road will operate, and
18 how it will be designed. And as a result, it makes us
19 difficult for us to know what will be the impacts on the
20 aquatic life in Mosquito Creek, and the aquatic life or
21 the -- or the ecosystems around Sundog Creek when we
22 don't know where the aggregate sources are coming from.
23 And so that's kind of where we're coming -- but I'll move
24 on to spills.

25 In your spill report you characterized

1 kilometre 55 to 83 of the road's grade as gentle. And I
2 went back to the documents from 1980s where is the only
3 information we have on the grades of the road, but
4 there's no information otherwise provided. And in that
5 section there's a grade of thirteen point seven (13.7)
6 which is very high compared to most roads.

7 Can you explain this discrepancy?

8 THE CHAIRPERSON: Okay. Thank you. I'm
9 going to go to Canadian Zinc.

10

11 (BRIEF PAUSE)

12

13 MR. DAVID HARPLEY: David Harpley. Can
14 you be more specific; exactly where you're referring to
15 on the road?

16 THE CHAIRPERSON: Parks Canada...?

17 MS. KATHERINE CUMMING: Yeah, it's just
18 west of the Tetcela River.

19

20 (BRIEF PAUSE)

21

22 MR. DAVID HARPLEY: David Harpley. We're
23 not aware of any grade in that area that's that
24 substantial. We -- I think my colleagues can bear me
25 out, but I think our, kind of, premise to looking at --

1 at the road in general, is we're trying to get grades
2 down to 11 percent or less everywhere; 8 percent is what
3 I'm -- I'm told. So I -- I think it's highly unlikely
4 that there's a 13 percent grade in that particular
5 location, because it would have come up already and been
6 flagged and looked at in terms of avoiding it.

7 THE CHAIRPERSON: Thank you. I'm going
8 to go back to Parks Canada. Aileen (sic), go on to your
9 second question.

10 MS. KATHERINE CUMMING: Thank you.
11 Katherine Cumming. I guess it -- it may not be that
12 there's thirteen point seven (13.7), but the only
13 documented evidence we have of grades shows that there is
14 a thirteen point seven (13.7) at that -- at that place.

15 And this is the -- within a kilometre or
16 so of where the spill occurred in 1981, and so what
17 mitigation will you be putting in place in this location
18 to minimize the risk of the spill and the impacts to the
19 environment?

20 THE CHAIRPERSON: Thank you, Katherine
21 Cumming. I'm gonna go back to Canadian Zinc.

22 MR. DAVID HARPLEY: David Harpley.
23 Firstly, as mentioned, we're not convinced there is that
24 grade in that location. But in a general sense, as we
25 described yesterday, we -- we've looked at the road in

1 total with the -- the best mitigation being to make the
2 road with least grade and avoiding tight turns as a
3 general approach as a way of minimizing the -- the risk
4 for a spill occurring.

5 And I, you know -- and I can go through
6 the other mitigations that we've considered for spill
7 response, but it starts with a good road built properly,
8 built well, having drivers that know the terrain and
9 drive appropriately for the terrain, having specific
10 speed limits set for all sections of the road, including
11 any areas that either might be susceptible to a spill or
12 wildlife presence, or just a little more difficult
13 terrain. And there's a longer list of other mitigations
14 but I believe that's satisfactory, for the time being.

15 THE CHAIRPERSON: Thank you. I'm going
16 to go to Parks Canada, Katherine Cumming, for your third
17 question.

18 MS. KATHERINE CUMMING: Thank you. It's
19 -- I'll turn it over to Mike Suitor at this point.

20 MR. MICHAEL SUITOR: Thank you. Mike
21 Suitor, Parks Canada.

22 The Species at Risk Act requires that --
23 that responsible parties, including both Parks Canada and
24 the Review Board, during an environmental assessment
25 process identify all impacts to listed wildlife species,

1 identify any mitigations to lessen those impacts, and to
2 monitor the efficiencies of those mitigations to ensure
3 the impacts have been lessened. To date, from our
4 review, Canadian Zinc has done a great job addressing
5 issues associated with direct mortality impacts; however,
6 there's a number of other impacts that was identified in
7 the -- I think it was the February submission from
8 Canadian Zinc that have yet to be mitigated, or
9 monitoring associated with it, particularly, speaking to
10 things like movement barriers as well as the loss of
11 effective habitat.

12 What I would like to hear is how Canadian
13 Zinc would like to propose, within the Wildlife
14 Management Plan, that they'll address movement barriers
15 as well as the loss of effective habitat.

16 THE CHAIRPERSON: Thank you, Mike Suitor.
17 I'm going to go to Canadian Zinc.

18 MR. CHRIS SCHMIDT: Could we have
19 clarification of...

20

21 (BRIEF PAUSE)

22

23 MR. MICHAEL SUITOR: Oh, I'm sorry, did I
24 say "bear"? I mean, Mountain Woodland Caribou, is what
25 I'm speaking to specifically.

1 (BRIEF PAUSE)

2

3 MR. CHRIS SCHMIDT: Mr. Chairman, this is
4 Chris Schmidt. I direct the question to Mike Sutor.
5 Could you please clarify exactly what you were getting
6 at?

7 MR. MICHAEL SUTOR: Certainly. Within -
8 - Mike Sutor, Parks Canada.

9 Within the February submission from
10 Canadian Zinc, several impacts were identified as
11 required through the Species of Risk Act during an
12 environmental assessment process, included in that inclu
13 -- was things like movement barriers as well as the loss
14 of effective habitat. To date I have not seen
15 mitigations that have been suggested to reduce those
16 impacts, nor have I seen monitoring that would address
17 the efficiencies of those mitigations; obviously, because
18 they haven't been suggested.

19 Could you please outline what you propose
20 or -- or could you point to a place in the document where
21 those mitigations are there, and where monitoring to
22 address those mitigations and -- and ensure the
23 efficiency of them have been identified?

24 THE CHAIRPERSON: Thank you. Canadian
25 Zinc, I turn it over to you.

1 MR. CHRIS SCHMIDT: Chris Schmidt. I'm
2 going to refer to the document dated February, 2011 where
3 we outline what the monitoring measures would be and the
4 approaches taken. And from our perspective it's actually
5 quite clear, in terms of what Canadian Zinc has committed
6 to do and how this will be followed up on.

7 The -- there's -- Section 6.2.1 in the
8 document outlines the responsibilities of the wildlife
9 monitor. And there's subsequent sections that refer to
10 monitoring specifically for Woodland Caribou along the --
11 the access road. We feel that this level of information
12 and detail that's provided is certainly sufficient at
13 this point in time.

14 MR. DAVID HARPLEY: It's Dave Harpley. I
15 -- I just want to add this is not my field but I still
16 don't really understand the question. Perhaps Mike can
17 simplify it and condense it.

18 THE CHAIRPERSON: Thank you. Well, I'm
19 going to go back to Mike Sutor; maybe if -- maybe you
20 could rephrase your question so that Canadian Zinc
21 understands your question.

22 MR. MICHAEL SUTOR: Mike Sutor, Parks
23 Canada. Perhaps I'll start with one (1) effect, movement
24 barriers. Movement barriers to Mountain Woodland Caribou
25 might include things like high traffic volumes on the

1 road. We don't have a good sense of the volume of
2 traffic that will be occurring, how will it occur. For
3 example, will be it convoyed? Will it be spaced out
4 evenly? Will it be every fifteen (15) minutes, every
5 hour?

6 We don't know those details, so we need to
7 suggest -- we need to infer that traffic itself could be a
8 barrier to Woodland Caribou movement so that they can't
9 from Habitat A to Habitat B because they can't cross a
10 road. There could be physical barriers that could occur
11 such as large snowbanks, the way that slash occurs, or it
12 could be spill barr -- or barriers that are placed along
13 the side of the road to deter spills. Those types of
14 details we -- we're not aware of.

15 And what I'd like to know is what
16 mitigations Canadian Zinc would put in place at this time
17 to ensure that the -- movement can occur for Woodland
18 caribou?

19 THE CHAIRPERSON: Thank you. Go back to
20 Canadian Zinc. I hope that clarified your response to
21 their question.

22 Canadian Zinc...?

23

24 (BRIEF PAUSE)

25

1 MR. CHRIS SCHMIDT: Chris Schmidt. The -
2 - the measures that Mike Sutor is referring to have been
3 spelled out in the -- in the document that was prepared
4 in February '11.

5 One (1) of the primary measures would be
6 observations by the -- the truck traffic in terms of
7 where caribou are sighted along the road and to use the
8 precautionary measures in terms of speed restrictions,
9 special measures, including awareness of where the
10 caribou are likely to cross a road. This will certainly
11 be documented during the first year and made readily
12 available. There will be signage. There will be speed
13 restrictions. those kind of measures are fairly standard
14 for -- for haul roads irrespective of -- of the location.

15 Also with respect to mobility across the
16 road by caribou, we recognize that this is a potential
17 issue and there are measures that will be taken to ensure
18 that lar -- deep snowbanks, along snowbanks are not -- do
19 not encumber caribou movement across a road. So, for
20 example, you can clear snow every hundred metres or 200
21 metres along the road so that caribou, if they were along
22 the road, could readily escape from the -- from the road
23 base.

24 With respect to spill structures, we don't
25 see that that is an -- an issue. Yeah, there's a very,

1 very low probability of spills along this road and we
2 don't see how caribou would be affected in the -- during
3 the winter hauling at all.

4 MR. DAVID HARPLEY: David Harpley. Just
5 -- just to clarify that last point. I think Mike was
6 talking about spill structures, control structures. Our
7 expectation is that those will be relatively small and
8 confined to the specific locations of a few creeks and
9 certainly not of a size or detail that would impede
10 movement of wildlife.

11 THE CHAIRPERSON: Thank you. I want to
12 go back to Mike Suitor for your next question, number 4.

13 MR. MICHAEL SUITOR: Mike Suitor, Parks
14 Canada. Just to clarify one (1) last point there.

15 You did address mitigation such as through
16 snowbanks, however, you have not addressed mitigating
17 traffic volume, which is a major impediment to caribou as
18 documented in the literature.

19 Could you please suggest how you will
20 mitigate the barrier effect caused by high volumes of
21 traffic along the Prairie Creek Road?

22 THE CHAIRPERSON: Thank you. Back to
23 Canadian Zinc.

24

25 (BRIEF PAUSE)

1 MR. CHRIS SCHMIDT: Chris Schmidt. Given
2 the volume of traffic on the road, we don't see that
3 there would be an issue with respect to -- to caribou
4 being able to move. My understanding is there could be up
5 to thirty (30) or thirty-five (35) trucks per day, which
6 over a twenty-four (24) hour period is not a lot of
7 traffic.

8 THE CHAIRPERSON: Okay. Thank you.
9 Maybe I'll continue on with Parks Canada. I'm not sure
10 who's doing the next one but that would be your fourth
11 question of the -- coming up. Has that clarified that
12 you -- to your question?

13 MR. MICHAEL SUITOR: We'll -- we'll move
14 on. I have one (1) more question with --

15 THE CHAIRPERSON: Okay, go ahead.

16 MR. MICHAEL SUITOR: -- regard to
17 wildlife.

18 I would just like -- one (1) of the
19 monitoring that has been suggested by Canadian Zinc is
20 the use of sightings to -- to monitor wildlife
21 populations and the effect of impacts.

22 I would just like Canadian Zinc to explain
23 how, noting a decline in sightings along the road, how
24 you would actually go about interpreting this information
25 and explaining what sorts of thresholds would be used to

1 actually alter management of the road and mitigations as
2 needed?

3 THE CHAIRPERSON: Thank you. Canadian
4 Zinc...?

5

6 (BRIEF PAUSE)

7

8 MR. CHRIS SCHMIDT: Chris Schmidt. With
9 respect to proximity of an observation point by a vehicle
10 driver to caribou, we suggest and it has been brought
11 forward that 50 metres would be an appropriate distance
12 for -- for extra caution.

13 And again, the -- the amount of
14 information that's going to be gathered during the first
15 year of operation will really help in terms of
16 identifying where those potential crossing areas are.
17 And again, when caribou are sighted along the road the
18 drivers are going to take a lot of precautions because
19 they have no -- no interest in -- in having any kind of
20 an incident themselves.

21 So we really don't see that this is going
22 to be any kind of a substantial issue given the volume of
23 traffic and the speed restrictions that will be in place.

24 THE CHAIRPERSON: Thank you. Go back to
25 Parks Canada. Mike Suitor...?

1 MR. MICHAEL SUITOR: I'll just follow-up
2 quickly on that. I -- I don't know if that answer
3 actually addressed the question. Perhaps I'll take a
4 different stab at it here.

5 Several -- there's several impacts that
6 have been identified to various wildlife species, in
7 particular, Woodland caribou along the road. The
8 mitigations that have been suggested to date are
9 mitigations that might be effective for direct mortality,
10 which is one (1) impact. However, there's several other
11 impacts that might occur. The result of those impacts
12 often are change in abundance or distribution of animals.

13 What I would like to understand is how
14 sightings along the road will help with our understanding
15 of a change in distribution or a change in abundance.
16 And if we did notice a difference in sightings how would
17 that actually inform adaptive management as suggested by
18 Canadian Zinc?

19 THE CHAIRPERSON: Thank you. I'm going
20 to go back to Canadian Zinc.

21 MR. DAVID HARPLEY: It's Dave Harpley. I
22 -- I believe this is an issue that we will return to when
23 GNWT make their presentation as well, but from my kind of
24 non-wildlife background my expectation is -- or at least
25 my knowledge is that the primary areas of cari --

1 Woodland caribou accumulation, if I can say that, in the
2 region are to the north of the mine and also of the mine
3 itself and also to the north of the winter road in the
4 mountainous areas.

5 Evidently, there is some crossing of the
6 winter road but it seems from the occupancy map that
7 we've generated that caribou tend to inhabit and stay
8 mostly to the north of the road area, at least for the
9 most part once you start moving east out of the Prairie
10 Creek Valley.

11 As far as adaptation is concerned, our
12 main adaptation strategy is, as Chris has mentioned,
13 firstly to have a protocol for drivers so that we allow
14 animals to cross the road or to move away from the road
15 when in proximity to approaching trucks. And -- and
16 we've basically included a commitment for the traffic to
17 stop if animals are either on or close to the roadway
18 until they move away.

19 In terms of whether this data -- sightings
20 data would affect distribution of caribou, well truck
21 traffic is, I would assume, just one (1) potential
22 variable on what might affect caribou distribution.
23 There could be all sorts of other reasons why caribou
24 distributions would change. So from that perspective I'm
25 -- I'm not sure how we can directly correlate other means

1 of sighting and monitoring to caribou behaviour.

2 THE CHAIRPERSON: Okay. Thank you. I'm
3 going to go back to Parks Canada, Mike Suitor. Oh,
4 sorry, Katherine Cumming.

5 MS. KATHERINE CUMMING: Katherine
6 Cumming. Thanks. Thanks, I'll move now to the mine site
7 and to water.

8 In Parks Canada's scoping submission we
9 provided an operational description of ecological
10 integrity, which is based on the Canada National Parks
11 Act. And this was reflected in the terms of reference
12 for the environmental assessment.

13 So can you describe how your site specific
14 water quality objectives relate to this description?

15 THE CHAIRPERSON: Thank you, Katherine
16 Cummings. Canadian Zinc...?

17 MR. DAVID HARPLEY: David Harpley. In
18 the presentation I made this morning there were some
19 parameters that I indicated that we did use the reference
20 condition approach, which is an indication of background
21 variability, and I believe this would be consistent with
22 objectives based on either RCA and/or a toxicity-based
23 approach, which is intend -- intended to avoid
24 significant impacts. Whether or not all of those agree
25 with your definition of ecological integrity, I'm not

1 sure.

2 THE CHAIRPERSON: Thank you. I'm going
3 to go to Katherine Cumming, Parks Canada.

4 MS. KATHERINE CUMMING: Katherine
5 Cumming, Parks Canada. What would be the impact on the
6 aquatic ecosystem of using your site specific water
7 quality objectives?

8 Because my understanding of some of the
9 bar graphs is that many of the bar graphs are based on
10 lethal, what's gonna kill something, as opposed to other
11 impacts as well. So can you describe the impacts on the
12 ecosystem as a whole from your objectives?

13 THE CHAIRPERSON: Thank you. I'm going
14 to go Canadian Zinc.

15

16 (BRIEF PAUSE)

17

18 MR. JOHN WILCOCKSON: John Wilcockson
19 with Hatfield. The answer is yes, we've -- we've used
20 both RCA approach, where we can, as well as toxicity-
21 based approach.

22 The toxicity-based approach is often based
23 on the CCME used, the CCME value. And the CCME state
24 that this value is intended to be protective of all life
25 stages of all organisms living within Canada. And

1 through discussions with various parties in April, there
 2 is some concern that northern species were not
 3 sufficiently shown in those distributions that were used
 4 to derive the toxicity-based thresholds.

5 So what we did is we -- we did two (2)
 6 things. We -- we took fish species that we knew were
 7 likely to be found within the creek and we found toxicity
 8 data for those fish species. And we showed them in
 9 relation to the CCME or other toxicity-based guidelines
 10 we used. We also looked at invertebrate species that
 11 would likely -- or invertebrate taxa that would likely be
 12 in -- in the same creek, in a fast, cold creek. And
 13 those would be things like mayflies, stoneflies, and
 14 caddisflies and -- and black flies. So we -- we -- into
 15 the mix we also threw in toxicity data for those species.

16 One thing also I should mention, in some
 17 cases it does look like the -- the threshold of toxicity
 18 is close to -- to the guideline or the objective that
 19 we've chosen. I'll just wait a second while they close
 20 the door.

