



MACKENZIE VALLEY ENVIRONMENTAL
IMPACT AND REVIEW BOARD

PRAIRIE CREEK ALL SEASON ACCESS ROAD PROJECT
(EA1415-01)
TECHNICAL SESSIONS

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Explorer Hotel, Yellowknife

June 16, 2016

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1	LIST OF COMMITMENTS		
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1 --- Upon resuming at 8:45 a.m.

2

3 CO-FACILITATOR BARB SWEAZEY: Good
4 morning, everyone. So we are here day 4, Thursday.
5 Thank you for coming back.

6 We have another full agenda today. We
7 are going to continue this morning on the topics that
8 we started on yesterday, around the project
9 description.

10 Before we get started on the first
11 round of questioning, I understand that CanZinc has a
12 little bit of additional thoughts and responses
13 regarding the avalanche questions that were discussed
14 yesterday. So can I ask you, Dave, to speak to that
15 to the -- to the room?

16

17 (BRIEF PAUSE)

18

19 MR. DAVID HARPLEY: It's Dave Harpley.
20 I submitted an email overnight. I'm not sure if you
21 want me to read it out verbatim.

22 CO-FACILITATOR BARB SWEAZEY: I think
23 the Review Board was wondering if you could just give
24 us a summary of what was in that email for the
25 advantage of everyone in the room to know what your

1 thinking was on that with -- if you don't mind,
2 please.

3

4 (BRIEF PAUSE)

5

6 MR. DAVID HARPLEY: Okay, it's Dave
7 Harpley. So I'm just going to kind of try and
8 paraphrase what I wrote here rather than read the
9 whole thing. But the 2012 Alpine Solutions study
10 clearly considered the entire road alignment from the
11 mine to the highway as they studied the road -- the
12 winter road design, and covered that whole stretch.

13 And based on that and -- and on their
14 reconnaissance, they identified twenty-seven (27)
15 avalanche paths between kilometres 4 and 35,
16 basically, from the -- just before the road turns off
17 the Prairie Creek section onto the Funeral Creek
18 section, and then down Sundog almost to the point at
19 thirty-nine (39) where the road leaves Sundog Valley.

20 They generated avalanche hazard maps.
21 These covered the 4 to 35 kilometre section. It's not
22 that the maps actually stopped at thirty-five (35).
23 It was their determination that the avalanche hazards
24 actually stop at thirty-five (35).

25 In addition, they noted that there was

1 a potential avalanche path in the Grainger Gap. The -
2 - the report references kilometre 123. I must -- I
3 must admit I don't have a -- well, there isn't a map
4 in the report that shows that location, so it's a
5 little hard to determine exactly where it is, but
6 based on the kilometre marking and the terrain in the
7 area, I think it's on the south side of the gap.

8 And in that location, the all-season
9 road alignment is actually further away from the south
10 side than the winter road alignment. Alpine Solutions
11 didn't think that the Grainger Gap avalanche path was
12 a risk because it was too distant from the winter
13 road.

14 Reference was made to the preferred
15 all-season alignment from Grainger Gap to Wolverine
16 Pass yesterday in proximity to the west side of the
17 front range. That's obviously a new development from
18 the Alpine Solutions's report. However, if you look
19 at the available imagery on that section, it's clear
20 that the alignment, while it crosses the lower slopes
21 of the back side of the range there, those slopes are
22 quite densely treed.

23 And it -- it -- the imagery is clear
24 enough to see that there's -- there's no indication of
25 any breaks in those trees anywhere along that stretch.

1 So clearly, there's been no avalanches that have come
2 down off that slope, and done any damage to those
3 trees or had any clearance. So it seems to me that
4 there's just no risk of avalanche -- avalanches along
5 that stretch, based on what I'm seeing on the imagery.

6 The recommendations in the Alpine
7 Solutions's report, there's a -- there's a number of
8 them. There's a couple that are perhaps relevant to
9 the present consideration. One (1) of the
10 recommendations is that structures such as bridges --
11 if bridges are installed and if they are proximal to
12 avalanche paths, then an assessment of potential
13 avalanche impact should be undertaken.

14 There are four (4) bridges that are in
15 the area of the identified avalanche paths. One (1)
16 is nowhere near -- not really proximal to -- to the
17 paths. Two (2) of them are about a half a kilometre
18 away, and on the other side of the valley and up the
19 slope. The closest one (1) is at kilometre 28.3.
20 It's about 50 kilomit -- kilometres -- sorry, 50
21 metres from the -- the edge of a defined path, but
22 again, it's also on the other side of the valley and
23 up slope.

24 The other consideration in the
25 recommendations was risks to vehicles and occupants.

1 And it's worth nothing that comparing winter and all-
2 season, the winter road obviously would have all the
3 traffic required for mine operations, that is, to take
4 material out and bring equipment in, whereas the all-
5 season road would allow that traffic to be spread over
6 the entire year. So therefore, by that analogy, the
7 risk to vehicles and occupancy is less with an all-
8 season road than a winter road.

9 We also have to bear in mind that with
10 an all-season road operating season, the winter haul
11 season actually ends at March 31st, because the ice
12 bridge over the Liard River would go out at -- at
13 about that time. So haul traffic will stop, because
14 they can't get out over the river. So the -- there
15 haul traffic won't actually be on the road in
16 April/May when there -- there might be kind of a later
17 season avalanche issues. Traffic resumes on June
18 15th. That's the projection.

19 So our conclusion at this point is that
20 there's -- there's really no justification at this
21 point to undertake additional avalanche assessment
22 right now. What we've said is that we're -- we intend
23 to follow the recommendations of the report, which is
24 to do the necessary follow-up during the detailed
25 design phase, when we finalize where the road and

1 crossings are, and the designs, and the camp
2 locations, and all that stuff, the infrastructure.

3 And at that point, we can get the
4 professionals back involved here to give us guidance
5 on what the risks are, and what kind of a management
6 plan is required as a response and as a mitigation.
7 Yeah, and we -- we -- and at -- at that time if they
8 feel they need to do more assessment -- in fact, one
9 (1) of the recommendations, I think, is to do some
10 follow-up in the field.

11 And -- and that would be a suitable
12 time for them to do that. And then develop the -- the
13 necessary management plans for operations. So I think
14 the other reason why I just don't think more
15 assessment at this point is useful is because it's
16 going to end up with the same recommendations in terms
17 of development of these management plans.

18 MR. MARK CLIFFE-PHILLIPS: Mark
19 Cliffe-Phillips, with the Review Board.

20 Thanks for that summary, David. Just a
21 couple of questions. In your -- your written
22 submission to the Board and your email that you
23 submitted, there was a commitment for Canadian Zinc
24 that's committed to adopt and implement the -- the
25 recommendations which you committed to again

1 yesterday. But in your email. it states, "before
2 operations." During your summary today, you were
3 talking about during detailed design.

4 Could you clarify when the further
5 assessment work would actually occur?

6

7 (BRIEF PAUSE)

8

9 MR. DAVID HARPLEY: Dave Harpley.

10 I -- I think probably to me the most
11 logical time to do this is -- is once the detailed
12 design had -- has advanced sufficiently so that we've
13 firmed up the location of the alignment and all other
14 infrastructure. So when we can give updated maps to
15 the professional, and he knows exactly where things
16 are going to be and can do the follow-up. But the
17 bottom line is, obviously he needs to do his work
18 before any significant traffic is out there,
19 construction or otherwise, at -- at a time when there
20 might be a risk to avalanches.

21 MR. MARK CLIFFE-PHILLIPS: Mark
22 Cliffe-Phillips, with the Review Board.

23 Just in follow-up to that, would that
24 be anticipated to be done prior to permitting?

25 MR. DAVID HARPLEY: Dave Harpley.

1 I would expect the detailed design
2 phase to follow permitting, and that all these various
3 commitments can -- can and should be embodied in the
4 permits themselves. So if -- if you mean before the
5 acquisition of permits, no, I don't think that's the
6 appropriate time. I -- I think once we have permits
7 on all the conditions and then before -- during the
8 detailed design phase, before significant construction
9 and operations.

10

11 (BRIEF PAUSE)

12

13 CO-FACILITATOR BARB SWEAZEY: Thank
14 you. I wonder -- it's Barb, from Stratos.

15 Are there other questions with that
16 additional information that was provided by CanZinc
17 this morning? Are there any additional questions,
18 clarifications needed? Parks, you're fine? Others
19 around the room?

20 Okay. Great. Thank you very much for
21 that this morning, Dave.

22

23 QUESTION PERIOD CONTINUED:

24 CO-FACILITATOR BARB SWEAZEY: So
25 additional questions that you may have, and if you're

1 referring to your agenda, anything from permafrost and
2 thaw-sensitive terrains, slides and other geo-hazards,
3 road operations and management, mitigations and
4 alternatives. The -- the agenda will be driven by the
5 questions that you have.

6 So I'm looking down to this end of the
7 room. Environment Can -- Climate Change Canada, do
8 you have any questions in this -- in this category?

9 MR. BRADLEY SUMMERFIELD: Brad
10 Summerfield, with Environment and Climate Change
11 Canada.

12 Yes, we do. It is in regards to the
13 Contaminate Loading Management Plan. So we had
14 previously asked back in 2012 that -- that the plan be
15 updated, and we would like it to include both the
16 mining and the road operations now.

17 So we're seeking a commitment from
18 CanZinc to commit to updating the plan before the
19 permitting phase in consultation with Environment and
20 Climate Change Canada. As well, if Parks and the GNWT
21 would like to be involved in that process, with the
22 understanding that further details can be refined if
23 necessary.

24 So a list of what we would like to see
25 further in the plan: Along with the soil sampling, we

1 would also like to see snow sampling, dust fall, and
2 ambient dust monitoring. We would like a clear
3 identification of potential sources of contaminant
4 loading, a description of all potential mitigation
5 approaches available, including all of the mitigation
6 strategies used at other mines, identification of
7 mitigation approaches to be employed at the Prairie
8 Creek mine and along the Prairie Creek access road.

9 We would like a description of the
10 monitoring program, including both the baseline
11 monitoring and monitoring during mining operations and
12 along the road, a clear description of trigger levels
13 or actions levels above which adaptive management and
14 contingency plans would need to be implemented, a
15 description of the adaptive management and contingency
16 plans to be employed if the threshold or trigger
17 levels are exceeded.

18 And we would like included in annual
19 reporting, information: the results from the
20 monitoring program, assessment of the effectiveness of
21 the current mitigations, and descriptions of any
22 adaptive management or contingency measures that have
23 been employed.

24 CO-FACILITATOR BARB SWEAZEY:
25 CanZinc...?

1 MR. DAVID HARPLEY: Dave Harpley.

2 The first part of that comment, I think
3 we're fine with. We've got no problem working with
4 the agencies in terms of updating the plan. I don't
5 think I'm going to go into the details of that long
6 list of everything else. And obviously, it'll be a
7 part of the discussion, and we'll consider each on its
8 merits and proceed accordingly.

9 MR. BRADLEY SUMMERFIELD: Brad
10 Summerfield, with ECCC.

11 Yeah, that -- that's a reasonable
12 approach for us.

13 CO-FACILITATOR BARB SWEAZEY: So we
14 cap -- we will capture that as a commitment, the --
15 okay, great. Thank you. Okay.

16

17 --- COMMITMENT NO. 11: CanZinc to update the
18 Contaminate Loading
19 Management Plan, including
20 both the mining and the
21 road operations, soil
22 sampling, snow sampling,
23 dust fall, ambient dust
24 monitoring; clear
25 identification of

1 potential sources of
2 contaminant loading; a
3 description of all
4 potential mitigation
5 approaches available,
6 including all of the
7 mitigation strategies used
8 at other mines;
9 identification of
10 mitigation approaches to
11 be employed at the Prairie
12 Creek mine and along the
13 Prairie Creek access road;
14 a description of the
15 monitoring program,
16 including both the
17 baseline monitoring and
18 monitoring during mining
19 operations and along the
20 road; a clear description
21 of trigger levels or
22 actions levels above which
23 adaptive management and
24 contingency plans would
25 need to be implemented; a

1 description of the
2 adaptive management and
3 contingency plans to be
4 employed if the threshold
5 or trigger levels are
6 exceeded; in annual
7 reporting, the
8 information: the results
9 from the monitoring
10 program, assessment of the
11 effectiveness of the
12 current mitigations, and
13 descriptions of any
14 adaptive management or
15 contingency measures that
16 have been employed. All
17 of this to be done before
18 the permitting phase

19
20 MS. SACHI DE SOUZA: Sachi, with the
21 Board. Brad, you described that one (1) of the things
22 you wanted to see in that plan is mitigations for
23 potential contaminant loading. What specifically are
24 you looking for there with respect to mitigations, and
25 what are you concerned about with potential

1 contaminant loading? Are you concerned about water,
2 vegetation?

3 And can you just describe a little bit
4 more what your concerns are and what -- why you are
5 looking for potential mitigations, and why you're
6 comfortable with it being in a plan that comes during
7 permitting and not discussing those mitigations during
8 the EA?

9 MR. BRADLEY SUMMERFIELD: Brad
10 Summerfield, with Environment and Climate Change
11 Canada.

12 Sure. This concern is based off of a
13 few other examples, such as the -- the Red Dog mine,
14 which is in Alaska, a very similar lead and zinc mine
15 with an access road through a national park, and also
16 the Pine Point project. There's a railway outside of
17 Hay River, again lead and zinc.

18 And with both of these -- with both of
19 these projects, there are high levels of contaminants
20 along the road, particularly the Red Dog. There's
21 been a joke that, once the mine closes, they can mine
22 the road, there's so much contaminants left along it.

23 So, in particular, with the change from
24 the zinc being transported in bulk as opposed to
25 bagged along with the lead, we would just like to see

1 kind of an extensive holistic look at different --
2 different methods of -- you know, there was mention of
3 washing the tires. Possibly it'll have to be a bit
4 more than that. Washing the whole truck. Things like
5 this that -- but it's quite a long list, and it's not
6 necessarily all going to be equally important.

7 So it's definitely going to be sort of
8 an open dialogue with the Proponent, and the GNWT, and
9 Parks to sort it out, but it would be best if we could
10 have it done before we entered the permitting phase.
11 I don't -- that...

12

13 (BRIEF PAUSE)

14

15 MR. BRADLEY SUMMERFIELD: Yeah, did
16 you want specific examples of mitigation measures,
17 or...?

18 MS. SACHI DE SOUZA: Sachi, with the
19 Board.

20 So I guess the first thing is, you're
21 describing the need for mitigation but you haven't
22 described what you're trying to protect. So is it
23 just the quality of the environment from having
24 potentially zinc on the ground to no zinc on the
25 ground, or is it that you're concerned about the

1 effects of lead, zinc concentrate or other materials
2 being hauled on vegetation, or the potential impacts
3 to other sources of -- other wildlife or water?

4 And then with that, right now are -- is
5 what it -- you're trying to say is that you're
6 potentially concerned that the mitigation proposed by
7 CanZinc of how they're going to store the concentrate
8 during transport might not be sufficient to mitigate
9 the potential impacts from the concentrate getting
10 onto the road?

11 MR. BRADLEY SUMMERFIELD: So we're not
12 -- we're not necessarily saying that it's
13 insufficient. We just don't have enough detail about
14 it -- what they're proposing. So we'd like it
15 updated, and to get a chance to review it and discuss
16 it with them to ensure.

17 And then in terms of the -- the
18 components, I mean, it -- it starts with air quality,
19 but then it would become sediment contamination. It
20 could enter water bodies, and there could be uptake by
21 fish, other species, and vegetation. So basically all
22 of the above would be at risk by the -- that potential
23 contamination, should it not be mitigated properly.

24 MS. SACHI DE SOUZA: Sachi, with the
25 Board.

1 My next question is: Given the -- your
2 desire for more information and the clarity you're
3 describing, are you comfortable that this potential
4 would not lead to a significant impact? Is that what
5 -- or do you think there's potential for it to lead to
6 a significant impact on the environment?

7 MR. BRADLEY SUMMERFIELD: Yeah, if --
8 if the mitigation measures were put in place properly,
9 and, you know, as we work through the commitment that
10 CanZinc has already made, we should be able to avoid
11 any significant impacts.

12 CO-FACILITATOR BARB SWEAZEY: Barb,
13 from Stratos.

14 CanZinc, did you have anything to add?

15 MR. DAVID HARPLEY: It's Dave Harpley.
16 I just wanted to add some clarification. ECCC is
17 correct that there are, or were metal contamination
18 issues along the Pine Point and Red Dog Roads.

19 However, what's important to note is
20 that historically, those operations transported
21 concentrate in bulk without any particular controls on
22 dust. You know, no tops, for example. So I think you
23 can quite imagine that it's not surprising that there
24 was contamination along the roadway.

25 What we're proposing is very different

1 from that. It's the indus -- industry standard
2 approach in terms of -- or at least for zinc of a -- a
3 containerized transport. So it's not apples to
4 apples. That's the point I'm making. Just some other
5 clarifications.

6 Sachi mentioned storage along the road.
7 I'm not sure if you're referring to storage in the
8 truck or somewhere else, but it would only be in the
9 truck. It's not going anywhere else. The plan isn't
10 to actually store it anywhere else along the road
11 except to change rigs at the Liard transfer facility
12 near the highway for on -- onward transport to Fort
13 Nelson. But the material basically stays on the
14 trailer.

15 And as far as pathway to -- to our way
16 of thinking is that the most important media is soils,
17 because if soils are not being impacted, I think we
18 should be fairly safe in assuming that nothing else is
19 being impacted either.

20 CO-FACILITATOR BARB SWEAZEY: Are
21 there any further questions to -- from the Review
22 Board? Go ahead.

23 MR. CHUCK HUBERT: Thanks for that
24 response. Chuck Hubert, with the Board.

25 So, ECCC, if -- could -- could you

1 describe perhaps some of the -- the mitigation you'd -
2 - you'd suggest, so that to reduce the risk of
3 contaminants dispersal along the road from -- from
4 trucks, what mitigation would you recommend so that,
5 in your view, there are no significant adverse impacts
6 from contaminant loading along the road? And perhaps
7 -- perhaps that could be an undertaking?

8 MR. BRADLEY SUMMERFIELD: Yeah, that -
9 - that would need to be an undertaking --

10 CO-FACILITATOR BARB SWEAZEY: Could
11 you just state your name, please?

12 MR. BRADLEY SUMMERFIELD: Oh, sorry.
13 Brad Summerfield, with Environment and Climate Change
14 Canada.

15 That would need to be an undertaking,
16 but I would -- I would suggest that it could be part
17 of the commitment that, you know, that we've already
18 committed to, as well as CanZinc to develop that plan
19 in consultation with them and -- and have our
20 expertise into -- go into the plan. and at that time,
21 if that's acceptable.

22 MR. CHUCK HUBERT: Thanks. Chuck
23 Hubert again, with the Review Board.

24 And with that undertaking, could you
25 also include the -- the referenced Red Dog reports,

1 and -- and what they have done? And Pine Point. And
2 -- and the transition there from -- from contaminant
3 loading to a change in operational equipment, so that
4 there is no contaminant loading or reduced. Whatever
5 their industry standard currently is at Red Dog for
6 their -- for their trucks. Thanks.

7 CO-FACILITATOR BARB SWEAZEY: Barb,
8 from Stratos.

9 Just to clarify, Chuck, do you mean the
10 commitment? You said, "undertaking", but we were
11 talking about a commitment, so that piece of
12 information would go in the...

13 MR. CHUCK HUBERT: Sorry. Chuck
14 Hubert again. I -- I was hoping that Environment
15 Canada and Climate Change could include that with
16 their undertaking.

17 CO-FACILITATOR STEFAN REINECKE:
18 Stefan, from Stratos.

19 Just to be clear, ECC was suggesting
20 combining it with the commitment, and the Board is
21 asking for an undertaking. So can we just be clear on
22 having an undertaking and a commitment, or further
23 discussion on this?

24 MR. BRADLEY SUMMERFIELD: Brad
25 Summerfield, with ECCC.

1 So there's -- the separate undertaking
2 would just be the mitigation measures in place at the
3 other two (2) mines, and reporting back to the Board
4 with those mitigation measures. But then we can keep
5 the separate commitment with CanZinc and the other
6 parties to work on the -- on the plan.

7 MR. CHUCK HUBERT: Corr -- correct.
8 But the oth -- the only other addition to the
9 undertaking was to include those Red Dog reports and -
10 - and Pine Point, if you have them.

11 MR. BRADLEY SUMMERFIELD: Brad
12 Summerfield, with Environment and Climate Change
13 Canada.

14 I -- I'm not sure I -- I don't
15 personally have those reports in my possession, or I
16 can't a hundred percent say if they exist, or where
17 this information came from. But I do have some of the
18 mitigation measures and things that were implemented,
19 so I'm comfortable committing to the mitigation
20 measures. I don't know if I can commit to providing
21 reports.

22 MR. CHUCK HUBERT: Chuck Hubert, with
23 the Board. The mitigation is sufficient. Thanks very
24 much.

25 CO-FACILITATOR BARB SWEAZEY: Barb,

1 from Stratos.

2 CanZinc, are you able to agree to this
3 undertaking? No. The commitment? Oh, the
4 undertaking is for ECCC. Never mind. Sorry for the
5 alarm.

6 So, ECCC, you're good with this
7 undertaking as we've articulated?

8 MR. BRADLEY SUMMERFIELD: Brad, with
9 Environment and Climate Change Canada. Yes, we're
10 comfortable with that.

11

12 --- UNDERTAKING NO. 32: ECCC to describe the
13 mitigation they'd suggest
14 to reduce the risk of
15 contaminants dispersal
16 along the road from trucks

17

18 CO-FACILITATOR BARB SWEAZEY: Are
19 there any further questions related to the -- this
20 contaminate and loading management plan? Or anything
21 related in this stream? Do you have anyone on the
22 phone line today from -- no.

23 MS. LORETTA RANSOM: It's Loretta
24 Ransom, Environment and Climate Change Canada.

25 Jerry Pulchan will be dialling in. He

1 -- I don't think he's on the line right now, but he
2 will be eventually.

3

4 (BRIEF PAUSE)

5

6 CO-FACILITATOR BARB SWEAZEY: Barb,
7 from Stratos.

8 I should just also check to see if
9 there are other individuals on the phone at the -- at
10 the moment. I didn't do that when we kicked things
11 off. Are there other phone callers this morning?

12 MS. RACHELLE BESNER (BY PHONE):

13 Rachelle Besner, from Natural Resources Canada.

14 CO-FACILITATOR BARB SWEAZEY: Hi,
15 Rachelle. Anyone else?

16 Rachelle, I wonder if it's a good time
17 to see if you have any questions this morning, perhaps
18 related to permafrost or other issues that may be of
19 concern to Natural Resources Canada?

20 MS. RACHELLE BESNER (BY PHONE): We
21 don't have any questions at this time.

22 CO-FACILITATOR BARB SWEAZEY: Thank
23 you. Are there other questions in -- in the room?

24 MR. JAMES HALEY: It's James Haley,
25 Knight Piesold.

1 A question in relation to karst. Some
2 figure which has did -- shown -- shown up at the
3 moment, it was taken from the original geological
4 report, which is included in the DAR shows fourteen
5 (14), I believe, circles which were kind of described
6 as sink hole features in the report, I believe.

7 And in terms of the characterizations
8 of karst, Tetra Tech revisited this and -- and
9 summarized their findings in a letter dated January
10 29th. And this particular area wasn't discussed in
11 that letter, and I -- I just wanted to get some
12 clarification as to whether this area was revisited
13 and whether -- what -- what conclusions were drawn.

14 MS. SACHI DE SOUZA: Sachi, with the
15 Board. It's hard to read the numbers on there. Just
16 to help everyone out, that's kilometre -- kilometre 97
17 to kilometre posting 102 on the originally proposed
18 alignment for the all-season road.

19

20 (BRIEF PAUSE)

21

22 MR. KEVIN JONES: Kevin Jones, Tetra
23 Tech. James, it -- it's a little fuzzy to me, but I
24 think we've identifies those as thermokarst, not karst
25 from carbonate issues. And obviously, thermokarst is

1 a completely different phenomenon than is sink holes
2 formed from the dissolution of -- of carbonate
3 materials.

4

5 (BRIEF PAUSE)

6

7 MR. JAMES HALEY: Okay -- okay. So
8 it's a consideration in -- in relation to the
9 permafrost effects, and it's -- if it's showing perma
10 -- a bit of permafrost degradation.

11 MR. KEVIN JONES: Kevin Jones. Yeah.
12 That would be correct, yeah. M-hm.

13 MR. JAMES HALEY: Thank you.

14 CO-FACILITATOR BARB SWEAZEY:
15 Additional questions?

16 (BRIEF PAUSE)

17

18 MS. SACHI DE SOUZA: Sachi, with the
19 Board.

20 Yesterday we had some questions about
21 the borrow locations and the amount of borrow needed.
22 And we appreciate that there have been a number of
23 borrow sources identified, and -- and in the Allnorth
24 report, the -- the volume estimate is about 1.1
25 million metres cubed of fill are -- are needed.

1 And in that -- in the Allnorth report
2 from September 2015, it says that about 33 percent of
3 that will come from the borrow pits, and 48 percent
4 will come from the excavation. And there will also be
5 some waste material.

6 So in the -- in the way the road's been
7 designed, there's an assumption about how much fill is
8 needed to potentially mitigate potential permafrost
9 degradation. And I was wondering what that fill
10 estimate, that fill depth is -- what those assumptions
11 are based on.

12 So the assumptions that were used to
13 estimate the total amount of fill that's needed for
14 the road, the assumption about permafrost on that fill
15 estimate.

16

17 (BRIEF PAUSE)

18

19 MR. KEVIN JONES: Kevin Jones, Tetra
20 Tech.

21 I think one (1) of the things we must
22 remember here is we certainly have permafrost in the
23 corridor. The routing of the road has very much taken
24 the approach of putting the road in locations where
25 permafrost is much less likely to be encountered,

1 i.e., on the south-facing slopes and -- and so on,
2 because we know that there's much less pers --
3 possibility of it being there.

4 I think Ernie notes that the extra
5 volumes over and above what a normal road embankment
6 would take is -- is maybe 20 percent of that volume.
7 And certainly, embankment fill as opposed to cuts are
8 the approach that is being used, as well as, where
9 deemed appropriate, to also utilize some of the timber
10 that's cut in the bottom of the embankment as -- as
11 corduroy, with the fill being placed overtop of that.

12 That has a added benefit. It helps to
13 give some extra strength and bridge soft spots. But
14 it also helps from an insulation perspective with
15 respect to thermal degradation of the embankment below
16 the -- below the embankment, so.

