



“When You Talk - We Listen!”



MACKENZIE VALLEY LAND

AND WATER BOARD

TYPE A WATER LICENCE AMENDMENT APPLICATION

FOR NORTH AMERICAN TUNGSTEN CORPORATION

MV2002L2-0019

TECHNICAL SESSION

Panel Members:

Facilitator

Zabey Nevitt

HELD AT:

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Day 1 of 1

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1 --- Upon commencing

2

3 THE FACILITATOR: Well, good morning,
4 everybody. My name is Zabey Nevitt. I'm the
5 executive director with the Mackenzie Valley Land and
6 Water Board. It's nine o'clock now.

7 Unless anybody is aware at this time of
8 -- of anybody else who we're expecting to join us, I
9 think we have most people around the table that we
10 were expecting and some -- I've heard some -- some
11 rings in on the phone there as well.

12 We'll -- we'll get to go around and do
13 an intro -- a round of introductions in a second and
14 make sure -- and see who we have on the phone. But
15 I'd just like to welcome you to this -- the -- the
16 technical session we have today for the -- the
17 amendment application of North American Tungsten.

18 Thanks for coming. Just a few initial
19 logistical items before we proceed with the -- with
20 the session itself.

21 We -- we're -- we're in the room here,
22 of course, and ju -- it's just important always to
23 make sure we're aware that there are emergency exits
24 which are out that door. I don't -- there is another
25 door here, but it doesn't actually lead anywhere as

1 far as I know. So that's not an emergency exit. So
2 the main emergency exit is back out that way and then
3 there are signs.

4 The washrooms are also located out that
5 door. There are keys on the -- on the side here, and
6 the -- the washrooms are against the -- the wall just
7 in the hallway on the left there.

8 We -- we'll be working through the
9 agenda. The agenda has been posted up there and it's
10 also available on the table over here, as well as a
11 number of other items that we will be working through,
12 or sort of documents that relate to our -- our meeting
13 today including the agenda: the work plan, the comment
14 summary table, also the memorandum on draft DQC that
15 was distributed, I believe it was last week, and also
16 the water quality -- the Board's water quality policy.

17 Another important agenda item to note
18 is -- or important logistical item, this meeting is
19 being recorded. Transcripts will be provided for the
20 public registry so, therefore, we do ask that you
21 always speak into a microphone. I will be stopping
22 people in mid- -- in -- in mid-dialogue if need be to
23 ask them to turn their mics on. And also, always
24 state your name before speaking so that we can have it
25 on the -- on the record.

1 So the main purpose of this meeting --
2 today we're here to discuss the technical components
3 of the North American Tungsten Corporation's Type A
4 Water Licence Amendment Application for changes to the
5 tailings wastewater treatment of the Cantung Mine.

6 The purpose of this meeting is to
7 provide an opportunity for all parties to put their
8 comments, questions and concerns regarding the
9 forwards -- re -- regarding the project forwards.
10 It's -- it's a chance for us to discuss, at a
11 technical level, these issues, and the intent is here
12 to either resolve issues and to hopefully move towards
13 a public hearing process that will run as smoothly as
14 possible.

15 A little background on the file. The
16 Applications were received July 4th and deemed
17 complete and sent for review. July 18th was the
18 comment deadline on the Application and -- and also
19 any comments on the draft work plan. Proponent con --
20 responses to the review comments were provided -- were
21 due on July the 22nd. And today we're at the
22 technical session.

23 We do -- the -- the work plan -- the
24 remainder of the work plan is detailed in the
25 documents that are available, but jus -- just briefly

1 to -- to go through that.

2 The Board will develop any IRs that we
3 require following this and they will be distributed by
4 August the 10th. The Proponent responses to the IRs
5 will be due by August the 14th. Interventions are due
6 August the 21st. The Proponent responses to
7 interventions are due August the 24th. The pre-
8 hearing conference, August 27th. The Public Hearing
9 presentations are due August the 29th. And the Public
10 Hearing is schedule for September the 12th. Again,
11 there are copies of this work plan available on the
12 table.

13 So, just to go over the agenda briefly.
14 As you've seen, we'll be going through our opening
15 comments, we'll be going through some introductions.
16 Following that, the Company will be providing an
17 introduction and presentation, and then we'll be
18 moving through a number of topic areas specifically
19 and discussing those as -- as I say, the -- based on
20 the review comments we've received, we'll be having a
21 discussion by topic area.

22 We are planning on a short break around
23 10:30, 10 -- to 10:45, and if we need -- we're
24 planning to finish by lunch, but if we do need to, we
25 do have the room booked for this afternoon. So if we

1 need a little bit more time then, then we can use that
2 as well. We may not need all the time allocated, in
3 which case we'll move on. If we need a little bit
4 longer in each area, we'll also do that.

5 So, we've gone over that. So,
6 essentially, now I think what I'd like to do is just -
7 - we'll go round the table for a -- for roundtable
8 introductions before commencing with the presentation
9 from North American Tungsten.

10 As I said, my name is Zabey Nevitt.
11 I'm the executive director with the Board. I'll move
12 to my left.

13 MS. LINDSEY CYMBALISTY: I'm Lindsey
14 Cymbalsty, and I'm the regulatory officer for this
15 file with the Mackenzie Valley Land and Water Board.

16 MS. LYNN BOETTGER: I'm Lynn Boettger.
17 I'm also Board staff and I'm just helping Lindsey out
18 today.

19 MR. RICK WALBOURNE: Good morning.
20 Rick Walbourne, with Fisheries and Oceans.

21 MR. JEAN-FRANCOIS BEAUDET: Good
22 morning. My name is Jean Beaudet from Veolia Water
23 Solution and Technologies.

24 MR. STEPHAN KLUMP: Good morning. My
25 name is Stephan Klump. I'm with EBA Engineering and

1 I'm a hydrogeologist.

2 MR. DOUGLAS WATT: Doug Watt,
3 environmental superintendent at the Cantung Mine.

4 MR. JOEL TOSO: Joel Toso (phonetic)
5 with Wenck Associates, surface water hydrologist.

6 MR. RODNEY AMBROSIE: I'm Rod Ambrosie
7 with Wenck Associates assisting American Tungsten.

8 MS. MEGAN SHABEN: Megan Shaben, a
9 summer student with Can Nor.

10 MS. LISA LOWMAN: Lisa Lowman with
11 Environment Canada.

12 MR. PAUL GREEN: It's Paul Green with
13 Aboriginal Affairs.

14 MR. NATHAN RICHEA: Nathan Richea with
15 the Water Resources Division of Aboriginal Affairs.

16 MR. PETER REDVERS: Peter Redvers, of
17 Cross Current Associates Limited (phonetic) here in
18 Yellowknife. I'm representing the Nahanni Butte Dene
19 Band at the technical meeting today.

20 MR. RUSSELL TEED: Thank you. Russell
21 Teed with GNWT Minerals, Oil and Gas.

22 MS. LINDSEY CYMBALISTY: Do we have
23 anyone on the phone here?

24 MS. KATHERINE CUMMING: Katherine
25 Cumming with Parks Canada.

1 MS. AMY WILKER: Amy Wilker with
2 Environment Canada.

3 MS. ANNE WILSON: Anne Wilson with
4 Environment Canada.

5 THE FACILITATOR: All right, thank you
6 very much. Unless there are any specific sort of
7 process questions at this time, I'm -- we're going to
8 move on to the presentation from North American
9 Tungsten.

10

11 PRESENTATION BY NORTH AMERICAN TUNGSTEN CORPORATION:

12 MR. RODNEY AMBROSE: Good morning.
13 Again, my name is Rodney Ambrosie, I'm with Wenck
14 Associates representing North American Tungsten, and
15 I'll be going through a presentation this morning that
16 outlines the complete project.

17 It make take a little longer than --
18 than on the agenda, but I believe it's going to answer
19 some of the questions that we have that are -- that
20 are posted. And therefore we can -- we can have that
21 information available.

22 So as we go through the slide
23 presentation here, we'll -- we'll move through fairly
24 quickly. We can always come back when we come to that
25 particular point later on in the agenda. So Joel,

1 let's move through here. Just quickly introduction.
2 We've submitted the Application for a temporary
3 treatment of the tailing waters from the tailings
4 ponds.

5 The temporary wastewater treatment
6 requires the approval of a single point discharge
7 limit set at the four twenty-seven dash two (427-2)
8 culvert. We've contracted with Veolia Wastewater to
9 provide the temporary wastewater -- a treatment plant
10 capable of treating a proper amount to the appropriate
11 standards.