21

22 (BRIEF PAUSE)

23

24 MR. JOHN WILCOCKSON: But also we --
 25 we've shown that in a number of cases the -- the toxicity

1 is mitigated by hardness, and the water at Prairie Creek
2 is -- has a high hardness and that will mitigate toxicity
3 for metals such as copper, and zinc, and cadmium. And I
4 think I've answered the question.

5 THE CHAIRPERSON: Okay. Thank you.
6 We'll go back to Parks Canada, Katherine Cummings. If I
7 recall now this is your question number 7.

8 MS. KATHERINE CUMMING: And you might be
9 happy to know that I'm not going to ask any more
10 questions.

11 THE CHAIRPERSON: Okay. Thank you. What
12 I'll do is we'll take a ten (10) minute break and we'll
13 come back with questions.

14

15 --- Upon recessing at 3:01 p.m.

16 --- Upon resuming at 3:17 p.m.

17

18 THE CHAIRPERSON: Can I get everybody to
19 take their seats. I -- we still got a list of people to
20 do questions that's going to -- for Canadian Zinc. But
21 before I do that I -- I've been waiting for a time to get
22 the host Chief from Liidlii Kue First Nation to come up
23 to make a statement, and also the Dehcho Grand Chief, but
24 we're running a little bit behind time here, so I thought
25 maybe this would be a good opportunity for -- for the two

1 (2) Chiefs to come to the table up here to join us and --
2 and make your statements.

3 Chief Jim Antoine and Grand Chief Sam
4 Gargan. And I'll turn the mics over to them then I'll go
5 back to the questioning again. So I'm going to go to the
6 host Chief, Jim Antoine.

7

8 REMARKS BY CHIEF JIM ANTOINE:

9 CHIEF JIM ANTOINE: Thank you, Mr. Chair,
10 and Board members, and Canadian Zinc, and everybody out
11 there, the different MLAs and different dignitaries
12 representative of different communities, and everybody
13 there.

14

15 (INTERPRETED FROM SOUTH SLAVEY INTO ENGLISH)

16

17 CHIEF JIM ANTOINE: The Canadian Zinc --
18 LKFN recently signed an IBA with Canadian Zinc for the
19 Prairie Creek Mine Project and is here today to express
20 its support of Canadian Zinc's Prairie Creek Mine
21 Project. LKFN represent twelve hundred (1,200) plus
22 members as a mandate to facilitate responsible
23 development in the region so as to create employment
24 business opportunities to the membership.

25 Canadian Zinc project is currently the

1 only project in the Dehcho which has advanced to this
 2 stage. You need location within national region.
 3 Liidlii Kue has a good work -- working relationship with
 4 Canadian Zinc and anticipates that with regulatory
 5 approval the project, the economic development, and
 6 related activities would prove to -- beneficial for the
 7 region as a whole.

8 LKFN is confident that it would be in the
 9 position to capitalize on development of the project for
 10 the benefit of its membership with Fort Simpson. As a
 11 regional hub, there be a direct economic benefits to all
 12 in the forms of sustainable and opportunity to
 13 participate in various business ventures which directly
 14 supports the mine operation.

15 The challenges that sustainable
 16 development require -- and then the challenges of
 17 sustainable development require there be a recognition of
 18 economic, environmental, and social health and
 19 development, take those three (3) factors into prime
 20 consideration in development of this project.

21 LKFN is satisfied with Canadian Zinc has
 22 taken all necessary step to succeed with the project on a
 23 sustainable basis and stands to ensure that there's a
 24 good and effective community development. Environmental
 25 monitor is a key component of the IBA agreement between

1 Canadian Zinc and LKFN and this monitor continue for the
2 life of the project. Environmental monitoring is a key
3 component of the IBA agreement between Canadian Zinc and
4 LKFN, this monitoring continue for the project (sic) of
5 this project. Training and employment opportunities will
6 meet the needs of our youth, and the economic development
7 opportunities will ultimately lead to individual's self-
8 sufficient.

9 We represent so many people in this
10 Community. What we're working on is in Fort Simpson we
11 know that there's going to be changes in our land. It's
12 not in -- it's not like in the past. There are a lot of
13 resources in our land. In the mountains they want to
14 start a mine that we know that there's going to be
15 changes in the land. And we have to really take care of
16 our wat -- land and water.

17 So -- so we are -- we have a lot of
18 concern about that. So as a result, it'll be work
19 developing out of that and there will also be businesses.
20 So we sign a document with them. So we've been working
21 with them for a while. They -- today -- today Canadian
22 Zinc is the only mine in our region so if they begin then
23 -- then it'll open the rest for development so we are --
24 we are working cooperatively with them. And they -- they
25 work on whatever we recommend and we've sign an IBA with

1 them.

2 Nahanni -- Nahanni Butte will be the
3 primary group with the -- with them because the mine is
4 close to their Community. So we -- in -- in Fort Simpson
5 we are quite a ways but in the past our -- our -- our
6 people -- our people lived off the land at Nahanni --
7 North Nahanni and Ram River and people had lived there.
8 So we are quite concerned about that. So, as a result,
9 we want to benefit from this development. So, as a
10 result, we signed IBA with Canadian Zinc.

11

12 (INTERPRETATION CONCLUDED)

13

14 CHIEF JIM ANTOINE: I just wanted to say
15 a few words in English. Just a few points, is that the
16 Liidlili Kue First Nation, we represent about twelve
17 hundred (1200) plus members and we have a mandate to
18 facilitate responsible development in the region so as to
19 create employment and business opportunities for our
20 membership.

21 And we want to go after any opportunities
22 to create jobs for our people. People want to put food
23 on the table. People want to buy things that they would
24 like, they would want, as well as the business
25 opportunities. Liidlili Kue First Nation we have our own

1 company called Nogha Enterprise and we are currently
2 trying to get that pretty well organized. We have our
3 own members who have their own businesses that want to
4 benefit from economic development as well.

5 So the -- they recently signed Impact and
6 Benefits Agreement last week on June 16th with Canadian
7 Zinc and -- and we're here to express our support for the
8 Canadian Zinc Prairie Creek Mine Project. The project is
9 currently the only project in the Dehcho which has
10 advanced to this stage. And we as Liidlili Kue First
11 Nation have a -- a good working relationship with the
12 Canadian Zinc Company and anticipate that with the
13 regulatory approval of the project, economic development
14 and related activities would prove to be beneficial for
15 the region as a whole.

16 And we, Liidlili Kue First Nation, is
17 confident that it will be in the position to capitalize
18 on the development of projects for the benefit of our
19 membership. Fort Simpson is our regional hub, and there
20 will be direct economic benefits to all in the form of
21 sustainable employment and opportunities to participate
22 in various business ventures which directly support the
23 mine operations. The challenges, which we're hearing
24 lots of it today, of sustainable development require that
25 there'll be recognition of economic and environmental and

1 social health, and that the developer take those three
2 (3) factors into prime consideration in the development
3 of this project.

4 There is a lot of discussion, questions
5 about water. We have -- we had serious concern about
6 water quality and we are very -- still very concerned
7 about it. The big factor in the early days of this mine
8 was the amount of arsenic that was stored by previous
9 owners at the mine site and which was taken out with a
10 plane, I believe it was 2008.

11 And we all sigh of relief here in Fort
12 Simpson because the -- the river that flows by Prairie
13 Creek eventually flows by us here in Fort Simpson, so
14 we're all -- we're very concerned about -- about that.
15 That was taken care of it.

16 On the environmental issue, we're hearing
17 a lot of detailed questions by INAC and other groups
18 about how and -- how they're going to use the water,
19 what's going to be in it, and what the mitigating effect
20 of what eventually ends back in the water is. I know, I
21 think that INAC and Parks Canada and -- and -- are ver --
22 are doing a lot of work in trying to get to the detailed
23 questions.

24 I'm not trained in hydrology or -- or any
25 of these, you know, the -- you know, the whole thing

1 about metals in the water and so forth. The -- the
2 common sense is that -- I just heard earlier that there
3 was different methods of putting water back into the
4 creek. But, at the end of the day, is that the water
5 does end up in -- in -- in the creek. How you put it
6 back is -- is a question, you know, so.

7 And the water then will be mixed into the
8 river -- a hundred yards down the river, 200 yards down
9 the river. But what kind of effect that water is going
10 to have, I think INAC and Parks are doing a good job in
11 trying to get all the details of it.

12 For us here in Fort Simpson, we continue
13 to be very concerned of the water, not only from the
14 mine, but the whole Liard River system, where it comes
15 from -- the Mackenzie River system where it comes from.
16 So we are looking here on the bigger picture of the water
17 quality. But this is the first mine in our region, and
18 we've got to do it right because usually when that
19 happens, one (1) goes ahead, then there's precedent set.
20 So I think the amount of questioning that is being done
21 here is -- is appropriate to try to get -- make sure we
22 do it right in the first place.

23 So there are challenges of sustainable
24 development here, and on the social/health side, today
25 when I asked close friends of mine about the mine, right

1 away they said, Okay. A lot of people go to work in the
2 mine and then they come back to Simpson. What's going to
3 happen in the social environment. There's going to be an
4 impact. Whenever a mine comes in, it's change.

5 And I've been around long enough to know
6 that whenever you do something different, it creates
7 change. And you try to figure out all the answers ahead
8 of time, there's always going to be something that's
9 going to come around here because there's -- and change
10 there's always unanticipated followed from -- from
11 change. So the whole process here, there's a lot of the
12 learned people here that have gone through a lot of
13 experiences here.

14 So I'm -- I'm pretty sure you know what
15 I'm talking about to try to capture all that stuff that -
16 - that maybe get by us here. But there is definitely a
17 lot of change going to happen and the challenge here
18 today is to take all those factors into prime
19 consideration in development of this project.

20 The Liidlil Kue First Nation is -- is
21 satisfied that Canadian Zinc has been taking necessary
22 steps to succeed with their project on a sustainable
23 basis and has been ensuring us that there was good and
24 effective Community involvement up to this stage and has
25 planned for the effective continuation of this Community

1 involvement as the project develops. So as the Liidlii
2 Kue First Nation, we have had a very good working
3 relationship with them and there's no time where we were
4 left out or bypassed. We -- we feel that we have been
5 engaged fairly well.

6 Environmental monitoring is a key
7 component of the Impact and Benefit Agreement between
8 Canadian Zinc and Liidlii Kue First Nation. And this
9 monitoring will continue for the -- the life of the
10 project. At this stage they -- they say it's fourteen
11 (14) years and that -- that the -- the project is in but
12 the -- the different studies that I'm hearing it's going
13 to be longer than that.

14 Training and employment will meet the
15 needs of our youth and the economic development
16 opportunities will ultimately lead to individual self-
17 sufficiency.

18 And as the Chief here in Liidlii Kue First
19 Nation and with the Council, we discussed this whole
20 aspect of weighing things as leaders in the Community and
21 -- and we have to weigh all aspect of anything that is
22 new, anything that has been proposed. And in this case,
23 the decision of the Council was to go ahead and make this
24 Impact and Benefits Agreement. We've been working on it
25 for a couple of years, and we've reached a point where we

1 feel that it's -- it's good enough for us and we just
2 need to do a lot of work internally ourselves to get
3 ready for it. So we have a lot of work cut out for
4 ourselves to try to benefit from -- from this agreement.

5 So the Liidlil Kue First Nations and
6 Canadian Zinc have agreed to develop a liaison committee
7 which will aid both parties, and to the sharing of
8 information and resources throughout the life of this
9 project.

10 A project such as the Prairie Creek mine
11 will become a catalyst for meaningful and responsible
12 economic development in the region and will provide the
13 necessary job, business contracts and other spinoffs to
14 the -- the direct benefit of the Liidlil Kue First Nation
15 membership and other citizens of this region.

16 We have a lot of members and in any -- in
17 any type of a decision there is always is going to be a
18 certain factor that will -- will question our decision,
19 but the Council had said that we're doing this for the
20 future generations. We have to -- we saying that we're -
21 - we have been asking and we have a good education
22 system.

23 We've been educating a lot of our children
24 and encourage them to go to school and so forth. But
25 here in Fort Simpson there's only a certain amount of

1 good jobs and a lot of it is government. And the people
2 who are working there aren't going to leave very soon, so
3 -- and -- and as Liidlili Kue First Nations we -- through
4 our -- our business arm we have been -- we have been
5 trying to get ourselves organized.

6 And we have a certain amount of projects
7 now on the go. So in a town like this we -- it's about
8 twelve hundred (1,200) people, we -- we employ currently
9 about sixty-four (64) people on our payroll, on our
10 business. We're the second biggest, you know, payroll in
11 town here, after the Government of Northwest Territories,
12 and we want to keep growing in that direction.

13 And this -- this mine here is the -- the
14 only economic opportunity that we're directly involved
15 with that -- what the IBA will allow us to -- to go in
16 that direction. So I just want to -- to say that we are
17 in a position today we -- where we're meaningfully
18 engaged.

19 In the past we have always been bypassed
20 and ignored and were not even involved in any development
21 that happens in our region, but with Canadian Zinc
22 hopefully is the beginning of Aboriginal people's
23 involvement in -- in any kind of business development in
24 the future, in other mines or if we -- if there's any
25 other kind of development in this area this is the way it

1 has to be from now on. So I just wanted to say that in -
2 - in closing. Mahsi.

3 THE CHAIRPERSON: Thank you, Chief Jim
4 Antoine for Liidlili Kue First Nation. Mahsi for your
5 statement.

6 I'm going to go to the Dehcho Grand Chief,
7 Sam Gar -- Gargan for his statement as well.

8

9 (INTERPRETATION FROM SOUTH SLAVEY INTO ENGLISH)

10

11 REMARKS BY GRAND CHIEF SAM GARGAN:

12 GRAND CHIEF SAM GARGAN: Thank you,
13 Richard. So -- so for the Dehcho Region this will be the
14 first -- this would be the first time how we're gonna
15 begin development on our land like mining. We're going
16 to come up with a position, so that position that comes
17 up will be important for us now and in the future.
18 Whatever we say -- whatever we say today will affect what
19 happens tomorrow, that's where it's developing to.
20 Whatever Canadian -- whatever Canadian -- Canadian Zinc -
21 - we're not gonna say yes, and we're not gonna refuse
22 them.

23 However, if I'm sitting here I represent
24 ten (10) Communities. I represent about -- about five
25 thousand (5,000) people. So what -- what animals and

1 creatures are on the land, and wildlife, these are we --
 2 we're also responsible for that. Whatever -- whatever
 3 swims and lives in the water we also have to take care of
 4 the -- that. And the land -- the land, we have to take
 5 care of that's before us.

6 Now the department at DIAND, they -- they
 7 have questioned a lot of things. They seem to be
 8 questioning Canadian Zinc a lot about the different --
 9 the different concerns. So cana -- so Canadian -- so
 10 Canadian Zinc has a lot of -- a lot of things presented
 11 and Indian Affairs are quite -- quite concerned about
 12 things.

13 Also, I'm gonna say it in English.

14

15 (INTERPRETATION CONCLUDED)

16

17 GRAND CHIEF SAM GARGAN: I want to, first
 18 of all, compliment DIAND. Okay, Aboriginal Affairs and
 19 Northern Development. Now, the term itself, if you -- if
 20 you say it in my language, okay, it is AAND, okay? So
 21 it's just like saying, wish, wish -- wish, wish, I say
 22 (phonetic), see. So DIAND -- or Indian and Aboriginal
 23 Affairs is now for us in our own language is wish, wish,
 24 I say. So here I have wish, wish, I say.

25 But the Department has done a really good

1 job in having Canadian Zinc accountable for its
2 development. And the job was done so well that we really
3 don't have issues with the project going ahead.

4 However, the main issue that we have here
5 today is with regard to the value of the Nahanni Park
6 expansion and what it represents in -- in the world
7 community. This is a pristine area to which a little
8 mine's going to be built, a mine that can still have an
9 impact on the quality of our water, the fish living in
10 our water, and the wildlife that lives around that area.

11 So the questions that have been asked so
12 far between DIAND and Canadian Zinc has really not been
13 quite addressed yet. We still have issues with that, but
14 we also have -- we know that once this hearing is over
15 there will be another hearing on water licence too. So
16 there are avenues in which if we don't -- or we might
17 have missed it, we will bring it up because, first of
18 all, we have a duty to our people. And that duty is to
19 protect our environment and the integrity of the land.
20 That's our first duty.

21 We also need to find out from the Company
22 if there is any kind of baseline study that has been
23 done, because according to the -- according to the -- to
24 the way Canadian Zinc has conducted itself, it looks like
25 there has been lessons learned from the tar sands, maybe

1 even lessons learned from the Cantung Mine. Cantung is
2 accumulating a lot of tailings that just keeps building
3 up, we have issues with that, but their water licence is
4 coming up pretty soon too.

5 We also have issues with regard to the oil
6 spill that happened at Little Buffalo (phonetic) in here.
7 We also have legislation that we can use to challenge the
8 project at any time. And -- and one (1) is the species
9 at risk legislation. So there are ways of doing it.

10 But more importantly we want to have an
11 independent robust biweekly monitoring system. In other
12 words, we have to be able to -- to determine in -- in the
13 nex -- in the first two (2) years if the quality of our
14 water is going to be going down, up, or remain the same,
15 or whatever the case may be.

16 And I want to say that I appreciate
17 Canadian Zinc's commitment in ensuring that -- that
18 everything that they do takes into that consideration. I
19 appreciate that. We still don't know it may be, you
20 know, like the sediment buildup would affect the water,
21 or the oxygen level in the water. So again too, these
22 are the type of things that I want to know a bit more
23 about if they haven't answered it yet.