17 MS. SACHI DE SOUZA: Sachi, with the
18 Board.

19 I appreciate that there -- there has
20 been a lot of work done by CanZinc to put the road on
21 potentially more stable terrain with respect to
22 permafrost conditions.

23 But I guess my first thing is there's
24 still the -- there is the possibility -- you're in the
25 north. You're in an area of discontinuous permafrost,

1 as you stated. So my -- my first question is: There
2 is the potential for an additional 20 percent of -- of
3 material needed to manage permafrost conditions or
4 mitigate against permafrost thaw. Was that 20 percent
5 accounted for in the 1.1 million metres cubed estimate
6 for fill needs for the road?

7

8 (BRIEF PAUSE)

9

10 MR. ERNIE KRAGT: Ernie Kragt,
11 Allnorth.

12 The volumes that you see do not reflect
13 a 20 percent. However, the -- the volumes are very
14 conservative, as well as the -- the volumes in how we
15 calculated the borrow are very conservative, meaning
16 that, like, for -- for those of you that maybe don't
17 understand the -- the mathematics of -- of volume, but
18 it's -- it's a function of area times depth, I quite -
19 - took a quite a conservative approach to determining
20 my depth.

21 And so, therefore, volume is -- is
22 quite -- quite quickly reflected in how that depth
23 and -- and how it -- how it manipulates the number.
24 So we feel very comfortable that -- that these --
25 these volumes are -- are reflected properly and -- and

1 conservatively.

2 And -- and like -- like my colleague
3 was saying, the -- the use of corduroy over these
4 potential -- potential zones that could have
5 permafrost will have a -- a great benefit in that it -
6 - it creates a floating mat. That we're -- we're not
7 disturbing the soil. We're -- we're building up from
8 it. And -- and I think that will greatly contain the
9 amount of volume we need in -- in that road as opposed
10 to losing that material being pushed down. And
11 that's...

12

13 (BRIEF PAUSE)

14

15 MS. SACHI DE SOUZA: Sachi, with the
16 Board.

17 Thank you for clarifying that. And so
18 there's a -- a level of conservatism in the -- the
19 amount of fill -- the volume estimate that you've
20 provided for the amount of fill that's needed for the
21 road.

22 Given that you're in this potentially
23 permafrost sensi -- sensitive area, in the borrow
24 locations, was there a level of conservatism there for
25 the fact that you may be encountering unsuitable

1 material, and how was that accounted for in the
2 availability of appropriate borrow?

3 MR. ERNIE KRAGT: So in our -- oh,
4 sorry. Ernie Kragt, Allnorth.

5 In our calculations for borrow, we've
6 identified roughly six (6) times the volume that we
7 estimate we need in -- in back -- in terms of backup
8 borrow. So as we go through the investigation --
9 thorough investigation at the detailed stage over the
10 borrows, borrows that are deemed to have a -- a --
11 greater potential of permafrost we feel will be
12 avoided, and we can avoid it with -- with the approach
13 that we're taking.

14 CO-FACILITATOR BARB SWEAZEY: Barb,
15 from Stratos.

16 Parks, did you have a related question
17 on this?

18 MR. GILLES LUSSIER: Gilles Lussier,
19 Parks Canada.

20 Just with regard to some of those
21 conservatives -- conservative assumptions with regard
22 to borrow, do you have assumptions at this point, or
23 would Canadian Zinc be able to provide what
24 assumptions or general guidelines might be followed as
25 far as buffers and setbacks, and proximities to water

1 table, et cetera?

2 MR. KEVIN JONES: Kevin Jones, Tetra
3 Tech.

4 I would think -- well, I'm pretty sure
5 there's a very, very good guideline developed by the
6 Government of the Northwest Territories for the -- the
7 procedures for developing borrows, including setback,
8 how you handle water, all the rest of those things.
9 That would be the most logical document that could be
10 considered.

11 And it's called the Guidelines for the
12 Development of Pits and Quarries in the Northwest
13 Territories. It's been out there for a long, long
14 time. It's been updated, and so on and so forth.
15 It's a phenomenal reference document, and I can't
16 suggest anything better than to just follow exactly
17 what's acceptable to the GNWT.

18 CO-FACILITATOR STEFAN REINECKE:
19 Stefan Reinecke, from Stratos.

20 We did have a -- I'd have to check
21 wheth -- whether it was a commitment or an undertaking
22 regarding the application of appropriate guidelines
23 for the development of quarries. Was Parks's question
24 in addition to that, or...

25 MR. GILLES LUSSIER: Gilles Lussier,

1 Parks.

2 Yes, I've -- I've looked over those
3 northern guidelines, and they're -- they're certainly
4 less prescriptive than other jurisdictions have. It -
5 - it does provide good methodology on the development
6 of plans, but is not very prescriptive on -- on what
7 nominal setbacks might be.

8 There's also reference to the potential
9 for npick -- npit (phonetic) lake development, so we
10 haven't, you know, heard whether that's something
11 that's being entertained, or -- or whether development
12 below water table is -- is being considered. So if
13 there were details or assumptions over and above these
14 preliminary guidelines, we would appreciate knowing
15 those.

16 MR. DAVID HARPLEY: It's Dave Harpley.
17 Yeah, I just wanted to add to my colleague's comments
18 here regarding guidelines. We've -- we've -- we said
19 earlier in the session that the intent is that every
20 borrow pit we intend to develop will have a site-
21 specific pit development plan. Those plans are going
22 to be drafted and then circulated to regulators for
23 comment. So I think that provides an opportunity for
24 consideration of any other issues that may arise for
25 this specific location.

1 I think we also have to bear in mind
2 that guidelines are just guidelines, and that each pit
3 is -- is unique. And what I mean is that when we're
4 talk -- start talking about water setbacks, then
5 generally you would -- kind of the approach would be
6 if you're able to, then you just follow the setback,
7 and then there's no need to have any other
8 consideration. But there -- there are going to be
9 situations where you will not be able to comply with a
10 setback. Then you would go to the next level and
11 consider what might be the impacts of being closer to
12 a water course.

13 For example, I'm thinking about the
14 borrow pit we discussed, I think it was yesterday,
15 near Cat Camp. It's a part of the old flood plain of
16 Sundog Creek. That's now stabilized. It's a very
17 good source of gravel. Yes, it's proximal to the
18 flood plain and -- and the active channel, but it's
19 sufficiently distant, I think, that we can manage the
20 risks. So I -- I don't want to get into a situation
21 where the assumption is that because it's a guideline,
22 we can't actually contravene any of the guidelines.

23

24 (BRIEF PAUSE)

25

1 CO-FACILITATOR BARB SWEAZEY: Ernie,
2 do -- go ahead.

3 MR. ERNIE KRAGT: Ernie Kragt,
4 Allnorth.

5 And I just want to add additional
6 comment. This -- this request came to us regarding
7 our approach to -- to borrows last year, and we -- we
8 submitted a report which included a -- a fairly
9 comprehensive approach to borrow pit management and
10 reclamation. I don't know if -- if you were aware of
11 that or if that has been passed along to you. But
12 this plan that we -- we came up with is -- is a -- is
13 a general plan, in that it's not site-specific.

14 But it's -- it's a plan that in many --
15 was -- was derived based on -- on existing management
16 plans of -- of present operations that are going on,
17 and the approaches they take towards -- towards
18 managing borrow pit management and -- and reclamation.
19 So I -- I don't know if you were aware of that, but I
20 just want to state that -- that that is there. We
21 have provided it, and it's fairly thorough in -- in
22 how it goes through, and it -- and it incorporates
23 what my colleague had mentioned earlier, so.

24

25 (BRIEF PAUSE)

1 MS. SACHI DE SOUZA: Sachi, with the
2 Board.

3 Just one (1) more question, and it's
4 more of a clarification. I -- I can't remember all
5 the documents off the top of my head.

6 Could you just confirm that any waste
7 material is going to be put back into the -- the
8 borrow pit locations? That's the intent?

9 MR. ERNIE KRAGT: Ernie Kragt. Just -
10 - Allnorth.

11 Could you just rephrase your question?
12 I don't quite understand.

13 MS. SACHI DE SOUZA: Sachi, with the
14 Board.

15 So I guess during the excavation and
16 the building of the road, if there's material that's
17 not suitable for fill, that waste material, if it
18 can't be used, where will it go?

19

20 (BRIEF PAUSE)

21

22 MR. ERNIE KRAGT: Ernie Kragt,
23 Allnorth.

24 The -- the borrow pit plan that we will
25 put in place on each and every borrow that we take

1 would -- would specify a specific location where the -
2 - the strippings and non-usable material would be
3 placed as a temporary measure.

4 And once the borrow pit has been
5 utilized and is no more, it will be reclaimed, which
6 would be that that material would be distributed as
7 per the plan to -- to help restore the -- the -- and
8 re-vegetate the -- the borrow that has been part of
9 the programs.

10 In regards to the alignment, I -- I --
11 it was -- I don't know if the alignment was part of
12 the question, but, generally, the -- the road
13 stripping from the -- from the road goes on the low
14 side of the road.

15 And unless the reclamation requires
16 that being pulled and -- and being placed back on the
17 road when everything is over, that's where it will be,
18 on the side of the road, on the low side of the road.

19 MS. SACHI DE SOUZA: Sachi, with the
20 Board.

21 With respect to the road alignment, I
22 was thinking a lot -- specifically about areas where
23 you're going to have to cut in, like the cut slope
24 areas and that material. So are -- you're saying that
25 stuff would also just be put as part of the road bed

1 at that point in time, or at a lower slope of the
2 road?

3 MR. ERNIE KRAGT: Ernie Kragt,
4 Allnorth.

5 On -- on larger cuts, if it deems
6 necessary, the reclamation plan to -- to include
7 pulling that material and restoring it on -- on those
8 slopes, that will be followed.

9 We -- we have a fairly detailed but
10 preliminary reclamation plan that we've also included
11 in that same submission that we did last -- last
12 September. So -- so, yeah, if there's -- if it deems
13 necessary and beneficial.

14

15 (BRIEF PAUSE)

16

17 MR. ERNIE KRAGT: And as far as where
18 the material, waste material, goes, the strippings, it
19 -- it generally is placed on the low side of the road.
20 That is a common construction approach.

21

22 (BRIEF PAUSE)

23

24 CO-FACILITATOR BARB SWEAZEY: Are
25 there any follow-up questions? Thank you. Follow-up

1 question to this one?

2 Okay, go ahead, Parks Canada.

3 MR. GARRY SCRIMGEOUR: Garry
4 Scrimgeour.

5 Good morning. If I could just get
6 clarity from the Proponent, it was our understanding
7 that stockpiling of soil would not be occurring. Does
8 that continue to be the practice? Thank you.

9 CO-FACILITATOR BARB SWEAZEY: Barb,
10 from Stratos.

11 Garry, can you just repeat that one (1)
12 time? It was a little hard to hear you.

13 MR. GARRY SCRIMGEOUR: Garry
14 Scrimgeour, Parks Canada.

15 I'm just asking for clarity on whether
16 soils will be stockpiled. Thank you.

17 MR. ERNIE KRAGT: Ernie Kragt,
18 Allnorth.

19 In terms of a stockpile, I wouldn't
20 define it as stockpile. We are placing the -- the
21 waste strippings along the low side of the road.

22 That's generally the approach, unless
23 there's some unique situation where -- where you --
24 say, for example, that it's creeping into some
25 riparian or something, you may pull it back a -- a

1 ways to -- to get away from the -- any potential
2 deposit into an -- an unwanted zone. But otherwise,
3 it's generally along the low side of the road, and
4 it's not a stockpile.

5 MR. DAVID HARPLEY: It's Dave Harpley.

6 While Garry's thinking, I'll just add
7 one (1) other comment. Parks likely is all -- all --
8 aware that we already have authorized stockpile
9 locations as part of the winter road authorization.

10 MR. GARRY SCRIMGEOUR: Garry
11 Scrimgeour, with Parks Canada.

12 I'm not quite sure if we have agreement
13 on permitting of using stockpiles of soils related to
14 the winter road.

15 One (1) option for us to consider,
16 David, is we could identify an additional discussion
17 on perhaps defining what is a soil stockpile and what
18 is perhaps the other approach of just laying it
19 adjacent to the road. I think that that would likely
20 resolve the discussion.

21 MR. DAVID HARPLEY: It's Dave Harpley.

22 Yes, I think it probably will. But
23 just for everybody's edification, I don't think we
24 would intend to put stripping material below the road
25 prism in areas that may be at risk to, like, riparian

1 zones or water courses, Ernie mentioned. We can put
2 it somewhere else.

3 And whether we want to call it a
4 stockpile or not, if -- if we encounter a significant
5 amount of topsoil that we have to cut, of course we're
6 going to try and avoid cutting, but if we do so, then
7 it would be kind of silly to blend that in with waste,
8 and then it not -- not useable for reclamation. We'll
9 find a nice spot to try and keep it, and then use it
10 later for reclamation.

11 CO-FACILITATOR BARB SWEAZEY: Barb,
12 from Stratos.

13 Just giving a question to confirm that
14 that would be a commitment from CanZinc, that
15 description that you just provided, Dave?

16 MR. DAVID HARPLEY: Dave Harpley.
17 That's fine.

18
19 --- COMMITMENT NO. 12: CanZinc to define what is
20 a soil stockpile, and what
21 is the other approach of
22 laying it adjacent to the
23 road.

24
25 CO-FACILITATOR BARB SWEAZEY: Barb.

1 Thank you.

2 Are -- are there any additional
3 questions related to this topic on borrow sites?

4 Okay. What question do we have next? Cesar...?

5 DR. CESAR OBONI: Cesar Oboni.

6 So my question regards the Tetra Tech
7 risk analysis landslides hazards. And I would -- and
8 I was wondering if Table 1A could be delivered with
9 the velocity rating explicitly delivered segment per
10 segment?

11 MS. SACHI DE SOUZA: Cesar -- Sachi
12 here.

13 Cesar, are you making specific
14 reference to the table respo -- in the IRs to the
15 magnitude frequency -- the reassessment of the
16 magnitude frequency? I think it was an IR response
17 from Tetra Tech.

18 DR. CESAR OBONI: Cesar Oboni.

19 That's correct. The table is -- we can
20 only find the -- the end results as the colouring.
21 And I would like to know which segments -- or I would
22 like it explicitly delivered segment per segment in
23 terms of the -- just the velocity rating.

24

25 (BRIEF PAUSE)

1 CO-FACILITATOR BARB SWEAZEY: Barb,
2 from Stratos.

3 Is that clear, Kevin, the question, or
4 do you need a little bit more explanation?

5 MR. KEVIN JONES: Kevin Jones, Tetra
6 Tech.

7 Yeah -- yeah, it's not clear. Table
8 1A, I think we're talking about the one that's dated
9 May 4th. Is that right, Cesar?

10 DR. CESAR OBONI: Right.

11 MR. KEVIN JONES: Okay. I -- I guess
12 I don't understand what you mean by, "section by
13 section," because it's all broken down here by
14 kilometre post to kilometre post to kilometre post.
15 To what -- so what's -- what -- what are you talking
16 about?

17 MS. SACHI DE SOUZA: Sachi, with the
18 Board.

19 If I'm correct in understanding, so in
20 this Table A1 from May 4th, one (1) of your columns is
21 the velocity proxy rating as high, moderate, or low.
22 And I think what Cesar is asking for is the specific
23 velocities for each of those segments rather than just
24 a rating of high, moderate, or low.

25 You would like -- Cesar would like the

1 -- the actual velocities.

2

3 (BRIEF PAUSE)

4

5 CO-FACILITATOR BARB SWEAZEY: So we've
6 had a request to just come back to this -- to this
7 question. Cesar needs just a couple more minutes to
8 think about the framing of the question. Is that
9 correct, Cesar? Yes. So can we just pause for one
10 (1) second on that one, and come back to it? Thank
11 you, Kevin. James...?

12 MR. JAMES HALEY: James Haley, Knight
13 Piesold.

14 Yeah, I'd like to ask a question in
15 relation to this risk assessment report dated May the
16 4th by Tetra --

17 CO-FACILITATOR BARB SWEAZEY: James,
18 can you just speak a little closer to the microphone?
19 Thank you.

20 MR. JAMES HALEY: Okay. I'd like to
21 request clarification on the rationale for undertaking
22 the analysis with respect to the risk associated with
23 the road infrastructure, but not also -- but not also
24 considering the risk to road users.

25

1 (BRIEF PAUSE)

2

3 MR. KEVIN JONES: Kevin Jones, Tetra
4 Tech.

5 If I -- if I understand, James, I think
6 you're talking about risk to personnel. Is -- is that
7 correct?

8 MR. JAMES HALEY: That's quite --
9 that's correct, yeah. The risk in terms of potential
10 loss of life to a road user as opposed to risk to the
11 road user -- to -- to the -- to the road
12 infrastructure. The report -- as -- as risk is
13 described in the report, its potential effects on the
14 road as opposed to potential effects to road users.

15

16 (BRIEF PAUSE)

17

18 MR. KEVIN JONES: Kevin Jones, Tetra
19 Tech.

20 Certainly the risk was evaluated to --
21 to see the risk to the road and all the associated
22 areas around the road. The -- the frequency of
23 personnel being on the road is very, very -- there's a
24 long distance between anybody being there. Certainly,
25 landslides that may happen more quickly, like a rock

1 fall or something like that, you know, the -- the
2 traffic would be talking to one another, I'm sure.
3 There would be a -- a plan for how to deal with issues
4 that happen along the road.

5 But the potential for a -- a rock fall
6 coming down and hitting somebody that's driving along
7 the -- the road is, I think, and estimated to be so
8 minute -- minute that it -- it wasn't necessarily
9 considered as a -- as a factor in here.

10

11 (BRIEF PAUSE)

12

13 MR. KEVIN JONES: Kevin Jones, Tetra
14 Tech.

15 As -- as Ernie says, there is a -- a
16 road operations management plan which addresses, you
17 know, things associated with what happens if a
18 landfall occurs, and -- and so on. So I think that's
19 how that's mitigated.

20 MR. JAMES HALEY: Yeah. James Haley,
21 Knight Piesold.

22 Yeah, I gue -- guess a couple of other
23 things to add to that. The -- in terms of the -- the
24 risk assessment, I mean, the -- the vulnerability is -
25 - is -- and the -- the perception of the risk is -- is

1 -- in -- in terms of potential loss of life is
2 different in -- in terms of -- com -- compared to
3 potential cost implications or environmental effects.

4 The other thing, in terms of understand
5 -- the risk is -- it's not necessarily just a direct
6 impact to consider. It's also there may be something
7 occurs in the road -- somebody drives off the road
8 with -- with additional sort of hazards there.

9 Also in terms of the scope of the
10 report, in terms of the -- the risk. The very is very
11 -- the risk assessment report is very much focused to
12 natural terrain hazards affecting the road. So it's
13 really the effects of the environment on the project.
14 There's also a component of the effect of the project
15 on the environment, and what's -- what's the potential
16 of a landslide occurring in the road prism and having
17 a -- and affecting somebody on the road and also
18 affecting the environment. What are the risks
19 associated with that?

20 And so I guess we looked -- looked for
21 some more clarification as to how the -- how -- how
22 that -- that component of the effects assessment and
23 potential effects of the environment on the project
24 with respect to landslides is -- is being encompassed.
25 Thank you.

1 (BRIEF PAUSE)

2

3 CO-FACILITATOR STEFAN REINECKE:

4 Stefan Reinecke, with Stratos.

5 So, James, just to be clear, you're --
6 are you asking for additional information than what
7 has been provided by Tetra Tech in their response with
8 regards to risks to human life?

9 MR. JAMES HALEY: I'm -- I think
10 additional information will need to be forthcoming in
11 relation to potential risk of landslides occurring on
12 the road and those effects. But whether that needs to
13 be -- come as part of the EA that can become -- that's
14 a -- that's another discussion.

15 MR. DAVID HARPLEY: Dave Harpley.
16 Hopefully I can bring a little bit of
17 clarity here. As far as I understand, this magnitude
18 and effects analysis was a response to an adequacy
19 item of the Board's. So the scope of it was fairly
20 well defined. It is intended to be an assessment of
21 risks to the road structure. And -- and so that's
22 what the table does.

23 There are a number of different
24 components of the risk in terms of geohazard in, for
25 example, landslide, debris flow, rock fall, that type

1 of thing. I think what Kevin's suggesting is that for
2 most of these they're very infrequent events and don't
3 pose a high risk to either the road or traffic and
4 occupants.

5 But there's also a recognition, I
6 think, that rock fall is probably an ongoing problem
7 in certain sections of the road. Certainly there --
8 we know that there are certain parts of the road that
9 when we traverse after several months of not being
10 there, there's quite a few pieces of rock on the road.

11 So we certainly expect that there will
12 need to be some administrative controls in those
13 areas, such as no stopping and be aware of potential
14 of rock fall. That type of thing. But beyond that,
15 getting into effects on the environment, that wasn't
16 really the focus of this study and it has been dealt
17 with elsewhere.

18 MS. SACHI DE SOUZA: Sachi, with the
19 Board.

20 Which specific reference, I guess, are
21 you making with how consideration of these terrain
22 hazards? So I know in -- in the DAR, Appendix 2, the
23 geotechnical report done by Tetra Tech, it does go
24 through specific areas with the landslide risk, the
25 rock fall risk, the avalanche risk. And I think it

1 also had the hydraulic ones.

2 That was -- my recollection of that
3 right now is that was primarily on risks to people on
4 the road, and risk to the road infrastructure itself.
5 It did not capture the potential for the fact that the
6 road alignment is -- is going over what has been
7 defined or described as potentially unstable or
8 unstable terrain in the terrain mapping assessment --
9 or summary report. And as a result of going over
10 potentially unstable or unstable terrain, there is the
11 possibility that the road itself could cause an event
12 or cause something like a landslide that there -- then
13 affects the environment.

14 So the question is: How has the
15 consideration of the potential effect of the road to
16 the environment been captured in the geohazards
17 assessment done by Tetra Tech or the terrain mapping
18 by Tetra Tech?

19 MR. DAVID HARPLEY: It's Dave Harpley.

20 I -- I think the simple answer to that,
21 without getting into too much more detail, is that we
22 made adjustments to the road alignment based on the
23 results of the terrain mapping.

24 MS. SACHI DE SOUZA: Sachi, with the
25 Board.

1 I understood that there have been
2 adjustments made, but even with those realignments, if
3 we go through the terrain mapping, the road is -- and
4 areas with unstable or potentially unstable terrain.

5 Can we agree on that, even with the
6 changes to the alignment?

7

8 (BRIEF PAUSE)

9

10 MR. KEVIN JONES: Kevin Jones, Tetra
11 Tech.

12 First -- first of all, the -- the road
13 itself -- in -- in the areas with potentially or where
14 it had been identified as unstable terrain that can't
15 be avoided by a realignment, certainly the design,
16 when we -- when we get to the detailed design point,
17 will take those areas into account and appropriate
18 design sections -- you know, cuts or fills or whatever
19 -- are required, certainly the ones that have been
20 identified in here as higher risk of instability,
21 things would be done.

22 For instance, stability analysis would
23 be undertaken to -- to evaluate the factor safety
24 against instability with the road being sitting on
25 that type of terrain. So those kinds of things will

1 be considered at the detailed design stage for sure,
2 with particular emphasis on the zones that have been
3 identified as -- as high-risk areas or very high-risk
4 areas.

5 The impact of a -- of a little road
6 fill on -- on top of terrain is generally pretty
7 insignificant. If you have big cuts or very large
8 fills, that's a different story. We -- we don't
9 anticipate those cases in -- but instability of the
10 road in challenging terrain is a normal part of
11 engineering in the final design stage.

12 MS. SACHI DE SOUZA: Sachi, with the
13 Board. What I just heard from you there, Kevin, was
14 that there's the intention during detailed design to
15 do a more detailed assessment of the terrain's
16 stability prior to constructing the road.

17 Is that correct?

18 MR. KEVIN JONES: Kevin Jones, Tetra -
19 - Tetra Tech.

20 Indeed. We -- we will do -- do more
21 evaluation at the detailed design stage, which would
22 be normal, without question. And we certainly
23 wouldn't come up with a design that -- that increases
24 the chance of failure.

25 And if whatever design that's analyzed

1 indicates that it would, then different measures to --
2 to improve the stability would be engineered in.

3

4 (BRIEF PAUSE)

5

6 MS. SACHI DE SOUZA: Sachi, with the
7 Board.

8 So if -- if CanZinc and -- and their
9 consultants can agree to this, I'd like to phrase this
10 as a commitment that CanZinc, prior to or as part of
11 the permitting, that they will complete a more in
12 depth terrain stability assessment for the alignment
13 in -- with focus on the areas that have been
14 identified as potentially unstable or stable in their
15 -- in their terrain mapping.

16 MR. DAVID HARPLEY: Dave Harpley. I
17 think we're comfortable with that commitment with just
18 a qualification of the timing. You again say,
19 "permitting". And to my way of thinking, this process
20 unfolds once you have permits in place.

21 And then you, with those permits,
22 initiate your detailed road alignment definition
23 investigation work and so on and come up with designs
24 and provide that information for review and approval
25 as part of conditions of permits.

1
2 --- COMMITMENT NO. 13: CanZinc will complete a
3 more in depth terrain
4 stability assessment for
5 the alignment, with focus
6 on the areas that have
7 been identified as
8 potentially unstable or
9 stable in their terrain
10 mapping
11

12 MS. SACHI DE SOUZA: Sachi, with the
13 Board.

14 So with the -- with the commitment by
15 CanZinc that it will be available for review and
16 approval by the -- the regulators, that -- that does
17 help clarify for us, and we appreciate that.

18 The last -- the second part of my
19 request is, Kevin, you described that certain
20 mitigations would be used to -- during construction or
21 as part of that -- that assessment of the -- of the
22 detailed alignment, or the final detailed alignment.
23 It would be really helpful for the -- for -- for all
24 parties in the room to get an idea of what those
25 potential mitigations could be if certain conditions

1 were -- were found. I'm not asking for specifics of
2 where they are right now, but if it would be possible
3 to get sort of a criteria or classification of, if --
4 if 'X' is -- is encountered, we will do potentially
5 these things to mitigate this risk.

6 If that could be provided as part of
7 the environmental assessment.

8

9 (BRIEF PAUSE)

10

11 CO-FACILITATOR BARB SWEAZEY: Barb.

12 Barb, from Stratos.

13 Kevin, if it's easier to discuss it,
14 give some examples here in the room, or perhaps it's a
15 follow-up undertaking, either way I think is okay,
16 from the Review Board's perspective.

17

18 (BRIEF PAUSE)

19

20 MR. DAVID HARPLEY: It's Dave Harpley.

21 I don't think we're opposed to the
22 intent of this request. We're just scratching our
23 heads as to whether we've actually done it.