12 Based on the historical water quality
13 of the ca -- the Cantung tailings, waters from the
14 bench tailings, from the bench scale testing that
15 we've completed with Veolia indicated that will be --
16 will meet or be below the current regulatory standards
17 of the site.

18 And we also are going to conduct an
19 actual on-site trial of the treatment system, so there
20 will be a number of months before we discharge to the
21 environment that we're going to treat from pond to
22 pond prior to discharging to the environment to
23 confirm operations and that we meet the appropriate
24 limits.

25 Our objectives are to obtain approval

1 for this discharge into what's called "stinky pond."
2 And I will -- I will show that on a map so it's -- so
3 it's identified to everybody here in the room, but
4 it's the pond that is at the toe of Tailings Pond 3.

5 We'll designate the final discharge at
6 four twenty-seven dash 2 (427-2) for the treated water
7 and maintain the current water licence discharge
8 limits. And our other goal is to provide
9 uninterrupted operations to the Cantung Mine by
10 getting all the necessary approvals by proposing
11 acceptable processes to discharge the treated water to
12 the stinky pond.

13 I'm looking at a map here now, and if
14 we -- if we look and I -- I -- I apologize because I
15 can't point at both screens at once. This is Tailings
16 Pond 3. This is where we're currently depositing
17 tailings in Tailings Pond 4. Water right now goes over
18 to the exfiltration Tailings Pond number 5 over here.
19 This is the location here of what we call Stinky Pond.
20 As you can see, the Flat River. And as you can see
21 here, right through this particular area is where
22 there's a culvert across the road and discharge of
23 current stinky pond through the Flat River.

24 We -- we -- we do plan on -- on -- on
25 moving approximately 3,000 cubic metres per day of --

1 of treatment currently. And, depending upon
2 capacities and high flow periods, we may need to add a
3 -- additional -- temporary unit of additional 1200
4 cubic metres a day.

5 I know in our application we talked
6 about three (3) to five thousand (5000). We're
7 actually installing three thousand (3000) and we -- we
8 do -- are looking for a contingency of an additional
9 1200 cubic metres a day if we need it.

10 We are designing the wastewater
11 treatment plant so the feedwater is obtained from TSF-
12 4 or 5. And it would keep -- the discharge of the
13 treated water will either go to initially TSF-5 -- so
14 during our pilot period out there, we're going to move
15 water from Tailings Pond 4 through the treatment plant
16 to Tailing Pond 5. And then it will go through the
17 exfiltration process so there will be no changes
18 environmentally. Once we have that confirmed, and as
19 4 fills up, we'll then move from Tailings Pond 5
20 through the treatment facilities to the -- to the
21 environment.

22 We also then plan to discharge any of
23 the waste sludge or any of the -- the TSS material or
24 metals collected into Tailings Pond 4 or 5 so they
25 will all be contained within tailing structures.

1 We plan to recycle approximately a
2 thousand 1000 to 1200 com -- cubic metres a day back
3 to the mill. The advantages here is there will be
4 less discharge to the environment and there will also
5 be less freshwater needed from the Flat River on a
6 daily basis.

7 Therefore, it -- it's expected
8 operationally that the treated water, the environment
9 should be in that order of 2000 cubic metres a day or
10 less operationally if we meet all our and achieve all
11 our goals. Okay?

12 As you -- as you can see here, this is
13 a -- this is a vision looking to the northwest. This
14 is Tailings Pond 3. This is the stinky pond here at
15 the corner. You can see the culvert. You can see the
16 stream or the outlet that then goes to the Flat River
17 at this particular location.

18 This is another view now looking
19 southeast, same view. We're looking over the Tailings
20 Pond 3 and 4. We see the pond here and our discharge
21 as well out on this particular area to the Flat River
22 as well.

23 Again, just multiple pictures. You can
24 see here -- you can see the outlet here, the stream
25 here. Again, the -- the Flat River. Tailings Pond 3

1 as well. And this is just a -- a -- a general picture
2 of the -- of the stream. I know there will be some
3 comments regarding mixing later.

4 There's pool and riffle characteristics
5 of the stream that allows for mixing, and I just
6 wanted to show that you see the pool and the eddies
7 within the pool for mixing and then riffle as we get
8 on some of the shallower portions of the stream. So
9 this -- this also then when we get into discussions on
10 mixing, we'll show that this -- this stream has got
11 great characteristics relating to mixing of the
12 effluent as well.

13 So we can see here, this is more of the
14 photo. This is the pond here. This will be the
15 discharge. Our wastewater treatment plant will be
16 located at the confluence of these three (3) tailings
17 ponds -- basins, 4, 5 -- I'm sorry -- 4, 3 and 5. And
18 the -- the -- the wastewater treatment plant will be
19 here. That allows us to move water in a lot of
20 different directions from that location. It's also a
21 high spot for us, so in contingencies of shutdowns we
22 get free draining and in -- especially in winter
23 conditions then we won't have water left in any of the
24 pipes.

25 This is just a -- a -- a map that

1 designates all our different monitoring locations. As
2 you can see, we have the -- the final discharge point
3 here, S47-2 is -- is the discharge point under
4 consideration. We also have upstream and -- and
5 downstream locations as well.

6 I know there's a question on pond
7 capacities, and if we run through the capacities,
8 we've got about 6.3 million cubic feet in tailings
9 ponds. We need operational capacity. That is
10 different pool capacity that we need so we can drop a
11 -- as -- as much TSS and as much solids out of the
12 pond as we can.

13 We need -- we need some freshet and
14 storm and spring event capacity. We need sludge
15 capacity. We have 7 million cubic metres or cubic
16 feet of capacity in 5. We know we need to gain about
17 the 3 million. And, again, that's going to be subject
18 to some of the testing we do because part of the
19 testing we're going to do this fall is as TP4 fills up
20 and we know the TSS level goes up, we're going to be
21 monitoring the plants performance of the TSS going to
22 5. And we'll see how much pool capacity we actually
23 need by based on our field tests we're going to do
24 this fall with the plant.

25 So that -- that number could indeed

1 change. So we have operational capacity, we add some
2 raises here later down the road. Just in 4, before we
3 go to 5 and leave the treatment system, this survey
4 was done in May. That puts us in the November range
5 for needing to move to 5. And then this is the
6 seventeen (17) months of capacity total we have for 4
7 and 5. And we're doing these surveys now regularly
8 and we -- we can update these tables.

9 But again, some of these -- some of
10 these numbers we're actually working on for
11 confirmation as well as we get the treatment plant out
12 there and make some determination on how quickly TSS
13 will drop out of the ponds.

14 Again, just some water flow schematics
15 that were in the amendment process. This is the
16 current where right now from the mill we go to the
17 tailing storage facility. We then pump the
18 supernatant to Tailings Pond 5 and it exfiltrates.

19 As we move to the next stage of the
20 project we'll move again to 4, pump the supernat (sic)
21 to the treatment plant, go to 5 and we'll exfiltrate.
22 So the water going to 5 this fall from the treatment
23 plant will be much cleaner and -- but it allows us
24 then to make some determination on impacts of TSS to
25 the treatment plant.

1 We can then monitor and do a lot of
2 testing on the discharge here so we have actual
3 numbers, and we can then calibrate and make sure the
4 plant is following properly and meeting all standards
5 before we go to the next stage -- go ahead, Joel --
6 where in this case then we -- we then will go from --
7 from 4 pumping the tailings to 5, to the treatment
8 plant, and then we'll discharge here.

9 Again, the difference is now we start
10 talking about here is that we're now sending water
11 back to the mill as well. So as we get things done
12 this fall the goal is -- is to reduce the amount of
13 water going into the environment by recycling, which
14 also reduces the amount of water taken from the Flat
15 River on a daily basis. Again, just -- just -- just
16 again more -- more definition regarding that as well.

17 When we -- we had the discussion, we
18 had some alternatives. We looked at additional
19 exfiltration for wastewater treatment. We realized as
20 a -- as a mining company we did not have time for the
21 exfiltration to go through the amendment process and
22 therefore -- and construct as well, so the Company has
23 selected the temporary treatment.