24 The other thing too is that we do have
25 like spawning areas, migration areas. I don't know how

1 much of that has been done because, again, when you have
2 fish spawn, the vulnerability is after the spawning. So
3 exactly what -- what do we have by way of answers to --
4 to that. Because again, cumulative effect will affect
5 that too. And we know from other -- other experiences
6 about -- about birth defects you have. So that is
7 another one (1) of those issues that we wanted to make
8 sure that -- that -- that is answered.

9 And also the integrity of the -- of the
10 wildlife and the -- and the -- and the fish. What we
11 learn from the tar sands is that -- is that fish in the -
12 - in the Athabasca Lake are sort of like mushy, no -- no
13 texture. And -- and we know that -- and we know that and
14 it was -- it was not that way before. I'm not blaming
15 the tar sands, but something caused those fish to become
16 mushy, you know, you can't even split the meat to eat it
17 anymore, so the texture of wildlife has to be examined on
18 -- on a periodic basis because even wildlife meat when it
19 become squishy you can hear it, that noise. That means
20 that there is an issue here regarding that.

21 And also we are here today because of two
22 (2) court cases that occurred, one (1) that's called the
23 Sparrow case. And in the Sparrow case it was telling the
24 government and industry that you cannot ignore Section 35
25 rights.

1 In the Delcomuna (phonetic) case the
2 Supreme Court ruled that you have to talk to the
3 Aboriginal people, consult with them. And if the -- that
4 -- that result that the governments have to continue to
5 consult on major development that impacts First Nations.
6 And they've got to have a say in determining the type of
7 direction that industry will go. Yeah. So I'm here to
8 represent the Aboriginal and treaty rights of the Dehcho
9 First Nations people in the valley.

10 Also, because this is the first time that
11 a mining environmental assessment is occurring in the
12 Dehcho, we have to make sure that we set the tone right
13 right off the bat. We have some -- some -- some good
14 news regarding like our protected area strategy, but we
15 also have some bad news regarding the type of
16 contributions that we have with government on our Dehcho
17 process because maybe perhaps Canadian Zinc can share
18 some revenues with us, but -- but we -- we are cut back a
19 bit on our -- on our process.

20 And that in itself affects the type of
21 developments that will occur in our region because the
22 good news is that we now have a protected area, the land
23 withdrawals are still protected, there is still no
24 development. And Canadian Zinc had that establishment
25 long before the Dehcho decided on it going the route of

1 negotiations.

2 But appreciate that that -- that
3 everything that has been done up to this point the Dehcho
4 First Nations really haven't got nothing to challenge
5 them on because the environmental issue has been
6 addressed quite extensively and it has met the
7 expectations of our -- our member Community, so.

8 So that's my presentation. It's more that
9 -- that further discussions if -- if it occurs it
10 probably will occur in one (1) of the hearings. If not
11 then -- then that -- this is what the Dehcho First
12 Nations has to say for now. Mahsi cho.

13 THE CHAIRPERSON: Thank you, Grand Chief
14 Sam Gargan. And Liidlii Kue First Nation Chief Jim
15 Antoine for your statements. Mahsi. You've read those
16 statements and as you know that's going to be on record
17 and it's going to be part of our process when we
18 deliberate and when we made our decision.

19 So I just want to say Mahsi, and it's
20 actually a great pleasure to come to this region and to
21 really do our first public hearing here on environmental
22 assessment on your first diamond mine, so it's really
23 good that we -- we come here and do that.

24 So with that I want to say thank you very
25 much for your time. And we're going to be here probably

1 late this evening, and also probably will be tomorrow, so
2 feel free to come back and if you -- you know, we have
3 people here from Liidlii Kue First Nation and Dehcho
4 First Nation as well here representing you guys here in
5 our questioning period as well. So I want to say thank
6 you very much. Mahsi.

7

8 (BRIEF PAUSE)

9

10 QUESTION PERIOD CONTINUED:

11 THE CHAIRPERSON: Okay. We'll continue
12 on now. With the questions to Canadian Zinc where we
13 left off is that next is on the list is any questions
14 from the Dehcho First Nation to Canadian Zinc Corporation
15 on their presentation made this morning. I believe Joe
16 Acorn is here to do -- speak on behalf of Dehcho First
17 Nation.

18 MR. JOE ACORN: Yes, thank you. It's Joe
19 Acorn for DFN.

20 As Grand Chief Gargan just said, we've
21 been quite happy and pleased with the focus and effort
22 and level of direction the government departments have
23 taken, particularly Parks and DIAND. So we're just sort
24 of piggy-backing with them on the water issues.

25 But I do have a question regarding the

1 roads. In the original applications and in the
2 developers assessment report Canadian Zinc talked about
3 the number of truck trips that would be needed each day
4 and the length of the season that would be required to
5 get all the ore out and get all the supplies in.

6 And I look at the commitments that have
7 been made over the course of this EA that really have the
8 effect of slowing down traffic on the road such as
9 stopping for wildlife, putting chains on the trucks,
10 having rest stops for the -- for the drivers, having very
11 low speed limits in areas that are a higher risk for oil
12 spills.

13 So what I'm wondering, and what I would
14 like to see is an updated evaluation of the transper need
15 -- transportation needs of Canadian Zinc on the winter
16 road with regards to the number of trucks, the number of
17 trips per day, and the length of the season. Because if
18 you look at what DIAND's recommending, the impression I
19 get is that there -- going to be a shorter season both on
20 the front end and on the back end.

21 So I'm wondering if -- does your original
22 assessment of your transportation needs still stand in
23 light of all the commitments and recommendations that
24 have been made? Or do you need to have an updated
25 evaluation of what your transportation needs are and what

1 the impacts will be?

2 Because my concern is that we're gonna get
3 into a bit of a -- a mitigation and impact spiral.
4 Because if you have to put more trucks on the road, then
5 there's more wear -- wear and tear on the road, more
6 water needed, and then more inter -- more interaction
7 with wildlife.

8 THE CHAIRPERSON: Thank you, Mr. Acorn
9 from Dehcho First Nation. I'm gonna go to Canadian Zinc.

10

11 (BRIEF PAUSE)

12

13 MR. BYARD MACLEAN: Byard MacLean. The -
14 - the transportation study that is currently in the
15 public domain was designed with two (2) areas of
16 conservatism. The first one was the speed, and the
17 second one was the load size. And because we knew that
18 going forward there would be some things that we would
19 come across that we might have to mitigate, but we wanted
20 to keep the size of the -- the fleet down as much as
21 possible.

22 So I -- I don't think that we need to go
23 back and -- and re-state the transportation -- the fleet
24 size, but I think it's -- would be -- would be a good
25 thing for me to do.

1 MR. JOE ACORN: Could I get that as a
2 commitment to up -- update your transportation needs
3 assessment then, with the details such as, specific speed
4 limits for all sections of the road, number of rest
5 stops, number of hours per truck driver per day, that
6 kind of stuff? Because I really didn't see those kind of
7 details in the original report that you guys had filed.

8 THE CHAIRPERSON: Okay. Thank you, Mr.
9 Acorn. Maybe just before we go to Canadian Zinc, maybe
10 if we can just -- so that -- we have our translators up
11 there, maybe we could slow down just a bit.

12 And I want to go back to Canadian Zinc.

13 MR. BYARD MACLEAN: At this stage, we --
14 I -- we still think we have enough conservatism built
15 into the model, but the -- the detail of where our
16 pullouts are going to be, that information just simply
17 isn't available right now. And once we've got a better
18 handle on -- on the on the ground direction of where the
19 roads are we can move the -- the -- you know, we're --
20 we're basically waiting for the -- the ongoing studies of
21 -- of -- of where the road is sensi -- sensitive so we
22 can drop the speeds down to 10 or 15 miles an hour. So
23 we just don't have that level of detail now.

24 MR. JOE ACORN: Okay. Joe Acorn. But
25 it's not just the speeds that -- that are on the road,

1 but I mean, it's even the -- the length of the winter
 2 season. Because if I look at the recommendations that
 3 are being put forward by DIAND regarding temperature
 4 monitoring, the effect that I see is that you're going to
 5 lose time at the beginning of the season and you're also
 6 going to lose time at the end of the season. So you're
 7 going to have a compressed winter road period to get
 8 everything out and everything in. So it's not just the
 9 speed limits, but it's also the length of the season
 10 itself.

11 THE CHAIRPERSON: Thank you. Canadian
 12 Zinc...?

13 MR. BYARD MACLEAN: Byard Maclean. The -
 14 - the window for transportation was developed on the
 15 basis of thirty (30) years worth of data which gave us
 16 the construction window and the operating window. And
 17 the most interesting thing about the data is it's -- it's
 18 very tight.

19 There -- the -- the distance between when
 20 the road's available and when it's not available, when it
 21 opens and closes is within about a week. And so we have
 22 designed a system, we've been in touch with the
 23 Department of Highways, we've taken advice from a number
 24 of people, and then we have shrunk the window by about
 25 seven (7) to ten (10) days and said we -- and -- and so

1 that's our contingency.

2 So what we have had -- because it's not --
3 the road is so important to get the tonnage out and to
4 get the supplies in that we designed a system that had --
5 we had a -- a -- a -- a operating window that is
6 conservative and based on thirty (30) years worth of
7 data.

8 And if we have to si -- the -- the
9 contingency is if the road closes early we may have to
10 add trucks. That's how we would mitigate the problem.
11 But the core fleet and tonnage going in and tonnage going
12 out is based upon average lower speeds that we think we
13 can maintain, the length of the road, and thirty (30)
14 years worth of data on the operating window. So I think
15 it's a conservative plan.

16 MR. JOE ACORN: I just -- you may have
17 thirty (30) years worth of data, but you don't have
18 thirty (30) years worth of data operating within a park.
19 And I think what we're seeing here is that the standard
20 is being raised here as for the operation of the road as
21 compared to what it used to be.

22 And if you look at the recommendations
23 being put forward by Parks and DIAND, I don't think the
24 way this road was operated thirty (30) years ago is going
25 to be the way the road is operated now.

1 So I don't think I would share that --
2 your opinion that that thirty (30) years of data has the
3 same validity that it does now. So I -- I would -- so
4 repeating my first question then is I -- I would still
5 like to see an updated evaluation of your transportation
6 needs that provides all the details behind it including
7 your contingencies and your calculations and things like
8 that because I haven't seen that on the record yet.

9 THE CHAIRPERSON: Okay. Maybe -- maybe,
10 again, Joe, if you could slow down a bit, also maybe
11 speak through the Chair. And I'm not sure how many
12 questions you have left, but --

13 MR. JOE ACORN: No, that's it.

14 THE CHAIRPERSON: Okay. Thank you. I'm
15 going to go to Canadian Zinc in response to Joe's
16 questions.

17 MR. BYARD MACLEAN: The thirty (30) years
18 or the data -- first of all, none of the design is based
19 upon the two (2) years the road was open because the road
20 was open as a tote road basically, to bring in supplies
21 and equipment so they could construct the mine, so they
22 were under no illusions of having to bring any
23 concentrate out.

24 The -- the road operating conditions are
25 based upon data from other winter roads, how they are

1 operated in terms of their speeds. The thirty (30) years
2 worth of data I'm talking about is the opening and
3 closing of the ice bridge. So -- so it's not designed in
4 any way, shape, or form on the two (2) trips that they
5 came in. It's based upon how one would reasonably
6 operate a winter road in the Northwest Territories. And
7 those are the assumptions that we used in the design
8 basis.

9 MR. JOE ACORN: Just one (1) follow-up
10 then, I guess.

11 THE CHAIRPERSON: Oh, excuse me for a
12 second. Okay. I just want to make sure, Joe, if you can
13 speak through the Chair.

14 MR. JOE ACORN: Okay.

15 THE CHAIRPERSON: Okay. Thank you. Go
16 ahead, Joe.

17 MR. JOE ACORN: Well, just, I guess one
18 (1) follow-up then is: Will you, or are you refusing to
19 update your transportation needs assessment for this
20 environmental assessment?

21 THE CHAIRPERSON: Okay. Thank you, Joe.
22 Canadian Zinc...?

23 MR. BYARD MACLEAN: Yeah, we'll agree to
24 that.

25

1 --- UNDERTAKING NO. 2: For Canadian Zinc to update
2 their transportation needs
3 assessment for this
4 environmental assessment by
5 July 8th, 4 p.m.
6

7 THE CHAIRPERSON: Thank you. If there's
8 no further questions from Joe, I'm going to continue on.
9 We have Environment Canada. Maybe just -- with just the
10 remaining presenters here, we -- again, we've got
11 translators here, so maybe if we could slow down just on
12 our presentation or questions. Thank you.

13 I'm gonna go to Environment Canada.

14 MS. ANNE WILSON: Thank you, Mr. Chairman.
15 My name is Anne Wilson, I work with Environment Canada.
16 I have two (2) questions for Canadian Zinc, both water
17 related.

18 The first one is that a good understanding
19 of the water quality is needed if the load based approach
20 to managing your effluent is going to be used, and if
21 we're going to revisit the site specific water quality
22 objectives as suggested by INAC. At this time we don't
23 have enough under-ice water quality data. I think we've
24 got five (5) data points, one (1) a year for five (5)
25 years. In addition, the mercury analysis using low

1 detection limits is lacking.

2 How does Canadian Zinc plan to address the
3 data gaps?

4 THE CHAIRPERSON: Okay. Before I go to
5 Canadian Zinc, there was a -- a question put forward by
6 Joe Acorn for the Dehcho First Nation, I believe for an
7 undertaking. So I want to come back to that first. And
8 I guess to take a look at a timeline, try to agree on a
9 date to get that information so we could take a look on
10 making a decision on that, so.

11 MR. DAVID HARPLEY: David Harpley. I
12 think two (2) weeks would be sufficient.

13 THE CHAIRPERSON: Okay. So just so
14 we're clear -- so, the Canadian Zinc will provide this
15 information, you say in two (2) weeks, so maybe if I
16 could suggest maybe July -- July 8th, 4:00 p.m.

17 Would that be sufficient time, Canadian
18 Zinc?

19 MR. DAVID HARPLEY: David Harpley.
20 That's fine.

21 THE CHAIRPERSON: Okay. Thank you very
22 much. And we'll continue on with your -- your response
23 to Environment Canada's question. Back to Canadian Zinc.

24 MR. DAVID HARPLEY: David Harpley. There
25 was two (2) questions. I'll deal with the first one and,

1 John, next to me will deal with the second one.

2 Regarding the under-ice winter data, we
3 feel that we've collected a -- a fairly good data base of
4 information. Certainly the -- the data base we have for
5 this project is a lot more extensive, both in content and
6 in total time frame, than I'm personally -- in my
7 experience, is available for most projects. So I think
8 we have a pretty good data base to start with there.
9 There are always some issues with data. We would always
10 like more data as scientists, but I think we -- we work
11 with what we have.

12 To my way of thinking the way to address
13 the -- the winter data issue is from a significance
14 perspective. And what I mean by that is our Water
15 Management Plan -- I said earlier that the plan for
16 processed water is to minimize the discharge in winter
17 and in fact, not discharge it all during the months of
18 February and March. And then mine water is also a
19 reduced discharge in winter, but there still will be some
20 discharge in every month.

21 And the toxicity information we have for
22 the mine water indicates that it has very little, if any,
23 toxicity. So I guess we feel the -- the risks posed by
24 the discharge are a lot less as a result, and that needs
25 to be taken into consideration when you consider the --

1 the baseline data we have for the winter period.

2 I'll let John answer the second question
3 on mercury.

4 MR. JOHN WILCOCKSON: Mr. Chairman, John
5 Wilcockson. Regarding the mercury, yes, the detection
6 limits to date have been fairly high. And we've recently
7 collected a sample using ultra-trace analysis of mercury
8 in it. It provides us with a detection limit that's one
9 twentieth (1/20) of what has been used in the past and
10 it's Canadian Zinc's plan to continue to collect more
11 data at this lower concentration, a lower detection
12 limit, so we have a better idea of -- of what the
13 concentration of mercury is. And a recent -- recent
14 measurement was 2 nanograms per litre, approximately. So
15 it was measurable.

16 THE CHAIRPERSON: Thank you. I'm going
17 to go back to Environment Canada to your second question.

18 MS. ANNE WILSON: Thank you, Mr.
19 Chairman, it's Anne Wilson. I'd like to just finish with
20 the first question a little bit more. With respect to
21 having good winter data, my concern is that if we're
22 going to revisit the water quality objectives, the winter
23 is not well characterized. From the five (5) samples we
24 do have that were taken in February and March, we can see
25 that the concentrations of various parameters are higher

1 under ice, and that's quite normal.

2 How are we going to weight the data so
3 that the numerous summer samples are given the same
4 weight as the few winter samples so that we aren't using
5 a skewed data set?

6 THE CHAIRPERSON: Thank you very much for
7 your question to Canadian Zinc.

8

9 (BRIEF PAUSE)

10

11 MR. JOHN WILCOCKSON: Mr. Chairman, John
12 Wilcockson. I -- I had a -- a brief look at the dataset
13 and I divided the different chemical parameters out for
14 each month and looked at median concentrations where I
15 could measure them, where I could -- where I could
16 calculate medians.

17 There were cases where concentrations were
18 higher in winter. There was also cases where it appeared
19 to be lower. It wasn't, from my review anyway,
20 consistently higher. But I -- I think that this is
21 something that could be looked at more in the future. I
22 think that probably a -- a median is a best -- one (1) of
23 the better ways of -- of measuring a central tendency for
24 measurements of water quality and throughout the
25 different seasons.