24 I -- I seem to remember that there was
25 an IR specifically about typical mitigations that we

1 referred to and provided the information. But if we
2 haven't, then we can do it again or -- or add to it.

3

4 --- COMMITMENT NO. 14: CanZinc to indicate what
5 the potential mitigations
6 could be during
7 construction or as part of
8 that assessment of the
9 final detailed alignment
10 if certain conditions were
11 found

12

13 CO-FACILITATOR BARB SWEAZEY: Go
14 ahead, Stefan.

15 CO-FACILITATOR STEFAN REINECKE:
16 Stefan here, from Stratos.

17 Just for the record, I just wanted to
18 have the Board and Canadian Zinc con -- Board staff
19 and Canadian Zinc confirm that there's a shared
20 understanding of what the more in-depth stability
21 assessment entails under the Commitment 15 that we've
22 just listed because there was a conversation that
23 ranged from understanding stability for road
24 construction versus understanding hazards that a
25 failure in the road could pose to the environment.

1 MR. JAMES HALEY: It's James Haley,
2 from Knight Piesold.

3 Terrain stability assessment insofar as
4 BC Forestry practice, is a defined term whereby the
5 risk is analyzed for the segments along the road. And
6 then mitigations are developed and demonstrated to
7 lower that risk. And it's a process -- a fervent
8 process of mitigation within -- which occurs within a
9 -- it's a process of mitigation which occurs within a
10 risk framework, and I guess it's some -- there's
11 existing guidelines for that process, which I could --
12 I suspect could be followed.

13

14 (BRIEF PAUSE)

15

16 MR. ERNIE KRAGT: Ernie Kragt,
17 Allnorth.

18 Could -- could you just rephrase that
19 question? I didn't...

20 MS. SACHI DE SOUZA: Sachi, with the
21 Board.

22 I think that Stephan had asked for
23 clarification of our mutual understanding about the
24 commitment to do the terrain stability -- a more
25 detailed terrain stability assessment, and James was

1 clarifying that the approach -- one (1) of the
2 approaches to do that terrain stability assessment
3 follows the BC guidelines for forestry roads that
4 encapsulates the risks associated. It's a risk-based
5 framework.

6 And the approach that we were looking
7 for with this more detailed assessment was to --
8 during what Dave mentioned would be reviewed and
9 approved by the regulators was an approach that
10 considers the risk in those potentially stable and
11 unstable areas, and it follows sort of best practice
12 approach, and one (1) of those best practice
13 approaches could be the BC guidelines on it. And
14 that's confirming that that's the commitment.

15

16 (BRIEF PAUSE)

17

18 MR. DAVID HARPLEY: Dave Harpley.

19 It seems that we don't have a problem
20 with that.

21 CO-FACILITATOR STEFAN REINECKE:

22 Stefan, from Stratos. Thank you.

23 CO-FACILITATOR BARB SWEAZEY: So Barb,
24 from Stratos.

25 I think we'll go back to Cesar's

1 question around velocity and the risk table, and then
2 after that question is addressed we'll pause and have
3 our break. So I'll turn it over to -- oh, related to
4 the one we were just working on Carrie, or -- okay,
5 before we go to Cesar? Okay.

6 DR. CESAR OBONI: So Cesar Oboni.

7 So it's still -- it -- it's unclear to
8 me whether the velocity proxy rating column already
9 encompassed the magnitude and likelihoods or not.

10 MR. KEVIN JONES: Kevin -- Kevin
11 Jones, Tetra Tech.

12 The way it's set out here in Table A.1,
13 if you refer to Table 2.3, the velocity proxy which
14 identifies velocities, low, moderate, and high in
15 different speeds there, that is what appears in the
16 velocity proxy rating under -- on Table A.1.

17 Which then leads you to your velocity
18 estimate -- or vulnerability estimate, which includes
19 the velocity proxy and the magnitude both together.
20 So in order to get that -- what's in Table A.1 is one
21 (1) of the three (3) categories of speed.

22 DR. CESAR OBONI: Okay. Thank you.

23 CO-FACILITATOR BARB SWEAZEY: Barb,
24 from Stratos.

25 Cesar, is that sufficient for the

1 moment? Carrie, can we go to you?

2 MS. CARRIE BRENEMAN: Carrie Breneman,
3 Dehcho First Nations.

4 I just want to clarify a few things
5 about the risk analysis that was done.

6 So my understanding from the discussion
7 that we had today was that there are high hazards --
8 high risks of landslides but the consequence is low
9 because the truck -- the -- sorry, the consequence and
10 the effects on human life are low because tra --
11 traffic volumes are low. Is that correct?

12

13 (BRIEF PAUSE)

14

15 MR. KEVIN JONES: Kevin Jones, Tetra
16 Tech.

17 I -- I think -- I think I understand
18 what you're asking. And certainly we have zones that
19 are higher risk of landslides. The risks to human
20 health are extremely low due to the frequency of there
21 actually being somebody there or somebody not having
22 an ability as they're driving down the road to -- and
23 they come upon a landslide.

24 As -- as Dave had mentioned there are -
25 - there would be management plans in effect. There

1 would be signage to say, Hey, this is a zone where
2 there's potential for rock fall. Be careful. There's
3 communication up and around the road. There's regular
4 monitoring.

5 So the likelihood of anybody being
6 surprised and not being able to sto -- come to a stop
7 because there was something on the road or that a
8 portion of the road had disappeared because of a
9 slide, is extremely, extremely low. So that's the
10 reason for not considering in the risk evaluation --
11 or not -- not indicating that there's much potential
12 for a hazard to a -- to a person.

13

14 (BRIEF PAUSE)

15

16 CO-FACILITATOR STEFAN REINECKE:

17 Canadian Zinc, are you going to add to that comment?

18 MR. KEVIN JONES: I -- I guess -- Dave
19 and I were just discussing here about clarifying
20 exactly what you're asking.

21 Are you -- are you asking about the
22 consequence rating then in the -- in the table? No?
23 Okay.

24 MS. CARRIE BRENEMAN: And I was just
25 kind of wondering, in this assessment of in terms of

1 kind of effects on human life, what traffic volumes
2 were considered? Because there's been a whole range
3 of traffic volumes that have been presented.

4 And I understand -- like, David, you
5 kind of refer to fifteen (15) vehicles a day. But in
6 some of your tables you kind of men -- mention up to a
7 maximum of twenty (2) vehicles a day out. And
8 presumably there'd be twenty (20) vehicles a day in.
9 And there would be -- like, my understanding is there
10 would be kind of two (2) road construction crews, so
11 that's another four (4) vehicles using the -- the road
12 and then one (1) environmental monitor. So there --
13 like, my estimation is there's probably about forty-
14 five (45) people using the road a day.

15 So does that consider that type of
16 traffic?

17 MR. DAVID HARPLEY: Dave Harpley.

18 You're correct what you say. But in
19 aggregate that traffic is still not a huge number in
20 terms of what we're discussing here. And so I think
21 the -- the geohazard considerations are -- or -- or
22 engineers were aware of the traffic volume and
23 materially -- whether it's fifteen (15) or twenty (20)
24 or twenty-five (25) materially doesn't change the --
25 the result here.

1 MS. CARRIE BRENEMAN: And then I was
2 also wondering if there's conditions --

3 CO-FACILITATOR BARB SWEAZEY: Can you
4 just do your name again? So -- sorry.

5 MS. CARRIE BRENEMAN: Carrie Breneman,
6 Dehcho First Nations.

7 I'm just wondering if there are certain
8 conditions that could increase the potential for rock
9 fall, like high -- like during spring freshet or high
10 -- like, if you have high rainfall to an area? If
11 there's, you know, times that you want to be
12 considering that there could be an increased potential
13 of landslide risk along the road?

14 MR. KEVIN JONES: Kevin Jones, Tetra
15 Tech.

16 In -- in the climate that we have here
17 and in -- in what often causes rock fall, there
18 probably is a -- a slight seasonality to it. It often
19 comes because of frost -- frost action in the rock
20 masses loosening -- loosening material. So slight
21 seasonality, but in general it would be pretty
22 insignificant, I would say.

23 MS. CARRIE BRENEMAN: Sorry, and --
24 oh.

25 MR. ERNIE KRAGT: Ernie Kragt,

1 Allnorth.

2 If I could add to that. Again, in our
3 submissions from last fall, September, we included a
4 road operations plan. And we get into the specifics
5 in terms of approach for rock fall and avalanche and
6 how to manage it.

7 And -- and it does identify that the
8 road operations manager, which would be responsible
9 for -- for the -- the travel on the road and the
10 safety, would -- would be monitoring these. And --
11 and season is considered in -- in the approach.

12 MS. CARRIE BRENEMAN: Carrie Breneman,
13 Dehcho First Nations.

14 I just have one (1) more question, and
15 this is just for clarity. I understand what you're
16 saying about the traffic volumes and the likelihood of
17 somewhere -- someone being there.

18 But it seems to me that if you have an
19 area that maybe has landslide potential, that you
20 might have crews that are working -- like that it
21 might be an -- an -- like one (1) of the potential
22 mitigations you mentioned was no stopping through
23 these zones.

24 But it seems to me that you could also
25 have construction crews that are working on those

1 zones. And I do understand that you're kind of going
2 to go through this detailed design phase and maybe
3 address some of these types of issues of frequent
4 landslide areas. I'm just trying to get a sense of --
5 of what that looks like for other roads.

6 MR. ERNIE KRAGT: Ernie Kragt,
7 Allnorth.

8 Again, going back to the road
9 operations plan, we -- we actually did identify that -
10 - that there -- we have yet to establish what exactly
11 those procedures would be. But we recognize that
12 there is a potential of this when you have work crews
13 displacing material on -- on these potentially slopes.

14 So there would be procedures followed
15 in terms of making sure that these slopes are -- are
16 safe to -- to carry out these works. That would be a
17 standard procedure, you know.

18 And -- and I just want to say like to -- we -- we in
19 BC, as difficult as this road is, in BC, we can -- we
20 encounter much tougher conditions than what we see on
21 this road. So there -- there are procedures in place
22 and management plans in place to deal with these
23 issues and -- and deal with them safely.

24 CO-FACILITATOR BARB SWEAZEY: Barb,
25 from Stratos.

1 Thank you very much. So I suggest that
2 we have a break now. I understand there may be a few
3 follow-up questions that James has and Cesar has, but
4 let's have a break.

5 It's 10:15. Let's come back for 10:30.

6 Thank you.

7

8 --- Upon adjourning at 10:16 a.m.

9 --- Upon resuming at 10:34 a.m.

10

11 CO-FACILITATOR BARB SWEAZEY: Barb,
12 from Stratos.

13 So just a couple of housekeeping
14 things. We -- I just did a bit of a walk around and
15 had a chance to touch base with most folks. Sounds
16 like we still have a number of questions up in this
17 top part on the project description, so we'll continue
18 to work our way through those questions as we go.

19 I just want to make a note that we will
20 need to leave a little bit of time before we break at
21 the end of the day to review the day 3 and today's
22 undertakings, just to make sure that we are all on the
23 same page with the wording of those undertakings
24 before we depart.

25 And I also would like to check to see

1 if, in addition to Rachelle, if there is anyone else
2 that's joined us on the phone.

3

4 (BRIEF PAUSE)

5

6 CO-FACILITATOR BARB SWEAZEY: You
7 still with us on the phone?

8

9 (BRIEF PAUSE)

10

11 CO-FACILITATOR BARB SWEAZEY: Okay.
12 She may join us again.

13 Okay. So I'm going to go first to
14 Chuck from the -- you need to wait for -- oh, yeah.
15 Where did Dave go? He -- he was just here. He's
16 getting a coffee. Oh, he mustn't have heard my bell.

17 MR. CHUCK HUBERT: So Chuck Hubert,
18 with the Review Board.

19 And perhaps the -- the gentleman at the
20 table can answer the question. We were talking just
21 before the break about the volume of traffic along the
22 road and -- and that it was light during operations
23 with fifteen (15) vehicles. Yeah.

24

25 (BRIEF PAUSE)

1 MR. CHUCK HUBERT: All right. Since
2 there's nobody from CanZinc, I won't say anything.

3

4 (BRIEF PAUSE)

5

6 CO-FACILITATOR BARB SWEAZEY: Barb,
7 from Stratos.

8 Sorry, I was distracted for a moment.

9 So I understand now that we have folks from CanZinc
10 here, we could have the question from Chuck, please.

11 MR. CHUCK HUBERT: Thanks. Chuck,
12 with the Review Board.

13 Prior to the break, there was a
14 question and a bit of discussion around the volume of
15 traffic along the road during the operations phase,
16 and the number was fifteen (15) in one (1) direction,
17 so thirty (30) in -- thirty (30) passes along the same
18 spot in the route -- along the route per day, and then
19 perhaps some -- some additional during for maintenance
20 crews. And that's for the operations phase.

21 But I'm curious as to the volume of
22 traffic during the -- the construction phase of the
23 road, not only -- and obviously there's localized
24 construction, but more so with the volume of traffic
25 going to the mine site to -- to mobilize equipment, to

1 refurbish the -- the existing mill and mine site and -
2 - and if -- if that requires a different volume
3 traffic along the road during the construction phase.

4

5 (BRIEF PAUSE)

6

7 CO-FACILITATOR BARB SWEAZEY: Barb,
8 from Stratos.

9 Just -- can I just check in? CanZinc,
10 is -- are you working on -- you were working on a
11 response there or do I go to Kevin? Okay, to you.
12 Thank you.

13 MR. DAVID HARPLEY: Dave Harpley.

14 Chuck, the simple answer is we really
15 haven't accurately calculated what that number is.
16 But to try and kind of give a ballpark, our feeling is
17 that -- you remember from the schedule there are two
18 (2) winter occasions when we're actually moving
19 supplies in. The first one is the main one because
20 we're taking in a lot of the bulk stuff for
21 construction. And then the second one is much less
22 because they're taking in long lead items, like gen-
23 sets, for example.

24 So considering the first winter and
25 bearing in mind that this is basically a tote road to

1 get the material in, we can envisage maybe something
2 like a hundred loads in total over a space of perhaps
3 two (2) or three (3) weeks, once in, once out.

4 So that kind of gives you an idea of
5 the traffic volume.

6 MS. SACHI DE SOUZA: Sachi, with the
7 Board.

8 Thanks, Dave, for that answer. It does
9 help us to understand the -- the traffic volumes
10 during construction. What's still a little bit
11 unclear from the response to -- to Carrie from DFN's
12 questions is how the traffic and the number of people
13 on the road was accounted for in the risk assessment
14 for the geohazards.

15 Kevin mentioned that the numbers are
16 low. And -- and then Dave re -- you responded that
17 you don't think it changes. I was just wondering
18 specifically how the volume of traffic was considered
19 in the risk assessment to the potential co -- end
20 consequence and end risk rating. And, also, if the
21 risk assessment for the geohazard's considered,
22 periods of time when construction would be taking
23 place where there'll be crews stationary -- nor not
24 stationary but localized to one (1) specific area.

25 So not just in addition to the -- as

1 Dave said, the hundred trucks or loads that are going,
2 there's also periods of time where construction crews
3 are going to be in one (1) specific location doing
4 work. And I was -- would just like some further
5 explanation on how that was accounted for in the --
6 the risk and consequences in the -- the risk
7 assessment done by Tetra Tech.

8 MR. DAVID HARPLEY: It's Dave Harpley.

9 So I'll answer based on what I
10 understand, and Kevin can correct me if I'm wrong here
11 but the risk assessment is based on risks to the road
12 structure, not on personnel risk. So the truck
13 traffic numbers don't really have a bearing on the
14 consequence rating in the table.

15 In terms of the actual construction of
16 the road, and -- and crews, and stationary side of
17 things, the risk assessment is based -- as -- as
18 mentioned is broken down in terms of hazard type, that
19 is rock fall, landslide, whatever. I -- I think our
20 feeling is that the risk to a construction crew, to
21 any one of those other than rock fall is extremely
22 low. Like you'd be -- you'd be very unlucky if you
23 happen to be right there on the road when a landslide
24 occurred. These are geological events. They're not
25 frequency -- frequent events.

1 So this really becomes a rock fall
2 consideration, and the main rock fall con --
3 consideration is in the mountains where the road bed
4 is already built pretty much, and there would be
5 minimal construction actually occurring. And that --
6 that along with operations would be dealt with with
7 the management plans we discussed earlier.

8 MS. SACHI DE SOUZA: Sorry. Sachi
9 here.

10 In the DAR, Appendix 2 to your
11 technical report, the risks to the road were stated as
12 considering risks to the road infrastructure and risks
13 to people. And if we could confirm that first and
14 foremost because David's response there says the
15 primary risk was the risk to the road, and did not
16 account for people.

17 MR. DAVID HARPLEY: It's Dave Harpley.

18 It's my recollection that the risk
19 assessment we completed in the DAR covered risks to
20 the road and personnel. Subsequently, the request in
21 the adequacy step from the Board was to produce a
22 magnitude and frequency analysis as an extension of
23 that risk assessment, which is what Tetra Tech
24 completed.

25 MS. SACHI DE SOUZA: Sachi, with the

1 Board.

2 Dave, I think we're -- we're in
3 agreement then. So there was consideration for
4 people. The specific request here is how were -- what
5 estimate were -- was being used, or what
6 considerations were being used for people with the
7 final end risk or consequence in the -- in the DAR
8 Appendix 2 table?

9 Did it account for the traffic volumes
10 that have been described, and did it account for the
11 construction crews that maybe there in certain areas,
12 for example the Sundog Creek realignment where it's
13 going to be a new construction segment in an area with
14 the -- you know, the avalanche and the rock fall risks
15 that you're describing here?

16 MR. DAVID HARPLEY: It's Dave Harpley.

17 I can't answer the first part of your
18 question just from memory. But, yeah, I mean you've
19 used -- you've used the Sundog realignment as an
20 example and I think that's a particular good example
21 because it's not really in a geohazard or avalanche
22 risk area, but I take your point.

23 So we're going to need to review what
24 the assumptions were for the initial risk assessment
25 that's in the DAR.

1 MS. SACHI DE SOUZA: Sachi, with the
2 Board. So if we can just take that as an undertaking.
3 That CanZinc to -- just so we can move along in the
4 tech session here. CanZinc will provide additional
5 details on the assumptions of how effects to people
6 were considered in the risk assessment for the
7 geohazard described in Table 7.2.2-1 in DAR Appendix
8 2, and how it was considered. The traffic volumes,
9 the construction crews.

10 Is CanZinc comfortable with that?

11

12 (BRIEF PAUSE)

13

14 CO-FACILITATOR BARB SWEAZEY: Yes?

15 Okay. Sorry, I guess I need you to say, "yes",
16 please, Dave. Pardon me.

17 MR. DAVID HARPLEY: Dave Harpley.

18 Yes.

19

20 --- UNDERTAKING NO. 33: CanZinc to indicate what
21 estimate was being used,
22 or what considerations
23 were being used, for
24 people with the final end
25 risk or consequence in the

1 DAR Appendix 2 table

2

3 CO-FACILITATOR BARB SWEAZEY: Thank
4 you.

5 Okay. So is that it for questions from
6 the Review Board staff at the moment?

7 So I understand that, James, you do
8 have a couple more questions related to the risk
9 assessment that -- pardon me. Before I go to you,
10 James. Carrie, are you okay with just what happened
11 here? Okay. James, go ahead, please.

12 MR. JAMES HALEY: James Haley, Knight
13 Piesold.

14 Yeah, a question first about the
15 frequency analysis. And I just wanted clarifications
16 to whether the frequency estimates are calibrated for
17 the length of the road segment under consideration.
18 And if so, what length of the calibration is -- is it
19 carried out in -- for?

20

21 (BRIEF PAUSE)

22

23 MR. KEVIN JONES: Kevin Jones, Tetra
24 Tech.

25 I'm not quite sure I understand, but

1 I'll -- I'll do my best to -- to try here. And the
2 landslide --

3 CO-FACILITATOR BARB SWEAZEY: Barb,
4 from Stratos.

5 Kevin, would it be helpful for James to
6 try and rephrase? Would that be helpful?

7 MR. KEVIN JONES: Sure.

8 CO-FACILITATOR BARB SWEAZEY: Okay.

9 MR. JAMES HALEY: Okay. In the report
10 you reference land me -- the methodologies the in land
11 measurement handbook 56. And within that there's a
12 table which says typically when you do a frequency
13 analysis you calibrate to a length of road. And may -
14 - maybe, I think, typically in that -- in that table
15 it talked about a kilometre length. Because if you're
16 looking at a segment which is only 500 metres long and
17 you only observe two (2) landslides and compare that
18 to a length which is a kilometre long and observe to -
19 - the frequencies are different depending on the land.

20 So you have to calibrate to an
21 equivalent length in each case. And the question is
22 whether that -- that process of calibration has -- has
23 taken place in generating the table A1. Because all
24 the -- all the road segments lengths are different.

25 MR. KEVIN JONES: I -- I can't answer

1 the question. I -- I don't -- I honestly don't know
2 whether we did that calibration or not. But it's a --
3 it's a good point.

4 CO-FACILITATOR BARB SWEAZEY: Barb,
5 from Stratos.

6 Would it -- would it be helpful to have
7 that information? And if so is that something we
8 could look to CanZinc to provide? It -- it would be
9 helpful as an undertaking? Is that something we can
10 frame, CanZinc, as an undertaking?

11 MR. JAMES HALEY: Undertaking.

12 CO-FACILITATOR BARB SWEAZEY: Okay.
13 All right.

14 MR. KEVIN JONES: Kevin Jones, Tetra
15 Tech. Certainly. Yeah.

16 CO-FACILITATOR BARB SWEAZEY: Thank
17 you. You have a follow-up question?

18 MS. SACHI DE SOUZA: Can I just
19 clarify some wording?

20 CO-FACILITATOR BARB SWEAZEY: Yes.

21 MS. SACHI DE SOUZA: Sachi, with the
22 Board. So just to clarify the wording. CanZinc's
23 going to confirm the -- how the table A1 was
24 calibrated with respect to road length.

25 MR. KEVIN JONES: Kevin Jones, Tetra

1 Tech. Correct.

2

3 --- UNDERTAKING NO. 34: Canadian Zinc to confirm

4 how table A1 was

5 calibrated with respect to

6 road length

7

8 CO-FACILITATOR BARB SWEAZEY: Barb,

9 from Stratos.

10 James, did you have one (1) additional

11 question on risk assessment?

12 MR. JAMES HALEY: Yeah, a follow-up

13 question in relation to the frequency analysis. The -

14 - the report highlights that because a smaller

15 magnitude event such as rock fall are harder to pick

16 up on the air photos, and leave a scar for a smaller

17 amount of time, there's a tendency for the frequency

18 of such events to be underestimated.

19 And I guess my question is the

20 rationale for not -- not including a -- a range of

21 frequencies in such a case. Because, if anything, the

22 frequencies which are based on air photos are going to

23 be on the lower side?

24

25 (BRIEF PAUSE)

1 CO-FACILITATOR BARB SWEAZEY: Barb,
2 from Stratos.

3 Is the question clear?

4 MR. KEVIN JONES: Yes, it is. And I -
5 - I think what you reiterated is what we wrote in the
6 -- in there, so I would agree.

7 MR. JAMES HALEY: Just a follow-up.
8 And my -- my observation is that, yeah, the -- the --
9 there's a -- there's a lot of uncertainty, but the --
10 the frequency which has been presented is based on the
11 air photos. So, if anything, it's on the lower range
12 of the frequency. So what I'm suggesting is -- is
13 maybe it's better to show a range of frequencies
14 rather than to show something which is on the lower
15 range.

16

17 (BRIEF PAUSE)

18

19 MR. DAVID HARPLEY: It's Dave Harpley.

20 Just while Kevin is looking here, my
21 feeling is that the -- the remote sensors can only by
22 what they're looking at, obviously. So I don't know
23 how they would suggest a range of frequencies if
24 they're basing their frequencies on what they're
25 seeing.

1 I take your point that they could
2 underestimate rock fall, for example. I think the
3 practical consequence of that is that, when we get to
4 the point of developing a management plan which would
5 break out certain sections and the amount of rock fall
6 we might expect, we're certainly going to have a fair
7 amount of input as a Proponent based on our anecdotal
8 observations of rock fall along the alignment when
9 we've been down there where we've seen accumulations,
10 how much, because we've -- we've been down there not
11 just with ATV traffic several times.

12 But we've also had a dozer down there
13 to about kilometre 24, I'm going to say. So, I mean,
14 certainly there's material that would -- that required
15 clearing, but not mounds of it, you know. So we can -
16 - we can calibrate that study into something that's
17 practical in terms of a management plan.

18 MR. JAMES HALEY: Yeah, I guess that
19 was one (1) of my thoughts, whether -- whether
20 observations and -- which had been made to date could
21 be helping the calibration.

22 MR. DAVID HARPLEY: Dave Harpley.

23 They can. I guess my -- my question
24 back to you would be: Is it necessary to do now, or
25 can it wait until the time when we develop the -- the

1 plan?

2

3 (BRIEF PAUSE)

4

5 MR. KEVIN JONES: Kevin Jones, Tetra
6 Tech.

7 I'd just -- I agree. I agree with you,
8 James, and -- and all of that. I -- I think
9 conversely, the bigger events, the landslides, for
10 instance, the approach that's taken, if anything,
11 probably overestimates the frequency of those
12 happening, because we -- we have such a very short
13 window of -- of time when we have changes visible.

14 You know, we -- we have variables that
15 go back to 1949. A lot of them -- a -- a huge number
16 of the landslides that we see in the 1949 were there,
17 and are still -- you know, still visible. So if
18 anything, I think we overestimate on the other end of
19 the bigger scale things. That would be my guess.

20 You know, we try and calibrate as good
21 as we can. We try to look at all the available data,
22 but I think we probably go conservative. And the
23 opposite happens with the -- the bigger events.

24 MR. JAMES HALEY: Just -- just to give
25 some clarity of my --

1 CO-FACILITATOR BARB SWEAZEY: Can you
2 just give your name again, please?

3 MR. JAMES HALEY: -- my point -- my --
4 like -- like, just to get some clarity on my line of
5 thought here -- sorry, it's James Haley, Knight
6 Piesold.

7 And the -- the -- I guess what I'm
8 really highlighting is uncertainties in the frequency
9 which could mean that the actual frequencies are
10 higher. And on top of that, I guess in terms of the
11 risk to road users, those road users are affected by
12 multi -- by the full array of hazards which affects a
13 certain segment of -- of the road.