24 Those options were also then very
25 limited, because you can't build a physical treatment

1 plant in -- in less than a year to eighteen (18)
2 months. So we -- we looked at a lot of different
3 options that were out there for temporary wastewater
4 treatment, Veolia being the largest company in the
5 world that produces wastewater treatment facilities
6 for mining companies. I believe it's 10 percent.
7 They -- they service 10 percent of the world capacity
8 for wastewater treatment.

9 We went to them for a solution and they
10 came and -- and we've now come a -- a two (2) unit
11 system where there's two (2) treatment plants, each
12 capable of -- of treating 1,500 cubic metres a day.

13 The third one is the optional one for
14 an additional twelve hundred (1,200). And then we
15 have two (2) mobile storage units. The mobile storage
16 units you'll see a little farther in the presentation.
17 One (1) is for the mixing of the coagulants, keep them
18 indoors for the winter months. And we pump them over
19 so we keep them from freezing. We also have the
20 valves and the -- the way we're going to control the
21 water will also be in a trailer so we can move water,
22 you know, inside by valves and -- and other types of
23 devices.

24 Again, as I said, it's going to be at
25 the location of tailing source 3, 4, and 5 at the

1 junction. I -- I know Jeff (sic) can speak better --
2 from Veolia -- on this than I can, but it's a high-
3 settling rate process that combines the advantages of
4 ballasted flocculation and lamella clarification. It
5 provides stable highly clarified water by using -- by
6 using chemicals. Again, this is a process that's used
7 at other mines in Canada as well.

8 The lab tests were done. We
9 demonstrated that the TSS contaminants can be removed
10 appropriately. The active flow units will have online
11 analyzed continuous monitoring for both pH and TSS.
12 So we'll have -- we'll have continuous monitoring for
13 that.

14 These analyzers will be hooked up to
15 control valves, fail-safe valves, that if we -- if we
16 go above limits, the valves will be open, clo -- fail
17 safe open, fail safe closed. And I'll show a drawing
18 of that later. So we will not have an upset going to
19 the river because of the continuous monitoring.

20 We -- we look to operate the ponds with
21 thirty (30) days of water storage and we're going to
22 provide an additional seven (7) days of storage in
23 case of a plant breakdown. So we understand that
24 things happen, and that plants break down. Veolia has
25 the parts for their equipment on site, as well any

1 other parts can get shipped within seven (7) days.

2 In -- in case of a plant breakdown, we
3 will always have the ability for one (1) plant to run.
4 And -- but we've done and made a conservative effo --
5 estimate of, if both plants break down, we need seven
6 (7) days of storage.

7 But -- but we see, like, even if
8 there's a power outage, then obviously the mill is
9 shut down and we're not discharging. So it's -- it's
10 only if there is a plant breakdown this becomes a
11 concern. And we have seven (7) days of pond storage
12 built into this for both plants being down, but we
13 don't anticipate that scenario occurring. We -- we
14 see one (1) plant may go down, but the other plant
15 would continue to run.

16 We have sample ports that we provided
17 to grab samples at any time, so we cannot just do the
18 continuous monitoring. But we'll also be able to
19 sample at regular times at discharge and effluents,
20 influents and effluents, to make sure that we have a
21 handle on chemistry in and chemistry going out of the
22 facility.

23 We talked about the TSS and pH on a
24 continuous basis, and also the -- the labs come with
25 their own mobile labs for their own testing. So the -

1 - the other -- the other factor here with North
2 American Tungsten is, because they did not have an
3 operator that has run these facilities.

4 Veolia Water is providing a operator, a
5 full-time operator, for the plant. We just felt for
6 optimization of the plant, to make sure things are run
7 properly, North American Tungsten is -- has contracted
8 with Veolia to actually run the plant. So we've got
9 qualified operators. It will also be set up versus
10 (sic) satellite, so that -- back to their headquarters
11 that they can monitor and debug the facility from the
12 headquarters in Montreal as well.

13 This is just a -- a drawing here of --
14 of raw water going in, going through the process, the
15 cl -- how the clarified water works. Any questions on
16 this, Jeff can -- can run through this process in much
17 more detail later if we come to have questions
18 regarding that.

19 We've talked about the fail-safe
20 operation. And -- and we felt this was -- was
21 critical. As we see here, we'll have two (2) lines
22 that will go in. And there'll be turbidimeters on
23 these two (2) lines that come from the wastewater
24 plants.

25 There will be valves here that these --

1 these are fail open valves. They'll be Ts, they'll be
2 fail open valves. And the water typically will go
3 from the wastewater treatment plant through the
4 turbidimeter. It will go to the -- through a fail-
5 safe close valve that will stay open if the
6 turbidimeter reads that way. And it will go to a
7 tank.

8 The mill will pump out whatever is
9 needed, and whatever excess we have will go to the
10 environment. Understand that if one (1) of these
11 turbidimeters fails, and we get high TSS, this valve
12 will automatically close and this valve will
13 automatically fail-safe open. So then the water then
14 will be discharged back to the tailings pond.

15 So we have a -- a system in place that
16 will be, again, the turbidimeters will -- will run
17 these valves. And we have a -- a plan in place then
18 to ensure and -- that we don't have water that -- that
19 doesn't meet standards going into the environment.

20 It is proposed that the discharge will
21 change from the exfiltration in TS5 to the safety
22 pond. The automatic valves and analyzers will be
23 tested prior to discharge, and they'll be tested
24 regularly to make sure they are opera -- operating.

25 The discharge was chosen is -- is

1 already considered influenced by tailings due to the
2 proximity. And they'll be -- we expect that with no
3 or little change in the water quality through the
4 increased flow of the treated water.

5 We're also, as I said before, treating
6 water to go back to the mill for reuse. This volume
7 is estimated, of the 3,000 cubic metres a day, a
8 thousand to 1,200 metres going back, as well.

9 Okay. If we look at the discharge
10 itself, the culvert here is at the bottom left-hand
11 corner of the page. This is the -- this is the
12 stream, we may want to call it, that feeds the Flat
13 River. Very coarse sediments on the bottom.

14 Again, just another view looking down
15 the stream towards the Flat River. Again, coarse --
16 coarse sediment bottom on that stream.

17 Here is the discharge here. We already
18 see that there's quite a bit of agitation in that
19 leaving. This is the culvert outfall. It already has
20 riprap protection at the bottom, but we'll add more to
21 minimize any erosion effects here.

22 And the -- the culvert remains open all
23 year round due to the upward gradients within the pond
24 themselves. So this pond functions all year round,
25 and has for the past thirty (30) years, correct, Doug?

1 Okay. Some just existing information
2 here on the pond and Flat River. We've got existing
3 pond volume itself has 5,000 cubic metres of volume.
4 With typical flow results, we see of -- of leaving the
5 culvert, on an average basis, is a thousand to 1,500
6 cubic metres a day. The average daily flow is about
7 1,500 cubic metres a day.

8 The capacity of the culverts, depending
9 upon the elevation of the pond, because you understand
10 the higher the elevation over the culvert the more
11 gradient and pressure there is to push water through,
12 we can handle up to 27,000 cubic metres a day.

13 We will provide additional riprap and
14 flow control in -- in there. We -- we understand the
15 data from Mackenzie Valley that we have a ten (10)
16 year frequency, seven (7) day low, as reported, of
17 about 17,000 cubic metres a day in the Flat River.

18 The discharge as currently planned has
19 3,000 cubic metres a day, with the additional twelve
20 hundred (1,200) as needed. And the existing water
21 quality results indicated that TSS within the Flat
22 River, upstream of the site, ranged from non-detect to
23 24 ppm. So that -- that's data that we know was asked
24 for previously and that we provided.

25 We know that the guidelines and

1 regulation, MMVR (phonetic) and MV -- Mackenzie Valley
2 compliance parameters for the TSS currently are
3 fifteen (15) and thirty (30) right now. The CCMA
4 guidelines for TMS (sic) is 5 milligrams per litre
5 above the background level per lateral of exposure.
6 We know those are out there.

7 This is just a picture, again, showing
8 the culvert. Here is the culvert location. It goes
9 under the road to the -- to the pond. That stays open
10 all the year. We just looked at different conditions
11 to determine what flow rate to determine capacity.

12 Historically, on record the measurement
13 the mine has seen as low as 121 cubic metres a day to
14 as high as 16,000 cubic metres a day, are their
15 recorded data through the culvert. We've cal --
16 calculated capacity of up to twenty-seven thousand
17 (27,000). If we're one (1) foot over at full, where
18 the water level is at the top of the culvert, we have
19 fourteen thousand (14,000).