1 THE CHAIRPERSON: Okay. Thank you. I'm
2 going to go back to Environment Canada, Anne Wilson.

3 MS. ANNE WILSON: Okay. Thank you. It's
4 Anne Wilson. Just to close this off, will Canadian Zinc
5 collect further water quality data for upstream under ice
6 in order to manage loads in winter? And I think I know
7 the answer to this from what you said previously, but I
8 want to get this on the record.

9 THE CHAIRPERSON: Thank you. Canadian
10 Zinc...?

11 MR. DAVID HARPLEY: David Harpley. I
12 guess I would be interested in understanding which
13 parameters were of primary concern. We're obviously open
14 to looking at an issue, whether it be a specific
15 parameter or more, and considering what is the right
16 approach for it. We certainly have tried to craft our
17 Water Management Plan specifically to deal with the
18 winter period. To be honest, Anne, I can't off the top
19 of my head pin down exactly what you're thinking or
20 referring to in terms of commitment.

21 We're constantly collecting information
22 and, you know, quite conceivably we would be collecting
23 additional information. Currently the -- the project
24 being in a -- in a kind of care and maintenance state and
25 ongoing exploration, the project typi -- typically isn't

1 open over the winter period. So it is a bit of a major
2 trip to go and collect winter data. It's always
3 possible, obviously. We could look at doing that
4 independently, or in collaboration with other parties.

5 If you were thinking more in terms of a
6 commitment moving into operations or even during, then
7 obviously we're there on site and that would be easy to
8 do. And I certainly wouldn't have a commitment to -- to
9 doing the sampling then as well, but I'm not entirely
10 certain that's what you had in mind.

11 THE CHAIRPERSON: Thank you. Maybe I'll
12 go back to Environment Canada. And, Anne Wilson, maybe
13 if you could by -- provide a little bit more clarity on
14 that.

15 MS. ANNE WILSON: Thank you, Mr.
16 Chairman. Anne Wilson here. My two (2) concerns are
17 that there may not be strong enough data to proceed with
18 a load-based proposal for managing effluent quality.
19 That type of data could be gathered during construction
20 prior to actual release to ensure you have a good
21 understanding in order to manage the blending of the
22 effluent.

23 The second need for data is a little more
24 pressing in that if we are going to revisit the site
25 specific water quality objectives, do we have a good

1 understanding of the regional reference condition for the
2 upstream area of that creek. And I don't believe we do
3 for some of the under-ice stuff, so I'll leave it at
4 that. Thanks.

5 THE CHAIRPERSON: Okay. Thank you.
6 Maybe I'll go back to Canadian Zinc for a response.

7 MR. DAVID HARPLEY: Okay. David Harpley.
8 The -- the first part, yes, I don't think we have a
9 problem with a commitment in terms of under-ice sampling
10 during construction and into operations because it's
11 relatively easy to do and there's no reason why we
12 wouldn't do it.

13 The second part of the question in terms
14 of revisiting objectives and winter data, as you probably
15 know there -- there are some issues with the database
16 with using that to develop the RCA benchmark numbers,
17 principally because of detection limit issues. I wasn't
18 aware that there was a significant issue in terms of
19 specifically winter data. That's not to say that there
20 isn't.

21 But I guess you could consider the -- the
22 those limitations two (2) ways. You could say that maybe
23 that makes it harder to actually use RCA as an approach
24 to setting objectives or you could say that you really
25 need to get a database in order to determine those

1 objectives.

2 We are thinking and working on ways to
3 address that issue in collaboration with AAND and other
4 people. And we wanna get, hopefully, to a resolution
5 where we can come up with a defensible set of objectives
6 that both parties are comfortable with and within the
7 restrictions imposed on us by schedules and, you know,
8 how -- what it would take to actually get to a point
9 where we have a database that we're comfortable with.

10 THE CHAIRPERSON: Thank you. Okay. I'm
11 going to move on. Next one I have is Natural Resources
12 Canada -- oh, does -- sorry, Anne, did you have a --

13 MS. ANNE WILSON: Yeah, one (1) more.

14 THE CHAIRPERSON: Oh, sorry. Okay. I
15 wanna go back to Environment Canada, Anne Wilson.

16 MS. ANNE WILSON: It's Anne Wilson.
17 Sorry, I thought that one was gonna be my quick question.
18 Here's my second question, Mr. Chairman.

19 So going back to the waste rock pile and
20 the runoff collection pond, this is to be designed with a
21 spillway which drains into Harrison Creek. Runoff is
22 predicted to be high in several metal parameters.

23 How will Canadian Zinc ensure that no
24 deleterious substances enter the creek in the event the
25 spillway is overtopped?

1 THE CHAIRPERSON: Thank you. I'm gonna
2 go over to Canadian Zinc. Response?

3

4 (BRIEF PAUSE)

5

6 MR. DAVID HARPLEY: David Harpley. What
7 -- what we've -- our current thinking on this issue is
8 that, as I've explained, the intention essentially is for
9 the collection pond to collect leachate and also allow
10 the settling of sediment, specifically to avoid any
11 discharge to Harrison Creek below. I also mentioned that
12 the -- the design for the pond is based on a 1:100 year
13 return period precipitation.

14 Now, clearly there is a possibility of
15 there being an event that exceeds that limit, in which
16 case you could have runoff from the pile area reporting
17 to the pond that would exceed the capacity of the pond.

18 What -- what our intention is with the
19 spillway is to have a mechanism that basically diverts
20 that water to Harrison Creek without going through the
21 pond on the basis that if that precipitation event is so
22 significant, the quality of that water is unlikely to be
23 high in metal concentrations.

24 And also, there will be sediment, for
25 example, in Harrison Creek because of the same event, as

1 there will be in Prairie Creek. What we don't want to
2 have happen is for that event to move through the pond
3 and displace the water that's already in the pond out of
4 it and into Harrison Creek because that water quality may
5 be unacceptable in terms of metal content.

6 THE CHAIRPERSON: Thank you. Anne, did
7 you have another follow-up question?

8 MS. ANNE WILSON: Thank you. That's all.

9 THE CHAIRPERSON: Okay. Thank you very
10 much for your questions. I'm going to go to Natural
11 Resource Canada. Do you have any questions for -- for
12 the Canadian Zinc presentation made this morning?

13

14 (BRIEF PAUSE)

15

16 MR. FONS SCHELLEKENS: This is Fons
17 Schellekens, Natural Resources Canada. Natural Resources
18 Canada has no questions for the proponent at this time.

19 THE CHAIRPERSON: Thank you. I'm going
20 to go to Transport Canada. Any questions to Canadian
21 Zinc Corporation on their presentation this morning?

22

23 (BRIEF PAUSE)

24

25 THE CHAIRPERSON: Is there anybody here

1 from Transport Canada?

2

3 (BRIEF PAUSE)

4

5 THE CHAIRPERSON: Thank you. It doesn't
6 look like there's nobody here from Transport Canada.

7 Liidlii Kue Dene First Nation, questions to Canadian

8 Zinc? Anybody here from Liidlii Kue Dene First Nation?

9 Okay. Doesn't look like it. Oh, hands up.

10

11 (BRIEF PAUSE)

12

13 THE CHAIRPERSON: There's a gentlemen
14 from the back there from Liidlii Kue Dene First Nation.

15 Okay. Thank you. There's no questions.

16 Okay. That are the people that I had on my list that we
17 were going to put questions from the floor, but now I'm
18 going to go to my staff in the back and I'm going to go
19 to my Board members to -- questions for Canadian Zinc.

20 So I'm going to go to my staff in the
21 back.

22 MR. RAMLI HALIM: Mr. Chair, this is
23 Ramli Halim, I'm working for -- as a consultant for the
24 Review Board. I have three (3) questions actually. And
25 the first one (1) is before I -- I started, I guess

1 following the presentation of the -- the -- that provided
2 by the Chief Jim Antoine and also the Grand Chief Sam
3 Gargan, there is two (2) things that I -- I hear be
4 mentioned is about the -- the case. This is pristine
5 land. And the second one is about water quality.

6 So my question is basically related to the
7 two (2) items that because of the importance of the land,
8 and the site of this project, and also of the water
9 quality, and the questions related to the water storage
10 pond and related to the tailings pond.

11 So, Mr. Chair, for the first question
12 related to the storage pond, I was wondering if I can
13 probably have the slide number 32 from -- from this
14 morning presentation.

15

16 (BRIEF PAUSE)

17

18 MR. RAMLI HALIM: MR. Chair, Yes, this is
19 the water storage pond that presented in the -- this
20 morning of Canadian Zinc's presentation. And I also want
21 to bring another drawing that actually being submitted as
22 an addendum to the Developer Assessment Report, it was
23 produced I believe in May, Figure Number 1, and in which
24 is has a different crest elevation of the dike.

25 And but my question is to -- to double-up

1 with -- Mr. Chair, is I just want to make -- have a
2 confirmation from Canadian Zinc that this figure has
3 actually been superceded by the one that presented on --
4 in the addendum for the developer assessment report last
5 year.

6 THE CHAIRPERSON: Thank you. We're
7 gonna go over to Canadian Zinc in response to another
8 question from our staff.

9 MR. DAVID HARPLEY: David Harpley. Yes,
10 it has been superceded. It was simply a case that I had
11 this slide already prepared in another presentation so I
12 cut and pasted it, and time was a little short and --
13 it's merely for illustration, so the -- the more current
14 version is the correct one.

15 THE CHAIRPERSON: Thank you. We'll go
16 back to the Review Board staff.

17 RAMLI HALIM: Mr. Chair, Ramli Halim.
18 Just the second part of this question is: I just also
19 want to confirm that the calculation, the analysis, the
20 preliminary design that being presented by Canadian Zinc
21 actually reflected to the drawing that presented in the
22 addendum of the development -- developer assessment
23 report rather than the drawing shown on the presentation
24 this morning.

25 THE CHAIRPERSON: Thank you. Response,

1 Canadian Zinc?

2 MR. DAVID HARPLEY: David Harpley. If I
3 understand the question properly, you're asking was the
4 appropriate analysis done for the addendum figure; and
5 yes it was.

6 THE CHAIRPERSON: Thank you. We'll go
7 back to the Review Board Staff.

8 RAMLI HALIM: Mr. Chair, Ramli Halim.
9 Yes, I guess that's basically my questions. I just want
10 to confirm that all the calculation, the current
11 quantities, volume of water in the pond, it's also -- is
12 based on the latest current drawing in -- in which has an
13 elevation of eight hundred and eighty-one (881), which is
14 presented in the commitment letter provided by Canadian
15 Zinc in May.

16 My second question, Mr. Chair, is about
17 the tailing -- tailings paste backfill. I guess this is
18 a tailing paste backfill that presented by Canadian Zinc
19 is one (1) of the -- a point that try to -- to be used to
20 improve the quality by moving the tailings from above
21 ground into underground. In the -- in the presentation,
22 basically Canadian Zinc indicated that they're going to
23 have all the tailing backfills going to underground 100
24 percent. However, based on the initial report provided
25 by Golder in Appendix 15A, I believe, and also based on

1 the current practise and some of the literature research,
2 a lot of cases that the tailings that can be put back is
3 in the ranges from 55 to 65 percent.

4 I believe the Canadian Zinc indicated this
5 in one (1) of the reply on one (1) of the documents, that
6 -- that they were -- the reason that they can manage to a
7 100 percent because of the -- the amount of oil
8 concentration that can be obtained from this mining.

9 My question is, basically, try to figure
10 out whether Canadian Zinc can provide some practical
11 examples of oil app -- application on the mining paste
12 backfill around the world which just would show that the
13 100 percent application re-turning back all this tailing
14 into the underground mining -- it's possible.

15 THE CHAIRPERSON: Thank you. I'm gonna
16 go to Canadian Zinc in response to the question.

17 MR. DAVID HARPLEY: David Harpley. In
18 answer to your question, frankly I'm not sure a data
19 search for an operation that hasn't -- has a hundred
20 percent backfill is really very relevant because the
21 proportion of backfill that you can achieve is dependent
22 on how much of the material you take out is minerals
23 versus waste. In other words, what proportion ends up
24 being tailings.

25 And we believe that the main reason we can

1 achieve 100 percent backfill or flotation tailings, not
2 the DMS, is because the proportion of the mineralization
3 that is minerals that will go out as a concentrate is so
4 high. So we would be searching for an operation that had
5 similarly rich material, and there may not be one, so I -
6 - I'm not sure I see the point of doing that search.

7 THE CHAIRPERSON: Thank you. I'm gonna
8 go to the Review Board staff. Further questions...?

9 MR. RAMLI HALIM: Mr. Chair, Ramli Halim.
10 Yes, just to follow that, the reason I ask that question
11 is because are you -- the planning for getting all these
12 100 percent tailings doesn't provide any kind of a
13 comfort zone, or -- I don't know what you call, a factor
14 of safety during the operation.

15 How are you -- be able to manage to get
16 all the tailing that going to go in -- back into the
17 underground? And at the end of the day are -- you're
18 going to have all the tailings going to go down
19 underground as a tailing paste backfill?

20 The reasons -- because when you are
21 putting this tailings paste backfill there has a mix
22 between the tailings, the water, the DMS, and then also
23 the cement content, and that's also tend to increase the
24 volume. So what happen if one (1) day the tail -- the --
25 the paste backfill plan is not working, what you going to

1 do with the tailings temporarily?

2 And is this part of the contingency that
3 you plan to do? For example, you want to dump the
4 tailings temporarily into the waste storage barn, or to
5 increase the -- so that the water level will be increased
6 over -- beyond or above the elevation eight eight --
7 eight hundred and eighty (880) so that you're gonna to
8 have less freeboard at this time.

9 THE CHAIRPERSON: Okay. Thank you. I
10 wanna go to Canadian Zinc.

11 MR. BYARD MACLEAN: Mr. Chair, Byard
12 Maclean. I think you asked several questions. I'll
13 answer the first one which is relating to how does one
14 get a hundred percent of the tailings underground.

15 And we committed this morning to submit
16 our paste backfill model which is part of the mine plan
17 which will demonstrate how one backfills the -- backfills
18 it with a hundred percent of the tailings. But a simple
19 comparison would be a copper mine with 1 percent or 2
20 percent copper has 98 percent tailings. Our mine has
21 only 50 percent tailings. And therefore there -- there's
22 more space back underground for our tailings. But I'll
23 send you the model, or I -- we will be filing the model
24 and you can have a look at that.

25 Your second question was what happens if

1 the paste plant is down? And we have a -- the paste
 2 plant and the DMS plant are locked together. And so
 3 there are surge bins between the two (2). So if, for a
 4 short period of time, the mine can't accept paste for an
 5 hour or two (2) or three (3), we can simply reverse the
 6 conveyors in the paste plant and -- and store the
 7 tailings, filtered tailings, in a bin and store the --
 8 the DMS in a bin. And then when we start up again we can
 9 continue.

10 That way the main processing plant can
 11 still operate, it can still produce tailings. Those
 12 tailings can still be thickened, and they can still be
 13 filtered.

14 What was the third item? Yes, and -- and,
 15 yes, that the -- so the storage -- the temporary storage
 16 is done in -- in those bins. And if there's long-term
 17 storage required that -- the DMS would go up to its
 18 normal location.

19 THE CHAIRPERSON: Thank you. I'm gonna
 20 go back to the Review Board staff. Further questions?

21 MR. RAMLI HALIM: Mr. Chair, just one (1)
 22 last question here just to follow up the response from
 23 Canadian Zinc. When -- for example, you indicated that
 24 they going to probably change the mix and try to get less
 25 DSM materials and then try to send those various material

1 into the waste rock pile.

2 Would that actually going to change the
3 consistency of the paste backfill and in -- in which
4 perhaps going to effect the performance of the paste
5 backfill?

6 And the other one is, for example, if
7 you're going to put -- as a contingency you want to dump
8 it into the waste pond for temporarily, how that going to
9 effect the water quality in the pond temporarily?

10 THE CHAIRPERSON: Thank you. I'm gonna
11 go to Canadian Zinc. Response?

12 MR. BYARD MACLEAN: Byard Maclean. The -
13 - none of the tailings go back in the pond, the -- the
14 water storage pond, other than the first fifty thousand
15 (50,000) tonnes of tailings and the only reason they go
16 there is we need some space underground before we can
17 start backfilling. And, therefore, the most appropriate
18 place to store those tailings, in our opinion, is
19 underwater in the tailings pond. And they will stay there
20 until the end of the mine life. So, they will be the
21 first tailings into the pond, the last tailings out of
22 the pond, and also the last paste to go underground.

23 The -- the temporary cessation of
24 operations of either the DMS plant or the paste plant
25 will not affect the mix because there will be a -- there

1 will be a -- the -- the surge bins can return when the --
2 when the paste plant starts up again there will be
3 sufficient cement and tailings and DMS to produce
4 whichever mix of tailings the operator is requesting back
5 underground. So it will have no effect.

6 THE CHAIRPERSON: Okay. Thank you. I'm
7 going back to the Review Board staff. Questions to
8 Canadian Zinc...?

9 MR. RAMLI HALIM: Mr. Chair, Ramli Halim.
10 I don't have any further question at this time.

11 THE CHAIRPERSON: Thank you. I'm gonna
12 go to the Review Board legal counsel, is there any
13 questions for Canadian Zinc on their presentation?

14 MR. JOHN DONIHEE: John Donihee. No
15 questions, Mr. Chairman.

16 THE CHAIRPERSON: Thank you. I'm going
17 to go to my right -- far right, and I'm gonna go to Board
18 member Peter Bannon. Any questions to Canadian Zinc on
19 their presentation?