14 And the risk analysis is directed
15 towards the hazard type, which was deemed to be the
16 most frequent. And it's not a usual practice in risk
17 assessment to do the aggregate of all the hazard types
18 and -- and to -- to determine the -- the risk to -- to
19 the element of risk.

20 So I guess what I'm getting at is
21 whether, once you add on the uncertainties with your
22 frequency and then consider the aggregate of the
23 hazards, especially considering that the avalanche has
24 its -- some of these segments occur annually, whether
25 the -- whether the conclusion that the risk to road

1 users is -- is still less of a -- an issue.

2 MR. KEVIN JONES: Kevin Jones, Tetra
3 Tech.

4 I can't say one (1) way or the other,
5 but I would -- I'd ask James: What would you do?
6 What -- how would you do it differently? That's --
7 I'm looking for help here, frankly. You brought this
8 up. So how would you go about it that would better
9 quantify that?

10 MR. JAMES HALEY: Okay, I think you've
11 got to differentiate risk to -- to individuals as --
12 as to -- as to risk to the environment in the process
13 because there -- typically, the -- the way -- you
14 know, the encountered probability to individuals is
15 typically very low in these risk assessments, but, I
16 mean, in terms of the vulnerability and -- and way
17 it's perceived, it's very different.

18 So sub tolerance levels are different.
19 And the way -- the way you define risk tolerance,
20 where -- where there's a risk to an individual, it has
21 to be defined completely differently in relation to
22 risk tolerance to the environment, so.

23 Better to partition risk considerations
24 to the -- which you've got environmental effect and
25 risk to individuals. That's -- that's my -- my first

1 comment. And there are -- there are example of
2 methodologies where there's -- estimates can be -- can
3 be put toward in -- individual components of the
4 consequence part of the risk assessment.

5 There's -- there's an exemplar paper
6 which I could forward where that's been done where --
7 where values are put against all those individuals
8 where -- where -- parts where you -- where, in terms
9 of the risk to the road users, you would -- you would
10 end up with an extremely low number for temporal
11 probability in relation to works. But that's -- that
12 would be reflected within the risk assessment, whereas
13 the temporal probability for an environmental element
14 at risk will be very high because it's always there,
15 as you say, with -- with the road users, it'll be very
16 high, so be -- better to separate those items in terms
17 of the potential -- the vulnerability.

18 It's -- it's ver -- there's very
19 differences -- very big differences in -- in relation
20 to the way that has to be classified, as well.

21

22 (BRIEF PAUSE)

23

24 CO-FACILITATOR BARB SWEAZEY: Thank
25 you, James.

1 Cesar, did you have something to add to
2 this?

3 DR. CESAR OBONI: Cesar Oboni,
4 Riskope.

5 So it's more a general sta --
6 statement. And, as a third party that is being asked
7 to do a risk assessment on the road, I would like just
8 to make sure that we all understand a few concepts.

9 And I think what James was going to
10 talk about was regarding risk tolerance. And so I
11 would like to -- to introduce the concept of risk
12 tolerance and to define how risk is calculated and how
13 we can do that. And I think that's going to help you
14 -- all of us in terms of understanding what we're
15 talking here.

16 So the occurrence of an unde -- of an
17 undesired event, for example, a fire or for -- for
18 example, a fire in a building together with its damage
19 to people, which is the health and safety part, the
20 environment and the business, et cetera.

21 So in a risk assessment we will have to
22 perform the business risk will not be considered as --
23 as the scope of work ask us to consider the
24 environment and health and safety damages. However,
25 scenarios that possibly lead to those damages include

1 but are not limited to traffic accidents, such as
2 collision, loss of control on the roads, but also road
3 defects, such as collapse, flooding, deformation, and
4 so on and uphill issues, such as rock fall,
5 landslides, debris fall -- flows and so on.

6 The risk assessments look at
7 prioritizing a portfolio or risk along the roads. And
8 the scope of work also asks Riskope to define which
9 risks are intolerable. So the risk tolerance is a
10 unique set to a project and the environment and a
11 culture.

12 In order to define it, we'll have to
13 discuss it damage per damage. So for health and
14 safety there are very well-known tolerability
15 thresholds that are -- that were defined by two (2)
16 Canadian researchers, Morgan and Whitman and that are
17 still used by many government and public instances.
18 So Riskope will propose to use those curve for our
19 study.

20 Then for the environmental parts, the
21 damage depends on the spill volume of a certain
22 material, such as diesel concentrates and other
23 agents. It also depends where it falls, and how long
24 before an emergency crew arrive on site, contain the
25 spill, and clean it up.

1 So Riskope, within the scope of our
2 mandate, we will design a number of damage scenario
3 and that's what we're proposing. For each of those
4 damage scenario, we would propose a terrible frequency
5 based on analogies with other type of accidents. The
6 proposed frequencies will then be the object of
7 questions so that every stakeholder can express their
8 views.

9 It is expected that like Morgan and
10 Whitman, optimistic and pessimistic threshold will be
11 developed. Cases that fall in between them will
12 require further -- further investigation. Would that
13 be agreeable with all parties here?

14 MR. DAVID HARPLEY: Dave Harpley.

15 I'm not sure we get to decide, but it
16 sounds reasonable to me.

17 MS. SACHI DE SOUZA: Sachi, with the
18 Board.

19 Dave, you're correct and we're -- we're
20 all okay with that. Thank you.

21 CO-FACILITATOR BARB SWEAZEY: Barb,
22 from Stratos.

23 Sorry. So, thank you for that, Cesar.
24 I understand that there may be two (2) more questions
25 related to kind of our top two (2) bullets on the

1 agenda around slope instability, and then the bulk of
2 the other questions that are in the room deal with
3 road operations and perhaps mitigations.

4 So I'm wondering if we can just, James,
5 tackle -- do you need a bit more time to get --
6 prepare for -- okay. So we'll come back to the slope
7 instability question then in a moment.

8 So we're going to -- we'd -- I'd like
9 to move on. So, Andrew from GNWT, perhaps you could
10 introduce yourself because I'm sorry, I missed having
11 you introduce yourself this morning. And then you
12 could raise your question.

13 MR. ANDREW MATTHEWS: Thank you. It's
14 Andrew Matthews, GNWT Lands.

15 It strikes me that a lot of the
16 discussion about risk assessment is predicated on the
17 volume of traffic that's going to using this road.
18 And I -- with that in mind, I -- I think we'd like to
19 hear -- hear a little bit more from Canadian Zinc
20 about exactly how they envision this gate or -- or
21 setup at the IAB lands operating.

22 CO-FACILITATOR BARB SWEAZEY: Barb,
23 from Stratos.

24 CanZinc, do you -- are you able to
25 provide additional information? And I'm not sure how

1 much it duplicates with what we spoke about on day 1,
2 so if there is material that perhaps we can provide to
3 Andrew but I'm not sure if there's something
4 different. I will leave it to you, Dave, to explain,
5 please.

6 MR. DAVID HARPLEY: It's Dave Harpley.

7 No, I don't think it's going to be
8 different. It's going to be the same as what we said
9 earlier in the week. So either we can refer the
10 question to the -- yeah, the minutes, or I can repeat
11 that.

12 CO-FACILITATOR BARB SWEAZEY: Dave,
13 perhaps you could just give a short synopsis for the
14 benefit of Andrew. Thank you.

15 MR. ANDREW MATTHEWS: I can I -- I was
16 here. I was present on Monday, and I -- I did hear
17 the description. And I -- I gathered from your
18 description then that this is a fairly recent
19 development, this -- this particular proposal.

20 My -- my question was -- I was still
21 hoping for a little more information than had been
22 provided. If now is not the -- the proper time, then
23 perhaps if we could receive that in writing?

24 CO-FACILITATOR BARB SWEAZEY: Andrew -
25 - pardon me -- could -- could you perhaps explain the

1 type of information that you're looking for, and then
2 how it relates to a particular impact and the
3 significance of it to help understand the information
4 need that you have.

5 MR. ANDREW MATTHEWS: Absolutely.
6 It's Andrew Matthews, GNWT Lands.

7 Effectively it seems that there's a
8 number of questions about the -- the risks that are
9 associated with the use of the road, and a lot of that
10 is predicated in turn on the amount of traffic that is
11 going to be on the road.

12 And the mechanisms that are used for
13 controlling who accesses the road, other than Canadian
14 Zinc themselves, is obviously going to have an effect
15 on the number of vehicles that are on the road, the --
16 the risk of the -- the use of the road itself.

17 As -- as Canadian Zinc said on day 1,
18 the -- a highway in the Northwest Territories is
19 effectively a public highway. And I'm very curious to
20 hear then what they propose for these -- this IAB
21 access point in terms of controlling non-Canadian Zinc
22 individuals from using that road.

23 MR. DAVID HARPLEY: It's Dave Harpley.
24 So you're correct in saying that the
25 IAB lands situation is a relatively new one. And

1 what's also true is that the access control issue is
2 not only a concern for us, but is a -- is a prime
3 concern for Nahanni Butte. We have both been looking
4 for an instrument that would help us control traffic.

5 Res -- with respect to the IAB lands we
6 recently had confirmed that the community would be
7 allowed to erect a gate on the road, and can deny
8 access to road users other than community members, but
9 could not deny our access because we would be
10 traversing to go to claims that we already hold.

11 So what that suggests to us is that
12 that is a control instrument that we've been looking
13 for. And we need to have further conversations with
14 the community because if we're going to have a control
15 point that is staffed, maybe that's a better location
16 to do it because we can legally deny access. In
17 addition to the access constraints, such as the barge
18 operating on the river in summer would be private, and
19 not available to anybody that wasn't authorized. We
20 may still have a control point in another location on
21 the west side of the river, but that's to be
22 determined.

23 MR. ANDREW MATTHEWS: Thank you for
24 that detail. It's Andrew Matthews, GNWT Lands.

25 I understand that obviously a component

1 of an all-weather road is going to be a barge system
2 to transport vehicles from one (1) side of the river
3 to the other. And my understanding is further that's
4 a private barge that would be operated by Canadian
5 Zinc.

6 Could Canadian Zinc perhaps tell us
7 what the -- the gate on IAB lands would -- would do in
8 terms of enforcing access that a private barge
9 wouldn't already?

10 MR. DAVID HARPLEY: It's Dave Harpley.

11 So the concern is that if individuals
12 are intent on accessing our road and going into the
13 interior they could theoretically put watercraft in
14 the river at another location and come to the road
15 location on the other side of the river and gain
16 access that way. In other words, they would bypass
17 the A -- IAB lands.

18 We think that's a -- a much lower risk,
19 but it's -- it's still a possibility, which is why we
20 still need to have a conversation with primarily the
21 band, but potentially other parties regarding the
22 operation of a control point on the west side of the
23 river in addition to the gate on the IAB lands.

24 CO-FACILITATOR BARB SWEAZEY: Do you
25 have any further questions, Andrew?

1 MR. ANDREW MATTHEWS: No, I -- I think
2 that's it for now. And thank you to Canadian Zinc for
3 the added details.

4 CO-FACILITATOR BARB SWEAZEY: Great.
5 So -- oh, sorry. Go ahead, Chuck.

6 MR. CHUCK HUBERT: Thanks very much
7 for that discussion. That clarifies a few things, and
8 it's good -- good to hear it -- hear it again. I was
9 interested in, David, in what is the timeline for the
10 discussions with Nahanni Butte on dealing with how --
11 how gating or access or staffing or who holds the keys
12 exactly.

13 What's the time length for those
14 discussions?

15 MR. DAVID HARPLEY: It's Dave Harpley.

16 I can't say -- well, let me first say
17 that we are actively discussing various issues with
18 the band at -- at the minute. We're currently having
19 teleconferences roughly every couple of weeks with
20 Chief and Council. That's following up on face-to-
21 face meetings we held several weeks ago.

22 As far as a timeline for a conclusion,
23 that's a little tougher to nail down. We're working
24 on it, but I don't want to give a date. It -- it's
25 entirely dependent on when we come to an agreement.

1 And -- and also recognizing that this IAB lands thing
2 was -- is a relatively new thing. So, you know, we
3 need a bit of time to work things out.

4 MR. CHUCK HUBERT: Thanks for that.
5 The Board is certainly of the view that this is a key
6 component of this project. And the -- the effects
7 from this project without a gate are -- Board staff,
8 sorry. I'm not speaking for the Board. Thank you.

9 Board staff believe this -- yeah.

10

11 (BRIEF PAUSE)

12

13 MR. CHUCK HUBERT: Thanks.

14 CO-FACILITATOR BARB SWEAZEY: And that
15 was Chuck. Thank you. You have a follow-up question
16 on this particular topic?

17 Okay. Go ahead, Cesar.

18 MR. CESAR OBONI: Cesar Oboni.

19 So in terms of third-party users, they
20 have a potentially to significantly alter the outcome
21 of the risk assessment. So my question is also
22 directly directed at the Board is: What scenario
23 should our risk assessment look at? Should we look at
24 the private roads, or should we look at the road open
25 to the public, or in between? Thank you.

1 MR. CHUCK HUBERT: Chuck Hubert, with
2 the Board.

3 So the scenario would be for both open
4 access or closed access.

5 MR. DAVID HARPLEY: It's Dave Harp --
6 Dave Harpley.

7 So just to clarify on the open-access
8 option, open in the sense that we are still going to
9 have a control point. So there's still going to be an
10 attempt to deter non-authorized or non-mine use of the
11 road. So it's not like it's open season.

12 CO-FACILITATOR BARB SWEAZEY: Thank
13 you. Are there any other questions related to the
14 access and the gate topic?

15 Okay. I'm going to suggest perhaps
16 that we go to Parks because we haven't heard from you
17 in a long time. So would you like to ask one (1) of
18 your questions, please?

19 MR. GILLES LUSSIER: Gilles Lussier,
20 Parks Canada.

21 First off, as a response to our IR, I'd
22 like to thank the Proponent for their outlining of the
23 bridge inspection standards that they're going to
24 follow.

25 Also with regard to operations and

1 maintenance, there were some details provided for
2 surface maintenance equipment, i.e., graders.

3 But as the risks to erosion and -- and
4 sedimentation are often related to surface water
5 management, I was hoping we could find out from the
6 Proponent where the nearest water management or
7 drainage maintenance equipment might be stationed. So
8 this might include excavators or backhoes, and
9 potentially a steamer for thawing of culverts in -- in
10 spring.

11

12 (BRIEF PAUSE)

13

14 MR. DAVID HARPLEY: It's Dave Harpley.

15 I recollect that we made some comment
16 regarding backhoe and dump trucks and that kind of
17 thing. I -- I don't remember the specifics. We
18 didn't address steamer. I imagine that, if there was
19 a need for it, it would be parked somewhere along the
20 road that was, you know, readily accessible.

21 That's I guess one (1) of the reasons
22 we wanted to maintain some of these construction camps
23 for the operations phase. But, I mean, that equipment
24 would just be made available on an as-needed basis.
25 But I -- I do seem to remember that we provided for a

1 grader and a dump truck to be stationed on the road
2 somewhere.

3

4 (BRIEF PAUSE)

5

6 MR. BRETT WHEELER: Can I get a --
7 yeah. Brett Wheeler, for the Board.

8 I just wanted to point out, as part of
9 this discussion, it might be helpful to remember
10 Commitment number 7, which is for Canadian Zinc to --
11 to provide details of their monitoring -- monitoring and
12 management plans for drainage maintenance during the -
13 - the permitting phase.

14 So I -- so I guess maybe it's a
15 question to Parks as to whether the -- the type of
16 information you're asking for, is that something that
17 -- that should be included at that time or is that
18 something -- or is there an element of it that you're
19 interested in at this time? Thanks.

20 MR. GILLES LUSSIER: Gilles Lussier,
21 Parks.

22 No, I think that would be appropriate
23 at that time, if they can include where drainage
24 maintenance type equipment might also be stationed in
25 addition to -- to graders and dump trucks.

1 CO-FACILITATOR BARB SWEAZEY: Barb,
2 from Stratos.

3 CanZinc, is that okay to make that one
4 (1) addition to that commitment?

5 MR. DAVID HARPLEY: Dave Harpley.
6 It's fine.

7

8 --- COMMITMENT NO. 7 (ADDITION):

9 Canadian Zinc to provide details of
10 their monitoring and management plans
11 for drainage maintenance during the
12 permitting phase.

13

14 CO-FACILITATOR BARB SWEAZEY: Thank
15 you. Parks, did you have another question at this
16 time, or do want me to come back to you?

17 MR. GILLES LUSSIER: Gilles Lussier,
18 Parks.

19 In response to an IR, there -- the
20 proponent made note that there was no objection to
21 revising the road operations plan to abide by GNWT
22 commercial truck loading restrictions. It was
23 proposed that those revisions be made prior to
24 operations.

25 I suspect that -- that perhaps what is

1 meant is that the revisions to the ROP would be at the
2 same time that some of these other documents will be
3 provided prior to -- to permitting. If I -- we could
4 just get clarification on what that -- is meant by
5 that timing.

6 MR. DAVID HARPLEY: It's Dave Harpley.

7 I think we're talking -- as far as I'm
8 concerned, the time line we're talking about is again
9 post-permitting. In other words, we have a permit. A
10 variety of these plans, I -- I anticipate, would be
11 conditions of a permit, that they would need to be
12 updated, circulated for review and comment, and then
13 finalized, and then approved before we able to use
14 them and conduct the activities that they regulate.

15 MR. BRETT WHEELER: Thanks, David.

16 Brett Wheeler, for the Board.

17 Yeah, so just from our perspective, in
18 terms of tracking commitments, there's this -- this
19 range of timing that -- that we've talked about.

20 And what David just mentioned, in terms
21 of a plan being for review and approval, that --
22 that's one (1) of the sort of characteristics that --
23 that we're looking for in terms of categorizing the
24 timing of these things. So that's -- so that's
25 different, potentially.

1 It doesn't mean that the plan is going
2 to be in place during permitting necessarily or before
3 a permit is issued, but it's -- it's a commitment and
4 an acknowledgement to have the plan be for review and
5 approval by the regulator before related operations.

6 So there's a linkage to the permit, but
7 we don't call that the permitting phase. We separate
8 that from the EA phase, the permitting phase, and for
9 review and approval before relevant operations.

10 So I understand this -- this one,
11 David, to be before -- for review and approval before
12 relevant operations. Thanks.

13

14 (BRIEF PAUSE)

15

16 CO-FACILITATOR BARB SWEAZEY: All
17 right. Good. Thank you.

18 Carrie, would you like to ask your
19 questions now?

20 MS. CARRIE BRENEMAN: Carrie Breneman,
21 Dehcho First Nations.

22 I just have a few questions still about
23 traffic volume, and traffic numbers. In the April 1st
24 letter that Canadian Zinc put on the registry you have
25 conservative dates and projected dates for when the

1 summer haul period and when the winter haul period
2 would be.

3 And I just notice on both of those
4 dates you have November 4th as kind of dates when the
5 summer haul period would end. And I just wanted to
6 note that those are dependent on freeze up.

7 So I was just wondering why those dates
8 don't really vary, your freeze up and breakup dates
9 because, I mean, there tends to be a range of dates,
10 you know, for freeze up and breakup?

11 MR. DAVID HARPLEY: Dave Harpley.

12 I'm going a little bit from memory but
13 I think that date was selected as -- because it's a
14 long-term average at the Fort Simpson crossing. So
15 for sure it's going to vary. Everything that happens
16 in this area is weather-dependent, climate-dependent,
17 but it's a projection of -- based on an average. So,
18 I mean, there will be times when it'll be earlier and
19 there will be times when it will be later.

20 CO-FACILITATOR BARB SWEAZEY: Barb,
21 from Stratos.

22 Carrie, is -- is there a particular
23 reason why that -- why that range versus specificity
24 is important?

25 MS. CARRIE BRENEMAN: Well, I'm just

1 curious how accurate you feel like your total -- total
2 number of haul dates are going to be. So, I mean, if
3 you have conservative dates and then projected dates,
4 I would think that -- I'm -- I'm just curious how you
5 came upon those conservative dates, and whether or not
6 you kind of considered break up and freeze up in...

7 MR. DAVID HARPLEY: Dave Harpley.

8 Well, as I mentioned it's a projection.
9 That's why we went to conservative, and -- and also
10 expected, if I can call it that, but we recognize that
11 there will be some variation. And from our own
12 perspective in terms of operations, you can imagine we
13 have concentrate being produced all -- all the time.
14 That we would want to get out as much as we can before
15 we lose the barge crossing ability, and have to wait
16 for freeze up.

17 So with the trucking operation, you'd
18 have a number of trucks that are in operation, and
19 you'd have some that may be undergoing maintenance or
20 whatever. So if -- if you saw the weather turning,
21 for example, and thing -- conditions were getting more
22 difficult you might decid, okay, well, we're going to
23 active one of our backup trucks for a period just so
24 we can try and get a -- make sure we're right up to
25 date. So when we get to the point of it closing

1 there's basically nothing in storage, and that's the
2 end.

3 MS. CARRIE BRENNEMAN: I guess the
4 reason why I'm asking this, David, is that you kind of
5 state in this document that the maximum number of
6 vehicles per day would be twenty (20), and so that
7 would be twenty (20) in and out.

8 And I'm wondering if -- you know, based
9 on a lot of our discussions here, a lot of our
10 assumptions about the mine are based on traffic
11 volumes. And I'm wondering if there's scenarios where
12 you would need more than twenty (20) haul trucks one
13 way per day, and -- and that that should be considered
14 in this process.

15 I mean I feel like, you know, there's
16 not a huge difference between twenty (20) and twenty-
17 one (21), but there might be a difference between
18 having twenty (20) one way, and then thirty (30) on
19 the back haul.

20 So I -- I guess what I'm just getting
21 at is it would be great to have a commitment from
22 Canadian Zinc of what that maximum haul number is, and
23 -- and what that looks like.

24 MR. DAVID HARPLEY: Dave Harpley.

25 You're right, it could be twenty (20)

1 or twenty-one (21). That's the kind of difference
2 we're talking about. We're not talking, it's not
3 twenty (20) it's thirty (30), for example. I think
4 you have to recognize that there's a significant
5 investment in truck fleet, so you're not going to want
6 to carry ten (10) more trucks sitting around just in
7 case you want to use them for a particular backlog.

8 And also we'd never be in a situation,
9 I don't think, where you've got twenty-one (21) out
10 and thirty (30) in because you just wouldn't have
11 those vehicles. They come in -- they go out, they
12 come back in again. It's a resident fleet.

13 I don't think a commitment regarding a
14 number is appropriate because these are projections,
15 and we've given estimates to the best of our ability
16 right now. I don't think materially the effects are
17 significantly different between say twenty (20) or
18 twenty-two (22), so I don't think we should get hung
19 up on a number.

20 MS. CARRIE BRENNEMAN: But I -- I just
21 feel like if there's not a number -- I don't know.
22 I'm just trying to wrap my -- my head around this, so
23 I -- I apologize. But I feel like -- you know, if
24 we're assessing the project at twenty (20) and twenty-
25 two (22), that's -- that's fine.

1 But if you decide to increase that --
2 that number be -- from twenty (20) to thirty (30) for
3 -- for whatever reason, those impacts are going to be
4 different if you have thirty (30) vehicles in and
5 thirty (30) vehicles out. So I kind of feel like
6 there maybe does need to be a maximum number of -- of
7 an understanding of what that maximum would look like.

8 MR. ALAN EHRLICH: Good morning,
9 everyone. It's Alan Ehrlich, for the Review Board.

10 I -- I just -- I wanted to remind
11 everyone here that you -- you may be aware that for De
12 Beers Snap Lake the environmental assessment dealt
13 with one (1) range of possibilities. In that case it
14 was with total dissolved solids and the environmental
15 assessment gave an approval for the project based on
16 that. And then real life later on resulted in them
17 realizing that what they were approved for wasn't
18 enough, and we had to do an additional environmental
19 assessment.

20 Now, although this is the, I think,
21 seventh environmental assessment of Canadian Zinc, I
22 understand that no company seeks out additional
23 environmental assessments if they can be avoided
24 through careful forethought. I -- I understand that,
25 of course, there's ongoing exploration and will likely

1 be ongoing exploration of mineral deposits. When
2 you've got your mine and up running it makes economic
3 sense to do that, right?

4 So with an increased resource I could
5 imagine there could be an increased need to transport.
6 It could be quite helpful if you were able to describe
7 the full range of the number of trucks that you would
8 like this environmental assessment to consider in --
9 in light of -- of what I've just described. Thank
10 you.

11 MR. DAVID HARPLEY: It's Dave Harpley.

12 You're correct that we don't typically
13 seek out more EA processes, but some -- sometimes I
14 wonder actually. But we're going to have to give some
15 thought to -- if -- if -- I think what you're
16 suggesting is that we need to come up with a number,
17 kind of a maximum beyond which would be a significant
18 alteration and -- and would kick us back into a new
19 process. And we'd have to give that some thought.

20 MR. ALAN EHRLICH: Alan Ehrlich, for
21 the Review Board.

22 Yeah, we'd appreciate that if you
23 could. Particularly, because it's -- from the
24 discussion here it sounds like the considerations of
25 risk that, according to the parties, are germane to

1 this -- this environmental assessment depend in part
2 on the amount of road use. So thank you very much for
3 that.

4 CO-FACILITATOR BARB SWEAZEY: Barb,
5 from Stratos.

6 So we'll articulate that that is an
7 undertaking. And that's okay with you, CanZinc?

8 MR. DAVID HARPLEY: Dave Harpley.
9 Yes.

10 CO-FACILITATOR BARB SWEAZEY: Okay.

11

12 --- UNDERTAKING NO. 35: Canadian Zinc to describe
13 the full range of the
14 number of trucks that it
15 would like this
16 environmental assessment
17 to consider

18

19 CO-FACILITATOR BARB SWEAZEY: Carrie,
20 you may have one (1) more question?

21 MS. CARRIE BRENNEMAN: Dave -- or
22 Carrie Breneman, Dehcho First Nations.

23 David, I feel like this is totally in
24 the DAR, so this is a complete point of clarification.
25 But I'm just trying to understand the road passage in

1 and out of the mine. So at a maximum, like right now
2 based on this letter, you'd have twenty (20) vehicles
3 out of the mine, and twenty (20) vehicles back in.
4 And they'd be -- they'd be overnighing at the Liard
5 transfer facility? No.

6 Where would they be overnighing?

7 MR. DAVID HARPLEY: Dave Harpley.

8 So as -- as I envisage this, trucks
9 leave the mine site probably fairly early in the
10 morning. In the summertime they will be staggered.
11 Otherwise, you're going to end up with a bottleneck at
12 the barge crossing. They -- they cross the river,
13 they go to the -- the Liard transfer facility, LTF.
14 They unhitch the trailers. The rig that came out of
15 the mine hitches up to a trailer that has supplies and
16 then turns around and goes back to the mine. And that
17 transit time should be well within the stipulated
18 maximum.