20 So we believe the existing culvert has
21 the capacity to handle the flow, not just from the
22 discharge of the treatment plant, but this current
23 discharge as well.

24 So, in summary here, we've used
25 exfiltration for many years with little or no impact

1 on the Flat River. All water produced from the mine
2 has gone to the tailings basin. So in the past
3 there's been no recycle of water.

4 We've requested -- they requested modif
5 -- of modification for exfiltration pond, but both
6 were denied and required the amendment process. Due
7 to the time frames and construction seasons, North
8 American Tungsten needed to look at wastewater
9 treatment as the alternative for continued operations.

10 Due to the time frame, limited
11 technology, because we didn't have time to build a
12 physical treatment plant, we had to look for
13 technologies that were mobile in nature. We found an
14 excellent process with Veolia Water, their Actiflo
15 process, that's used around the world and -- and in --
16 in northern Canada, as well.

17 The units will be in operation until
18 the tailing pond -- the new tailings pond is permitted
19 and built. So understand that these tail -- these
20 wastewater treatment plants are temporary in nature.

21 They -- we -- we only have, if you're
22 going back to the capacity table, seventeen (17),
23 maybe twenty (20), months of capacity in these ponds,
24 depending upon how we determine storage volumes. So
25 these -- these treatment facilities will only be

1 temporary in nature, which it also didn't make sense
2 to build a treatment plant here and then later on have
3 to build a treatment plant otherwise -- you know,
4 somewhere else on site, as well. Again, that's why
5 the mobile units made a lot of sense from a Company
6 standpoint.

7 We plan to recycle portion -- portions
8 of the water, thus redu -- reducing impacts to the
9 river. And -- and I must emphasize it's a dual
10 impact. Not only will we be sending less water to the
11 environment, we are also going to take less water from
12 the Flat River, as well. And we're -- we're asking
13 for, you know, these temporary reasonable limits to
14 allow for uninterrupted mining operation.

15 So with that I'll -- I think I did
16 pretty good according to the agenda. I moved through
17 a lot of material. Any general questions at this
18 point or...?

19 THE FACILITATOR: Okay, Zabey Nevitt,
20 with the Board here. Thanks, Rod. Yes, you did do
21 very well, just three (3) minutes off here, which is
22 quite impressive for a -- for a first presentation.

23 Just before we do move on I -- I'll
24 just open it up in a second for some general questions
25 there. I -- I neglected to comment on two (2) very

1 important issues at the beginning of this when I had
2 my opening comments.

3 One (1) was just a disclaimer here from
4 the Board's side. This is a technical session. We're
5 not sitting in front of the Board, of course, so this
6 is -- the -- the idea is here for an open discussion.
7 It will be on the record, but nothing that is
8 essentially said here, particularly from Board staff,
9 should be construed as the final position of the
10 Board. This is -- this is an opportunity for us to
11 work through these things. The Board staff will be
12 asking questions. But I just want to make it clear
13 that that -- that doesn't indicate any prejudgment by
14 the Board on that point.

15 The second point is the muffins and the
16 coffee are over there. I'm not sure which one of
17 those is more important, but there is a -- there are
18 some muffins over there, and please feel free to help
19 yourselves, along with the coffee. We -- we will take
20 a break, but -- but that's there -- there then.

21 So, yes, as -- as Rod said, maybe at
22 this point we'll just -- we will be going by subject
23 area soon, so do bear that in mind. But are there any
24 general questions based on the presentation you've
25 just heard? Please do remember to state your name

1 before -- before proceeding with your question.

2

3 QUESTION PERIOD:

4 MR. PETER REDVERS: Yes, Peter
5 Redvers. Just a couple of general questions just for
6 clarification because I'm still trying to wrap my head
7 around some of this. With respect to the ongoing TSS
8 monitoring, I mean, there's two (2) issues out of TSS.
9 That's just turbidity itself as well as increased
10 metal concentrations.

11 And I'm wondering how direct a
12 correlation there has been made between the -- the
13 suspended solids and specific metal concentrations.
14 What are -- what are we actually concerned about here,
15 is it the turbidity itself or is it the -- the
16 increased metal concentrations from a higher TSS?

17 MR. DOUGLAS WATT: Doug Watt. It's
18 actually both. The metals that are contained in that
19 discharge water is basically contained in the TSS. So
20 any change in TSS will affect the total metals.

21 I know that for a lot of the regulatory
22 permitting and stuff dissolved metals are not used.
23 But if you looked at dissolved metals in the water
24 itself you would see that the actual dissolved metals
25 are extremely low, in many cases, below detection

1 limits for almost everything. So TSS and metals are
2 very closely tied together.

3 MR. PETER REDVERS: So I guess the
4 question is is if you're monitoring the TSS how direct
5 a correlation can you make between an increase in TSS
6 and the metal concentrations themselves, or do you --
7 at a certain level do you just move then to further
8 testing or actual metals detections testing?

9 THE FACILITATOR: Zabey Nevitt, with
10 the Board. Just a reminder to say your name before
11 speaking each time, so.

12 MR. PETER REDVERS: That was Peter
13 again.

14 MR. DOUGLAS WATT: Doug Watt. In the
15 plan itself we will be measuring directly only the
16 TSS. But we will also be doing regular monitoring of
17 the water total of itself, the water. And that will
18 be sent out for the total suite of analysis. And over
19 a period of time, I'm sure we will build up a
20 correlation -- direct correlation between the two (2).
21 That process will -- will start during the break-in
22 period, when we start up just doing between the ponds.

23

24 MR. PETER REDVERS: Peter. Okay, that
25 -- that answers my question. I was wondering what

1 work had been done to date. But it is something that
2 you will be -- you'll be establishing that
3 relationship through the pond-to-pond period then.
4 That -- that helps.

5 Further, just one (1) other question
6 then. In terms of the overall process, you're looking
7 at the temporary treatment in order to move to the
8 construction of the new tailings ponds, which still
9 requires -- I think the geotechnical work, I'm
10 assuming, is still going on on that.

11 And I'm just trying to clarify in terms
12 of process, given that you've bought yourself some
13 time with the temporary treatment facility, do you
14 then have the option of either building the new
15 treatment pond or moving to a more permanent treatment
16 plant, or is that determination sort of based on
17 lifespan of the -- the mine itself and cost
18 effectiveness between the two (2)?

19 MR. DOUGLAS WATT: Doug Watt. We have
20 to build a new tails facility because the ones that
21 are in place right now, particularly TP4, we are --
22 there -- some concerns have come up with stability
23 underneath them. And the option that we've looked at
24 and -- and are working on are to move them, remove
25 those tailings out of that position into a new

1 facility. So we must build a new facility.

2 The only area to build a new facility
3 within the area of the mine is not in the immediate
4 mine area. We have to move further downstream and
5 that's what we're doing the geotechnical study now on,
6 what we're calling "TSF 6."

7 MR. PETER REDVERS: Peter. I guess
8 what I'm asking is the -- the consideration in terms
9 of maintaining some form of a treatment facility
10 beyond the temporary one -- once the -- even after
11 the new pond has been built.

12 MR. DOUGLAS WATT: Doug Watt. Yes,
13 when we start the planning work -- once we get the
14 geotechnical study completed and start actually
15 planning the construction of a TSF, we will be looking
16 at the different options as well.

17 At the moment, corporately, for us
18 exfiltration works very well. There's obviously some
19 concerns by regulators, but from an operational point
20 of view it's a much simpler system to use, and
21 considering where we have to build that new facility
22 it will definitely be still under consideration. But
23 we'll also be looking at the possibility of water
24 treatment too.

25 MR. RODNEY AMBROSIE: Thanks, Doug.

1 This is Rod Ambrosie again.

2 MS. ANNE WILSON: It's a little
3 difficult to understand, Doug, somebody's whispering
4 and Doug seems to be a bit far away from the speaker.
5 I wonder if he could come a little bit closer to it?

6 MR. DOUGLAS WATT: Doug Watt, just
7 doing a test speak here. Can you hear me?

8 MR. PETER REDVERS: Peter. Just to
9 add to that, the -- the Company has -- is looking at
10 actually reprocessing the tailings in Tailings Ponds 4
11 and 5. And therefore, once that process starts and
12 the new tailings pond is -- is designed, there will be
13 no more water that will be discharged to 3 and 4. So
14 there'll be no need for the treatment facilities at
15 that particular time.