20 MR. PETER BANNON: Peter Bannon, Board
21 member. In DIAND's presentation they made reference to a
22 Spencer (phonetic) 2008 study. And I know it's on the
23 record, but I have not gotten around to reading it
24 myself, but I will.

25 I was just wondering, in the meantime,

1 this study, according to DIAND, has identified increased
2 concentrations in tissue of -- for mercury and -- in
3 Prairie Creek, the -- whatever animal was measured.
4 Would you like to comment on this or try to offer an
5 explanation? Because you seem to suggest that -- or
6 everyone seemed to suggest that mercury is at non-
7 detectable levels in the creek in the water quality.

8 MR. DAVID HARPLEY: It's David Harpley.
9 I -- I'll give you my impression of the report and I'll
10 let John add to it if he feels it's necessary.

11 The information, as I understand it, is
12 that there appears to be a higher concentration in fish
13 tissue at what they call the near-field site downstream
14 of the mine, compared to upstream.

15 What I also understand, because this issue
16 was reviewed by Monique Dube, Professor at the University
17 of Saskatchewan, and her analys -- or at least her
18 position on the matter was that while there is an
19 appearance of a higher concentration, on a statistical
20 basis the numbers are essentially the same.

21 Notwithstanding that -- in terms of where
22 is the mercury coming from. That's a good question
23 because it -- it's a little puzzling for us at this point
24 because we don't see it in our mine water and, of course,
25 we're not making any process water at this point, so

1 that's not the -- the source. So it's a little bit of a
2 question as to where this mercury is coming from, or
3 what's the pathway.

4 One (1) possibility is that it might be
5 natural and it might be related to -- to sediment
6 ingestion. We do know the vein is exposed in the creek
7 downstream of the mine and we know that there's
8 mineralization in the -- the rock sequence downstream and
9 on the other side of the creek.

10 So we can't offer a definitive position on
11 what the source of that mercury is. And, in fact,
12 whether the result actually means anything. Because my -
13 - again, my -- my feeling or what -- at least, of what
14 I've been told is that the -- the actual concentrations
15 in tin -- in tissue are still well below any level that
16 would trigger a concern in terms of significant
17 accumulation.

18 THE CHAIRPERSON: Thank you. I want to
19 go back to Board member Peter Bannon. Any further
20 questions?

21 MR. PETER BANNON: Thank you. That's all
22 the questions I have, unless John wants to offer
23 something as well.

24 THE CHAIRPERSON: Thank you. I'm going
25 to go over to Board member Danny Bayha. Any questions

1 for Canadian Zinc on their presentation?

2 MR. DANNY BAYHA: Thank you. I just have
3 some -- a few questions. Thank you.

4 You know, the -- over the day we had quite
5 a bit of questions on paste backfill. In terms of -- I
6 guess we -- in your slide 8, your -- your -- one (1) of
7 the first slides you have, like, 12 million tonnes of
8 total resource that's available and possibly more.

9 The question I have is, like, when we're
10 talking about tailings, after you -- you mill it you have
11 tailings. And we're talking about the -- the metals
12 that's gonna be -- that's gonna be there after you mill
13 it and you -- and you put it underground and stuff.
14 What tonnage are we talking about? How much waste in
15 terms of -- of volume or weight are we talking about at
16 the end of the mine life, at fourteen (14) years.

17 I don't know if somebody could care to
18 guess how much that would be. Because after the mines
19 closed we like to know what are we talking about that's
20 going to left -- be left behind that the communities,
21 government, and everybody has to deal with. If -- should
22 -- if -- if treatment has to be an issue, that's gonna be
23 an issue.

24 So if you can give us a figure that would
25 be very helpful. Thank you.

1 THE CHAIRPERSON: Thank you. I'm gonna
2 go to Canadian Zinc. Response to Mr. Bayha's
3 question...?

4 MR. DAVID HARPLEY: David Harpley. I --
5 I think there's actually two (2) parts to that question.
6 I'll address the second part and then I'll let Byard talk
7 to the -- the quantity side of the question.

8 From the closure and long-term perspective
9 and, kind of, liability aspect, I can understand your
10 discomfort with historical mining operations in the north
11 and the legacy that's been left behind for communities
12 and government to deal with. However, we already have a
13 legacy at this site, the fact that the mine exists
14 already and it discharges mine water.

15 And what we're proposing is a logical way
16 of resolving this legacy at the same time as extracting
17 minerals such that we have a stable situation at the end.
18 And -- and it's also -- it's true to say that if we don't
19 rectify this current legacy at this site, then somebody
20 will have to.

21 But my expectation on this matter is that
22 we fully expect that we will be in discussions with
23 government agencies, if and when this project moves
24 forward, to determine the appropriate magnitude and
25 mechanics of establishing a sufficient reclamation bond

1 so that the Company is obliged to close out the property
2 in a proper way so that there is no legacy left behind
3 for somebody else.

4 And now I'll let Byard talk to the -- the
5 volumes.

6 MR. BYARD MACLEAN: Byard Maclean. Over
7 the fourteen (14) year mine life we will mine four (4)
8 point -- all -- almost 5 million tonnes of ore.
9 During that period we will generate 2 1/2 million tonnes
10 of tailings that will all go back underground. We will
11 generate 1.2 million tonnes of DMS rock, some -- 35
12 percent of that will go underground and the rest will be
13 moved up top and incorporated in the waste rock pile. So
14 that's the -- that's the -- the current resource.

15 THE CHAIRPERSON: Thank you. We'll go
16 back to Board member, Danny Bayha.

17 MR. DANNY BAYHA: Thank you, Mr. Chair.
18 The other question -- I mean, that last figure, the
19 amount of tailings that you mentioned, is that including
20 the -- the -- you had -- one (1) of your slides you had a
21 -- a picture of the possible resources that's further
22 down into the -- in the shaft in some areas here. You
23 had a picture -- I don't know what page that was, but
24 that would be including the -- the possible sources as
25 well -- other sources in that vein that you were talking

1 about then. Or is it just the -- the initial what is
2 applied for in this -- in this water licence or -- or
3 permit?

4 MR. BYARD MACLEAN: Correct. You say --
5 that's the current resource that's going to be mined that
6 -- that's associated with this permit. The other
7 reserves are not included because they're not a -- they
8 haven't been brought up to the satisfactory confidence.

9 MR. DANNY BAYHA: Okay. Thank you.

10 THE CHAIRPERSON: I'm gonna go to Board
11 member -- oh sorry, Danny Bayha still has further
12 questions, sorry. Go ahead, Danny.

13 MR. DANNY BAYHA: That's fine. The other
14 question I had, I think it's more of a -- when you're
15 talking about load limits, earlier you mentioned -- you
16 talking about loading as a way of -- like, taking
17 upstream and putting it back into the downstream, the
18 effluent. And you will have this data almost live at
19 your plant and you would adjust accordingly if limits
20 would exceed your objectives that you possibly could set.

21

22 With technology being the way things are,
23 I mean, would this happen -- this -- this live data
24 that's coming in for what's -- if you're testing it
25 pretty quickly, how -- how fast is that -- can happen? I

1 guess, my -- my concern is how fast can the Company react
2 to adjust their -- their operation if limits are exceeded
3 and how -- how quickly can that happen? And if that can
4 happen, can that kind of data be shared with regulators
5 that need to know right away live through satellite if
6 that's the case? Thank you.

7 THE CHAIRPERSON: Thank you, Mr. Bayha.
8 I'm gonna go to Canadian Zinc. Response...?

9 MR. DAVID HARPLEY: David Harpley. Two
10 (2) parts to the question. In terms of how fast can data
11 be transmitted, you can see how fast the Internet works.
12 And so I would suggest that's as -- probably as -- as
13 fast as it will be, if not faster. My idea on the matter
14 is that you will have the -- the data on creek flows
15 reporting directly to the treatment building. And if
16 there is a desire, that information can be uploaded in
17 real time to people off site if they want to see that
18 information coming in.

19 And the same applies to discharge from the
20 site itself. We'll be on a -- on a metering system with
21 the data being transmitted into the -- the treatment
22 room. So it's continuously being tracked.

23 And clearly you're not going to wait until
24 you get to the point where you might have an exceedance
25 of the allowed discharge. We -- you would be tracking

1 this and seeing, depending on what parameter you're
2 considering, if it's starting to approach a point where
3 you might have an exceedance. And -- and if you're
4 starting to get there then you'll pay more attention to
5 it. And you'll be ready to make a change in terms of
6 starting to send more water to the pond or, conversely,
7 bring more water to treatment if -- if the flow is going
8 in the other direction in the creek. And -- and the way
9 you do that is basically having a computer --
10 computerized system of opening or closing valves or a
11 partway, or whatever it is, to adjust the flow. So we're
12 anticipating a -- kind of a built-in computerized
13 approach to do that.

14

15 (BRIEF PAUSE)

16

17 THE CHAIRPERSON: Thank you. I'm going
18 to go to Danny Bayha.

19 MR. DANNY BAYHA: Thank you, Mr. Chair.
20 On one (1) of your last -- very last slides -- I have --
21 just have two (2) more questions.

22 But one (1) of your last slides you have
23 economic benefits. For our Board, I think, for -- at
24 least for myself, what I'm interested in -- not so much
25 the details of the IBA that you agreed with the two (2)

1 Bands so far that you've made known, but the -- do you
2 have a list of -- of benefits that's -- that the Company
3 has identified as -- as points of -- of letting us know
4 as -- as -- in this hearing of those points. Is that --
5 some of it is covered on the IBAs with the -- with the
6 Communities, with the Bands, and some of them now, and I
7 -- I just want to know which ones are, and which were --
8 which ones are not.

9 So if -- not so much the details of the
10 IBA, but just say which ones are covered off so we get an
11 idea of what is already agreed upon with -- with the
12 Company and -- and the First Nations. Thank you.

13 THE CHAIRPERSON: Thank you, Mr. Bayha.
14 I'm going to go to Canadian Zinc for a response.

15 MR. WILBERT ANTOINE: Wilbert Antoine,
16 Canadian Zinc.

17 The economic benefits and the social
18 issues programs are -- some of them are covered under the
19 IBA. And some of them -- like, there -- there's --
20 loosely, just on my -- my own interpretation, there's a -
21 - it's sort of a two (2) pronged approach under the IBA
22 and some of the things that we do for the Communities.

23 I think, under the -- under the economic
24 benefits that is pretty well all under the IBA, maybe
25 with the exception of the last two (2), the anchor tenant

1 and the Band office, which we are currently doing. And
 2 we are expanding our office space to provide the Mine
 3 Training Society program training for the -- for the IBA.

4 Ongoing community events, that's sort of
 5 the -- the second part of the -- you know, the -- the
 6 non-IBA stuff that we do. You know, there's a lot of
 7 things that we do. Not everyone is a golf -- golfer, but
 8 we do that. We do on -- on the IBA in one (1) of the
 9 smaller Communities we do pretty well everything that we
 10 were asked by the Communities. Same with the -- the
 11 Community here in LKFN. And under the social issues
 12 program the -- yeah -- yeah. These -- these are pretty
 13 well policies of the Canadian Zinc program that we have
 14 on.

15 MR. DANNY BAYHA: Thank you, Mr. Antoine.
 16 The final question I have, and I think this is, for me,
 17 more of an overall question that -- that needs to be
 18 asked by all parties is that, as a company, trying to
 19 operate -- or, trying to open up a mine that's been there
 20 for a long time, I guess if you can give us a quick
 21 snapshot of what your expectations are from the different
 22 parties of our Board, the Water Board that's going to be
 23 in it, as well as the -- the mining -- the -- the
 24 government agencies, the regulators. So you can give us
 25 an idea of what you hope to happen as the Company

1 proceeds and -- and operates in -- in this area. So I
2 would like to know your -- your hopes and your visions on
3 this. Thank you.

4 THE CHAIRPERSON: Thank you, Mr. Bayha,
5 for your final question. I'm going to go to Canadian
6 Zinc in response.

7 MR. DAVID HARPLEY: David Harpley.
8 That's kind of a very broad question, so I'm not
9 confident that I will capture it all in my reply, but
10 I'll take a shot.

11 I think as a company we feel that we can
12 develop this project in a environmentally-friendly,
13 sustainable fashion that minimizes the risks and
14 significant impacts, and is essentially protective of the
15 environment, and will be a substantial improvement on the
16 situation we have at present. I mentioned that it's a
17 legacy site at this point.

18 I personally believe that we can get to a
19 point where we have a successful mining operation,
20 substantial economic benefits for Communities and the
21 region, a very profitable mine for the country as a whole
22 because it is a very rich mine. It can operate for a
23 long time and really make a big difference in this part
24 of the world.

25 And personally what I like most about this

1 opportunity is, I think it's a real opportunity for the
2 region, and Canada as a whole, in terms of where -- where
3 else in the world can one say that we've operated a mine
4 to present-day standards within a national park and world
5 heritage site. I think it's really a win/win
6 opportunity, if we do it right, and we have every
7 intention of doing it right.

8 THE CHAIRPERSON: Sorry, go ahead, Danny
9 Bayha.

10 MR. DANNY BAYHA: Thank you.

11 THE CHAIRPERSON: Thank you, Mr. Bayha,
12 for your questions. I'm going to go to Board member
13 Richard Mercredi. Questions for Canadian Zinc on their
14 presentation from this morning?

15 MR. RICHARD MERCREDI: Yeah, thank you,
16 Mr. Chairman. Just a couple. It's a twofold question.
17 My question is: What type of metals and chemicals will
18 remain in the paste tailings that will be stored
19 underground? That's one (1) question.

20 And the second one (1) is, I guess, what
21 testing has been completed to ensure these compounds will
22 not leach into the existing aquifer system running
23 through the mine?

24 THE CHAIRPERSON: Thank you, Mr.
25 Mercredi. I want to go to Canadian Zinc in response.

1 MS. SHANNON SHAW: Shannon Shaw, Phase
2 Geochemistry. The chemicals that would leach from the
3 paste backfill are essentially the same that are there in
4 the rock right now. They're just in a different physical
5 form.

6 Other than the addition of a little bit of
7 cement that would be added -- add some -- it might bump
8 the pH up marginally and add a little of alkalinity to
9 the rock. Other reagents, I might have to pass that over
10 to Dave. I don't believe anything of any significance
11 would remain in the paste that would leach out.

12 Leaching potential from the underground
13 mine in general is a combination of two (2) components,
14 really. It would be the paste tailings put back
15 underground, as well as the wall rock that's left there
16 after -- after the ore is extracted.

17 And it's largely going to be dominated by
18 the wall rock, by the groundwater movement through, and
19 the differential groundwater movement through the rock
20 versus the more compacted, less permeable paste. So it
21 will be dominated still by the rock in the wall, but the
22 constituents from both are essentially the same.

23 THE CHAIRPERSON: Thank you. I'll go
24 back to Richard Mercredi. Any further questions?

25 MR. RICHARD MERCREDI: Okay. Thanks, Mr.

1 Chairman. No further questions.

2 THE CHAIRPERSON: Thank you, Mr.
3 Mercredi. I want to go to my Board member to my left,
4 Rachel Crapeau. Any questions for Canadian Zinc?

5 MS. RACHEL CRAPEAU: My one (1) question
6 that I just wanted answered had to do with a question
7 about deleterious substances in the spillway area to make
8 sure that it does not enter into the creek. The answer
9 was given that it was -- something about a collection
10 pond, and I just wanted to know where that collection
11 pond was.

12 THE CHAIRPERSON: Thank you, Ms. Crapeau.
13 I want to go to Canadian Zinc.

14 MR. DAVID HARPLEY: David Harpley. I
15 believe we were talking about the waste rock pile at the
16 time, and the collection pond that we intend to construct
17 at the toe of the pile. And that's the location that is
18 in a draw of Harrison Creek, so it would be immediately
19 east of the mill, upstream, and it -- just behind the
20 mountain right behind the site.

21 THE CHAIRPERSON: Thank you. I want to
22 go back to Ms. Crapeau.

23 MS. RACHEL CRAPEAU: I need to know
24 which, like, what number in your information package?

25

1 (BRIEF PAUSE)

2

3 MR. DAVID HARPLEY: That's twenty-eight
4 (28).

5 THE CHAIRPERSON: Can you point it to --
6 this again? I can't see it from here.

7 MR. DAVID HARPLEY: David Harpley.
8 Here's the -- the waste rock pile here, and there's the
9 collection pond right there. So this is Harrison Creek,
10 and the mill is off the map this way. So this is
11 downstream.

12

13 (BRIEF PAUSE)

14

15 MS. RACHEL CRAPEAU: Right down there,
16 that little puddle in the middle, that's where it could
17 collect, and -- and if it does goes in there, you -- you
18 will be able to treat it and -- and possibly have it
19 cleaned up so that any of the substance does not go into
20 the river system? Is that what I'm hearing?

21 THE CHAIRPERSON: Thank you. I want to
22 go to Cana -- Canadian Zinc.

23 MR. DAVID HARPLEY: David Harpley. Yes,
24 that's correct. The -- the intention is that the -- the
25 seepage from the waste rock will report to the pond at

1 the toe here, and then from there this pond would feed
2 into either a pipeline to the mill, or into a borehole
3 which would feed the water into the underground workings,
4 which is directly below this location.

5 I should also mention that this location
6 will have diversion structures around each side so that
7 the natural runoff from the hill side would be diverted
8 around the pond to the creek because we want to collect
9 seepage from the waste rock. We don't want to collect
10 surface runoff, which will be clean. So it'll be cau --
11 caught at the toe there.

12 THE CHAIRPERSON: Thank you. I'm going
13 to go to Ms. Crapeau.

14 MS. RACHEL CRAPEAU: Thank you.

15 THE CHAIRPERSON: Thank you. I'm going
16 to go to Board member Percy Hardisty. Questions to
17 Canadian Zinc on their presentation?