19 So you -- with that as a -- an
20 operating assumption you can imagine then that you've
21 got whatever number of trucks it is, fifteen (15) or
22 twenty (20), staggered by maybe an hour apart or less,
23 all moving in one (1) direction. And then there may
24 be the early trucks having to pass the later trucks at
25 some point, but that's going to be coordinated by

1 radio with either the river crossing or some other
2 location where it's easy to pass all these -- you
3 know, the passing lanes.

4 In the wintertime, I expect that there
5 -- we will -- we will use a lot more in convoy because
6 they can basically all go across the ice bridge pretty
7 much at the same time -- a little bit of a stagger.

8 You don't want them all -- putting all
9 that weight on, but, you know, it doesn't take long to
10 cross a few hundred metres or river crossing, so a few
11 minutes between. But -- but essentially the process
12 is the same.

13 MS. CARRIE BRENEMAN: And just as a
14 point of clarity, so you mentioned that it would be
15 about a thirteen (13) hour drive. Is that from the
16 mine to the Liard transfer facility, or is that the
17 Liard transfer facil -- is that from the mine to the
18 Liard transfer facility and then back?

19 MR. DAVID HARPLEY: Dave Harpley.

20 If I remember our calculations
21 correctly, the return trip can be done in
22 approximately twelve (12) hours.

23 MS. CARRIE BRENEMAN: So what -- okay,
24 so what speed limit would you be assuming for trucks
25 on the road then if they would make the return trip in

1 twelve (12) hours?

2 MR. DAVID HARPLEY: Dave Harpley.

3 I think from memory we assumed thirty
4 (30) -- an average of 30 kilometres an hour. But this
5 information is all written down and in the
6 calculations and should be readily available.

7 MS. CARRIE BRENNEMAN: Okay. I just
8 have one (1) more question. And again, like excuse my
9 ignorance on this. I -- it -- it's just -- yeah, I
10 just wanted clarification on this.

11 So when you have vehicles that are
12 coming out of the mine, they'll be unhitching, and
13 then there'll be another driver -- like another truck
14 to drive that out? And so -- so those -- I'm just
15 trying to get a sense of how many trucks would be
16 staged at the Liard transfer facility. Like would
17 they be staged their overnight and then waiting to
18 drive it out, or how would that work?

19 MR. DAVID HARPLEY: It's Dave Harpley.

20 So the truck driver and the rig on the
21 all-season road stays on the all-season road. All he
22 does is exchange trailers. There will be a different
23 rig and a different driver that takes the loaded --
24 the trailers loaded with concentrate from the LTF to
25 Fort Nelson and then come back with supplies.

1 I also just did a quick calculation.
2 If we assume 180-kilometre length of road doubled for
3 a return trip, 360 kilometres, at 30 kilometres an
4 hour is 12 hours.

5 CO-FACILITATOR BARB SWEAZEY: Carrie,
6 are there any additional questions?

7 Sachi, I believe you have a related
8 questions?

9 MS. SACHI DE SOUZA: Sachi, with the
10 Board.

11 Yesterday in -- or the last couple of
12 days we've discussed sections of the road where speeds
13 might have to be altered given switchbacks or narrower
14 sections.

15 With those potentially lower speeds in
16 mind, what was the -- what was the initial assumption
17 for the starting speed, and what would the lower speed
18 be? I'm just trying to understand if the -- if the 30
19 kilometres per hour encompasses all the -- is a good
20 average for the road.

21

22 (BRIEF PAUSE)

23

24 MR. DAVID HARPLEY: It's Dave Harpley.

25

1 So what I'm hearing from my colleague
2 is that the traffic estimates contemplated a typical
3 speed in the forty (40) to fifty (50) range, maybe
4 with a top speed of sixty (60) in certain locations,
5 and then lower than -- obviously lower than forty (40)
6 and fifty (50) at certain spots that have got issues.

7 So I think we're comfortable then that
8 an average of thirty (30) is a conservative
9 assumption.

10 MR. ERNIE KRAGT: Ernie Kragt, with
11 Allnorth.

12 We did quite an extensive study
13 analysis on -- on this in terms of determining cycle
14 times. Cycle times is not just travel speeds, but it
15 takes in account road conditions, winter and summer
16 operations, chaining up, fuelling. All these things
17 are -- are integral to determining what the cycle time
18 is. And then, in the case of operating the -- the
19 barge, there's -- there's a lot of time to -- to
20 compensate for that.

21 So that's how we determine our -- our
22 cycles times. And this is a very common thing that we
23 do in the industry to determine costs and what have
24 you, so.

25 MS. SACHI DE SOUZA: Sachi, with the

1 Board.

2 That's great to know to -- some of the
3 things that you consider in that cycle time. Would it
4 be possible to get a copy of that? Because it would
5 help us understand the assumptions that were made that
6 get -- as to that 30 kilometres per hour.

7

8 (BRIEF PAUSE)

9

10 MR. DAVID HARPLEY: Dave Harpley.

11 So the document that Ernie referring --
12 is referring to is a product that CanZinc requested
13 from Allnorth as part of our kind of pre-feasibility
14 cost calculations. We're just going to need to review
15 it again before we agree to give it to you in its
16 current form.

17 MS. SACHI DE SOUZA: Sachi De Souza,
18 with the Board.

19 If -- I guess if -- we understand that
20 you don't want to disclose some of that cost
21 information, but if you could commit to providing it
22 without the cost information. If you have to amend it
23 to provide it to the Board so that the cost
24 information's not in there, could you -- is that --
25 are you comfortable with that as the undertaking?

1 MR. DAVID HARPLEY: Dave Harpley.

2 I think we're comfortable committing to
3 providing you a version of the document that we're
4 comfortable with.

5

6 --- UNDERTAKING NO. 36: CanZinc to provide their
7 study analysis in terms of
8 determining cycle times

9

10 CO-FACILITATOR BARB SWEAZEY: Barb,
11 from Stratos.

12 Thank you. Any other questions on this
13 topic, or comments? Okay.

14 MS. SACHI DE SOUZA: Sachi, with the
15 Board.

16 I understand you're going to provide
17 the -- the information about the thirteen (13) hour
18 cycle time. I'm wondering if there's the possibility
19 that it could potentially be longer than thirteen (13)
20 hours in some situations.

21 And if it is potentially longer than
22 thirteen (13) hours and if you start to approach the
23 maximum workday as described in the -- in the NWT, I
24 think in one (1) of the IR responses the intent was
25 that in bad weather truck drivers would stay in their

1 cabs and wait out the -- the bad weather.

2 Is the intent if they're potentially on
3 the road or they're not going to make the maximum --
4 if they're not going to make their round trip in
5 allotted work time, maximum work time, where would
6 they be? Where would they stay overnight if they
7 couldn't do it in the thirteen (13) hours, or the
8 fourteen (14) hour workday I think that CanZinc
9 referenced in the NWT?

10 MR. DAVID HARPLEY: It's Dave Harpley.

11 What we said in our responses is that
12 there's certainly a possibility of bad weather closing
13 in and causing a cessation of traffic. And if it came
14 to a point where, for example, the truck was four (4)
15 hours out of the mine and they'd been stationary for
16 several hours and it looked like you wouldn't be able
17 to get to his destination, then he would just simply
18 turn back to the mine.

19 If he's basically stuck in a location
20 where he can't go forward or backwards, then he
21 basically stays there in his cab and comes back when
22 he's able to. If he gets almost to the destination,
23 that is the LTF, and conditions change so that it's
24 not likely feasible to come back to the mine within
25 the allotted time frame, then he's probably going to

1 go to the LTF and -- and stay there overnight and
2 complete his trip the next day.

3 MS. SACHI DE SOUZA: Two (2) questions
4 in follow-up for that. It's Sachi. First of all,
5 then so in -- in the trucks then to ensure that they
6 have what's required to -- to stay overnight in the
7 cabs of the truck, one (1) of the requirements will be
8 that they have what is necessary on the road to
9 potentially overnight in the cabs of their truck?

10

11 (BRIEF PAUSE)

12

13 MR. DAVID HARPLEY: It's Dave Harpley.

14

15 I guess they will have -- they'll be
16 equipped with appropriate survival stuff. But I'm
17 also starting to wonder how this relates to
18 environmental effects.

19 MS. SACHI DE SOUZA: Sachi, with the
20 Board.

21 It doe -- it relates to environmental
22 effects in terms of safety of people. Truck drivers
23 are considered in the Review Board's assessment it's
24 the environment, and the environment includes people.
25 And it also ties into the risk assessment for the

1 road.

2 If a truck driver is staying on the
3 road overnight, or for potentially six (6) hours or
4 eight (8) hours, they're in that terrain for a longer
5 duration than was originally considered. And we
6 understand this is potentially a not likely -- it
7 might not happen very often but it's still a
8 possibility. And so with that possibility it's good
9 to understand what would happen in those -- those
10 situations.

11 My second question with that is you
12 said that the trucks would turn around and go back.
13 Could you describe physically how they would turn
14 around and go back if it's a 4-metre wide road?

15 MR. DAVID HARPLEY: Dave Harpley.

16 They'd find a location where they could
17 make -- they could do that. If necessary they'd have
18 to find the nearest passing lane, and do however many
19 -- however many points they need to safely turn
20 around.

21 MS. SACHI DE SOUZA: Sachi, with the
22 Board.

23 So to confirm, the pullouts are going
24 to be designed in a way such that a truck can
25 physically do a -- turn around and go back the

1 direction they came from?

2

3 (BRIEF PAUSE)

4

5 MR. DAVID HARPLEY: Dave Harpley.

6 I don't think we're talking about

7 specifically designing all passing lanes to allow

8 point turns. However, we're simply say that certain

9 locations will be wider than others, like gravel

10 shoulders for example, or even locations of camps or

11 old borrow pits that still have some access, and so

12 they can basically pull in and turn around. But the -

13 - the other simple approach is they simply drop the

14 trailer and come back as a rig only.

15 MS. SACHI DE SOUZA: Sachi, with the

16 Board.

17 The scenario that I've got running in

18 my head right now is a truck leaves the mine. It gets

19 -- it's still within this 40-kilometre section, and

20 weather changes. And maybe the weather change is --

21 it's -- it's nearing the end of March so the ice

22 bridge is still open but the snow conditions are

23 changing. Maybe it's raining. Maybe your avalanche

24 risk goes up.

25 And with this bad weather that they're

1 in they decide, okay, it's not safe for us here. But
2 the decision is that maybe you can't stay in that
3 first 40-kilometre section because as a result the
4 avalanche risk might be a little bit higher. If they
5 need to turn around, that's the -- that's what I'm
6 trying to understand is.

7 So they'll -- they'll have a way of
8 turning around and getting back so that they're not at
9 a higher risk of being potentially affected by an
10 avalanche?

11

12 (BRIEF PAUSE)

13

14 MS. ALLISON STODDART: Allison
15 Stoddart, with Parks Canada.

16 And just to add to Sachi's question, if
17 -- if the -- the truck driver decides to leave their -
18 - their trailer, I'm not sure if they're -- sorry,
19 just as a follow up to that question.

20 If the truck driver in that sort of
21 scenario decides to leave their trailer in -- in let's
22 say one of those locations, how does that factor in
23 then to the potential risk of the trailer being
24 unattended when there is perhaps a -- you know, an
25 avalanche or a rock slide or something on -- on the

1 road?

2 MR. DAVID HARPLEY: Dave Harpley.

3 So the -- the first consideration is
4 that all these operations are going to be controlled
5 by a professional. And the first call the
6 professional is going to make is are the conditions at
7 the time, or likely over the duration of the trip,
8 going to be suitable for the -- for the transit. And
9 if they're that questionable, I would suggest that the
10 trip wouldn't even be initiated. So the risk of
11 actually being stuck out there is going to be pretty
12 slim.

13 However, if it did occur and the only
14 option -- he didn't -- he wasn't able to turn, and the
15 -- the only valid option for him was to drop the
16 trailer, then he would pick a location that would be
17 predesignated as the lowest risk on that section, and
18 then choose that and drop it, and then turn around and
19 come back.

20 MS. SACHI DE SOUZA: Sachi, with the
21 Board.

22 So maybe just to help me out, first
23 off, I don't know if it's part of the design, or it
24 needs to be a commitment right now, but there will be
25 locations where the truck, if necessary, has the

1 ability to turn around and go back to -- in the
2 direction they originally came from. Whether it's a
3 pull-out, whe -- whether it's a -- a larger shoulder,
4 that CanZinc's committing to putting this into how it
5 designs the road and how it builds the road.

6

7

(BRIEF PAUSE)

8

9

MR. ERNIE KRAGT: Ernie Kragt,

10 Allnorth.

11

So in typical winter operations you're
12 going to have a fleet of different graders, sand
13 trucks, what have you, that are going to continually
14 need access to -- to sand. And typically a grader
15 would create a turnaround point where he -- where the
16 grader can be completely off the operation of the
17 road. And these locations would be located probably
18 every 10 kilometres.

19

Specifically, do we know exactly where
20 they will be right now? No, we don't. But that is a
21 -- is a common approach. And -- and those -- those
22 pull-outs or the areas would be suitable room to -- to
23 manoeuver and turn a -- a super-B rig.

24

You know, and you have to bear in mind
25 that -- that there isn't just one (1) person on the

1 road at a given time. There's -- there's -- there are
2 people throughout the road. We -- we are in radio
3 communication constantly, as well as the maintenance
4 crews. So as wea -- bad weather develops, people will
5 be informed accordingly and -- and respond
6 accordingly. Thanks.

7 MS. SACHI DE SOUZA: Sachi.

8 Thank you. That helps a lot for
9 understanding that it's already kind of part of the
10 design or part of the operations at every 10
11 kilometres there will be this sort of area that, if
12 it's deeded for other reasons aside from the graders,
13 it's -- it's available. So thank you for that.

14 CO-FACILITATOR BARB SWEAZEY: Great.
15 Thank you. Sorry, go ahead, Parks. I forgot that you
16 were going to go.

17 MS. ALLISON STODDART: Allison
18 Stoddart, with Parks Canada.

19 So just to clarify then, so are -- have
20 -- have these areas that you're proposing been -- been
21 considered in the current assessment in terms of these
22 larger sort of pull-out areas or -- or maintenance
23 areas every -- was it every 10 kilometres, you said?

24 MR. ERNIE KRAGT: Yeah, we -- Ernie
25 Kragt, Allnorth.

1 We would suspect that it would be on a
2 -- generally on an interval, probably of about every
3 10 kilometres. At this -- at this stage, no, we have
4 not identified specifically where that would be. That
5 would be -- could be done at the detailed design
6 stage. And -- and it's -- I would consider it a bit
7 of an evolving program as -- as we identify which
8 borrows, for example, will -- we will be accessing for
9 -- for ongoing road maintenance.

10 Those are -- are suitable sites, but we
11 -- we haven't got to that stage to identify all those
12 obviously. We're -- that's in the detailed design
13 stage.

14

15 (BRIEF PAUSE)

16

17 MR. ERNIE KRAGT: Ernie Kragt,
18 Allnorth.

19 Just to add to that, too. Just to note
20 that -- that these turnarounds would -- would be
21 contained in the existing right-of-way and contained
22 within existing disturbed areas. We're not talking
23 about introducing more disturbed areas, so.

24 MS. ALLISON STODDART: Allison
25 Stoddart.

1 Okay, thank you. That's very helpful.

2 CO-FACILITATOR BARB SWEAZEY: Great.

3 Thank you. So it's about ten (10) to 12:00. Do we
4 have time for one (1) more question before lunch? We
5 have a totally new thread. Oh, yeah, I think -- I
6 think -- okay, let's go to Alan for one (1) question.

7 MR. ALAN EHRLICH: Thanks. It's Alan
8 Ehrlich, with the Review Board.

9 I have one (1) -- one (1) kind of a
10 line of -- of questioning. But something you
11 mentioned before is the radio contact between drivers
12 will help notify people in advance what's coming up or
13 if -- if people need help.

14 It sounds like this is an important
15 part of the sort of safety approach to managing the
16 road. Is that fair to say?

17 MR. ERNIE KRAGT: Ernie Kragt,
18 Allnorth.

19 Yes, radio-controlled road is a very
20 standard approach. And with today's technology of --
21 of GPS tracking and -- and messaging, information is -
22 - is quite easily transferrable.

23 MR. ALAN EHRLICH: Thanks. It's Alan,
24 from the Review Board.

25 So is there any way that, if there are

1 non-mine users of this road, that they will be able to
2 have the benefit of this? It's Alan Ehrlich.

3 Just to be clear, I mean, there's the
4 possibility of park visitors, harvesters, or others
5 who, I'm -- I'm guessing, probably don't have the
6 radio contact with the controls that mine traffic
7 would like have. I'm not sure if I'm missing
8 something there.

9 MR. DAVID HARPLEY: It's Dave Harpley.

10 I think those deta - details still need
11 to be ironed out. I think there's a case for having
12 some beacons available somewhere on the entry point of
13 the road, so they could be basically stuck on a
14 vehicle so we know where they are.

15 You have to recognize there are some
16 people that are not -- if they actually get to that
17 point on the road and they're still intent on
18 continuing may not want to have that kind of
19 arrangement. That's going to be part of the function
20 of the environmental monitors that we've provided for.
21 They're basically going to tailgate them to find out
22 where they are, and then relay that information by
23 their radio to the other traffic.

24 MR. ALAN EHRLICH: Thanks. It's Alan
25 Ehrlich.

1 Sorry, you had another response?

2 MR. ERNIE KRAGT: Yeah. Ernie Kragt,
3 Allnorth.

4 Just to add to -- use -- use of radios
5 is very common. These -- these channels are not
6 private channels. They -- they are available for --
7 for anyone that wishes to obtain a radio and get the
8 channels, that is the -- the standard procedure.

9 And -- and quite often throughout the -
10 - the road operations you have the truckers, the
11 maintenance crews. They -- they generally report when
12 -- when they see vehicles that are not using a radio
13 to -- to broadcast to basically everybody on -- on the
14 road that there -- there's other users on the road and
15 to be aware of it. And that's -- that's a very
16 standard, normal operating procedure.

17 MR. ALAN EHRLICH: Okay, thanks. Alan
18 Ehrlich.

19 And -- and I -- I like hearing that the
20 trucks will -- will know when there are hazards on the
21 road that they can't see that are coming up. I think
22 that's, you know, a helpful thing. And the more
23 people could benefit from that, the better.

24 The -- the other question I had having
25 to do with stopping on the road is, you've indicated

1 before that when there's wildlife on the road or near
2 the road, road traffic would stop. Sometimes wildlife
3 can stay on the road for a while, as you probably know
4 from your experience at the mine site.

5 But you've also indicated that there
6 are areas in the -- the slide areas where -- where no
7 stopping is an appropriate thing.

8 And it's -- you know, for -- I assume
9 this applies for most of the -- the slide areas, you
10 would discourage stopping in there. I was just
11 wondering how you -- you could perhaps reconcile
12 those?

13

14 (BRIEF PAUSE)

15

16 MR. ERNIE KRAGT: Ernie Kragt, with
17 Allnorth.

18 If -- if there is an obstacle on the
19 road, be it an animal or -- or rockslide or whatever,
20 I mean, you -- you really have no choice but to stop
21 and -- and not proceed if it's unsafe to do so, right?

22 Possibly it could be in a -- in a zone
23 that you would not prefer to stop, but you -- you
24 really have no -- no other recourse.

25 MR. ALAN EHRLICH: Thanks. Alan

1 Ehrlich here.

2 I was kind of thinking the other way.

3 I mean, for animals on the road, I get that, but
4 you've also described for animals right near the road
5 again you would stop.

6 But I'm thinking about the times when
7 it's safer not to stop because of potential hazards,
8 you know, like avalanche potential, that kind of
9 stuff. But I -- like I'm -- I mean, if you want to
10 respond further, it's okay. If not, I'm going to -- I
11 think I understand what you're saying.

12 MR. DAVID HARPLEY: It's Dave Harpley.

13 To my way of thinking, I don't think
14 landslides are a concern that factors into this
15 because the -- the risk of it occurring when you're
16 actually there is so -- so slim that I don't think
17 that's going to be a consideration.

18 To me, it's more a consideration of
19 rock fall and/or avalanche. So there's going to be --
20 need to be a judgment call between which poses the
21 greater risk, the geohazard or potential for collision
22 to the animal.

23 So it seems to me there needs to be
24 perhaps a little more thought and qualification put
25 into the wildlife protection measures we have already

1 described and -- and submitted in terms of when to
2 stop, when to proceed in terms of animal proximity.

3 MR. ALAN EHRLICH: Thanks. Is CanZinc
4 going to be using any salt on this road?

5 MR. DAVID HARPLEY: Dave Harpley. No.

6 MR. ALAN EHRLICH: Thanks. I'm -- I'm
7 asking in terms of an animal attractant obviously.
8 Okay. Thank you very much.

9 CO-FACILITATOR BARB SWEAZEY: Barb
10 here.

11 So I understand there may be just a
12 couple more questions we have in the road operations
13 and management chunk which we'll revisit after lunch.
14 So it's twelve o'clock. If we could reconvene at one
15 o'clock, that would be great. We'll see you then.

16

17 --- Upon recessing at 11:59 a.m.

18 --- Upon resuming at 1:11 p.m.

19

20 CO-FACILITATOR BARB SWEAZEY: Good
21 afternoon. Barb, speaking.

22 So we have a couple of new folks that
23 have joined us, so we'll just do an introduction of
24 the new people in the room, as well as a reminder of
25 who is on the phone. So I'm going to turn straight to

1 you. If you would kindly just introduce yourself.

2 Thank you.

3 MR. TED NESTOR: My name is Ted
4 Nestor. I'm with transportation planning at the
5 Department of Transportation.

6 CO-FACILITATOR BARB SWEAZEY: Great.
7 Welcome, Ted. Thank you.

8 No one else I think is new. And on the
9 phone we have Rachelle still from NRCan?

10 MS. RACHELLE BESNER (BY PHONE): Yes,
11 I'm still on the line.

12 CO-FACILITATOR BARB SWEAZEY: Great,
13 thank you, Rachelle. And anyone else on the phone?

14 MR. JERRY PULCHAN (BY PHONE): Jerry
15 Pulchan, from Environment Canada.

16 CO-FACILITATOR BARB SWEAZEY: Jerry.
17 Okay, thank you, Jerry, for -- for joining us.

18 We -- we do have additional questions
19 that I know we need to work through, but we thought we
20 would just pause right here before we get started on
21 the next questions to walk through some of the
22 specifics on next steps in the event that there are
23 people that have to leave to catch a plane, or what
24 have you.

25 So -- so, Mark, perhaps I can turn it

1 over to you to walk through the steps for us.

2 MR. MARK CLIFFE-PHILLIPS: Thank you,
3 Barb. Mark, with the Review Board.

4 I just wanted to briefly go through the
5 next steps following the technical session, just to
6 remind folks the -- sort of the procedures that we
7 have coming up.

8 In terms of undertakings, we will be
9 sending out the entire list of undertakings and
10 commitments likely either by the end of today or first
11 thing tomorrow morning. We won't have you guys all
12 listen in through all of the commitments and
13 undertakings here in persons, and I'm sure you'll
14 appreciate that. You will have an opportunity to
15 comment on -- if there's any clarity that needs to be
16 made, or there's -- we -- we took down the -- the
17 wrong -- the wrong information. But I think we're --
18 we're doing a pretty good job.

19 Following that, we will ask Canadian
20 Zinc to provide us with an estimate on the date of
21 some of the submissions of the -- the undertakings,
22 and we're hoping to have that by mid next week. That
23 will give us a better understanding on timing for --
24 or the next deadlines for the Information Requests.
25 Right now we're anticipating that those -- the next

1 round of Information Requests deadline for parties
2 will likely be, depending on the response from
3 Canadian Zinc, mid to late July.

4 We have also been coordinating with the
5 community of Nah -- Nahanni Butte and will be
6 continuing to discuss with Liidlil Kue First Nation on
7 the communities' technical sessions. And once more
8 details on those dates are -- are finalized we'll --
9 we'll discuss that -- or we'll put that to a notice of
10 procedure on proceedings on -- on the registry.

11 If -- from that date, likely the -- the
12 Board will issue an update on the -- the remaining
13 dates of the work plan.

14

15 (BRIEF PAUSE)

16

17 MR. MARK CLIFFE-PHILLIPS: One (1)
18 other item that I also wanted to clarify; throughout
19 the technical sessions there's been lots of
20 discussions on additional baseline information or
21 further studies that has been requested from -- from
22 Canadian Zinc. In terms of those requests, if there
23 are additional requests it will be put -- put forward
24 to the Board, or -- to follow up on the requests that
25 have already been put towards Canadian Zinc.

1 The Board would just like you to think
2 of some key sort of qualifiers or characteristics of
3 your requests when you are furthering your discussions
4 with Canadian Zinc, or if there are any Information
5 Requests or any other procedures that the Board has
6 for -- for follow-up.

7 First off is: Why is this information
8 required to assess the significant impacts of the
9 project? What are the potential impacts that are
10 being considered? What project components or
11 activities are associated with those potential
12 impacts?

13 And I lost a slide. I'll just quickly
14 read off my iPad, and I'll put the slide back up when
15 I'm able to find it on the -- the computer.

16 The -- the other considerations are:
17 Are there proposed mitigations or management
18 activities that already consider these impacts? If
19 so, are they likely adequate for mitigating those
20 impacts? If not, are there other potential
21 mitigations that can mitigate those -- those impacts?

22 One (1) other issue that -- or one (1)
23 other consideration to think about is: When is this
24 information required? Is that information required
25 now in -- in the EA, prior to the hearing, during the

1 regulatory process, or -- or prior to construction or
2 operations that that information could be put forward?

3 One (1) of the key things here is, as
4 we've heard as well, having clarity over -- if there's
5 a requirement for further review or approval by either
6 our Board or other regulatory authorities is -- is
7 important to know as well.

8 So I'll leave that for now. And we'll
9 -- we'll put the -- the details of those -- those sort
10 of characteristics around further baseline studies or
11 -- or further studies up on a notice to file.

12 CO-FACILITATOR BARB SWEAZEY: Barb,
13 from Stratos.

14 One (1) last housekeeping, lessons
15 learned item we wanted to throw out. We've just put
16 up at the back of the room on your way out either --
17 or at break or at the end of the session, if you've
18 got any feedback in terms of what has worked well
19 about this technical session, what changes or
20 improvements might you recommend, any observations,
21 it's always I think an opportunity for the Review
22 Board staff to -- to get feedback on the -- the
23 process and the experience. So there's markers and
24 sticky notes. Just help yourself as you see -- as you
25 have something to add.