16 So those -- so the need for those
17 treatment facilities are temporary in nature until the
18 new tailings pond is built and then we get, you know,
19 whatever system of control of water is -- is in place.
20 At that particular time then as we go through
21 reprocessing of -- of 3 and 4 there'll be no
22 treatment, because there'll be no water that will be
23 going to those facilities.

24 MR. NATHAN RICHA: Hi there. It's
25 Nathan Richea with the Water Resources Division of

1 Aboriginal Affairs. I just had a couple follow-up
2 questions, and one (1) is just to get my mind back
3 into this particular project.

4 The additional tailings pond that will
5 be designed, is that a separate application or is that
6 part of this application?

7 MR. DOUGLAS WATT: No, that'll be a
8 totally different application.

9 MR. NATHAN RICHEA: Thank you. It's
10 Nathan Richea with the Water Resources Division. The
11 other question I had was about -- in regards to the
12 first question. I'm just curious to understand a bit
13 more about the correlations between TSS and, in
14 particular, metals.

15 I've looked at different correlations
16 that have been done in the past, and because there's a
17 full sweep of metals that can be causing the TSS to
18 change it's hard to determine what is causing a
19 failure of a TSS number. You could actually be below
20 your TSS threshold and still have a higher
21 concentration of a particular metal just because of
22 the relationship between TSS and -- and a particular
23 metal concentration.

24 And you could do years and years of
25 modelling, but your correlation still will not have a

1 very -- you're not -- you don't have very good
2 confidence in your correlation because of the
3 differences. So I was just curious to -- to see how
4 you might tackle that -- that issue.

5

6 (BRIEF PAUSE)

7

8 MR. STEPHAN KLUMP: It's Stephan Klump
9 with EBA Engineering. I haven't really looked at any
10 particular correlation between TSS and -- and certain
11 metals, but I guess it's important to note that this
12 continuous monitoring of TSS is just some additional
13 step that -- that North American Tungsten would add.
14 There would still be the final discharge point with
15 regular monitoring and the water would be analysed for
16 all the -- for all the parameters, especially those
17 that are set with set standards in -- in the water
18 licence. This would just be an additional step.

19 MR. NATHAN RICHEA: Thank you. It's
20 Nathan Richea, with the Water Resources Division. No,
21 thank you for that clarification. It's like an
22 internal check for you guys. Thanks.

23 I just had a follow-up question on
24 that. Knowing that a bunch of operations in the north
25 have logistical challenges, how often do you feel that

1 you could get a sample out for a laboratory, like an
2 ICP metal scan, weekly or every two (2) weeks? Like
3 how often logistically could you actually have a
4 sample go out for assessment in a laboratory?

5 MR. DOUGLAS WATT: Doug Watt. We
6 already are required by MMER (phonetic) regulations to
7 sample weekly at all final discharge points. And our
8 samples go out every week.

9 MR. NATHAN RICHEA: Water Resource --
10 it's Nathan Richea with the Water Resources Division.
11 Thank you.

12 THE FACILITATOR: Zabey Nevitt, with
13 the Board. Okay, if that's all the general questions
14 we have at that -- this point, then what we'll do is
15 we'll move into the -- the subject areas here. If
16 it's possible, could -- could we possibly bring the
17 agenda back up on the screen. I think it might be
18 useful for everybody to -- we should have copies but
19 if we can have it up there as well then we can remind
20 ourselves where we're at.

21 What I'm going to do here is we're
22 going to go through these subject areas. And as we
23 get to each new subject area we're going to move
24 through, by reviewer, a comment summary table which
25 summarized all of the comments received by the -- the

1 comment summary deadline and the Company responses was
2 distributed to everybody towards the end of July. And
3 copies are also available here.

4 So what I'm going to do is I'm going to
5 move through each reviewer. So we'll go DFO, AANDC,
6 Environment Canada, as those are -- those are the
7 reviewers who provided specific comments, and ask them
8 to -- to state the issue that they raised and if they
9 can possibly also reference the number in the comment
10 summary table that that comment relates to.

11 Respond if there is any -- and -- and
12 North American Tungsten has, of course, provided a
13 response to that. And what I'll basically ask you to
14 do -- for each comment is for -- for the reviewer to
15 say, Has that satisfied the -- the comment or is there
16 some more information that's needed or some further
17 action that you'd like to see or any other
18 recommendation.

19 If -- so the quicker we can go through
20 the ones that have been satisfied, that would be
21 great. We'll also -- so while we'll go through, those
22 are the three (3) main reviewers that have provided
23 comment, we'll also provide time for any other
24 reviewers that want to -- anybody else who wants to
25 provide a comment in the subject areas to do so as

1 well.

2 So with that, what we'll do is we'll
3 start with DFO. The -- the subject is pond conditions
4 and capacity. And you have sixty (60) seconds
5 starting now, so.

6 MR. RICK WALBOURNE: Rick Walbourne,
7 Fisheries and Oceans. Zabey, just for clarification,
8 I did have the comment summary table, but obviously
9 there's a lot of information since, so I did have some
10 -- as opposed to going through those direct comments I
11 have a list of questions here based on their answers
12 and what I've seen the presentation. So can I just --
13 could I go through those instead or what would you
14 prefer?

15 THE FACILITATOR: If you want to
16 change the way -- it's Zabey Nevitt, with the Board, I
17 propose to do that now. Fine, Rick, we'll do it that
18 way. But if -- when you do get to them if you can
19 sort of reference if one (1) of them relates to a
20 specific comment, if it possible just to relate back
21 to that. It'll help us in record-keeping a little bit
22 to say, Oh, yeah, that relates to this comment, then
23 that'll be great.

24 MR. RICK WALBOURNE: Okay. Yeah, Rick
25 Walbourne, with Fisheries. I'll take -- I'll cross

1 reference those as I can, but I just had this list to
2 work on. Okay, the first question, I guess, you do
3 mention several times that the -- the natural pond or
4 sticky pond is considered affected or influenced by
5 its proximity to Tailings Pond 3.

6 Could you give me an example of what
7 information you've used to base those conclusions on
8 or anything you've seen?

9 MR. DOUGLAS WATT: Doug Watt. We
10 haven't looked at it particularly at this point in
11 time. And, in fact, it's been some of the regulators
12 in the past that have used that term as "tailings-
13 affected pond." But I do know from my experience at
14 the site that -- that the tracer we use for -- for our
15 plume surveys, which is sodium because that's the
16 reagent we use -- one (1) of the chemicals we use in
17 our -- in our process plant, does vary.

18 I noticed that when the plant is shut
19 down, when we had our short-term closure there, that
20 sodium levels started to drop off. And starting --
21 when we -- once we started back up our operation again
22 the sodium levels slowly started to creep back up
23 again. But I don't have any -- any evidence or
24 anything with me for that.

25 MR. RICK WALBOURNE: Okay. Thanks,

1 Doug. Yeah, that's fine. I'm just -- I'm trying to
2 get a feel for what the existing conditions are there
3 now, I guess, before we get into any potential --
4 sorry, this is Rick Walbourne, with Fisheries --
5 before we get into any recommendations throughout the
6 licence process.

7 So I guess to move back a bit, I do
8 have a question on the existing channel. You've
9 showed some pictures on it. It looks like some nice
10 cobble substrate connective to Flat River, so I will
11 assume that that channel itself is fish habitat, as
12 it's connected to the Flat River, which is fish
13 habitat.

14 Is -- am I correct in assuming that or
15 is there any information on what your position is on
16 whether that -- the channel between the culvert and
17 the Flat River is fish habitat?

18 MR. DOUGLAS WATT: I don't have a
19 direct comment because I'm not an expert on that sort
20 of thing. All I can say is that I've never seen any
21 fish in the pond itself. And that channel's fairly
22 short but, as you said, it's connected to the Flat
23 River, so.

24 MR. RICK WALBOURNE: Yeah, Rick
25 Walbourne, Fisheries and Oceans. Again, I'm just

1 trying to get a feel for -- that doesn't really change
2 anything regarding discharge into the pond. But
3 before recommendations, I'm trying to get a feel for
4 that.

5 So if the channel is potentially fish
6 habitat, I guess my next question would be, from that
7 you see, whether or not that culvert is potentially
8 fish passage at this point. There was one (1)
9 picture. It looked like it might be a perch culvert.
10 But I'm just trying to get a feel for between the
11 channel, the culvert, and that pond.