18 MR. PERCY HARDISTY: Mahsi, Mr. Chair.
19 In your presentation here, under the heading of mine
20 closure. Again, in regards to the -- one (1) of your
21 points. The second point here is this cover waste rock
22 pile limit seepage. Can you clarify that for me.

23 THE CHAIRPERSON: Thank you. I'm going
24 to go to Canadian Zinc. Response?

25 MR. DAVID HARPLEY: David Harpley. We

1 have done a preliminary study, or at least we've had a --
2 a preliminary study done on our behalf, simulating the
3 effect of placing different kinds of materials on top of
4 the waste rock at closure with the intention of limiting
5 infiltration from surface, which if it permeates through
6 the cover would end up being leachate from waste rock.

7 At this point in time it -- it appears
8 that if we have a compacted clay soil cover of
9 approximately, I believe it's, 1 metre in thickness we
10 can satisfactorily limit the amount of infiltration and
11 minimize the amount of seepage that would potentially
12 discharge from the waste rock after closure.

13 So the point of the cover is to promote
14 runoff and keep runoff clean and minimize the amount of
15 infiltration that would occur, which could turn into
16 seepage and picking up metals.

17 THE CHAIRPERSON: Thank you. I'm going
18 to go back to Board member Percy Hardisty.

19 MR. PERCY HARDISTY: Mahsi, Mr. Chair.
20 Your third point says:

21 "Treat and monitor groundwater until
22 quality is stable and groundwater
23 discharge will not have a significant
24 impact."

25 Have you any idea how long you're going to

1 treat and monitor groundwater?

2 THE CHAIRPERSON: Thank you, Mr.
3 Hardisty. I'm going to go to Canadian Zinc.

4 MR. DAVID HARPLEY: David Harpley. I
5 guess you could say we have an idea at this point, but it
6 needs more study during operations to better quantify the
7 source and the response of the source during the closure
8 period.

9 But whatever the duration is we will have
10 to commit to be there to deal with the situation until
11 the monitoring has determined that either we need to
12 proceed with our contingency of pumping the water and --
13 and treating it as the groundwater recovers within the
14 backfilled mine area, or that we can suspend monitoring
15 because the monitoring has indicated for us that it's
16 behaving as we expect and concentrations in groundwater
17 are such...

18

19 (BRIEF PAUSE)

20

21 MR. DAVID HARPLEY: Can you still hear
22 me?

23

24 (BRIEF PAUSE)

25

1 THE CHAIRPERSON: Go ahead.

2 MR. DAVID HARPLEY: Yeah, so the
3 monitoring will continue until such time as we can
4 confirm that the groundwater is of a quality that we can
5 allow the water levels in the groundwater to continue to
6 rise to the point when -- when they'll be discharged.

7 THE CHAIRPERSON: Thank you. Okay.

8

9 (BRIEF PAUSE)

10

11 THE CHAIRPERSON: Okay. We are going
12 again. Is the sound and -- the recording is good? Okay.
13 We'll continue on. I'm going to go to Board member Percy
14 Hardisty, comme -- questions?

15 MR. PERCY HARDISTY: Mahsi, Mr. Chair.
16 That's all the questions that I have. Mahsi.

17 THE CHAIRPERSON: Okay. Mahsi, Percy
18 Hardisty. I'm going to go to Board member James Wah-
19 Shee. Questions to Canadian Zinc on their presentation?

20 MR. JAMES WAH-SHEE: Sir -- Chair, I
21 really don't have any questions, thank you.

22 THE CHAIRPERSON: Thank you. I'm going
23 to go to Board member Darryl Bohnet. Darryl Bohnet,
24 questions for Canadian Zinc on their presentation?

25 MR. DARRYL BOHNET: Yes, thank you, Mr.

1 Chair.

2 The Board identified water quality as a
3 key line of inquiry at the early stages and we asked the
4 Company to focus at that in their developer's assessment
5 report quite some time ago, and today we know that, from
6 the various presentations by the two (2) Bands and a
7 variety of government agencies, the focus is still there,
8 and -- and we still haven't been able to achieve a
9 collaborative site specific water quality objective.

10 I'm curious as to how much effort and time
11 has been contributed by the gov -- govern -- various
12 government agencies to achieve a collaborative objective,
13 and when did it start? Did it start after the technical
14 com -- meeting, or -- or did it just evolve to today? So
15 I'm -- I'm curious of the timing of this thing.

16 THE CHAIRPERSON: Thank you. I want to
17 go to Canadian Zinc in response.

18 MR. DAVID HARPLEY: David Harpley. I --
19 I think that the true answer to that question is kind of
20 lengthy and complicated, so I'll try and summarize it as
21 best I can.

22 I -- I think it's true to say that both
23 proponent and regulators have had some frustrations with
24 the process. I don't particularly want to dwell over
25 those -- on those at this point because it's not the

1 right venue, but we have some thoughts on how it could be
2 made better, and I'm sure the regulators do, too.

3 On the specific item of objectives, I will
4 say that we started out as a company considering the RCA
5 approach to said objectives because we had been through a
6 screening process and determined, or at least we felt,
7 that there was six (6) main parameters that needed to be
8 considered.

9 And when we went through our step-wise
10 process, the -- the RCA approach worked for those
11 parameters. So that's where we stopped at that point.
12 When we had the first technical session -- in fact, if --
13 I think it was the first IR round, there was responses
14 from parties indicating that we need to consider more
15 than just those six (6), and it ended up being eighteen
16 (18) parameters that we now have to consider.

17 So we then went back to our step-wise
18 process, and looked at the RCA numbers, and while it
19 worked for those first six (6), at least at that time
20 with our management system, it did not work for all of
21 the parameters, and so we had to start looking at
22 toxicity and what that meant in terms of potential
23 impacts.

24 At the same time, we were further
25 developing our water management approach in response to

1 the questions that we'd been receiving and comments that
2 we'd been receiving. So we started to go -- go through
3 an iterative phase of project modifications, revision ob
4 -- objectives, and I would consider that kind of a
5 natural progression of an EA process. To me, that is
6 part of a -- the EA process and what it is meant and
7 intended to do to refine the project.

8 So we -- we then came with a set of
9 objectives to the second technical meeting, which were a
10 mixture of RCA-based and toxicity-based numbers. And it
11 was at that point where we had an in -- intervention from
12 AAND, or their consultant, indicating to us that while
13 they supported the RCA approach, they had big problems
14 with the quality of the database upon which they were
15 based. And this was on April 12th.

16 So at that point, we're, as a company,
17 trying to respond to the -- the comments that we
18 received, and I guess you could say the schedule was
19 getting really compressed at that point because we were
20 all looking to move the -- the schedule forward. So we
21 did what we could in the time we had available.

22 From a personal standpoint, what I found
23 very difficult as a -- kind of the -- the lead technical
24 person on the file for the Company is that really we --
25 we did not get a true reflection, and full appreciation,

1 perhaps that's a better way to describe it, of -- of what
2 the feelings were of government parties until we actually
3 received written material from them. And I might suggest
4 that this one (1) thing that might be looked at in future
5 for the process.

6 What I have in mind is that perhaps
7 parties would be encouraged to provide preliminary
8 written responses before we get well into the process, so
9 the proponent really has a good understanding of what
10 their issues are and then can start planning accordingly.

11 THE CHAIRPERSON: Okay. Thank you. I'm
12 going to go back to Board member Darryl Bohnet, if he's
13 got anymore questions.

14 MR. DARRYL BOHNET: Thank you very much,
15 Mr. Chair. I guess I'm still left wondering what it
16 takes to resolve this situation and how much time it will
17 take. You know, we -- we have a hearing here, and then
18 there's a time to -- to get some material in; obviously
19 we've heard that there's a couple weeks here to do -- get
20 -- get some material from -- from the company on the
21 record. But what does it take, and what is the timing to
22 get some resolution to this, because this is a core, core
23 issue?

24 And it looks to me like there's been some
25 -- a lot of discussion about cooperation, and support and

1 collaboration, but I haven't -- I still don't have a -- a
2 feel for a resolution to it. And -- and I'm looking for
3 your opinion as to how -- how we can proceed and -- and
4 potentially the timing. Thank you.

5 THE CHAIRPERSON: Okay. I'm going to go
6 back to Canadian Zinc.

7 MR. DAVID HARPLEY: David Harpley. Yes,
8 I can understand why you have that question. And what I
9 will say is that we are talking to government on this
10 issue; we were talking over lunch, as you know. We have
11 come to a -- kind of an understanding of a -- perhaps a
12 way to move forward. I will not say anymore at this
13 point, because we will come back to this issue quite
14 shortly. Robert Jenkins will talk on the matter from --
15 from Anne's perspective and we can take it from there.

16 But just to let you know, we're as
17 concerned about schedule as you are.

18 THE CHAIRPERSON: Okay. Thank you. Back
19 to Darryl Bohnet, Board member.

20 MR. DARRYL BOHNET: Thank you. I'll
21 leave it there. Thank you.

22 THE CHAIRPERSON: Okay. We're done.
23 Thank you. Before we -- we're going to break, but before
24 you break I just want to mention that tomorrow on the
25 agenda we have -- it looks like we're going to start at

1 9:00, and because it's Friday, I'm going to suggest that
2 we -- or I should say -- suggest I want to start here at
3 8:30. And tomorrow, if we need to, we could probably
4 shorten our lunch, because we still got a lot of
5 presenters yet, but I think those ones will go quick.

6 So tonight we're going to have a -- people
7 from the community to come in to make some public
8 statements as well, so we're going to start that at 6:00.
9 So before we break I just also want to make a note, as
10 well; a little bit earlier I had mentioned that Indian --
11 Indian and Northern Affairs had changed their name, and I
12 made a comment that -- I called it whatever we called it,
13 the repairs and whatever, but again, it was never
14 intended to offend Indian and Northern Affairs. I just
15 wanted to send my apologies to them.

16 It's -- it's just that we've got different
17 acronyms up there on the agenda here and our -- on our
18 layout here it says Indian and Northern Affairs. And on
19 the other hand, we have Aboriginal Affairs and Northern
20 Development and then we also have DIAND. So I guess it's
21 going to take some time for everybody to really catch up
22 on that.

23 So I just want to just put that out there.
24 And for now I'm going to ask that we take a break and
25 we'll come back at 6:00, and we'll want to hear from the

1 community Liidlil Kue First Nation. Mahsi.

2

3 --- Upon recessing at 5:16 p.m.

4 --- Upon resuming at 6:29 p.m.

5

6 THE CHAIRPERSON: I'd like to call this
7 public hearing to order. It's now 6:29. Because we got
8 started late we need to give the public the opportunity
9 to make some public statements here, so we'll give them
10 that extra half hour or so, which means that, you know,
11 if there's people here that's going to make a statement I
12 also want to get -- get them to see Jessica in the back
13 who's taking names from the public here, from the
14 community, in regards to this public environmental
15 assessment here in Fort Simpson.

16 So I guess first of all I want to see
17 who's on the list or who's got the list for...

18 Jessica...?

19 What I'll do is we have Lorayne Menicoche;
20 she's -- Menicoche Moses. I'll move her down; she's not
21 here yet. So I'll get then Nahendeh MLA Kevin Menicoche
22 to come up and sit at the table over here.

23 And then after Kevin, we'll have the Mayor
24 of Fort Simpson, Shaun Whelly.

25 And then we have Kirby, I believe, Groat,

1 I hope I got that right, from here, from Fort Simpson.
2 And we have Ted Grant, Simpson Air. So those are the --
3 that order.

4 If anybody else want to say -- make some
5 public statements here this evening I ask that you go see
6 Jessica Simpson in the back and she'll put your name
7 down. With that, I'll ask Kevin Menicoche to come up and
8 make your statement.

9

10 (BRIEF PAUSE)

11

12 PUBLIC STATEMENTS:

13 MR. KEVIN MENICOCHÉ: Good evening. My
14 name is Kevin Menicoche, the MLA for Nahendeh. I'd just
15 like to welcome members of the Mackenzie Valley
16 Environmental Impact Review Board to my riding in
17 Nahendeh, the Dehcho and Fort Simpson.

18 I -- I hope that you're enjoying your
19 visit to the region and have productive hearings as -- as
20 we did in Nahanni Butte yesterday and I'm really thankful
21 for the opportunity to speak to the -- the Board today
22 about the Canadian Zinc Prairie Creek development plans.

23 As we know, the proposed -- Prairie Creek
24 is located in -- in the Nahanni National Park, within the
25 boundaries of the Nah -- Nahanni National Park Reserve.

1 And mineral developers have shown great interest in the
2 site since ore grade min -- minerals were discovered
3 there.

4 In my term as MLA for Nahendeh, I have
5 observed the time and effort that Canadian Zinc
6 Corporation has put in to developing the property into a
7 mine and I also have been sensitive to the fact that many
8 constituents never did want to -- to see a mine.

9 You know, I believe that in the long term
10 we can have the mine operations completed and the lease
11 hopefully returned to Parks Canada so that we can have a
12 whole park.

13 However, today I accept the reality that
14 there is a lease there and the proponents would like to
15 mine the minerals and also that two (2) of the
16 communities in my riding have signed Impact Benefits
17 Agreements and have agreed to work with Canadian Zinc.

18 Therefore, I can express my support for
19 the application of the Prairie Creek Mine provided it
20 takes place in an environmentally and sociably
21 responsible manner, also that they minimize impacts using
22 the latest technological and industry standards.

23 The main concern as we have heard from our
24 Elders in Nahanni and are hearing from regular la --
25 leaders here is the water and the watershed. The Prairie

1 Creek mine is located in an area with special
2 significance not only to local Aboriginal people but in
3 one (1) of the most treasured and spectacular areas in
4 the world, the Nahanni National Park Reserve.

5 Established as a World Heritage Site in
6 1978, with the boundaries further extended in 2009, the
7 Nahanni National Park is home to -- to many animals.
8 There's a place of legendary canyons, huge waterfalls,
9 and a limestone cave system.

10 Many people remain deeply concerned about
11 the potential impacts of the Prairie Creek mine in this
12 fragile protected area.

13 Canadian Zinc has publically stated its
14 goal is to operate the mine with no significant adverse
15 effects to the South Nahanni River or the Nahanni
16 National Park Reserve.

17 However, there are some outstanding risks
18 that have been identified with the mine's operations and
19 throughout the day these were reflected in the
20 submissions and questions from many of the regulators and
21 federal government bodies.

22 I just want to focus on a couple of
23 things. The first one is the construction of the all-
24 weather road to the mine. It will have a significant
25 effect on the natural environment. Even the opening of a

1 winter road has raised concern among certain members of
2 our Aboriginal communities.

3 Either a seasonal or all -- all-weather
4 road will open the region to over-harvest from
5 opportunistic hunters, further disturbance and human act
6 -- activity through construction and -- and personnel
7 camps, and disruption to the wildlife habitat. I would
8 strongly recommend that Canadian Zinc mitigate these
9 effects of a road through establishment of monitoring
10 plans and a careful route selection.

11 I also appreciate the efforts that
12 Canadian Zinc has made to train and hire people from the
13 regional communities and use as many local resources as
14 possible. If there was an ask, I would -- it would be
15 that there was a human resource and training plan, though
16 it may not be in the Board's mandate, but it's important
17 that future jobs be relocated to Fort Simpson.

18 Of over two hundred (200) jobs they speak
19 of, we must have them located in the north so that we can
20 actually benefit from them. Fort Simpson is a great
21 place to live, for example.

22 Once again, I recognize and am pleased
23 with the Impact Benefits Agreement signed with -- with
24 the -- the Nahanni Butte Dene Band and the Liidlii Kue
25 First Nations. Also I got to recognize the significance

1 in investments in the Nahendeh communities that Canadian
2 Zinc Corporation has made through sponsorship of
3 community events, scholarships to our youth in the
4 region, and providing opportunities for career dev --
5 development.

6 The -- the Corporation also makes a
7 consistent effort to recognize the Dehcho First Nation
8 and its -- and its continuing negotiations toward a land
9 claim process and self-government agreement with the --
10 with the Government of Canada.

11 It believes the corporate goals and those
12 of the Dehcho First Nations can be compatible. I have
13 every reason to believe that this level of sincerity and
14 benefiting our communities and local business will
15 continue.

16 And just in closing, I would like to state
17 that the Prairie Creek Mine has the potential to be a
18 leader in socially and environmentally sensitive mining.
19 The Corporation recognized that its development is taking
20 place in ecologically sensitive environment.

21 With diligent environmental review and
22 consistent application of the highest operations and
23 maintenance standards the Prairie Creek Mine can bring
24 significant economic benefits to the Dehcho Region and
25 Northwest Territories without the poisonous legacy so

1 often associated with mining development.

2 I also, once again, stress the fact that
3 in the long term I foresee the mine closing and the
4 cleanup plan en -- enacted to include returning the lease
5 to Parks Canada, thereby having a fully operational
6 Nahanni Park.

7 And once gain, I'd like to thank you for
8 the opportunity to address the Board and the concerns of
9 the people in my region. Mahsi cho.

10

11 (BRIEF PAUSE)

12

13 THE CHAIRPERSON: Thank you, Mr. Kevin
14 Menicoche, Nahendeh MLA. Mahsi for your statement. And
15 that I'm going to call up next is the Mayor, His Worship
16 from Fort Simpson, Shaun Whelly, the village of Fort
17 Simpson.

18

19 (BRIEF PAUSE)

20

21 MR. SHAUN WHELLY: Good evening, ladies
22 and gentlemen, Board members, and representatives from
23 industry and other organizations. I too would like to
24 welcome you to Fort Simpson and hope that you do have
25 some productive meetings, and enjoy your time while

1 you're here in -- in beautiful Fort Simpson.