1 Are there any questions or comments
2 about the next steps that have been described by Mark?

3 Okay. So I know we have a few
4 questions still to close up the section on road
5 operations. So perhaps I'm going to -- I'll turn it
6 right over to Alan, from the Review Board, to ask a
7 couple of questions.

8 MR. ALAN EHRLICH: Thanks. It's Alan
9 Ehrlich, from the Review Board.

10 Thank you to the Department of
11 Transportation from the GNWT for -- for showing up
12 now. We've got some -- we -- we appreciate that you
13 were able to -- to attend this part of the session.

14 I've got some questions, but I'm not
15 really expecting GNWT to answer on the spot. I'm
16 asking these as undertakings. If you can respond in
17 writing, that would probably be helpful.

18 So what this has to do with is we -- we
19 had a scoping session in Fort Liard, and one (1) of
20 the things that was -- was extremely evident was that
21 the residents in Fort Liard care a great deal about
22 the condition of Highway 7, which is the public
23 highway that not only accesses Fort Liard, but also
24 that the mine traffic would have to use. And it's a -
25 - there are challenges in -- in maintaining that road,

1 although it's different from talking about the road
2 between Nahanni Butte and the mine site. I just -- I
3 just want to shift the gear audibly here so that
4 everyone understands we're talking about something
5 different.

6 The Company has indicated that,
7 although the GNWT hasn't -- hasn't committed to
8 upgrading Highway 7, nor do I expect it to do so here,
9 the Company expects that -- that having this mine
10 could certainly facilitate some road improvements. It
11 could be a factor that -- that makes them more likely.
12 And so bearing that in mind, there are some questions
13 about how changes to that infrastructure could cause
14 certain effects.

15 The first question is about information
16 needs. The question is: Does the GNWT have the
17 information it needs from CanZinc, from the Company,
18 to determine how much work and resources it would take
19 to accommodate the proposed traffic for the mine?
20 That's question number 1.

21 GNWT, is it okay with you if I just run
22 through the questions now without getting answers to
23 individual ones, since it's proposed as a written
24 undertaking?

25 MR. TED NESTOR: Sure, go ahead.

1 MR. ALAN EHRLICH: Thanks. I -- I
2 have to ask you to, whenever you speak into the mic,
3 you -- it's Alan Ehrlich, for the Review Board -- to
4 remember to state your name. Right.

5 So this is still Alan Ehrlich, for the
6 Review Board. The next question is: How long would
7 it take for the GNWT to make the necessary road
8 improvements to Highway 7 and to the Nahanni Butte
9 access road, both of which are involved in the -- the
10 project?

11 With that construction happening, if it
12 happens, this is all conditional on that, it would
13 help the Review Board to -- to understand how local
14 residents could be affected by road construction, and
15 over what kind of a period of time.

16 If improvements to Highway 7 and
17 possibly Nahanni Butte access road -- I'm not sure --
18 I'm reading someone else's questions here -- but if
19 improvements occur over multiple years, what's the
20 traffic volume and gross weight of haul traffic that's
21 appropriate while the improvements are being made?

22 So this has to do with the -- the
23 constraints related to the timing of construction or
24 improvements to Highway 7, bearing in mind possible
25 construction of the project. For example, Highway 7

1 has a road preservation plan, and the current
2 restriction is 75 percent of legal axle weight, which
3 we think is about 47 tonnes that's -- that's allowed
4 now.

5 Our -- our fifth question is if the
6 GNWT has determined if it will allow larger payload
7 vehicles, such as the 73.2 tonne nine (9) axle
8 vehicles, for use on the roads? And as a sub-question
9 to that, if the larger vehicle weight is approved by
10 the GNWT, how would that affect your schedule -- your
11 -- for improvements, and how would that affect the
12 road improvements?

13 So those are the questions that I -- I
14 have for the GNWT. I mean, you're -- if you can
15 answer them off the top of your head you're welcome
16 to. If you prefer to take them as a written
17 undertaking that's acceptable to the Board as well.
18 Thank you.

19 MR. TED NESTOR: Ted Nestor, with the
20 Department of Transportation. I'll try to tackle
21 these as -- as much as possible. There may be a
22 couple where, you know, we need a little bit more
23 clarification on.

24 But just to -- just to start off with,
25 our plans with regards to Highway 7 more or less

1 involve just routine maintenance. To -- at -- at this
2 point in time, it's -- you know, there's been some
3 work done on -- on Highway 7 with regards to routine
4 maintenance, specifically things such as resurfacing,
5 culverts, that sort of stuff. There's still some
6 sections of Highway 7, there's -- there's still some
7 work that still needs to be done that's tentatively
8 planned and programmed. But that's all re -- we
9 really have as far as any sort of improvements to that
10 facility.

11 So going above and beyond that in terms
12 of, like, are we looking at any sort of major
13 reconstruction of the road? No, we did not have that
14 as -- planned as part of our work to date.

15 So with regards to the first question,
16 in order to ascertain what the potential impacts of
17 mine traffic could be on Highway 7, I think one (1) of
18 the things that our department has indicated is that
19 they would like to see ultimately some sort of -- I
20 don't know if you want to call it a traffic type
21 study, but information on, you know, the -- the number
22 of trucks, the -- the loads expected, anticipated
23 loads, the schedules, and those sorts of things. So
24 they've indicated that -- that that if that
25 information was ultimately available it could help the

1 department determine what possible impacts would --
2 there could be on Highway 7, and what, you know, if
3 anything -- what improvements -- additional
4 improvements would -- would need to be done. So
5 hopefully that touches on -- on the first question.

6 The second one, how long would it take
7 to make the improvements to Highway 7? Again, as far
8 as our baseline program activities are concerned we
9 intend to do that within the next couple of years.
10 Above and beyond that, if we're talking more
11 significant work beyond basic maintenance, we don't
12 really know that until we actually get that -- that
13 information in terms of the impacts of -- of truck
14 traffic on -- on Highway 7.

15 So we can't really provide any sort of
16 answer in terms of -- well, if there are certain major
17 improvements that need to be done on Highway 7 as a
18 result of the mine being up and running with the
19 additional truck traffic, we'd -- we'd need to see the
20 -- that information before we can make any sort of
21 judgment on that, so.

22 As far as local impacts are concerned,
23 first off, with regards to what we've got planned and
24 programmed, no local impacts. We're not doing any
25 sort of major realignments or re-routings of Highway 7

1 or anything like that, so just basically working with
2 what we have right now to do the routine maintenance.

3 Now, in the event that we go abo -- you
4 know, above and beyond that at some point in time, if
5 -- if we deter -- if -- if it's ultimately determined
6 that mine traffic will have a significant impact on
7 Highway 7, and we need to maybe look at options and
8 maybe realignments, that sort of stuff, they may have
9 an impact on communities. But, again, we don't really
10 know that at this point in time until we actually are
11 able to like get a better handle on -- on, you know,
12 what mine traffic could potentially do to Highway 7.

13 As far as loads on -- on Highway 7 is
14 concerned, I believe the maximum right now for an
15 eight (8) axle or more vehicle, I believe the maximum
16 loading, I believe, is 63 and a 1/2 thousand
17 kilograms, if I'm not mistaken. That -- I believe
18 there are allowances for slightly higher weight limits
19 during the wintertime. But at the end of the day, we
20 have no plans to -- to modify the -- the maximum loads
21 on Highway 7.

22 MR. ALAN EHRLICH: It's Alan Ehrlich,
23 for the Review Board. If I could just interject
24 before you go on.

25 I -- look, these answers are -- are

1 helpful. I have a note here that there's a road
2 preservation plan for Highway 7 now, so the current
3 restriction's actually 75 percent of the legal axle
4 weight. I -- I have no personal knowledge of this,
5 right, but is -- does -- is what you're saying,
6 bearing that in mind, that -- that with the -- with
7 the restriction, it's the -- the tonnage that -- that
8 you've described?

9 MR. TED NESTOR: Ted Nestor,
10 Department of Transportation. Yeah, there is a 75
11 percent restriction. I believe -- I believe it's from
12 April through July. A load restriction.

13 So that -- basically, the -- the
14 maximum, the sixty-three (63) and a half thousand that
15 we have -- and I believe there is a bit of an
16 allowance in the wintertime, a small -- small
17 adjustment. I'm not ex -- I'd have to double check
18 what the -- I'd have to confirm what those allowances
19 are, but it's not significantly above and beyond that
20 sixty-three (63) and a half thousand.

21 So we don't -- we -- based on the work
22 that we're doing, we have no intentions of -- of
23 changing that. So basically sixty-three (63) and a
24 half thousand, and then the 75 percent of that
25 applying to -- to the April through July period.

1 So based on the work that we're doing,
2 we have no intentions of adjusting those.

3 MR. ALAN EHRLICH: Thanks. Alan
4 Ehrlich, for the Review Board.

5 So while the road improvements were
6 being made, if they are may -- beyond the maintenance
7 that you're talking about, if additional improvements
8 are required because of the mine, does that change the
9 traffic volume and gross vehicle weight that would be
10 appropriate?

11 MR. TED NESTOR: Ted Nestor,
12 Department of Transportation.

13 It depends on -- it may depend on the
14 nature of the work. Like, say, for example, if we are
15 replacing a -- say a culvert in the road, there may be
16 -- there may be load restrictions, additional load
17 restrictions that are imposed as a result of that
18 work. It's not something that would be done -- it's
19 not something that would be in place for an -- a very
20 extended period of time. But depending on the nature
21 of the work, it's quite possible that you could have
22 during construction or rehabilitation or maintenance
23 or whatever term you want to use, you may have a load
24 restriction.

25 So it would likely depend on the nature

1 of the work that you're undertaking.

2 MS. SACHI DE SOUZA: It's Sachi, with
3 the Board.

4 You mentioned in part of your response
5 dealing with the weights and the tra -- the mine
6 traffic, that you -- DOT potentially needs more
7 information. I won -- was wondering if this is more
8 information in addition to what Canadian Zinc provided
9 in their April 1st letter describing their traffic
10 estimates and the -- the loads in those traffic
11 estimates for the two (2) different types of trucks
12 they're considering, the eight (8) axle and the nine
13 (9) axle.

14 Do you need more information in
15 addition to that?

16 MR. TED NESTOR: Ted Nestor,
17 Department of Transportation.

18 To be perfectly honest with you, I
19 wasn't -- I'm not aware of that. And we asked our
20 highway -- our highway staff if they had come across
21 any information with regards to additional traffic
22 volumes, loads, those sorts of things, and we chatted
23 with them yesterday and they were not aware of it. So
24 I -- I haven't seen it so I -- I can't speak on that.

25 MR. ALAN EHRLICH: Okay. Thanks.

1 It's Alan Ehrlich again.

2 And so do you -- do you want to speak
3 at all to the fifth question, the one about if you've
4 determined if you will allow larger payload vehicles,
5 like 73 tonne nine (9) axle vehicles, to use the road?

6 MR. TED NESTOR: Ted Nestor,
7 Department of Transportation.

8 At this point in time, based on the
9 work that we're doing on Highway 7, more or less what
10 you would consider routine maintenance, there are no
11 plans to adjust any of the allowable weight limits on
12 the highway. So we intend to continue to enforce what
13 is currently there.

14 So the only way that could potentially
15 change if there is some sort of major rehabilitation,
16 a total reconstruction of -- of the highway. So that
17 goes above and beyond what we have planned as far as
18 routine maintenance.

19

20 (BRIEF PAUSE)

21

22 MR. ALAN EHRLICH: Thanks. In the
23 April 1st letter from CanZinc, the company has
24 indicated that it plans to ask permission to have
25 larger loads; not to change the overall limit, but to

1 have larger loads applied to vehicles using Highway 7.
2 My presumption is Department of Transportation would
3 consider that when deciding what kind of maintenance
4 or improvements are necessary for Highway 7.

5 MR. TED NESTOR: Ted Nestor,
6 Department of Transportation.

7 We would have to get back to our -- our
8 highways operations' people, our staff to -- to
9 confirm that. There may be -- there may be -- I -- I
10 can't say for sure, there may be allowances for like
11 one-offs in terms of permitting and stuff where, you
12 know, you -- an over -- oversized vehicle could
13 potentially use the highway. But if it does become a
14 regular occurrence that would be a little bit more of
15 a problem -- problematic issue.

16 So we'd have to -- we'd have to go back
17 and find out exactly like what the specific mechanics
18 of -- of that would be, if there is any sort of, you
19 know, possibility, if you do have an oversized vehicle
20 if it could be allowed on the highway via say a
21 permitting -- a permit process. So we'd have to go
22 back and admittedly check on that before we could, you
23 know, provide a hundred percent conclusive answer to
24 that.

25 MR. ALAN EHRLICH: Alan Ehrlich.

1 Thanks.

2 And that's of course, obviously
3 presumably while maintaining road quality that's, you
4 know, appropriate to the needs of the communities that
5 -- that use that highway as well, right?

6 MR. TED NESTOR: Ted Nestor,
7 Transportation. Yes.

8 MR. ALAN EHRLICH: Thanks. So what
9 I'll -- I'll ask the GNWT to take as an undertaking,
10 is if you would be willing to provide any additional
11 material in response to those questions which were
12 just asked and caught on the transcript, provided in -
13 - in writing. If you want to add anything to what
14 you've already said, or if there are any corrections
15 need to anything you've said, that would -- would give
16 you an opportunity for, you know, further
17 consideration in -- in your response. Is that okay?

18 MR. TED NESTOR: Ted Nestor,
19 Department of Transportation.

20 Yes, I think that's a fair approach.

21

22 --- UNDERTAKING NO. 37: GNWT to provide any
23 additional material in
24 response to those
25 questions which were just

1 asked and caught on the
2 transcript

3

4 MR. ALAN EHRLICH: Thanks. And I've
5 got two (2) questions for -- for CanZinc re -- on the
6 same subject. One (1) of them is --

7 CO-FACILITATOR BARB SWEAZEY: Alan,
8 can you just hang on one (1) second, please. Sorry.
9 That Alan, I -- I couldn't see you. Go ahead.

10 MR. ALAN TAYLOR: It's Alan Taylor,
11 Canadian Zinc.

12 I'd just like to respond to some of
13 what the GNWT was referring to, and just give you some
14 background as far as the transportation over the
15 existing highway. Over the course of the last three
16 (3) years, Canadian Zinc's been completing an
17 optimization study on the backs of a 2012 pre-
18 feasibility study. And that has resulted in some
19 detailed plans as far as what's going to be produced
20 at the mine site, and hence what can be shipped out on
21 the mine site and what's -- how the road is going to
22 be utilized.

23 And we recently came out -- and that
24 was in the form of a 2016 pre-feasibility study which
25 was issued in April 2016 and which is on the registry.

1 And that contains the optimization -- the latest
2 optimization of the site with tonnages shipped out and
3 what have you. And the transport -- the
4 transportation scenario that's outlined in there
5 accommodates for all these weight restrictions that
6 are in force at this time on Highway 7.

7 And I also would like to point out we
8 do have a memorandum of understanding with Department
9 of Transport to collaborate together, which we intend
10 to do over the -- over the very near future here. But
11 we just issued our technical report and have our
12 numbers in line now to further discuss the limitations
13 and -- and how we can work together to move this
14 transport along the existing highway, and how we can
15 improve it together.

16 CO-FACILITATOR BARB SWEAZEY: Barb,
17 from Stratos. Thank you very much, Alan.

18 Alan, from the Review Board, do you
19 have additional questions?

20 MR. ALAN EHRLICH: Not for the GNWT.
21 Thank you very much for your responses. I do have a
22 few questions for CanZinc on the same subject.

23 So it's Alan, from the Review Board.
24 And I -- I think I heard an answer to this question in
25 what you've just said, Alan. The question I have here

1 is: Would CanZinc seek to construct the access road
2 before or without any GNWT road improvements being
3 complete? In -- in other words, the -- the all-season
4 access road -- if the GNWT has not made improvements,
5 or if those improvements aren't complete, would you
6 still begin to construct the access road?

7 MR. ALAN TAYLOR: It's Alan Taylor,
8 Canadian Zinc.

9 Yes. As I said earlier that we take
10 into account the existing weight restrictions, and the
11 transportation scenario will work on this basis, too.
12 But of course we would seek to improve the -- if we
13 can because we're always optimizing.

14 MR. ALAN EHRLICH: Thanks. The second
15 question that I have here on this is: What would the
16 traffic volumes and schedule look like over the course
17 of the year, considering the constraints you've --
18 you've just heard from the GNWT?

19 MR. ALAN TAYLOR: Alan Taylor,
20 Canadian Zinc.

21 Traffic volumes were -- are similar to
22 what we're referring to on the all-season road,
23 basically. It's outlined in the technical report
24 which is on the registry. Once again, in -- in this -
25 - in the various circuits that we stagger our truck

1 fleet, the one revolving around the all-season road up
2 to the Liard transfer facility. And there's another
3 circuit from the Liard transfer facility down to Fort
4 Nelson. That's in the -- in the -- on that paper,
5 too.

6 MR. ALAN EHRLICH: Thanks for that,
7 Alan. That -- that -- I -- I understand that.

8 For the next question: Is there any
9 point in the project where CanZinc anticipates making
10 regular use of Nahanni Butte, Fort Liard, or other
11 communities for refuelling?

12 MR. ALAN TAYLOR: Alan Taylor,
13 Canadian Zinc. Of course we intend to involve
14 Nahanni Butte and Fort Liard in the form of employment
15 and participation. But as far as refuelling goes,
16 refuelling -- yet to be determined if there's any
17 necessary refuelling to be done there. But as far as
18 our technical approach goes, no, in this case there
19 wouldn't be any refuelling needs.

20 MR. ALAN EHRLICH: I'm confused about
21 the last two (2) sentences. Does that mean it is
22 possible you'll be refuelling in Nahanni Butte, Fort
23 Liard, or other communities?

24 MR. ALAN TAYLOR: Anything's possible,
25 but most likely not, no. Alan Taylor, sorry.

1 MR. ALAN EHRLICH: In the event that
2 it -- you -- Alan Ehrlich. You've indicated that --
3 that it -- it's a possibility, although not your plan.
4 Have you looked at the current fuel storage capacity
5 of those communities and whether or not the existing
6 capacity is sufficient or what it would take to make
7 it sufficient in the event that you need it?

8 MR. ALAN TAYLOR: It's Alan Taylor
9 here, Canadian Zinc.

10 There is no fuel supply available in
11 Nahanni Butte at this time.

12 MR. ALAN EHRLICH: Okay. Thank you
13 very much. That's -- that's it for the questions I
14 have about Highway 7 and -- and the Nahanni Butte
15 access road. Thank you.

16 CO-FACILITATOR BARB SWEAZEY: Thank
17 you much very, Alan.

18 I just want to circle back to GNWT. Is
19 there anyone from GNWT who has any more questions
20 related to the topics that we've been covering since
21 this morning?

22

23 (BRIEF PAUSE)

24

25 MR. ANDREW MATTHEWS: I might have one

1 (1) quick question if time allows. It's Andrew
2 Matthews, GNWT Lands. Beg your pardon?

3 CO-FACILITATOR BARB SWEAZEY: Just
4 speak a little closer to the mic, please. Thanks,
5 Andrew.

6 MR. ANDREW MATTHEWS: All right.
7 There we go. Is this okay now? Can everybody hear
8 me? All right. It's Andrew Matthews, GNWT Lands.

9 My question has to do with the -- the
10 barge that is being proposed as part of the all-
11 weather road. Obviously the barge thing across the
12 river is pretty integral.

13 And I was wondering if Canadian Zinc
14 can provide any information in terms of what they
15 anticipate the -- needing in terms of setting up a
16 barge, any dredging that may be required, loading
17 docks on either side of the river bank, and -- and
18 that kind of information?

19 MR. DAVID HARPLEY: Dave Harpley.

20 No dredging, and we plan to construct
21 barge ramps. No docks.

22

23 (BRIEF PAUSE)

24

25 MR. ANDREW MATTHEWS: I -- I think

1 that answers my question for now. Thank you. Andrew
2 Matthews, Lands.

3 CO-FACILITATOR BARB SWEAZEY: Barb,
4 from Stratos. Thank you.

5 DFO, no questions? Environment Canada?
6 Jerry, on the phone, any questions?

7 MR. JERRY PULCHAN (BY PHONE): No, I'm
8 okay. Thanks.

9 CO-FACILITATOR BARB SWEAZEY: And,
10 Rachelle, any questions from NRCan?

11 MS. RACHELLE BESNER (BY PHONE): No
12 questions.

13 CO-FACILITATOR BARB SWEAZEY: Okay.
14 Dean...?

15 MR. DEAN HOLMAN: I do have some
16 questions. Dean Holman, with Liidlili Kue First
17 Nation.

18 My question is: Given the complete
19 suite of risks, obviously safety of pers -- of
20 personnel is a -- is a concern, being as there may be
21 a possibility of -- of local people from Nahanni Butte
22 being hired, other neighbouring First Nations being
23 hired, and just Canadians in general.

24 1. Question 1 was: Has -- has -- have
25 earthquakes been considered in the environmental

1 assessment?

2 2. If -- if so what mitigation
3 monitoring has been proposed? For example, whether
4 you'll have seismometers.

5 And then 3. What is the pro --
6 probability of inc -- incidents based on considered
7 risks? And could a mitigation measure -- and this has
8 to do with the -- part of the traffic on the road, is
9 could a mit -- mitigation measure be traffic
10 controllers along the right-of-way, especially at
11 higher risk areas. Thank you.

12 MR. KEVIN JONES: Kevin Jones, Tetra
13 Tech.

14 The -- certainly earthquakes were
15 considered in the evaluation of landslides -- landslides,
16 their frequency and occurrence. Because, in fact,
17 there is a landslide that has been identified as
18 likely a -- a result of an earthquake back in the
19 '80s. I can't remember. But there -- there is that.
20 So that was considered in -- in the risks for
21 landslides for sure.

22 Going forward from that, in those high
23 risk areas that we discussed that were potentials for
24 landslides, as we went into final design certainly the
25 impact on stability of the ground would be even

1 further in -- evaluated considering landslides.
2 Landslides that would be -- you know, have a
3 reasonable rate of return with -- for the -- for the
4 area. So that would be taken into account in
5 stability evaluations when they were carried out.

6

7 (BRIEF PAUSE)

8

9 MR. DEAN HOLMAN: One (1) of the --
10 well, I'm just going back into some of the background
11 material here. But in '08 the EA '08/'09, I think 01,
12 or 002, part of the scoping submission from Parks was
13 actually from Parks Canada. And maybe, Parks, you can
14 comment on that, please?

15

16 (BRIEF PAUSE)

17

18 CO-FACILITATOR BARB SWEAZEY: Parks,
19 are you able to comment?

20 MS. ALLISON STODDART: Allison
21 Stoddart, with Parks Canada.

22 Can you please repeat the question?

23 MR. DEAN HOLMAN: Given the complete
24 suite of risks to pers say -- or -- and the concern
25 being safety and personnel, have earthquakes been

1 considered in the EA? I did -- just going --
2 researching some background material to -- to
3 determine whether it was an issue in the past, I was
4 looking at EA-08, 09, and 002, a scoping submission
5 from Parks Canada, Appendix 4, where they do mention
6 impacts of earthquakes or other extreme events and
7 climate change on any of the above, which is basically
8 the -- the -- at that time, was the winter road.

9 But has that been considered for this -
10 - for this new right of way?

11

12 (BRIEF PAUSE)

13

14 MS. ALLISON STODDART: Allison
15 Stoddart, with Parks Canada.

16 So, unfortunately, we can't speak to
17 that scoping document. I -- I do know which one
18 you're -- you're referring to, but I -- I haven't
19 looked at it in -- in a long time.

20 So I -- I guess I'm not exactly sure
21 what -- what you're asking us. I -- I think that's
22 probably more a question to the proponent, which
23 you've -- you've already posed. Are you looking to
24 see if it's still a concern for Parks Canada because
25 it was raised in the winter road assessment?

1 MR. DEAN HOLMAN: I -- I guess it --
2 this is -- it has to come from more of a collaborative
3 approach here. The -- the onus is not just on the
4 proponent. The onus is on the GNWT. basically
5 everybody that's sitting at the table here, when it
6 comes to safety.

7 And if we don't ask that question, a
8 critical question, especially, you know, considering
9 it wasn't that long ago, in 1987, where about 7
10 million cubes of rock actually came -- came down
11 resulting -- as a result of that earthquake.

12 So the question is not necessarily to
13 Parks Canada. I mean, we can question the entire
14 group here. I don't see anybody from Natural
15 Resources Canada. I don't see anybody from the
16 Geological Survey of Canada. I know that there are
17 studies on the march fault. There are studies on
18 various different faults within the area, and there's
19 no seismic -- it seems that there are no seismic
20 monitoring of earthquake activity here.

21 So perhaps maybe the Board can -- can
22 take the lead on -- on this line of questioning.

23 CO-FACILITATOR BARB SWEAZEY: Barb
24 here.

25 Thanks for your question, Dean. Just

1 as a point of clarification, we do have one (1) person
2 from Natural Resources Canada. I'm not sure about the
3 seismic capabilities, but there is Rachelle on the
4 phone.

5 I also will turn to James who perhaps
6 has some insight for us.

7 MR. JAMES HALEY: I was just going to
8 ask if we can get clarifications to a location of
9 where this landslide which occurred. Was it 1985 or
10 1987, the location?

11 MR. DEAN HOLMAN: 1987. I'm not sure
12 of the exact location. That's why I'm asking for the
13 experts to -- to provide some advice or some clarity.

14 CO-FACILITATOR BARB SWEAZEY: Yeah,
15 could I turn to CanZinc? Thank you.

16 MR. DAVID HARPLEY: Okay, it's Dave
17 Harpley.

18 So Kevin here I think has the
19 information regarding that particular earthquake.
20 Before he provides it, just to give some context,
21 earthquakes were certainly considered in the previous
22 EA you're referring to, Dean. Specifically we were
23 all -- the -- the group at that time, and the Board,
24 were concerned about the possibility of the slopes
25 immediately adjacent to the mine as well as

1 underground and the general area, so that was a
2 consideration.

3 And it also factors into stability of
4 structures like dikes for -- for the water pond, so
5 they certainly were considered.

6 As far as the current project and the
7 all-season road, I think the reason that there's no
8 local monitoring of earthquakes is because the network
9 in the country and world wide is -- is good enough
10 that we can -- we can accurately determine location
11 and magnitude without us trying to do it.

12 And -- and the other thing that's
13 relevant is if we have any kind of an earthquake event
14 during the operation of the -- the all season road,
15 the first thing we're going to do is send out an
16 inspector or -- and/or communicate by radio to people
17 already on the road to go and inspect the road, and --
18 and particularly key locations and -- and just tell us
19 has there been an event that was triggered by the
20 earthquake before -- you know, traffic might be
21 stopped, in fact.