12 I know you don't have any information
13 per se on whether or not that pond is fish habitat,
14 and that would not directly change whether or not you
15 can discharge into that, but I'm trying to get a
16 better understanding for what those conditions are.

17 MR. DOUGLAS WATT: I guess all I can
18 say is that that discharge point has been a final
19 discharge point for many, many years under MMER, and
20 we don't plan to change that. Oh, Doug Watt. Sorry.

21 MR. RODNEY AMBROSIE: This is Rod
22 Ambrosie again. I -- I think you saw there's about a
23 -- at least about a 1-foot drop between the bottom of
24 the culvert and the -- and the riprap. So I don't
25 know if that -- if that factors into it as well. But

1 we do see a fairly -- you know, 12-inch drop between
2 those structures, so.

3 MR. RICK WALBOURNE: Yeah, Rick
4 Walbourne, Fisheries and Oceans. Yeah, I'm not as
5 concerned about the final discharge point or the water
6 quality. But given that you will be discharging into
7 that pond, if there are fish in there or in that
8 channel, then we'd more interested in this -- in the
9 sedimentation potential of impacts to any fish that
10 may be in that system, and even if there aren't fish
11 in there now.

12 I guess another question is: With the
13 increased flow coming through that culvert could that
14 potentially open up passage that isn't currently
15 there? So I'm just trying to just think about the
16 level of protection we should consider when we're
17 looking at how that water is discharged into that
18 pond.

19 So I guess another question is: Would
20 increased volumes potentially open that up? Again, my
21 point is, at the end of the day, how much protection
22 should we be looking at in that pond in terms of --
23 there was a mention, for example, that you may put a
24 diffuser type at the end of that -- of the discharge
25 pipe.

1 So, again, if there's -- depending on
2 the potential for fish to be in that area, that's when
3 we can start discussions on how that should be
4 discharged.

5 MR. JOEL TOSO: Joel Toso, surface
6 water hydrologist. I don't see any significant change
7 in the hydraulics of the culvert, very little
8 difference in velocity. So whatever it is now, it's
9 going to be fairly close.

10 There will be some increased
11 velocities, but you've still got the same step up, in
12 terms of between the fish -- the stream channel below
13 and the culvert itself.

14 MR. RICK WALBOURNE: That's fine.
15 Just for -- I guess for Zabey's purposes, that was
16 referencing item number 2, the connectivity with the
17 Flat River; I guess item 1, the increased surface
18 discharge. So, no, I think I'm comfortable with those
19 responses.

20 Again, I think we'll be looking at
21 mitigation measures to assume that there are fish in
22 those areas, and that shouldn't change, but I just
23 wanted to get confirmation. I did have another
24 question. Sorry, just one (1) second.

25

1 (BRIEF PAUSE)

2

3 MR. RICK WALBOURNE: Rick Walbourne,
4 Fisheries and Oceans. There was mention in your
5 comment -- I guess the comment summary table, of this
6 energy dissipation pool potentially downstream of the
7 culvert. And I guess another reason I was interested
8 in potential fish or fish habitat in that channel was
9 any modifications to that, such as a -- the dis --
10 dissipation pool that you mentioned or lining the
11 channel, may actually be impacting fish habitat by
12 reducing erosion.

13 So are those two (2) components on the
14 table or are they under discussion, or what is the
15 status of either the energy dissipation pool in the
16 channel and/or lining of the channel?

17 MR. RODNEY AMBROSIE: This is Rod
18 Ambrosie with Wenck Associates. Be -- once we
19 received your comment, we did take a long -- a -- a
20 longer look at it. And as you can see, we went back
21 to the -- to the plu -- the stream itself or the --
22 the outlet and noticed the size of cobble and the --
23 the material that's in the ponds and -- and felt that
24 actually lining the pool, that that doesn't
25 necessarily provide anything more, in terms of erosion

1 protection.

2 We did look at providing some
3 additional riprap or -- or at the -- at the location
4 of the culvert just to, you know, disperse any more
5 energy in that so we get a little more flow moving
6 from the -- the culvert so it's not as a turbulent
7 flow leaving the culvert itself. So we did look at
8 placing some riprap there as well.

9 So, you know, based on the comments, we
10 did evaluate it further and, at this point, don't see
11 the need to line that channel at all, but adding some
12 riprap at the culvert location might be something to
13 be considered.

14 MR. RICK WALBOURNE: Rick Walbourne
15 from Fish -- Fisheries and Oceans again. I'll thank
16 you for that. And for Zabey's information, I think
17 that takes care of my -- the first three (3) comments
18 that DFO had provided.

19 And I -- they're addressed at this
20 point. There might be some additional information I
21 guess as we go throughout the process, but I -- that
22 information's fine. Thank you.

23 THE FACILITATOR: Zabey Nevitt with
24 the Board. Okay. Thanks, Rick. We'll move onto
25 AANDC.

1 MR. PAUL GREEN: It's Paul Green with
2 Water Resources Division of Aboriginal Affairs. Our -
3 - our comments or Information Requests dealing with
4 the pond are -- are generally in, I guess, row 10 of
5 the comment table.

6 We had a few -- a few points in that --
7 in that one (1) row. I'll just start, one (1) of your
8 slides, I can't remember which one any more, it showed
9 the discharge -- or, the existing discharge volumes
10 from the pond and it went as high as 16,000 cubic
11 metres per day, if I remember correctly.

12 And is that a -- was that a measured
13 number or a -- an estimated number? Or -- it just --
14 it seems like a -- it seems like a large volume, given
15 that the 7Q10 for the Flat River is, you know, at
16 seventeen thousand (17,000).

17 So I'm just curious about that number
18 and how it was derived or generated.

19 MR. RODNEY AMBROSIE: This is Rod
20 Ambrosie from Wenck. We'll pull up that table, but
21 that -- that is a range of numbers that were measured
22 by the site. And -- and, Doug, you could talk a
23 little bit about how it's measured, but the -- the
24 mine does keep track of the record.

25 Now that could have been the high flow

1 during freshette, during -- during a rain storm. I
2 mean, that -- that was just a recorded high number.
3 As you said, there's also a very, very low number that
4 I've given in that range. So we just -- I just took
5 the whole range and said, Here's -- here's what --
6 what happens.

7 But we -- we do see on the average it
8 running somewhere around that 1,500 cubic metres a
9 day. But just to prove the point that the culvert
10 does -- can handle significant volumes of water is why
11 we reported that number the way it was.

12 MR. PAUL GREEN: Yeah, and during
13 those -- like did -- oh, sorry, Paul Green with
14 Aboriginal Affairs. How did the -- how did the
15 channel respond during those -- those very high
16 discharges?

17 Like was there -- was there erosion
18 issues, or how -- like do you recall that even in
19 particular, or how did that kind of -- how did that
20 look?

21 MR. DOUGLAS WATT: Doug Watt. Well,
22 we get high flows every year during the freshette
23 period. There's a lot of snow melt going on,
24 groundwater flows start to increase, and the pond does
25 go through kind of a -- a high-flow period for a

1 while. And we've never, ever seen any problem with
2 that channel. That channel was there long before I
3 got there, and it hasn't changed significantly that
4 I've noticed.

5 What also occurs about the same time,
6 of course, is the Flat River rises up. And when that
7 occurs the water does tend to back up a little bit up
8 that channel, towards the culvert. And -- and
9 therefore you're not actually running -- you're ac --
10 running -- actually running probably more than a bit
11 of a pool there during the highest water periods
12 because of the Flat River backing up.

13 MR. PAUL GREEN: Okay. Thank you.
14 Yeah, that's -- I can sort of visualize that. Oh,
15 sorry, Paul Green, Aboriginal Affair Water Resources.
16 By the end I'll get that sorted out.

17 Sorry, where was I going? So on -- on
18 balance, is the contribution of -- of this discharge
19 from the pond to the Flat River, does that remain more
20 or less constant, sort of as a percentage of the total
21 flow in the Flat?

22 Like, obviously, when it's -- it's
23 kicking out at 16,000 cubic metres, the Flat is quite
24 high, so it better be -- whatever that percentage
25 would be. When you're down at 121 cubic metres a day,

1 presumably the Flat's lower.

2 Like, is it -- is it going to be a sim
3 -- do you have any feel for whether it's a similar con
4 -- percentage contribution?