2 My name is Shaun Whelly, and I am the
3 Mayor of Fort Simpson. The village represents twelve
4 hundred and fifty (1,250) residents living within the
5 municipal boundaries of the village. The village is a
6 regional centre and shares a role in representing the
7 aspirations of local residents along with the Liidlíi Kue
8 First Nation and the Metis local.

9 Fort Simpson is a majority Aboriginal
10 community in a majority Aboriginal region, and that is
11 the main reason why the village of Fort Simpson took a
12 reserved approach to the Canadian Zinc mine until the
13 main stakeholders, the First Nation in both Fort Simpson
14 and Nahanni Butte, felt comfortable with the overall
15 Canadian Zinc mine proposal and, in particular, the
16 environmental mitigation measures proposed by Canadian
17 Zinc.

18 The recent signing of the IBA with the
19 Liidlíi Kue First Nation added to the IBA signed
20 previously with the Nahanni Butte Band has given impetus
21 to the village to add its voice to the review process.

22 Beyond dogs, ditches and dumps, the
23 village is strongly committed to supporting and
24 developing a viable and sustainable healthy community
25 supported by a diversified economy.

1 The Village of Fort Simpson detailed its
2 position in a letter drafted on June 14th, 2011, and sent
3 to the Review Board on June 16th, the day the Liidlii Kue
4 First Nation signed its IBA. This project support
5 letter, now on the Review Board's public registry, reads
6 as follows, and if I could just read that letter, it's
7 only a few paragraphs:

8 "The Mackenzie Valley Land and Water
9 Board received four (4) applications
10 from Canadian Zinc on June 8th, 2008.
11 The applications were recommended for
12 environmental assessment.

13 The Village of Fort Simpson is
14 satisfied with the extensive review
15 that has been conducted and believes
16 that all major environmental concerns
17 have been properly addressed by
18 Canadian Zinc.

19 The village recognizes the importance
20 of this project in bringing economic
21 development to the region and to the
22 community. The IBA signed with the
23 Nahanni Butte Band and the reported
24 close working relations with the
25 Liidlii Kue First Nations are

1 encouraging signs that all affected
2 stakeholders will benefit from the
3 development of this mine.

4 Canadian Zinc is a good corporate
5 citizen, has been very forthcoming with
6 community communications and has
7 demonstrated ample willingness to share
8 any benefits that may accrue from this
9 project.

10 The village is looking forward to a
11 positive set of final recommendations
12 from the Mackenzie Valley Environmental
13 Impact Review Board that will hasten
14 the start of this project with a
15 minimum of further delay."

16 And that was signed, "Shaun Whelley, on
17 behalf of the Village Council of Fort Simpson," dated
18 June 14th.

19 In the last paragraph, the positive set of
20 recommendations referenced in the village's letter looks
21 forward to a set of environmental guidelines that are
22 reasonable, technologically economical and feasible and
23 compatible with the standards and conditions employed in
24 other Canadian jurisdictions.

25 The Board should be able to weigh the

1 large body of information provided during the last three
2 (3) years of environmental assessment and recommend a
3 reasonable balanced approach going forward. That balance
4 must protect the environment and, in particular, the
5 watershed downstream from the mine while at the same time
6 allowing the Canadian Zinc project to contribute to the
7 vibrancy and diversification of our local and regional
8 economy.

9 A balance would be achieved through
10 mitigation and minimization of all significant and
11 legitimate potential detrimental impacts.

12 The people of Fort Simpson recognize that
13 no mine can start with zero impacts. We have confidence
14 in the Board's ability to recognize the importance of
15 this project to this community, and to allow the project
16 to go ahead with a minimum of future delay while
17 implementing the reasonable environmental protections
18 required, recognizing that no amount of discussion and
19 planning will ever make this, or any mine, zero impact.

20 And on that note, I'd like to say thank
21 you for listening to me on behalf of the citizens of Fort
22 Simpson. Thank you.

23 THE CHAIRPERSON: Thank you for your
24 presentation, Mayor Shaun Whelly. Maybe for -- for the
25 record, as you read it into the record, but also maybe if

1 we could get a copy of your -- your statements, also from
2 Mr. Menicoche, and if you could just pass that on to
3 Jessica in the back, and then we'll put that in the
4 public registry, as well.

5 Next we have is -- is Kirby Grant -- or
6 Groat, sorry, Dehcho Suites, Fort Simpson, Chamber of
7 Commerce. Please come up.

8

9 (BRIEF PAUSE)

10

11 MR. KIRBY GROAT: Thank you, Mr.
12 Chairman. I appreciate the ability -- or the ability to
13 speak to you. My name is Kirby Groat. I have a couple
14 business here, Dehcho Suites in Fort Simpson, and I also
15 have Dehcho Hardware. And I am the president of the Fort
16 Simpson Chamber of Commerce.

17 I did send a letter into the Review Board,
18 and it is on file there earlier so you've got it there.
19 I'll just make a few additional comments and that kind on
20 that.

21 I -- the environmental issues and
22 technical issues seem to be handled very well, and I
23 won't speak to any of that.

24 I am quite confident with the IAB (sic)
25 signings between Nahanni Butte First Nations and also

1 between Liidlili Kue First Nations and Canadian Zinc.

2 The -- the monitoring of the environmental
3 issues coming out of the mine will be addressed
4 thoroughly, and for the benefit of all people around.

5 The only issues that I really would like
6 to speak to, I'm -- I'm very excited about the potential
7 of a mine opening up in the Dehcho. We -- right now we
8 have very little other than government jobs, government
9 money, injected into our whole Dehcho region, and to have
10 private sector employment is quite an exciting prospect
11 in the Dehcho.

12 Creating two hundred and twenty (220) jobs
13 is very good, but the way I understand mining, it creates
14 somewhere between two (2) to four (4) other jobs besides
15 the direct mining jobs. So we aren't talking two hundred
16 and twenty (220) jobs, we're talking in the neighbourhood
17 of six (6) or eight hundred (800) jobs created out of
18 this -- this mine, as my -- I understand it.

19 And that is something that has to be
20 considered also, the balance between the environmental
21 issues and the social institutes where the jobs are
22 created. I'm quite interested and quite happy to see
23 that it pro -- or hoping it proceeds beyond that.

24 I don't have a whole bunch else to say
25 except I totally support Canadian Zinc. I believe they

1 have a professional organization behind them. Their
2 monitors and their people who are working with them all
3 seem like professionals in the fields.

4 And I really do hope this project goes
5 forward. Thank you for the time and I appreciate the
6 opportunity.

7 THE CHAIRPERSON: Thank you, Kirby Grant,
8 Dehcho Suites, Fort Simpson Chamber of Commerce. Mahsi
9 for your presentation. Again, if -- if -- also maybe if
10 you could leave a copy of your presentation with Jessica
11 in the back, as well. Oh, sorry, Kirby Groat. I'm sorry
12 about that.

13 I want to call Ted Grant, Simpson Air,
14 chamber -- or sorry, Simpson Air. I hope that -- yeah,
15 Simpson Air.

16 MR. TED GRANT: There we go. Yeah, no,
17 I'm no relation to Kirby. He used to work for me though
18 years ago; he was my chief engineer.

19 Mr. Chairman, Board members, thank you
20 very much. I've been in business here for just thirty
21 (30) years now and about twenty-five (25) years ago I was
22 probably the biggest air charter company north of
23 Edmonton, Alberta when we had the initial pipeline, the
24 Norman Wells Pipeline going. And at the time I had over
25 thirty-four (34) employees here and ten (10) airplanes.

1 As a result of the end of the pipeline and
2 with what's happened here in the Dehcho, there's been
3 virtually no economy since then and now I am the smallest
4 air charter operator north of Edmonton, Alberta with the
5 fewest amount of airplanes and I'd like to see that
6 change and go back the other way.

7 I certainly support Canadian Zinc.
8 They've been a -- an excellent addition to the business
9 community here. They've set up offices here. They help
10 sponsor a lot of things that happen here, including one
11 of the largest golf tournaments in the Northwest
12 Territories now. And they hire local; they use local
13 businesses. And from what I understand if the mine gets
14 going the local business is going to have first
15 opportunity at -- at many of the major businesses and so
16 I support them 100 percent.

17 The -- the impact that the mine may have,
18 we all know in this day and age that under the new
19 environmental regulations that they have to abide by all
20 the environmental regulations, so I really don't have a
21 problem with -- with what they're doing, and like I said,
22 I totally support them 100 percent.

23 If anybody has any questions, I'd be glad
24 to answer them.

25 THE CHAIRPERSON: Thank you, Ted. Right

1 now the way our agenda is laid out we're just
2 entertaining public statements from the community so we
3 really appreciate your comments and it's read into the
4 public records. So that would be part of our evidence we
5 need to proceed to make decisions, so I want to say thank
6 you very much. Mahsi cho.

7 I -- I don't know if Lorraine Menicoche
8 Moses is here. Oh, she's here? I'd like you to come up
9 and give your public statement.

10

11 (BRIEF PAUSE)

12

13 MS. LORAYNE MENICOCHÉ MOSES: My name is
14 Lorayne Menicoche Moses and I'm a concerned citizen of
15 Denendeh. I just wanted to make a presentation to -- to
16 the Board and -- and to the Chairperson.

17 I just want to say that, you know, like
18 with all the signing of the IAB and -- and with Canadian
19 Zinc and First Nations -- like my First Nations, Liidlíi
20 Kue First Nation, I just wanted to bring to -- attention
21 to the fact that not everybody endorsed it, you know.
22 Like there's not 100 percent consensus because I did not
23 support it. You know, I have no -- no -- I have no --
24 like I -- I do support training and education and all
25 that stuff, you know. I -- I fully support that but

1 that's not the fact.

2 It's just like, you know, like, sign this
3 and that means that Liidlili Kue First Nation is in full
4 support of Canadian Zinc but there's the other part of it
5 is like the environment, the environmental concerns that
6 I had.

7 Like I had these environmental concerns
8 about twenty (20) years ago when it was called Prairie
9 Creek and there was a review board and I went there when
10 I was -- and I made my presentation.

11 At that time we had a lot of support
12 group, like we had a lot of consultants that come in. We
13 had -- we had big -- big concerns. We had a lot of
14 concerns, we brought it forward. And -- and I remember
15 that one (1) of them -- one (1) of the strongest one was
16 the Elders really were concerned about the water, you
17 know. Like, what's going to happen to the water if
18 something happened with that -- with the Prairie Creek,
19 the mine, because it's -- the water flows down this way.

20 You know, like right here's the Mackenzie.
21 I'm just pointing this way because the Mackenzie is
22 flowing this way. And -- and the mine is someplace up in
23 the mountain there and it goes down the -- the Nahanni
24 and to the Mackenzie, into the Liard and into the
25 Mackenzie. If something happens then -- then it'll be --

1 it will affect the people and the animals and the plant
2 life and the fish and the frogs and all of these, you
3 know, insects, everybody -- everything that relies on
4 everything. You know, like, it's like a full circle, eh.

5 And so that's what I'm worried about. I'm
6 thinking about the negative impacts in -- in the future,
7 especially because look at what's happening with Enbridge
8 now. It used to be called Imperial Oil. They had big
9 hearings back twenty (20) years ago, I remember that.
10 You know, I remember say, Oh, nothing's going to happen.
11 Everything's going to be okay, but look at what happened
12 now.

13 Like, you know, like there -- there's an
14 oil spill there and nobody knew about it for a long time,
15 and all of a sudden now they're just, you know, they're
16 just trying to clean it up.

17 And that's the sort of stuff that I'm
18 thinking about, you know, like, just because we're going
19 to get some shares, we're going to get some training and
20 things like that, we still got to think about the
21 environment, you know. Like a lot of the Elders that
22 spoke, they used to speak out against all this sort of
23 things, are no longer with us.

24 Like, you know, like Lay Norweigan
25 (phonetic), like Mary Cazon, you know, the ones that

1 really guided us and gave us wisdom are no longer here
2 with us to be able to -- to tell you -- you know, to tell
3 you, the Review Board, to really think about the
4 environment, to think about what might happen in the
5 future and we've got to think about the future
6 generations and especially the water, because water's
7 what -- what we live on.

8 And that was my main concern. I just
9 wanted to bring this point forward for myself, because
10 it's been really on my mind, you know, like -- it's like
11 we're being paid off, and they'll go, Oh, yeah, support
12 Canadian Zinc. And I told Wilbert Antoine, I said, At
13 6:00, I'll be out there on my protest sign, you know,
14 saying, I do not support Canadian Zinc.

15 You know, like, that's the way I told him,
16 and I just -- and I said I was going to make my
17 presentation. And I just wanted you to really think
18 about the people that are not here. You know, think
19 about the people in the future, and the people that don't
20 have voices, you know, like voices that could come here
21 and tell you their -- what their view is, like.

22 So that is one (1) of my main concern. I
23 just wanted to tell you that, you know, like, to really
24 think about -- when you're making your decision, to think
25 about the common people, the people who are walking down

1 the street, who may not get the jobs, who may not get the
2 benefits of Canadian Zinc, you know, like that's what I
3 just wanted to bring forward.

4 And thank you very much. And I don't have
5 a written speech. It got a little bit of notes, that's
6 it. Okay. Thank you.

7 THE CHAIRPERSON: Thank you, Lorayne
8 Menicoche Moses. Mahsi for your public statement. It's
9 -- it's in the record, so thank you very much.

10 MS. LORAYNE MENICOCHE MOSES: Okay.

11 THE CHAIRPERSON: Is there anybody else
12 in the audience from the community that want to come up
13 and make some public statements?

14

15 (BRIEF PAUSE)

16

17 THE CHAIRPERSON: Well, at this point
18 I'll have to call it but, I mean, is there anybody else
19 that may want to come up and make some public statements?

20

21 Jonas, I think you had your hand up
22 earlier. Elder Jonas Antoine, and he's -- come on up
23 and, again, happy birthday. Today is your birthday, I
24 believe.

25

1 (BRIEF PAUSE)

2

3 ELDER JONAS ANTOINE: Mahsi Cho.

4

5 (INTERPRETED FROM SOUTH SLAVERY INTO ENGLISH)

6

7 ELDER JONAS ANTOINE: There's a lot of
8 people speaking and...

9

10 (INTERPRETATION CONCLUDED)

11

12 ELDER JONAS ANTOINE: I'm a member of the
13 Liidlili Kue First Nation, considered by some as an Elder
14 in the Dehcho. We speak about this and I feel that
15 nobody else knows about it better than I, because I have
16 been in the heart of this whole thing for many, many
17 years now. The expansion of the Nahanni Park, I'm one
18 (1) of the people that worked very hard to help expand
19 the Park, and that happened.

20 I'm one (1) of the people that is in
21 partners with Parks Canada and we have an agreement, a
22 memorandum of understanding with Canadian Zinc to
23 recognize one another. And I sit on many other
24 organizations that gives me voice and gives me knowledge
25 of things that are happening today.

1 I'm one (1) of the people that started
2 talking many years ago about the future, about the Dehcho
3 vision, where we not only look ahead to what we can
4 accomplish in our lifetimes, but many years beyond that,
5 one hundred (100) years, two hundred (200) years. And I
6 saw an opportunity with Canadian Zinc where industry and
7 conservation and the Dene people can coexist.

8 In 2001, Dehcho First Nations signed an
9 agreement with Canada to recognize companies like
10 Canadian Zinc that had a hold in the Nahanni watershed,
11 and that is an agreement that we have, and we are
12 honouring that agreement.

13 With that agreement in mind, we said,
14 Let's move forward. Past chiefs saw the opportunity,
15 going back a few years, Chief Herb Norweigan, Chief Jerry
16 (phonetic) Antoine, Chief Rita Cli, Chief Keyna
17 Norweigan, all also saw that opportunity.

18 It took effort to move forward to this
19 day, a lot of concerns, and concerns such as my cousin
20 Lorayne brought up, and those are the type of concerns
21 that we carry with us constantly.

22 But things are at a point now today, in
23 this day and age, where things will never be the -- the
24 way they were back fifty (50) years ago, but we can look
25 back and look at our history and look at this day and see

1 what we can do with the opportunities that we have today,
2 and that is one (1) of the opportunities we saw.

3 And Canadian Zinc, what's here, and we saw
4 something there that made us move forward with
5 confidence. We may have compromised some of our past
6 positions, but we are the leaders today. Chief Jim
7 Antoine and the councillors, and I'm one (1) of the
8 councillors, we have one (1) voice. We said, Let's move
9 ahead, and that is our responsibility to do that.

10 People voted for us and gave us this
11 authority to do things for them. We consult with people.
12 We talk with our people. And we hear one (1) voice, We
13 need jobs. We got to move ahead. And we saw this in
14 Canadian Zinc.

15 The agreement that we signed is a very,
16 very good agreement. It's a positive thing, where for
17 the first time in aboriginal history Liidlil Kue First
18 Nation, as a leader, will have an opportunity at the end
19 of the day -- has an opportunity to own a piece of the
20 pie, maybe not greatly significant, but a piece of that
21 pie, where no one, no other organization has ever done
22 that before. And there's that little door opened for us
23 there that we can have that.

24 And when we talk with Canadian Zinc we
25 have the same vision, where not just train two hundred

1 and twenty (220) muckers, but two hundred and twenty
2 (220) professional working people that can move up the
3 ladder. Eventually, we want to be able to have our own
4 people running an organization such as a mine operation
5 as geologists, as superintendents, all the way up the
6 line, with support as doctors and -- and med -- medical
7 facilities, and we have that opportunity to do that.