22 If it's -- if it's a significant event,
23 there may be an immediate order for basically trucks
24 told to -- told to hold until the roads been checked
25 and proceed after that. So now I'll pass it over to

1 Kevin.

2 MR. KEVIN JONES: Kevin Jones, Tetra
3 Tech.

4 In the initial work that was done in
5 support of the DAR, there was -- there was a bunch of
6 information here particularly on an earthquake that
7 happened, it was called the North Nahanni earthquake,
8 in 1985. And it did initiate a failure on a slope of
9 not rock but just kind of overburden materials near
10 Little Doctor Lake where it -- it triggered a
11 landslide.

12 There's been a lot of study of
13 earthquake and earthquake activity. Certainly some of
14 the older information suggests that there may have
15 been some failures on a slope on the English Chief
16 Anticline near Nahanni there. So it's -- it's been
17 quite well studied, this area, from an earthquake
18 perspective because it is -- is somewhat active.

19 It's certainly not on the low end of
20 activity but not a lot of evidence has been determined
21 that a lot of landslides were a result of the
22 earthquake activity, other than this one (1) in 1985
23 that's been -- been documented in here. So it's --
24 it's certainly being considered quite significantly.

25 CO-FACILITATOR BARB SWEAZEY: Barb,

1 from Stratos.

2 Adrian, is it Rachelle on the phone?

3 Rachelle, I understand you have something to add?

4 MS. RACHELLE BESNER (BY PHONE): Yes,
5 here Rachelle Besner, from NRCan.

6 I just wanted to clarify that Natural
7 Resources Canada is only providing advice on
8 permafrost for this part of the project, and we're not
9 looking at it per -- from the perspective of seismic.
10 But I do believe that we did provide advice on that in
11 the mine project.

12 CO-FACILITATOR BARB SWEAZEY: Barb,
13 from Stratos.

14 Thank you for that clarification,
15 Rachelle. Dean, I'm looking back to you. Is -- is --
16 this information, has that been helpful or do you
17 require additional information?

18

19 (BRIEF PAUSE)

20

21 MR. DEAN HOLMAN: I think that I did
22 mention an earthquake in 1987 where there was about
23 seven (7) -- 7 million tonnes of rock that -- or 7
24 million cubes of rock that basically came down. I --
25 I don't know whether that was that -- within the

1 vicinity of the mine but it was within the vicinity or
2 it -- within the park. And -- and that's -- I think
3 that's relevant to this. There was mention of a quake
4 in 1985 but this is in '87 I'm talking about.

5 CO-FACILITATOR BARB SWEAZEY: Alan,
6 from CanZinc?

7 MR. ALAN TAYLOR: Hi. It's Alan
8 Taylor, Canadian Zinc.

9 You're correct, Dean. In -- in that
10 landslide, I'm not sure on the cubes but it was a
11 significant slide in -- in a remote part of the
12 Mackenzie mountains probably about 50 kilometres
13 southeast of the mine site in -- and that was a result
14 of a six point three (6.3) earthquake on the seismic
15 scale in 1987. And there was a six point five (6.5)
16 in what Kevin refers to in 1985. These are two (2)
17 extraordinary seismic events for the region.

18 The geological survey of Canada
19 maintains a seismic station in the region. I'm not
20 sure exactly where it is, but they do maintain a
21 twenty-four (24) hour website that anybody can access
22 to see any seismic events within the region.

23 And I think that's documented in one
24 (1) of our submissions from long ago. But the reason
25 for the large landslide was -- was that particular

1 mountain was very unstable and was prone to release
2 upon little trigger.

3 MR. DEAN HOLMAN: Thank you. Just
4 given the -- given the -- the mapping information,
5 also the delineation of unstable areas or instability,
6 do you think that this is something that should be
7 investigated further? Because I mean we are talking
8 about safety here.

9 And I would -- you know, from -- from
10 my point of view, I would think that the First Nations
11 would be, you know, concerned, especially if there --
12 if there are truck drivers or personnel coming in and
13 out of that area.

14 Then the -- if you have a higher
15 probability, I would like to know what the probability
16 of another earthquake happening and if there would be
17 any effects. I would also -- I would also -- one (1)
18 of the con -- concerns being is those crossings and,
19 you know, especially bridges, whether they'd be
20 earthquake-proof, that sort of stuff.

21 I'm wondering what kind of mitigation
22 measures would be in place and any considerations that
23 would affect safety and integrity.

24 CO-FACILITATOR BARB SWEAZEY: Kevin,
25 it looks like you need a minute just to pull some

1 information together.

2 MR. KEVIN JONES: Kevin Jones, Tetra
3 Tech.

4 Yeah, if I could have a minute. But I
5 think the probabilities are documented in the DAR.
6 And that's based on all the rules and regulations
7 within the National Building Code of Canada, but I --
8 I just can't put my finger on it quite yet.

9 Certainly the magnitudes of earthquake
10 are in line with the Canadian government
11 recommendations for the magnitude -- not -- not
12 necessarily the magnitude of -- of the earthquake as
13 in what we normally hear the six (6) on the Richter
14 scale, but on the acceleration. And that's the key
15 thing in -- when you're looking at the stability, and
16 that's the -- the speed at which things are basically
17 moving.

18 Certainly those numbers are in the DAR
19 because that was in that section I was just reading,
20 the return period or frequency or whatever. I can't
21 put my finger on it, but, yeah.

22 MR. ALAN EHRLICH: It's Alan Ehrlich,
23 for the Review Board.

24 While you're looking, could you please
25 tell the Board what the return period is for a

1 magnitude 4.0 earthquake or higher?

2 And if not, an undertaking would be
3 okay, as well as if and how many recorded earthquakes
4 over magnitude 4.0 on the Richter scale or higher have
5 occurred in the last decade in the general area.
6 Thank you.

7 MR. ALAN TAYLOR: It's Alan Taylor,
8 Canadian Zinc.

9 I believe that's already in the
10 registry somewhere amongst our EA files, all that
11 data. And these two (2) -- these two (2) exceptional
12 events are extraordinary events.

13 And might I remind everybody that the
14 mine site was there at that time and did not suffer
15 any consequence or evident of -- of major
16 catastrophes. And the extraordinary of that slide is
17 just that: an extraordinary event.

18 MR. ALAN EHRLICH: It's Alan Ehrlich,
19 for the Review Board.

20 Just the advantage of using return
21 periods is it helps people understand how
22 extraordinary is extraordinary. So in addition to the
23 question that I've asked before about the return
24 period of magnitude 4.0 events as well as if or -- and
25 how -- if so, how many have occurred in the last

1 decade in -- in the general area, also it would be
2 helpful if you -- could you please give us the return
3 periods for earthquakes equivalent to the -- to the
4 1985 and 1987 earthquakes as well.

5 MR. KEVIN JONES: Kevin Jones, Tetra
6 Tech.

7 I couldn't put my fingers on it, and
8 what I was just reading there, those -- the -- the
9 return periods were not in there. But I -- yeah, I
10 don't see that as a problem from an undertaking.

11

12 --- UNDERTAKING NO. 38: Canadian Zinc to indicate
13 what the return period is
14 for a magnitude 4.0
15 earthquake or higher, as
16 well as return periods for
17 1985 and 1987 earthquakes;
18 how many recorded
19 earthquakes over magnitude
20 4.0 have occurred in the
21 last decade in the general
22 area; and the return
23 periods for earthquakes
24 equivalent to the 1985 and
25 1987 earthquakes

1 CO-FACILITATOR BARB SWEAZEY: Thank
2 you. Dean...?

3 MR. DEAN HOLMAN: Yeah, I don't think
4 this was -- this was answered, but I'm -- I'm just con
5 -- I'm considering all of the variables, the risks to
6 driver safety, human safety, animal safety, water
7 quality. Could -- could a mis -- mitigation measure
8 be traffic controllers along the ROW at higher risk
9 areas? You know, there seems to be a great reliance
10 on radio communication between drivers. And I'm just
11 thinking that monitors in lower risk areas or low to
12 risk ar -- areas where -- where they would have com --
13 radio communication. But this is also a visual
14 communication as well.

15 Could miti -- could that be a
16 mitigation measure, and would Canadian Zinc be looking
17 at something like that if it was a concern? Or if --
18 if it was a recommendation?

19

20 (BRIEF PAUSE)

21

22 MR. DAVID HARPLEY: It's Dave Harpley.

23 I'm not sure I completely understand
24 the question, but I'll give it a shot. As I just
25 stated the -- the first thing that's going to happen

1 if an earthquake occurs is the road operations manager
2 is going to make a call on what action needs to be
3 taken, and then proceed accordingly. I think the
4 second comment that's relevant is we already have
5 provision for environmental monitors on the road in
6 addition to maintenance crews. So I -- I kind of
7 think that from a monitoring aspect we're well
8 covered.

9 MR. DEAN HOLMAN: Tha -- thank you,
10 Dave. Dean, here with LKFN.

11 My concern is not over necessarily the
12 environmental monitoring. This has to do with safety
13 and control of traffic on the right-of-way, especially
14 when it comes to higher risk areas.

15 MR. DAVID HARPLEY: Dave Harpley.

16 So all that monitoring I described,
17 it's not purely focused on environmental. It'll be
18 monitoring of all issues related to the operations.

19 MR. DEAN HOLMAN: Thank you. Dean,
20 LKFN.

21 CO-FACILITATOR BARB SWEAZEY: I think
22 we have -- Sachi, you have a follow-up question on
23 earthquakes?

24 MS. SACHI DE SOUZA: Sachi, with the
25 Board.

1 I don't recollect seeing this in the
2 DAR. If it's in there, if you could just point me to
3 it. And if not, if you could provide it. I was
4 wondering what the design criteria for the permanent
5 infrastructure such as bridges will be with respect to
6 earthquakes. So what return period. I know for the
7 water, hydraulic events it's a one (1) in one hundred
8 (100), with a one and a half (1 1/2) freeboard.

9 And I was just wondering what the
10 equivalent is going to be for earthquakes.

11

12 (BRIEF PAUSE)

13

14 MR. BRAD MAJOR: Brad Major, with
15 Allnorth.

16 At this stage earthquakes or -- or
17 structures within an earthquake zone in terms of
18 bridges is something we haven't addressed. But it's
19 definitely something we can do because it I dealt with
20 within the bridge code during detail design.

21 CO-FACILITATOR STEFAN REINECKE:
22 Stefan, from Stratos.

23 Sorry. Could you just clarify whether
24 that's something you could do or would be obligated to
25 do regardless to meet the building code?

1 MR. BRAD MAJOR: It is -- it is
2 something that we regular -- regularly do during
3 detail design, and it is part of the design aspects of
4 the structure, yes.

5

6 (BRIEF PAUSE)

7

8 MS. SACHI DE SOUZA: Sachi, with the
9 Board.

10 So, CanZinc, are you comfortable with
11 the commitment to consider the -- the risk of
12 avalanches to the permanent infrastructure -- right,
13 earthquakes -- to the permanent infrastructure prior
14 to construction? So it'll be considered in the
15 design. And that will be part of what's submitted and
16 reviewed for approval by regulators for the permits.

17 MR. DAVID HARPLEY: Dave Harpley.
18 Yes.

19

20 --- COMMITMENT NO. 15: CanZinc to consider and
21 factor in the risk of
22 avalanches and earthquakes
23 to permanent
24 infrastructure prior to
25 construction

1 CO-FACILITATOR BARB SWEAZEY: Barb,
2 from Stratos.

3 Any other questions about earthquakes?
4 Okay. So I believe there are two (2) more questions
5 in this category. And then we're going to move to
6 risk. And, James, you have questions on one (1),
7 slope stability?

8 MR. JAMES HALEY: James Haley, Knight
9 Piesold.

10 Yeah, the question relates to areas
11 which have been defined in the terrain mapping as
12 slide blocks and tension crack areas. These areas are
13 principally between kilometre 41 and 42, 84 and 85, 98
14 and 99, and then on the preferred alternative
15 alignment between 104 and 106, 108, 109, and in the
16 area of 157.

17 The -- the concern is that the road
18 could be affected by future instability in these
19 areas. In addition, cutting and filling for the
20 proposed road could adversely affect the local terrain
21 stability in these areas and that the impact of such
22 activity could -- could be affected by the nature of
23 the instability of these areas.

24 And the comment is that there's quite a
25 lot of un -- uncertainty in relation to the nature of

1 instability in these areas, in particular, whether
2 it's just the stability in -- in the overburden or it
3 extends into the bedrock, and, also, the extent to
4 which permafrost effects are affecting instability in
5 those areas.

6 I guess the comment is that some of the
7 features, particularly around 104 to 106 on the
8 preferred alternative alignment, and 108 and 109 on
9 the preferred alternative alignment and the 69.5
10 kilometre on the existing alignment, those areas
11 extension features -- additional features have been
12 picked up on more recent years of air photographs in
13 1994 in the historic air photos survey. So there's
14 evidence of, I guess, ongoing extension of the areas
15 of -- of slope displacement, at least locally.

16 So I guess what we're -- where we're
17 going with this is, we feel like additional work is
18 needed here. And a similar framework to what we
19 discussed in terms of the road in terms of a tra -- ri
20 -- risk-based approach would be -- would be suitable.
21 But here there's some -- there's a potential effect of
22 natural terrain on the road. But, also, there's a
23 possibility of the road changing the broader
24 stability.

25 So it's -- it's -- in the worst case,

1 it could have some implications locally on road
2 alignment choice. So I think -- I feel like some
3 priority needs to be given to this above what we
4 talked about earlier for terrain stability and such
5 potentially in stable areas, because that was really
6 focused on the possibility of landslides initiating in
7 the road prism, whereas this is a broader hazard.

8 So I -- I guess then, I kind of feel
9 like it could be dealt with under a similar umbrella,
10 of a terrain stability assessment whereby the risk is
11 analyzed and mitigations are developed to reduce that
12 risk. But I feel like a little bit more priority
13 needs to be given to this.

14 MS. SACHI DE SOUZA: Sachi, with the
15 Board.

16 If I can just provide a couple more
17 words about that. So James is identifying some
18 sections that appear to have unstable terrain or
19 charac -- have be -- have -- there's observations that
20 suggest unstable or potentially unstable terrain. And
21 there's a concern that this could affect the
22 alignment.

23 We do recognize that CanZinc has done a
24 lot of work to -- to put the alignment in the -- the
25 most stable locations or what it considers to be the

1 best locations. But the concern with these particular
2 areas is there is a fair amount of uncertainty that
3 may affect the alignment still, and so it would be
4 good to have a little bit more information about these
5 areas and the sort of certainty or -- or confidence
6 CanZinc has about the alignment in these locations
7 given the -- the instabilities, both how those
8 instabilities can affect the road and how the road
9 could therefore -- could then -- could also lead to an
10 effect to the environment.

11 And so would CanZinc be willing to do
12 some additional -- provide some additional information
13 on those specific areas to give -- to provide
14 additional confidence to the parties and to the -- to
15 the Board that the alignment in these sections is the
16 optimal alignment?

17 CO-FACILITATOR STEFAN REINECKE:

18 Stefan, from Stratos.

19 Just a point of clarification on the
20 Board's question. So it -- and to Knight Piesold --
21 is this -- are you pointing out areas that require
22 particular attention related to commitment number 15
23 (sic) mentioned earlier today about the more in-depth
24 terrain stability assessment, or is it actually
25 additional assessment work to what was specified in

1 that commitment?

2 MR. JAMES HALEY: James Haley, Knight
3 Piesold.

4 I see the scope of the work being very
5 similar, but I think it's good to separate it because
6 that -- that scope of work was entirely related to the
7 possibility of potential effects of the project on the
8 environment. So landslides initiating the road prism
9 and affecting the environment whereas this -- this
10 potential has a various up-slope so it -- it could be
11 a natural terrain effect on the project as well as the
12 project affecting the environment.

13 And there's potential impacts for --
14 there's a possibility of an impact in relation to the
15 realignment, so where -- whereas I agree that the --
16 the -- what we were talking about earlier is -- is
17 something which occurs where you have a very -- you
18 need to have a very mature road design. This -- this
19 has got potential -- this has potential to affect the
20 alignment in -- in the worst case.

21 So I -- I guess it's -- it's something
22 which needs to occur a little bit earlier and best --
23 best to keep it separated.

24

25 (BRIEF PAUSE)

1 MR. DAVID HARPLEY: It's Dave Harpley.
2 I think we'd like to have that put in an undertaking
3 so we can respond with a little thought.

4
5 --- UNDERTAKING NO. 39: CanZinc to indicate if
6 they are pointing out
7 areas that require
8 particular attention
9 related to commitment
10 number 16 mentioned
11 earlier today about the
12 more in-depth terrain
13 stability assessment, or
14 is it actually additional
15 assessment work to what
16 was specified in that
17 commitment

18
19 CO-FACILITATOR BARB SWEAZEY: Barb,
20 from Stratos.

21 Thank you. Any -- any further
22 questions, James? Okay.

23

24 (BRIEF PAUSE)

25

1 MR. JAMES HALEY: Yeah. James Harley,
2 Knight Piesold.

3 Yeah, put it -- is it possible to put
4 up the map with kilometre 157, the train map on the...

5

6 (BRIEF PAUSE)

7

8 MR. JAMES HALEY: James Harley, Knight
9 Piesold.

10 Yeah. I guess the clarification I was
11 seeking in -- in this area around kilometre 157 is
12 just to -- just to the -- actually the northwest of
13 where it says "KP 157" there's a tension crack
14 identified along the alignment. And I -- I see -- I
15 understand that the alignment is being moved up slope
16 there but I -- I guess the question is whether --
17 whether there was an opportunity to move the alignment
18 further up slope to be completely out of the area of
19 the tension cracks, and I...

20

21 (BRIEF PAUSE)

22

23 MR. JAMES HALEY: Oh, is that...

24

25 (BRIEF PAUSE)

1 MR. DAVID HARPLEY: Dave Harpley.

2 It -- it occurs to us that the
3 realignment that's shown on that figure in the purple
4 and black stripe has, in fact, done exactly what
5 you're asking for.

6 MR. JAMES HALEY: Yeah. James Haley,
7 Knight Piesold.

8 I -- I guess I'm looking at the version
9 which is dated April -- April 18th. Is -- is the
10 version on the screen more recent?

11 MR. KEVIN JONES: Kevin Jones, Tetra
12 Tech.

13 Yeah, that -- oh, the one that was on
14 the screen with the realignment was from December of
15 2015, right.

16

17 (BRIEF PAUSE)

18

19 MR. KEVIN JONES: Well, wherever it
20 went.

21

22 (BRIEF PAUSE)

23

24 MS. SACHI DE SOUZA: So this one's the
25 one from the March -- the April submission from

1 CanZinc in response to the outset and adequacy items.
2 And the date on the figure, I think, is March 7th,
3 2016. So is this the most recent version and the
4 right one to be using here?

5 MR. DAVID HARPLEY: Dave Harpley.

6 The date of the document's on -- right
7 on the top there, April 11th.

8

9 (BRIEF PAUSE)

10

11 MS. SACHI DE SOUZA: It's Sachi, with
12 the Board.

13 Thank you for that. We just -- there's
14 confusion because there's been terrain maps submitted
15 on multiple dates, and it's hard to keep track. And
16 they're not all in one (1) location, so later on, it
17 might be helpful to get everything in one (1)
18 consistent thing, but we'll save that for a different
19 time. Thank you.

20

21 (BRIEF PAUSE)

22

23 CO-FACILITATOR BARB SWEAZEY: Okay.

24 There may be one (1) additional question on the slope
25 stability, but we'll come back to that. So I think

1 our -- Parks, there was nothing else in this part of
2 the agenda? You guys are done, right?

3 So we're going to move on to risk at
4 this -- oh. Okay. Go ahead.

5 MS. CARRIE BRENEMAN: Yesterday, we
6 discussed some of the concer -- oh, sorry. Carrie
7 Breneman, Dehcho First Nations.

8 Yesterday there was a general
9 discussion around some of the concerns involving
10 avalanches. And, Canadian Zinc, my understanding is
11 you've proposed to delay the Avalanche Management Plan
12 to the detailed design phase. And -- is that correct?

13 I just want a better understanding of
14 what the process is for it to be reviewed during
15 detailed design and who will be involved in that
16 review.

17 MR. DAVID HARPLEY: It's Dave Harpley.

18 The face was because of the word
19 "delay". I don't see it as a delay. I just think
20 it's a logical thing to do at -- aft -- after we have
21 permits and they're in the -- to the detailed design
22 stage.

23 As to when it will happen, well, that's
24 exactly when it will happen. As I just described this
25 morning, the -- the sequence I see is that the

1 detailed investigation work will be done on the
2 alignment and maps updated. And then that information
3 will be relayed to a professional avalanche
4 specialist, like Alpine Solutions, who will then
5 review what they did before, update as necessary,
6 undertake what they think is required, which I think
7 is fairly well laid out in the recommendations of the
8 existing report, and then use that information to
9 develop the necessary plans for operations.

10 MR. JONATHAN TSETSO: Jonathan Tsetso,
11 Parks Canada.

12 In response to your question as well,
13 Carrie, what we have with our current land use permit
14 for the winter road is a requirement for an avalanche
15 assessment and a number of other plans that have to be
16 approved by the superintendent prior to any work being
17 done on the road. So as a part of that approval
18 process, it's our obligation to ensure that we're
19 consulting with communities and working with the
20 Proponent as well.

21 MS. CARRIE BRENNEMAN: Carrie Breneman,
22 Dehcho First Nations.

23 Thanks for that. A second question is:
24 My understanding is that Canadian Zinc will be
25 building and maintaining their own ice road, so I'm

1 just curious what types of monitorings will occur
2 during kind of the spring, to determine when it's no
3 longer safe to cross?

4

5 (BRIEF PAUSE)

6

7 MR. ERNIE KRAGT: Ernie Kragt with
8 Allnorth.

9 You're -- you're referring to the ice
10 bridge over the Liard River. There is lots of
11 documentation from Alberta, Saskatchewan governing how
12 ice bridges are -- are created and managed. And we'd
13 be following those similar parameters.

14

15 (BRIEF PAUSE)

16

17 MR. KEVIN JONES: Can I -- Tetra Tech,
18 Kevin Jones.

19 There is. There's a well-established
20 set of guidelines, rules and regulations for operation
21 on ice. We happen to be the authors and generated
22 them for the Government of the Northwest Territories.
23 And the -- and as Ernie says, they're -- they're very
24 similar to some of the other provinces, because we
25 wrote those as well.

1 But -- but quite well -- just well-
2 defined rules and requirements for monitoring ice
3 thickness, quality of ice, strength of ice, and all of
4 those kind of things. So it would be normal to have
5 an ice monitoring program in effect, a very well-
6 defined safety plan, and -- and all of that to -- to
7 go along with that operation of that ice bridge.

8

9 (BRIEF PAUSE)

10

11 CO-FACILITATOR BARB SWEAZEY: Thank
12 you very much.

13 Carrie, any follow-up questions, or are
14 you okay? Okay. Great. Thank you for that
15 explanation.

16 So I think at this point, we're going
17 to take -- we're going to start the conversation on
18 risk, so I -- I will start with you, Cesar.

19 DR. CESAR OBONI: Cesar Oboni
20 speaking.

21 So I'm going to start with a quick
22 couple housekeeping items. And the first one is: It
23 is not clear to me if the hazard identified in the
24 Tetra Tech risk analysis are on the new preferred
25 alignments. And I'm notably talking about the section

1 in between kilometres 49 and 59.

2

3 (BRIEF PAUSE)

4

5 MR. KEVIN JONES: Kevin Jones, Tetra
6 Tech.

7 The risk assessment was done after the
8 realignments were already drawn up, so, yes, they --
9 that's what's represented.

10 DR. CESAR OBONI: Cesar Oboni
11 speaking.

12 So I also noticed that in-between
13 kilometres 103 and 124, which is on the new -- new
14 preferred alignment, there's also two (2) subsets of
15 other alignments. And I was wondering if there are
16 other hazards identified in those small subsegments?

17

18 (BRIEF PAUSE)

19

20 MR. KEVIN JONES: Kevin Jones, Tetra
21 Tech.

22 There is indeed two (2) routes that are
23 quite diverse and outside of that, so -- so two (2)
24 right of ways, if you will. So the original risk
25 assessment would have been done on the original

1 alignment, which is what was sub -- submitted in the
2 DAR. And then the latest risk assessment, which is
3 reflected in -- in -- what's on the screen in that
4 Table A1, is the new and suggested alternate
5 alignment, I think is what we called it.

6 DR. CESAR OBONI: Cesar Oboni.

7 So my question in regard of that map:
8 Are the hazard linked to the area that are in red,
9 that are not in the orange, but in the red stretch, in
10 the orange, if you see what I mean?

11 MS. SACHI DE SOUZA: Sachi, with the
12 Board.

13 So are you asking for clarification on
14 the different hazards for what's there, the red
15 alignment versus the yellow alignment?

16

17 (BRIEF PAUSE)

18

19 DR. CESAR OBONI: Cesar Oboni.

20 So my question regards the stretch here
21 in between kilometres 111. And the other one would be
22 here.

23

24 (BRIEF PAUSE)

25

1 MR. DAVID HARPLEY: It's Dave Harpley.

2

3 So you're referring to the dash lines
4 on -- on the yellow. And those changes were made
5 relatively recently. But there again, the magnitude
6 and effects assessment was also updated relatively
7 recently as a result of those changes, so I'm pretty
8 certain the most recent table of risks that you have
9 does reflect those -- those changes.

10 DR. CESAR OBONI: Cesar Oboni.

11 So are you saying that the oran --
12 orange line that are not -- that are beneath the --
13 the red dashed lines are not relevant anymore?

14 MR. DAVID HARPLEY: The -- the orange-
15 yellow line dashes be -- is now the preferred
16 alignment, not the solid.

17

18 (BRIEF PAUSE)

19

20 MR. DAVID HARPLEY: Dave Harpley.

21 No, I'm mistaken. It's the other way
22 around.

23

24 (BRIEF PAUSE)

25

1 DR. CESAR OBONI: Okay. Cesar Oboni.

2 So next question is there's a debris
3 slide that doesn't have a kilometre associated at --
4 it's either kilometre 85.5 to 87.3, or 88 to 89.5. I
5 was wondering, that's still in the -- sorry, that is
6 still in the table of the Tetra Tech risk analysis.