5 MR. DOUGLAS WATT: Doug Watt here.
6 Are you talking about the overall discharge of water
7 from the tailings ponds?

8 MR. NATHAN RICHEA: No, more the
9 contribution from this pond to the Flat. I guess what
10 I'm getting at -- what I'm trying to sort of
11 understand or -- or think through is, you know, you've
12 got a natural system here. So -- influenced by
13 tailings, sure, but -- you know.

14 So when the Flat's down, the -- the
15 flow from the pond is down. So your contribution to
16 the overall water quality from this pond will be kind
17 of -- it will also -- the overall water quality of the
18 Flat will also be decreased, whereas, when you -- you
19 move to a point discharge system where you're going to
20 have a more consis -- you know, like, we'll -- we'll
21 say 2,000 cubic metres from your -- just as a number,
22 because I know you -- you're talking about recycling.

23 So we'll say you're going to get, sort
24 of, 'X' thousand cubic metres from your water
25 treatment plant on a more consistent basis. So your

1 relative -- so the flow from this pond is going to be
2 higher. And so what I was just trying to get a feel
3 for was, you know, how directly, or -- or how -- like,
4 does this -- so it's, you know, you said 1 percent of
5 the flow to the Flat River in -- in your answer here.

6 And so is -- is that kind of what we're
7 seeing now from this pond? Because looking at, you
8 know, the discussion from the Board, it could be
9 substantially higher when the Flat River is lower.

10 I'm not sure if that's -- it's a bit
11 circuitous, but what I'm -- I guess what I'm trying to
12 get at is: What's -- what's the percentage
13 contribution of this pond now to the overall flow of
14 the Flat River?

15 MR. DOUGLAS WATT: I can't give you a
16 percent number, but I -- I do want to kind of mention
17 about the overall tailings water, because they are
18 related to that flow.

19 Right now, all of our tailings water
20 goes into the tailings ponds. And all of that water
21 ends up in the Flat River. It's just that now, it
22 goes through exfiltration into the groundwater and
23 then flows into the Flat River.

24 When we start up the water treatment
25 plant, a large proportion of that water will be

1 directed directly through the treatment plant, but the
2 overall contribution to the Flat River will be no
3 different. It will be the same volume of water into
4 the Flat River.

5 Yes, it might be a little more of a
6 point source, rather than being diffused over an --
7 you know, over a wider area. But the overall effect
8 on the Flat River should be no change, as far as the
9 volumes go.

10 MR. NATHAN RICHEA: Hi, it's Nathan
11 Richea with the Water Resources Division. Thank you
12 for the answer. I guess we're just trying to wrap our
13 head around how the volume of water will go in at a
14 single point, versus the volume of water going over
15 'X' kilometres of -- of the river, right?

16 So we're looking at a percent
17 contribution of the flow from that stinky pond through
18 the culvert to the Flat River. And it may be in the
19 order of 1 percent to 10 percent, I don't know.

20 But we're just trying to get an
21 understanding of that, because that will be a percent
22 load that will be going into the Flat River as a point
23 source. And that needs to be considered when we're
24 looking at effluent quality criteria. So I'm just
25 trying to understand.

1 I had a quick question about the water
2 being discharged from the water treatment plant to the
3 pond, the stinky pond, I guess. Is it just going to
4 be a -- a pipe going into -- on a floating barge or
5 something? How -- how will the water be transferred
6 to the stinky pond?

7 MR. RODNEY AMBROSIE: Yes, this is Rod
8 Ambrosie from Wenck Associates. We actually have --
9 and this -- this should help Fisheries as well. We
10 actually have some drawings. We will -- we will have
11 a -- a riprapped, you know, diffusion type of -- at
12 the discharge location to -- to minimize any energy in
13 that as it goes into the pond.

14 As you can see here on the -- on the
15 left, we're going to discharge here at the corner. We
16 then -- the culvert is over here. Joel, go to the
17 next one (1), please.

18 As you can see, we will have a -- a
19 riprap and rock filter. So we'll have a -- a riprap
20 bottom and then a filter going around it to -- to
21 disperse water as well. Let's go to the next one (1),
22 Joel.

23 And then this -- so this -- this filter
24 will -- actually, the water will flow through it, so,
25 again, dispersing energy and -- and allowing flow. So

1 that's that filter that goes around. And we will have
2 the pipe actually discharge into a -- the filter.

3 The filter then will -- will be shown -
4 - will be over here so that any -- any water buildup
5 must go through the filter before it goes into the
6 pond again, dispersing all the energy and that from
7 the pond.

8 So any other comments or -- on this?
9 Any...

10 MR. JOEL TOSO: Joel Toso. The rock
11 filter also distributes the flow throughout the pond.
12 It's -- it's -- and it's not one (1) point source, but
13 it's used for distribution. So you have that
14 semicircular arc that kind of moves water around in --
15 into the various points of the pond.

16 MR. NATHAN RICHEA: Hi. It's Nathan
17 Richea, with the Water Resources Division. Do you
18 have any units? Like how far away will the filter --
19 I'm assuming like a semicircle, perpendicular. Like
20 how -- how far away from the -- the discharge pipe
21 itself will the filter be, like a couple metres or
22 how...

23 MR. RODNEY AMBROSIE: I'm -- I'm
24 envisioning a semicircle, about a arc of a 10 metre --
25 10 metres out.

1 MR. NATHAN RICHEA: Thank you. It's
2 Nathan Richea, with the Water Resources Division.
3 Yeah, I'll just process that for a while. I'm just
4 visualizing it and trying to -- to think about it for
5 a sec. So Paul can continue if he's got other ones.

6 MR. PAUL GREEN: I guess the last --
7 just looking through the responses here to our row 10
8 -- it's Paul Green, with the Water Resources Division.
9 I guess the last -- the last question I guess we have
10 just related, you know, to this -- this element would
11 be mixing in the Flat River.

12 There's an expectation that the mixing
13 will occur over a fairly short distance. Has there
14 been any sort of calculation or modelling done on, you
15 know, the mixing of -- of the discharge into the Flat
16 River?

17 MR. JOEL TOSO: Joel Toso. There has
18 been no modelling done. We have just been inspecting
19 the river itself. I think the pool and riffle
20 characteristic of the ri -- of the river, as Rod was
21 mentioning, does ensure a quick mixing within a very
22 short period. I would think within a couple meanders
23 of the river you have full mixing. So that -- that's
24 the expectation here.

25 MR. NATHAN RICHEA: Hi. It's Nathan

1 Richea, with the Water Resources Division. I had a
2 couple seconds just to think about the -- the
3 discharge into the stinky pond.

4 And I was just wondering about what's
5 the total capacity right now of -- of the pond and
6 will the 2,000 cubic metre -- will that -- like water-
7 level-wise, how high will that change? Like is it a
8 couple -- a couple centimetres like over the total
9 capacity? Like say this whole capacity is 10,000
10 cubic metres and you're adding 2,000 cubic metres a
11 day. You might only have a small -- a small water
12 level rise?

13 I'm just trying to understand how much
14 contribution that will be to the pond itself.

15 MR. JOEL TOSO: Joel Toso. If I
16 understand your question correctly, the added
17 discharge of the pond, I would -- I would guess, would
18 be changing the elevation on the order of inches.

19 MR. NATHAN RICHEA: Yeah, it's Nathan
20 Richea, with the Water Resources Division. We're --
21 that's -- that's all for our questions for right now.

22 THE FACILITATOR: Okay. Thank you.
23 Zabey Nevitt, with the Board. Okay, we'll move on to
24 Environment Canada, any questions they may have on the
25 pond, stinky pond.

1 MS. LISA LOWMAN: Thanks. It's Lisa
2 Lowman here, from Environment Canada. I have a couple
3 questions. And then we've got Anne Wilson and Amy
4 Wilker online. So they may also have additional
5 questions once I'm done with mine.

6 So this -- this relates to, I guess, IR
7 number 33 on the overall table. And Environment
8 Canada requested that the Company provide detailed
9 information characterizing the hydrology of the
10 natural pond as it relates to the adjacent TPs in Flat
11 River.

12 And the Proponent responded that a
13 complete site hydrology and hydrogeo -- geological
14 assessment is currently being developed. So that's
15 great. And we're looking forward to that December
16 31st.

17 And because we've got consultants in
18 the room right now, I just had a couple quick
19 questions in regards to the hydrogeology
20 characteristics of the pond. And the first question
21 is: I'm just curious if anyone from Canta -- or
22 sorry, the Proponent knows the elevation difference
23 between the pond and the Flat River?