8 And Chief Jim, when he spoke earlier he
9 said, We have this job to do, and it is a big job for us
10 to do, but we can do it because we have confidence.

11 And this day marks something great for us
12 all, and when I first started off here I said, you know,
13 I feel that I'll be the heart of this, and it kind of
14 makes me keener once in a while, but I look at it as a
15 balance. And that's one (1) of the things that we -- we
16 had to do, balance things, and this is a good balance
17 that we have right now, that we feel.

18 When we signed the agreement last week
19 with Canadian Zinc, former Chief Rita Cli, when she
20 signed, put her name on the agreement, at the end of her
21 name she wrote "For the future generation." And that is
22 one (1) of the things that I have always heard her speak,
23 and that is one (1) thing that we always have in our
24 minds, for future generations.

25 In 1921, two (2) of my great grandfathers,

1 one (1) on my mother's side and one (1) on my father's
2 side, both signed -- left their mark on the treaty in
3 1921. They, too, saw something ahead to coexist, and
4 they put their mark on that piece of paper called a
5 treaty to coexist.

6 And we've honoured that treaty. We have.
7 And we have this agreement now where we want to be able
8 to honour this agreement, as well. And I would like to
9 see this honour like this on both sides, and I have
10 confidence in that.

11 So mahsi cho. I only stepped up here
12 because nobody else wanted to speak. Mahsi cho.

13 THE CHAIRPERSON: Thank you very much,
14 Jonas. And your comments are read into the registry, so
15 I want to say thank you very much, mahsi, for coming up,
16 and doing your -- making a statement on behalf of your
17 community. With that --

18 ELDER JONAS ANTOINE: Mashi cho.

19 THE CHAIRPERSON: Mahsi, Jonas.

20 We also have another individual from the
21 community here, Chuck Blyth. I hope I got that right,
22 Blyth. Would you please come up, and make your statement
23 in front?

24

25 (BRIEF PAUSE)

1 MR. CHUCK BLYTH: My name is Chuck Blyth.
2 I'd like to ask a few questions to Canadian Zinc, if
3 that's okay, and obtain a response. Is that possible?

4 THE CHAIRPERSON: No, I just want to let
5 you know that we're doing the agenda as -- as it's laid
6 out, and -- and all this has been publicized, and it's on
7 the public registry, and -- and so on.

8 So tonight what we're doing is we're
9 taking public statements. So if you have a public
10 statement, you can do that. So right now, if you have a
11 statement to make we'll --

12 MR. CHUCK BLYTH: Okay.

13 THE CHAIRPERSON: -- we'll obtain it.

14 MR. CHUCK BLYTH: I will muse with my
15 questions then, and will remain to see if those are
16 answered in the next few days then.

17 First of all, I was like listening to the
18 presentations today, and I've followed the process for
19 about ten (10) years now, and I'm looking at what's
20 currently proposed.

21 And I was wondering if there was enough
22 working capital presently in existence to actually carry
23 out the actions that -- that have been presented to us,
24 taking away the amount of the company that's actually a
25 gold mining company, and looking at amount of cash.

1 I was just wondering -- I was sitting here
2 thinking, Yeah, that's really cool stuff. You know,
3 we'll build a -- we'll build walls up the side of the
4 canyon to keep the water out of this pond, but I wonder
5 how much that would cost.

6 I thought, well, maybe there's somebody
7 down the future is going to buy the mine at the end of
8 the day, I wondered to myself. I thought -- I wonder is
9 there a large shareholder currently in the Company that's
10 got a lot of resources we don't know about, and these
11 questions sound kind of like what business is that of
12 his.

13 But normally when you're looking at a
14 process you see a bankable feasibility study and you look
15 at that and you say yeah, that's a good deal, I can make
16 a lot of money and -- but there's certain constraints
17 that they have to face to make money. But I've never
18 been able to see that, so those questions kind of stick
19 out in my mind today.

20 I thought when I heard that a stretch of
21 the road had discontinuous permafrost on it but we really
22 haven't done the study so we don't know what percentage,
23 because discontinuous could be 95 percent or it could be
24 like 5 percent. And that would make a big difference in
25 terms of how much money we would have to spend if it

1 turns out that our opt -- optimistic predictions are
2 wrong then where would we be.

3 I thought paste backfill, that's a good
4 deal, a hundred percent. But everything I've ever read
5 it gets it up to about 65 percent which somebody else
6 brought up today and I thought okay, so. But their ore
7 is more pure so they'll get more of it underground but I
8 still couldn't see the hundred percent.

9 But let's just say for a shareholder like
10 I want to buy part of the Company, I say, man, I've got
11 to have a lot of assurances that's a hundred percent
12 because if we can't put it all underground then where are
13 we gonna put it and what monetary constraints face us as
14 a company when we go to do that. I'm just saying that
15 from an environmental perspective too because all these
16 environmental things we've committed to all take cash.

17 And I thought, okay, so we're not gonna
18 impact on the environment because it's a winter road,
19 they have a set time period that they're gonna operate
20 the mine through, and they said -- we have thirty (30)
21 years worth of information which allows us to know that
22 it's gonna be open from this date to this date. And I
23 thought well, that's good. And then I heard, based on
24 the ice bridge, and I thought: The ice bridge? That
25 would be like me using an ice bridge south of Red Deer,

1 Alberta to guess about building a winter road from Banff
2 to Jasper. Like -- like how does that work?

3 And I thought I've been out there lots in
4 the winter and it melts from time to time and there's
5 avalanches and there's blizzards and I wonder how many
6 days that takes out. I wonder how many days we're
7 talking really bad weather within that time period.

8 And there's thirty-five (35) trucks a day
9 are going to fit in there, how many trucks does that
10 squeeze in. And I couldn't really find that in the
11 information I'd read, it was just that it's pretty solid
12 it's not gonna change much. But hey, I've been out there
13 lots in the winter. I know there's crazy fluctuations in
14 weather. Some years good, some years bad.

15 And you go with thirty (30) year average,
16 but when you're running a company it's like quarter by
17 quarter. If you have a really bad winter and you don't
18 get that ore out for those three (3) months then what?
19 Who's gonna pay for the environmental things in the
20 meantime?

21 The upside to these things are we get lots
22 of jobs for people, and I think fantastic. My kid needs
23 a job, everybody's kids need jobs. But -- so I look and
24 I listen to the things I heard today and I thought, hm,
25 it's not leaving me feel very safe because it all sounds

1 kind of like it's up in the air and we're not quite sure.
 2 And a lot of it's based on a lot of optimism, which I
 3 frankly don't share because when I'm investing my money I
 4 think about pessimism. I think about what's the worst-
 5 case scenario.

6 What's the worst case scenario of building
 7 the road if the permafrost turns out to be 60 percent?
 8 What's the worst case scenario if the road's only open
 9 for twenty-five (25) days instead of a hundred and
 10 twenty-five (125) days? What's the worst case if the
 11 paste backfill can't go a hundred (100) percent
 12 underground? What happens if a new crack forms in the
 13 structure of the rock? Which could happen with blasting,
 14 and it's a very high earthquake area.

15 And the water right now is coming down
 16 major fractures and the Company has got a great way to
 17 move it around that paste backfill but what about a new
 18 crack? How do you get to it once you've got the paste
 19 backfill, a new crack happens here, how do you get over
 20 to that -- through the rock to get to it? Take it all
 21 out? Go back to scratch? Reroute it?

22 And I thought man that's really expensive.
 23 Man, if I'm investing here I'm thinking, hmm, I don't
 24 know. And I thought well, maybe the earnings per share
 25 would be really high but I haven't seen any forecasts on

1 what the earnings-per-share would be during the phase of
2 it ramping up and during the phase when it's operating.

3 And I would have to know that to say
4 whether I -- I would be an investor to invest in the
5 Company and I knew I'd get a rate of return, given
6 there's major environmental constraints that we're
7 developing operational ways around the paste backfill,
8 different things of the winter road, slowing down if we
9 see caribou. But what are the economic impacts of this
10 to me if I'm a shareholder and I have my money invested
11 in this or my kids' job depends on it?

12 So the -- those are the kind of things
13 that -- through my mind today. And so I was kind of
14 hoping that what we'd see at some stage through this is
15 the economics behind this, like how much money is this
16 going to take to build and what's the rate of return,
17 what rate are we borrowing this at. If the Canadian
18 dollar's worth a dollar five (\$1.05) does that work or
19 does the Canadian dollar have to be ninety (90) cents?

20 And this opening and closing, if that
21 happens, what's the socio-economic impacts? Do we wait
22 for three (3) years until that's ready, like the
23 pipeline? Now it turns out the pipeline's got their
24 permits, but they got to wait for gas prices to go up.
25 So what other conditions in this mine do we have to wait

1 for before it starts so my kid can have a job?

2 I think it's great, a fantastic national
3 park out there, a fantastic environment, a really cool
4 employment opportunity with the mine and opportunities to
5 work and, as Jonas said, a fantastic balance, but I'd
6 sure like to know like when's this going to happen and
7 what's -- how does the whole cash thing work. And I've --
8 -- looking at other mining opportunities, it's -- you
9 usually see that bankable feasibility information upfront
10 before you go down the road too far in these kind so
11 things.

12 So, anyways, that's my concern as a
13 citizen. As what I do for a living now, my concern is
14 that I hope that the Company is willing to hire local
15 when it comes to the more complex, more delicate, more
16 complicated aspects of -- of running the mine. Would
17 they hire a local environmental consulting company as
18 opposed to where they get their information from now?
19 They go to Golder.

20 Well, Golder engineered a really cool
21 polishing pond that -- that didn't quite work. I read
22 Golder's stuff that says 65 percent paste backfill, but
23 this one says a hundred. Like I wonder if maybe there
24 isn't a place for some small northern companies in the
25 world of -- of environmental issues, resource management,

1 that could get some jobs.

2 I have some reason for optimism in that I
3 know Canadian Zinc wants to employ as many people,
4 locals, environmental monitors. There's a great
5 environmental monitoring course that the college teaches,
6 and they take people from these communities all over the
7 north and they give them a time period where they learn
8 about how to work with scientists and how to collect
9 basic information and just a basic understanding of
10 environmental issues.

11 And that's great because they'd like to
12 sponsor a couple of those courses here at Dehcho, so I'm
13 hoping that you include those kind of things in your
14 findings because I -- I'd really like to see when those
15 environmental -- things that people put out there end up
16 showing up in the -- in the requirements by the
17 Environmental Impact Review Board, so I think that's one
18 (1) good one myself.

19 But I have to say I per -- personally have
20 a stake in that, so. If there's any kinds of other
21 things that -- other than -- it's not all about just
22 being heavy equipment operators and being underground
23 miners and things. It's -- it's a future of are we going
24 to hire some of our kids as the geologists, are some of
25 our kids going to be the engineers. And, right now, it

1 isn't that way.

2 So another question I thought I kind of --
3 at the end of the day I thought, I wonder who owns
4 Canadian Zinc, like who's the biggest shareholder.
5 What's -- who do we envision -- or who do you envision to
6 be your big shareholders in the future as you go out and
7 get more capital? How much does the Liidlii Kue own of
8 the Company, like how many shares to they get? How many
9 shares does Nahanni Butte get? Because that ownership
10 thing I think is important in the north. People have to
11 feel that they actually owned part of the -- of a
12 development like this so that they feel like they have
13 some way to determine the final outcome by being part of
14 it.

15 I don't think there's any problem with
16 that. I -- personally, myself, I always think it's a
17 good idea at the Land and Water Board phase to go for
18 that rather than getting locked into ownership in
19 environmental impact review stage because we don't know
20 what the impacts are yet.

21 But I -- I think it's really good what
22 LKFN and Nahanni Butte are trying to do. I just hope
23 that they're able to -- to realize a good future.

24 Myself, just in conclusion, it's -- a lot
25 of the monetary stuff that I don't ever talk about when

1 somebody points to something on one (1) of those maps and
2 says, We're going to put a wall here, or we're going to
3 do this. Like how much does that cost, and how much does
4 that cost per share, and how much is zinc going to sell
5 for, and how much are we going to realize from that sale
6 per share? Anyways, that's all I have to say.

7 THE CHAIRPERSON: Thank you very much,
8 Chuck Blyth. I hope I got that right. Mahsi for your
9 comments and statements. Is there anybody else in the
10 public that's here tonight that want to make a statement
11 in regards to the Canadian Zinc Environmental Assessment
12 public hearing here in Fort Simpson?

13 If -- if you could put your hand up, and
14 Jessica in the back is willing to take your name down.
15 While -- no one is putting their hands up, I was -- want
16 to kind of recognize, well, Mr. Harin (phonetic) over
17 there from Imperial Oil. And also Betty Hardisty in the
18 back. I see you. Then Dolpha Solja (phonetic). It's
19 good to see some of the youngtimers.

20 Okay. If there's nobody else -- please
21 state your name. Can we -- sorry about that. We -- can
22 somebody give him a mic or -- can you come up and make
23 your -- if you have a statement to make?

24

25 (BRIEF PAUSE)

1 MR. PETER SHAW: I'm just saying it's
2 unfortunate that, Mr. Chairman, you didn't take the
3 chance, or the opportunity, for the rest of your Board
4 members to be introduced to those of us that only came at
5 6 o'clock. I realize you may have done it at your other
6 meetings, but I -- I think they deserve the benefit.
7 Thank you very much.

8 THE CHAIRPERSON: And what's your name
9 again?

10 MR. PETER SHAW: Shaw, Peter.

11 THE CHAIRPERSON: Oh, Peter Shaw? Okay.
12 Thank you very much, Peter Shaw. And I -- I guess maybe
13 you're -- you're correct on that point, but at the same
14 time, you know, this morning I think most people were
15 here. We did the introduction.

16 But I'll go ahead and do it just so that -
17 - it's good that you raised that point, so I'll just -- I
18 know it's a little bit too late, but we still -- never
19 too late to do anything, so I'll just go to my far right,
20 and I'll just introduce.

21 Peter Bannon, who is our Board member.
22 And we have Danny Bayha from the Sahtu region. And
23 Richard Mercredi from Fort Smith. And Rachel Crapeau
24 from the Akaitcho region. Percy Hardisty from the Dehcho
25 region. James Wah-Shee from the Tlicho region. And

1 Darryl Bohnet from Yellowknife. And so I -- yeah, thank
2 you for raising that point, Mr. Shaw. And myself,
3 Richard Edjericon, as the chairman. Mahsi.

4 Is there anybody else that want to make
5 statements? Betty -- Betty Hardisty, please come on up.

6

7 (BRIEF PAUSE)

8

9 MS. BETTY HARDISTY: ...allowing me to
10 speak. My name is Betty Hardisty. I'm a representative
11 of the First Nation of the Dehcho region. Also a Band
12 councillor.

13 I'd just like to say that I know the Chief
14 has already made a presentation in supportive of our
15 citing of the IAB (sic), and I'd like to strengthen that
16 by appearing tonight as a councillor. And as previous
17 councillors, half are elected body and representing the
18 Community. We are the voice. Mahsi.

19 THE CHAIRPERSON: Thank you, Betty
20 Hardisty, Band councillor from Liidlii Kue First Nation.
21 Mahsi Cho. Again, we'll use this opportunity to listen
22 to the -- from the people from Fort Simpson and the
23 Liidlii Kue First Nation members.

24 Anybody else that want to come up and make
25 statements in regards to the environmental assessment

1 file that's in front of us today?

2

3 (BRIEF PAUSE)

4

5 THE CHAIRPERSON: Okay. That's it. I
6 don't see anybody else coming up, putting their names up.
7 Any Elders that want to make statements? Okay. All
8 right. Well then 7:25, I don't know if there's anybody
9 else that's going to show up before 8:00, but we
10 publicized it to be at 8:00.

11 Tomorrow we also have a long agenda. I'm
12 hoping that we will be able to get most of it done. What
13 I'll do though tomorrow morning is we'll start -- rather
14 than starting at 9:00 we'll start at 8:30. Also at lunch
15 time we -- we say we're going to take an hour. What
16 we'll do is we'll cut that back to 30 minutes, and we
17 could have lunch here if we have to, and just so we can
18 try to get through all the presentations tomorrow.

19 And I think I'm -- some of the presenters
20 might have to leave, so I may move some people around to
21 do their presentation first thing tomorrow morning. So
22 I'll do that. So...

23

24 (BRIEF PAUSE)

25

1 THE CHAIRPERSON: So I think I'm going to
2 maybe call it an evening now because I think everybody
3 had an opportunity to present and make statements. And,
4 again, I want to thank all the people here in Fort
5 Simpson, Liidlili Kue First Nation, and all the people
6 that have come up tonight to make your statements. I
7 really appreciate it. It's good that we -- we hear your
8 statements. And those statements will -- again will be -
9 - are -- is recorded now. It will be part of the
10 evidence when we make a decision here to -- in the next
11 probably few months or however it takes to get this thing
12 done.

13 So I want to say thank you again for
14 everybody coming out tonight. With that, again, you
15 know, it's always good that when we have a good meeting,
16 and sometimes people need to speak from their heart, it's
17 good that we do that. You know, that's what the elders
18 always told us. And I just want to thank Mr. Shaw again
19 for making your comments about the Board members. Mahsi
20 for that. I appreciate that.

21 And I'm going to ask our -- our Elder --
22 our birthday Elder here tonight to come up to do closing
23 prayer and I'm going to ask Jonas Antoine to come up to -
24 - to do the closing prayer for us tonight.

25 Jonas...?

1 (CLOSING PRAYER)

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3 --- Upon adjourning at 7:30 p.m.

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7 Certified correct,

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10 _____

11 Wendy Warnock, Ms.

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