7 Could you just confirm which segments
8 does the debris flow is. Thank you.

9

10 (BRIEF PAUSE)

11

12 MR. KEVIN JONES: Kevin Jones, Tetra
13 Tech.

14 You just said eighty-five (85) or, what
15 was the other one?

16 DR. CESAR OBONI: Eighty-eight (88).

17 MR. KEVIN JONES: Eighty-eight (88).

18

19 (BRIEF PAUSE)

20

21 MR. KEVIN JONES: Kevin Jones, Tetra
22 Tech.

23 So are you -- I -- I see an eighty (80)
24 -- a debris slide at eight-five five (85.5) to eighty-
25 seven three (87.3). But it's not -- its location is

1 not shown on the drawings? Is that what you're
2 saying, Cesar?

3 DR. CESAR OBONI: Cesar Oboni.

4 No, I was talking about the -- the
5 table -- Table A1, and I wasn't sure if the debris
6 slide was on the -- on the segments that was above or
7 below, because there was -- it -- there wasn't any
8 segment associated to it. That's all.

9 MS. SACHI DE SOUZA: It's Sachi, with
10 the Board.

11 If I can just interject for one (1)
12 second, here. James had similar questions, and I
13 think there's an issue going on with the layers that
14 are appearing on the PDF versus the layers that may
15 appear when you print, because something funny is
16 going on, which maybe we can just take a little break
17 to show you.

18 Because when we print it, we see
19 arrows. On the PDF we don't see arrows, including
20 slides between kilometres 84 and 86, and that might
21 help resolve the discrepancy between James, Cesar, and
22 -- and yourself right now.

23 MR. KEVIN JONES: That's what I was
24 just noticing, too, because I printed off the PDF as
25 well. And, yeah, I see what you mean. There's --

1 there's nothing shown there on the drawing. So there
2 -- there does seem to be some sort of a discrepancy of
3 -- of what's noted in the table versus what's shown on
4 the drawing.

5 So I think we'd have to revert back to
6 the original drawing drawings as opposed to looking at
7 the PDF to come up with a -- where these are, and try
8 and figure out why they're not showing up on the PDF.

9 CO-FACILITATOR BARB SWEAZEY: Could...

10

11 (BRIEF PAUSE)

12

13 CO-FACILITATOR BARB SWEAZEY: So can
14 we just -- so if there's a technical question related
15 to these maps, PDF or not, or screen, maybe those need
16 to be dealt in a separate conversation, and we should
17 move onto other questions related to the risk.

18

19 (BRIEF PAUSE)

20

21 CO-FACILITATOR BARB SWEAZEY: Okay.

22 MR. JAMES HALEY: Yes, sorry. James
23 Haley, Knight Piesold.

24 I mean, this -- this was the question I
25 was going to raise, but we -- we hadn't sort of raised

1 it, because we -- we couldn't see the same thing on
2 the screen. But probably, Kevin, if you -- if you've
3 got the hard copy there, you'll see that quite a few
4 landslides and tension cracks are routed in the area
5 up slope between eighty-four (84) and -- and eighty-
6 five (85).

7 And I guess the -- the thought from our
8 side was -- was, you know, what -- trying to
9 understand what -- whether -- whether that area had
10 been -- had been assigned to -- to be an area of
11 potential unstable terrain, because it wasn't clear
12 based on the map as -- as to whether it's being
13 counted as potentially unstable or unstable in -- in
14 light of being looked again, and -- and all these
15 tension cracks and -- and landslides being mapped.

16 MS. SACHI DE SOUZA: Sachi, with the
17 Board.

18 So we can just add that to this little
19 conversation we're going to have at the end or at the
20 break. That'd be great, just to give you a heads-up
21 of some of the questions we're getting at.

22 CO-FACILITATOR BARB SWEAZEY: Great.
23 Thank you. So let's take a couple more questions on
24 risk.

25 MR. CESAR OBONI: Cesar Oboni.

1 So it is important that we jointly
2 define the road system to be covered in the risk
3 assessment. The scope of work indicate that the
4 technical report describing the contractor's risk
5 assessment should specifically answer the following
6 questions, components within the risk assessment.

7 So my question is: Should the transfer
8 facilities be included? Should the intermediary
9 rescue camps area and other ancillary structure be
10 included in the risk assessment? Thank you.

11

12 (BRIEF PAUSE)

13

14 MR. DAVID HARPLEY: Dave Harpley.

15 That seems to me to be more a question
16 for the Board rather than the Proponent.

17 MS. SACHI DE SOUZA: Sachi, with the
18 Board.

19 From the Board's perspective, the compo
20 -- the road and the components of the road are -- are
21 in. I think -- Cesar, are you just asking for
22 clarification on which ones are still being proposed?

23 So, for example, on -- on day 1,
24 CanZinc clarified that the new alignment does not have
25 a Tetcela transfer facility proposed for the all-

1 season road. Are you looking for confirmation on
2 which specific structures are still being proposed?

3 MR. CESAR OBONI: Cesar Oboni.

4 That is correct. And I would also like
5 a confirmation if the Liard transfer facilities is
6 included in the risk assessment or not.

7 MS. SACHI DE SOUZA: With respect to
8 the Liard transfer facility, because of the additional
9 use for all-season purposes, it is in the -- it is in.

10 MR. DAVID HARPLEY: Whoa. Dave
11 Harpley.

12 What additional do you mean?

13 MS. SACHI DE SOUZA: The seasonal --
14 Sachi, with the Board.

15 The seasonality aspect of it.

16 MR. DAVID HARPLEY: Dave Harpley.

17 It's a small point I think, in terms of
18 risk, but just to point out that even seasonality, the
19 -- the operations of the LTF are really not going to
20 change between winter and all-season, because even the
21 winter approach for that facility is that material
22 would be coming and going through the summer period as
23 well.

24

25 (BRIEF PAUSE)

1 MR. CESAR OBONI: Cesar Oboni.

2 So the -- and as far as the Tetcela
3 transfer facility, that is out of the risk assessment,
4 or is it? I -- I am not practically sure if it's --
5 how we are in as that regard.

6 MS. SACHI DE SOUZA: Sachi, with the
7 Board.

8 My recollection from the Monday
9 conversation was that CanZinc no longer proposes to
10 use the Tetcela transfer facility for the all-season
11 road. With that statement and their -- their
12 statement that it's no longer needed and it's not
13 being proposed, it's not considered part of this
14 development for the all-season road.

15 MR. CESAR OBONI: Thank you, Sachi.
16 Now, next question is: Are borrow pits a part of the
17 risk assessments?

18 MS. SACHI DE SOUZA: Sachi, with the
19 Board.

20 Yes, borrow pits and -- and...

21

22 (BRIEF PAUSE)

23

24 MS. SACHI DE SOUZA: Sachi, with the
25 Board.

1 I -- in the interests of time, if --
2 what the Board staff can do is -- is clarify those
3 features that are in with -- with yourself, if
4 everyone's amenable to that right now.

5

6 (BRIEF PAUSE)

7

8 MR. CESAR OBONI: Cesar Oboni.

9 So since the intermediate rescue area
10 are included in the risk assessment, would it be
11 agreeable to have a list and description of the stocks
12 that are going to be stored in terms of liquids,
13 gases, and solids in those facilities?

14

15 (BRIEF PAUSE)

16

17 MR. DAVID HARPLEY: Dave Harpley.

18 So I think you're referring maybe to
19 construction, and storage of fuel, and that type of
20 thing?

21 CO-FACILITATOR BARB SWEAZEY: Can --
22 CanZinc, was that a yes, you can provide it, or you're
23 -- or you need a moment?

24 MR. DAVID HARPLEY: Dave Harpley.

25 I'm pretty sure it's already there in

1 the material we've submitted.

2 MS. SACHI DE SOUZA: Sachi, with the
3 Board.

4 Just in -- in interest of -- of helping
5 parties out and mainly Risk -- Oboni Riskope right
6 now, if you could just maybe -- if you know where it
7 is, or if you can help Cesar identify where it is,
8 that would just be helpful. There's a lot of
9 materials on the registry. I think all of us can
10 appreciate that.

11 So in general, it's nice when we can
12 help each other find things when we can't find them,
13 because some of us are more familiar with sections
14 than others.

15 MR. DAVID HARPLEY: Dave Harpley.
16 We can help, Cesar.

17

18 (BRIEF PAUSE)

19

20 DR. CESAR OBONI: Cesar Oboni.

21 And I -- for the sake of completeness,
22 those intermediary rescue camps will store any
23 material substance after completion of the roads?

24

25 (BRIEF PAUSE)

1 MR. DAVID HARPLEY: Dave Harpley.

2 It's possible we may have small
3 quantities at some of these locations just to provide
4 fuel for the road maintenance machinery.

5 DR. CESAR OBONI: Cesar Oboni.

6 Can I also have that list?

7 MR. DAVID HARPLEY: Dave Harpley.

8 Yes.

9

10 (BRIEF PAUSE)

11

12 CO-FACILITATOR STEFAN REINECKE: Is it
13 okay if we record this as an undertaking?

14 MR. DAVID HARPLEY: Dave Harpley.

15 Yes.

16

17 --- UNDERTAKING NO. 40: CanZinc to provide a list
18 and description of the
19 stocks that are going to
20 be stored in terms of
21 liquids, gases, and solids
22 in those facilities; and
23 indicate if the
24 intermediary rescue camps
25 will store any material

1 substance after completion
2 of the roads

3

4 CO-FACILITATOR STEFAN REINECKE: And
5 just -- just to clarify, the word I'm hearing from
6 Cesar is, "intermediate rescue areas?"

7 Okay. Great. I -- I was wondering
8 whether CanZinc was hearing the same word, because it
9 sounds like -- anyways, I'll -- I'll let CanZinc
10 respond.

11 MR. DAVID HARPLEY: Dave Harpley. I -
12 - yeah, I mean, define "intermediate rescue." I'm
13 thinking, like, cus -- camps.

14 DR. CESAR OBONI: Cesar Oboni. Yeah,
15 camps is good.

16 Cesar Oboni. So since the borrow pits
17 are included in the risk assessment, it would be also
18 nice to have them identified and to know if they are
19 close to sensitive habitats. And here I'm looking at
20 Park Canada, since we already have an undertaking. I
21 think that's look -- to -- in order to locate the
22 sensitive habitats. So it will be a -- an add-on.

23 MS. ALLISON STODDART: Allison
24 Stoddart, with Parks Canada.

25 So it's our under -- our understanding

1 that -- that this kind of information would be
2 collected by the Proponent in terms of understanding
3 what the vegetation and wildlife are in those areas of
4 the borrow pits. That -- that's something that we've
5 requested the Proponent to do. So that -- we -- we
6 don't have that information currently. So that --
7 that is actually the reason behind why we -- we'd like
8 the Proponent to gather it.

9 CO-FACILITATOR STEFAN REINECKE:

10 Stefan Reinecke, from Stratos.

11 So we do have a -- an existing
12 undertaking to identify segments along the roadway in
13 terms of sensitive vegetation and wildlife. And I
14 believe that undertaking goes to both CanZinc and
15 Parks Canada.

16 MS. ALLISON STODDART: Allison
17 Stoddart, with Parks.

18 Yes, I -- I understand that there was
19 an undertaking sort of to provide general knowledge of
20 -- of areas that might be slightly be more sensitive
21 than others. But we -- we don't have specific
22 information about, you know, sensitive species or --
23 or vegetation in -- in the exact areas of the borrow
24 pits, for example. You know, we -- we might be able
25 to provide some -- some broad knowledge.

1 CO-FACILITATOR BARB SWEAZEY: Go

2 ahead, CanZinc.

3 MR. DAVID HARPLEY: It's Dave Harpley.

4

5 So my understanding is that when
6 ourselves and Parks respond to that intervention, you
7 can compare that information to the road maps provided
8 in the Allnorth report, and you'll be able to
9 correlate what you're after.

10 DR. CESAR OBONI: Cesar Oboni. That's
11 correct.

12

13 (BRIEF PAUSE)

14

15 CO-FACILITATOR BARB SWEAZEY: While
16 they're having a side conversation, Parks, I believe
17 you may have one (1) question related to risk
18 assessment. Why don't we use this opportunity to ask?

19

20 (BRIEF PAUSE)

21

22 CO-FACILITATOR BARB SWEAZEY: It's
23 Barb. Loretta, will Jerry have a question still on
24 spills?

25 MR. JERRY PULCHAN (BY PHONE): Jerry

1 Pulchan, here.

2 Yes, I -- I would like to ask a
3 question.

4 CO-FACILITATOR BARB SWEAZEY: Yeah.

5 And would your question be directed to CanZinc? To --

6 MR. JERRY PULCHAN (BY PHONE): No, it
7 would be directed to Mr. Oboni.

8 CO-FACILITATOR BARB SWEAZEY: Okay.

9 So then, Jerry, I'll just get you to hold on one (1)
10 moment. Thank you. I just wanted to check in. I'll
11 come back to you in a moment.

12 MR. JERRY PULCHAN (BY PHONE): Sure.
13 Thanks.

14 CO-FACILITATOR BARB SWEAZEY: All
15 right, just one (1) -- so, Cesar, we have a couple
16 people that would like to ask you some questions. Is
17 this okay time to -- for them to ask you questions,
18 and then we'll decide next -- next steps?

19 So I'm going to ask Parks first. And
20 then Environment and Climate Change Canada has one
21 (1).

22 MS. ALLISON STODDART: Allison
23 Stoddart, with Parks Canada.

24 So, to be honest, I'm not actually sure
25 who this should be directed to. I recognize that

1 Cesar is undertaking a risk assessment. And so my
2 question relates to the development of a spill
3 contingency plan. So I'm not sure -- and -- and sort
4 of the what -- what our expectations are in terms of
5 what we'd like to see within the EA phase for -- for
6 that plan.

7 So would this be more directed at
8 Cesar, or at -- at the Proponent?

9 MS. SACHI DE SOUZA: Sachi De Souza,
10 with the Board.

11 Without hearing it, I'm inclined to
12 Canadian Zinc. But let's hear the question first, and
13 then we'll -- it will become clear to everybody.

14 MS. ALLISON STODDART: Great. Thanks.
15 Allison Stoddart, with Parks Canada.

16 So, essentially, we asked in the last
17 round of our Information Requests, IR-18, we asked the
18 Proponent to develop a spill contingency plan that
19 adheres to the requirements set forth in INAC's
20 guidelines for spill contingency planning. And their
21 response was that a draft spill contingency plan has
22 been provided, which it has been in the DAR addendum,
23 and that it will be updated for operations.

24 So while we recognize that it's -- it's
25 likely unreasonable to request a full contingency plan

1 at this phase, we'd like to understand spill
2 management for areas of very high and high risk levels
3 as noted in Table 7-3 of the DAR addendum.

4 So in that table, there are five (5)
5 areas in the high and very high risk categories. And
6 at those locations, we'd like more specific details in
7 spill response mitigation and cleanup, including the
8 reasonable and worst-case scenarios for fuel,
9 concentrate, and acid during both winter and summer
10 conditions.

11 So, essentially, for the reasonable and
12 worse-case scenarios, what is the volume of the spill?
13 What are the characteristics of the environment that
14 have been assumed, for example, day versus night,
15 weather conditions, terrain conditions, et cetera?
16 What are the assumptions regarding spill response,
17 deployment, and equipment? And what is the estimated
18 timeline for initial containment to mitigate the
19 mobility of the spilled materials?

20 So, essentially, we're looking for that
21 for the -- the areas of very high and high risk. We
22 are also -- we'd also like to note that figure 3 in
23 Appendix 2 of the DAR notes locations along the
24 proposed road alignment for very significant karst
25 terrain, while Table 7-3 of the DAR addendum gives the

1 risk of accidents leading to spills along the road
2 alignment.

3 So for the areas in the significant
4 karst terrain, which is approximately kilometre 53 to
5 64.5, Canadian Zinc has noted the likelihood of an
6 accident occurring, and -- and the risk as low to
7 moderate, which is fair.

8 However, the consequences is noted as
9 moderate to high. So based on this, while an accident
10 of a spill might be of a lower probability, in the
11 small chance that there is a spill in this location
12 based on the karst terrain, the consequence is
13 relatively higher due to the, you know, conveyance of
14 spills in -- in karst topography.

15 So it's requested, or Parks Canada is
16 requesting that Canadian Zinc also provide more
17 details of mitigations and cleanup for both reasonable
18 and worst-case spills within this area, as well. So
19 essentially we're asking for those five (5) areas of -
20 - of very high to -- high to very high, and the areas
21 of karst topography for this additional information.

22 And -- and recognizing that -- that
23 providing spill contingency for the entire road
24 alignment, you know, is perhaps not required at this
25 time, but -- but this is our reasoning behind why we

1 would like it for those areas.

2 MS. SACHI DE SOUZA: Sachi, with the
3 Board.

4 Parks Canada, I believe that -- that
5 request is for Canadian Zinc to provide that
6 information. It's not for Oboni Riskope.

7 And if I understand clearly, they are
8 the areas identified as high risk or moderate risk in
9 the DAR, Table, I think, 7.3, and in addition to those
10 areas, the -- from kilometre posting 53 to 64.5 are
11 the areas you want more information about how spills
12 would be managed, because it's -- you're concerned
13 about spills in those areas. So CanZinc...?

14 MR. DAVID HARPLEY: It's Dave Harpley.

15
16 I would encourage Parks to write that
17 up as an intervention, but I would also urge Parks to
18 be specific on the locations that you want the
19 additional information on, because quite honestly, I
20 don't want to have to keep repeating the same
21 information over and over.

22 MS. ALLISON STODDART: Allison
23 Stoddart, with Parks Canada.

24 That's fine. We can provide that in
25 writing. Should it be as an undertaking, or -- yeah?

1 Okay. We can --

2 CO-FACILITATOR BARB SWEAZEY: Yeah,
3 we'll record that as an undertaking. We may need your
4 -- a little bit of help with some of the wording.

5 MS. ALLISON STODDART: I can send you
6 all the wording.

7 CO-FACILITATOR BARB SWEAZEY: Okay.
8 Thank you.

9 MS. ALLISON STODDART: Okay. Thank --
10 thanks.

11 CO-FACILITATOR BARB SWEAZEY: With a
12 notation to be as specific as possible for the
13 locations.

14

15 --- UNDERTAKING NO. 41: CanZinc to provide
16 information on areas
17 identified as high risk or
18 moderate risk in the DAR,
19 Table 7.3; more
20 information about how
21 spills would be managed
22 from kilometre posting 53
23 to 64.5

24

25 CO-FACILITATOR BARB SWEAZEY: Good.

1 Great. Thank you.

2 Jerry, from Environment and Climate
3 Change Canada?

4 MR. JERRY PULCHAN (BY PHONE): Yeah.

5 I -- that -- a lot of the -- the previous question was
6 -- was my question, actually. Anyway. And I -- I
7 might do -- should have been directed to Canadian
8 Zinc. With regard to -- to the risk assessment, I'm
9 just wondering what -- what methodology is used to --
10 to determine the -- the likelihood and severity.

11 Was there a -- a development of a risk
12 assessment matrix?

13 CO-FACILITATOR BARB SWEAZEY: Jerry,
14 it's Barb, here. You -- you're directing that
15 question to CanZinc, or to --

16 MR. JERRY PULCHAN (BY PHONE): Yes,
17 CanZinc. Yes.

18 CO-FACILITATOR BARB SWEAZEY: Yes.

19 MR. JERRY PULCHAN (BY PHONE): I'm
20 sorry, yeah.

21 CO-FACILITATOR BARB SWEAZEY: And it's
22 specifically about spills, you're asking?

23 MR. JERRY PULCHAN (BY PHONE): Yes.
24 Chemical spills.

25 MR. DAVID HARPLEY: It's Dave Harpley.

1

2 Well, I'm going by memory, but I think
3 the severity was broken down in terms of low,
4 moderate, high, that type of thing, and the text
5 actually explains how each section was placed into the
6 category. But I'm also thinking, or maybe rather
7 wondering, what relevance this question has now, given
8 that Cesar is basically going to be doing another risk
9 assessment?

10 MR. JERRY PULCHAN (BY PHONE): Well,
11 I'm -- I'm -- again, I don't know if I have the
12 current document here. I have a spill -- I looked at
13 the spill contingency plan that's dated April 2012.
14 So are you saying this -- this will be updated?

15 MR. DAVID HARPLEY: Dave Harpley.
16 It -- it certainly is our intention to
17 update that plan after permitting, yes.

18 MR. JERRY PULCHAN (BY PHONE): Okay --

19 MS. SACHI DE SOUZA: Sachi, with the
20 Board --

21 MR. JERRY PULCHAN (BY PHONE): -- all
22 right.

23 MS. SACHI DE SOUZA: -- here. Jerry,
24 if I can just maybe provide some clarification that
25 might help you, if that's okay.

1 MR. JERRY PULCHAN (BY PHONE): Yeah,
2 please.

3 MS. SACHI DE SOUZA: You -- you
4 mentioned the methodology that will be used to -- to
5 define or determine the likelihood of the severity for
6 the risk assessment. That -- I believe that will be
7 part of what the third-party risk assessor provides in
8 their -- their technical report or their -- their risk
9 assessment that they will submit to the Board.

10 And that technical report, that risk
11 assessment that Oboni Riskope produces will be
12 available to all parties in the environmental
13 assessment. And it will be available to them prior to
14 them producing their own technical reports for the
15 Board.

16 Does that help you?

17 MR. JERRY PULCHAN (BY PHONE): Thanks.

18 CO-FACILITATOR BARB SWEAZEY: Great.
19 So are there any further questions on the spills
20 piece, or -- or is that -- is that item closed? Okay.

21 So I think all we have left -- you're -
22 - you're finished all your questions on everything,
23 Cesar? Okay.

24 All right. Are there any -- are there
25 any other questions on risk assessment or anything

1 else that's on your list that you came into the room
2 with over the last four (4) days that you have not had
3 a chance to ask?

4 Parks? GNWT? DFO? ECCCC (sic)?

5 MS. LORETTA RANSOM: It's Loretta
6 Ransom, Environment and Climate Change Canada.

7 Unless Jerry has another question,
8 we're done with our questions for now.

9 MR. JERRY PULCHAN (BY PHONE): I -- I
10 don't have any other questions. Thanks.

11 CO-FACILITATOR BARB SWEAZEY: Liidlii
12 Kue First Nations?

13 MR. DEAN HOLMAN: Not necessarily a
14 question, but just our involvement in the
15 environmental assessment process, there's -- his --
16 just historically, our involvement in the formation of
17 Nahanni National Park and the expansion of the actual
18 park to protect waterways.

19 The Tetcela River is -- is one (1) of
20 those waterways that does affect the people downstream
21 towards the north Nahanni area, and then also in --
22 sorry, the waterways that are affected as a result of
23 -- of the Tetcela River or any incidents or potential
24 incidents that could happen.

25 So that's one (1) of the biggest

1 focusses that we have, and that information or
2 perspective has not necessarily been provided, but
3 it's something that I'm hoping that the community can
4 -- can provide more -- more of a community perspective
5 on. Thank you.

6 CO-FACILITATOR BARB SWEAZEY: Barb,
7 from Stratos.

8 And perhaps the community technical
9 sessions that are being organized by the Review Board
10 will be a good place for that conversation to occur.

11 MR. DEAN HOLMAN: Absolutely. Thank
12 you. Liidlii Kue First Nation.

13 CO-FACILITATOR BARB SWEAZEY: Dehcho?
14 Cesar? Knight Piesold? Review Board staff?
15 CanZinc?

16 MR. DAVID HARPLEY: It's Dave Harpley.

17 I just wanted to make two (2) parting
18 comments, if I may. The first one (1) has to do --
19 it's -- it's a general comment, but it's also specific
20 to the Sundog Creek realignment, which we spent quite
21 a bit of time discussing.

22 And the comment is that, to my
23 knowledge, only ourselves and folks at Parks have
24 actually seen this area first hand. And you are all
25 relying on maps and diagrams, and we'd just like to

1 say that, frankly, there is no substitute for actually
2 seeing it yourselves in the field.

3 So I would encourage you to think hard
4 about that and whether you might have the opportunity
5 to actually see it for yourselves. And -- and it
6 applies to the whole road. You know, there's a lot of
7 -- apart from it being a really nice trip, it -- it's
8 really, I think, would be illuminating to make the
9 trip, particularly for folks like Cesar, for example,
10 who are trying to come up with a risk -- risk
11 assessment. You really have to see it yourself first-
12 hand.

13 The second comment I'd like to make is
14 -- it's a follow-up to the discussion we had on karst,
15 and particularly the area of Poljes. I didn't want to
16 get into the -- the kind of more general comment at
17 the time, but the comment I'd like to make is that I
18 think we need to recognize that these karst features
19 are long-term geologic features that develop over
20 thousands or hundreds of -- hundreds of thousands of
21 years. They don't change overnight.

22 And in geological time overnight is
23 hundreds of years. So we're talking about a project
24 that's in the order of twenty (20), twenty-five (25)
25 years if we factor in reclamation.

1 So we feel if we're on solid ground now
2 it's going to stay that way. And also bear in mind
3 the mitigation that was committed to during the last
4 EA in this area, which -- by -- and -- and recommended
5 by Golder Assoc -- Associates, which was to identify
6 the unstable areas and the sinkholes adjacent to the
7 road and monitor them. So that's really just what I
8 want to end with.

9

10 (BRIEF PAUSE)

11

12 MR. MARK CLIFFE-PHILLIPS: Mark
13 Cliffe-Phillips, with the Review Board.

14 I just want to have a -- a few closing
15 comments on behalf of the Board. I'd like to thank
16 everybody who's participated in the technical sessions
17 over the last several days. It -- it is a -- a long
18 haul to sit in a room without windows for four (4)
19 days, but we were able to pull it off.

20 I -- I think that as -- as we discussed
21 wi -- about the purpose of the -- the technical
22 sessions, the -- the main purpose was to give better
23 understanding about the projects and its impacts. And
24 I think that we're better informed from the
25 discussions that we've had today, and we look forward

1 to continuing with the environmental assessment and --
2 and seeing the additional information that's been
3 committed to coming out of these technical sessions.
4 And again, as -- as we mentioned, the -- the next
5 steps are for further Information Requests and -- and
6 moving on towards the hearing phase of the -- the EA
7 process.

8 So again with that, I'd like to again
9 say thank you to everybody. And just a -- a reminder,
10 we didn't have a time to have a break, and I think
11 that's probably okay for -- in everybody's opinion.
12 But we do have some post-it notes at the back if you
13 do have any comments on the -- how we -- we conducted
14 the -- the technical sessions. We're always looking
15 for ways to improve things, and if you have any
16 comments we're -- we're more than happy to take those.
17 Thank you.

18

19 --- Upon adjourning at 3:03 p.m.

20

21 Certified correct,

22

23 _____

24 Robert Keelaghan, Mr.

25

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