24 MR. JOEL TOSO: The elevation
25 difference you can see fairly well between the -- the

1 outlet and the culvert. I expect the elevation to be
2 short of a metre between the pond and the river.

3 MS. LISA LOWMAN: Great. Okay, thank
4 you. And the second question is: The natural pond --
5 oh, sorry, it's Lisa Lowman, Environment Canada.

6 In literature that I've read, and also
7 this submission, I'm just wondering in terms of the
8 natural pond being spring fed. Is that correct?

9 MR. DOUG WATT: Doug Watt. Yes, it is
10 spring fed -- spr -- sorry, spring fed. There is a
11 small component of surface water, but that varies
12 with, you know, with the season. And -- but it's
13 continuous flow from -- from the groundwater.

14 MS. LISA LOWMAN: Lisa Lowman,
15 Environment Canada. Thank you. I was just wondering
16 if that -- that spring occurring at the natural pond
17 is connected to the other springs in that immediate
18 area, the hot springs that are there, as well?

19 Is it all connected via groundwater,
20 through an overall spring?

21 MR. DOUG WATT: Doug Watt. Not that
22 I'm aware of. It is quite a ways away from the other
23 hot springs. I know that at one time, Natural
24 Resources Canada actually did a study on the -- on the
25 main hot springs, which you're talking about. And

1 their report indicated that, obviously, the water
2 comes from deep in the earth.

3 I'd be surprised if it's connected,
4 because the hot springs -- the existing hot springs
5 pool actually is quite warm. And the stinky pond has
6 not very much thermal -- thermal heat in it. Parts of
7 it may stay open at times in the winter, but it --
8 it's not, like, steaming hot or anything like that.

9 MS. LISA LOWMAN: Thank you. It's
10 Lisa Lowman here, with Environment Canada. In terms
11 of the water quality of the natural pond, is there
12 elevated sodium levels that would relate to that being
13 spring fed?

14 MR. DOUG WATT: Past water
15 hydrogeology studies have not indicated that there's
16 particularly higher sodium levels naturally occurring
17 in that pond. It appears that this higher sodium that
18 is in that pond is affected by our tailings water out
19 of the tailings ponds.

20 MS. LISA LOWMAN: All right. Thank
21 you. It's Lisa Lowman from Environment Canada. And
22 my -- my last question is: Is there natural
23 exfiltration occurring from that natural pond into
24 Flat River?

25 MR. STEPHAN KLUMP: Stephan Klump,

1 with EBA. I don't think there's any natural
2 exfiltration from the pond into the river, because the
3 pond itself is located in the discharge area. So
4 there would be upward gradients in the groundwater.
5 And groundwater is exfiltrating into the pond and then
6 discharging through the culvert into the river.

7 MS. LISA LOWMAN: Great. Thank you
8 for clarifying that. That's all of my questions.
9 Anne Wilson, do you have any questions on the phone,
10 there?

11 MS. ANNE WILSON: I do. I think I
12 have three (3) questions, but one (1) thing tends to
13 lead to another. So final discharge point, I just
14 wanted to confirm that, based on my -- let me see here
15 -- the number 5. Oh, no, I'm sorry. I've got too
16 many pieces of paper here.

17 Where was it? It was EC number 31,
18 that the company is amenable to having a final
19 discharge point being the end of the treatment plant -
20 - flow there. And so we would still have 28-1 as well
21 as 4-20, and the historical discharge points.

22 Have I got that correct?

23 MR. DOUG WATT: Are you saying -- did
24 you say -- pardon me, Doug Watt. Did you say, Anne,
25 that the company is amenable to setting a final

1 discharge point at the water treatment plant

2 discharge? Is that what you asked?

3 MS. ANNE WILSON: Yes, that was how I
4 read the company's response to number 31, if I've --
5 if I've got it right.

6 MR. DOUG WATT: No, that's -- that's
7 not the company's position. We're -- we're looking to
8 get some final discharge -- water quality criteria for
9 the discharge of that -- at that culvert. There is
10 already criteria there from MMER, and what we're
11 requesting is that -- that we also get some at that
12 point from the Mackenzie Valley in the water licence.

13 We were not -- and specifically, I'm
14 not requesting that the water treatment plant
15 discharge be considered as a final discharge point.

16 MS. ANNE WILSON: Okay. And just to -
17 - to reiterate what we had said in number 31, EC
18 recommends that the effluent quality criteria be met
19 at the treatment plant outflow as representing the
20 last point of control. And then your responses said
21 NATCL is supportive of these -- these recommendations,
22 so that's how I read that to be amenable.

23 You are wanting just to have it up the
24 culvert?

25

1 (BRIEF PAUSE)

2

3 MR. DOUGLAS WATT: We are definitely
4 in support of making sure that our water treatment
5 plant meets the quality that will ensure that our
6 final discharge point meets all the standards. And
7 that is -- that is what we meant to say when -- when
8 we answered in that -- in that respect. We will
9 always attempt -- or, we always will ensure that the
10 water treatment plant is running at the -- producing
11 the highest-quality water possible.

12 MS. ANNE WILSON: I guess the concern
13 is that once it -- will you be -- Anne Wilson here.
14 Will you be monitoring it at the discharge
15 concurrently with the culvert to assess performance?

16 MR. DOUGLAS WATT: Doug Watt. Yes, we
17 will. Particularly we'll be starting that during our
18 break-in period, but we will have a sample point on
19 the discharge of the water treatment plant and we will
20 be sending samples in for analysis on a regular basis.
21 I'm not sure what -- what frequency yet. Certainly
22 during the break-in period we will probably taking
23 samples fairly frequently and sending in, and we'll
24 see -- see what the results indicate to us.

25 The primary concern for us at this

1 point of course is TSS. That is where, for the most
2 part, the metal contamination could come from, if the
3 TSS is not on spec. But we would also be analysing
4 for the other elements that are analyzed due -- for
5 our water licence requirements.

6 MS. ANNE WILSON: Okay. It's Anne
7 Wilson. Of course the concern is that once it is
8 discharged from the treatment plant, then there is a
9 very direct route into the fish-frequented waters in
10 the Flat River. And there's no guarantees that the
11 treatment that's going to be available through the
12 pond, or the dilution or contributions, good or bad,
13 from infiltration from tailings.

14 So, I would be very supportive of
15 having limits be set at the end of the treatment
16 plant, but certainly, at a minimum, very frequent
17 monitoring there to ensure that once it is out of the
18 last point of control, then it's a decent quality.

19 My question had been around the acute
20 toxicity testing, if you would expect to meet a path
21 in the toxicity test at the treatment outflow?

22 MR. DOUGLAS WATT: Doug Watts. You're
23 asking whether we expected to pass a toxicity test on
24 the discharge of the water treatment plant?

25 MS. ANNE WILSON: That's correct.

1 MR. DOUGLAS WATT: Doug Watt. Yes, we
2 fully expect that it will pass toxicity. In fact, in
3 our test work that's been done to date we have done a
4 number of toxicity tests. Other than one (1) aberrant
5 result that we just received recently, all the samples
6 have passed the toxicity test.

7 And once we start doing our break-in
8 testing of the -- of the plant, between the ponds, we
9 will also be continuing to, besides testing for water
10 quality, also doing toxicity testing.

11 MS. ANNE WILSON: Anne Wilson. Well,
12 that's excellent news. I'm glad to hear the -- the
13 passes and of the continued testing approach. Last
14 question here, on EC item number 35, which is not the
15 subject of this amendment, but it is something that I
16 want to put on the table, going forward.

17 It is possible to attain quality of
18 water that is suit -- suitable for discharge without
19 using exfiltration, then why would you not continue to
20 do the treat and release as opposed to contaminating
21 another area of groundwater?

22 Why would you go back to exfiltration?

23 MR. DOUGLAS WATT: Doug Watt. Well,
24 of course, we don't consider exfiltration to be
25 contaminating the groundwater. Exfiltration removes

1 all the solids. The water quality, if you look just
2 at the dissolved metals and other things, is excellent
3 from our tailings ponds, very little effect on the
4 environment from our -- from the water itself.

5 From the Company's perspective,
6 operating exfiltration pond is way simpler,
7 operational-wise. It's also, in the long term,
8 significantly less expensive to operate and has less
9 chance of causing upsets to the environment, because
10 there's really nothing that can go wrong with it.

11 With the water treatment plant, your
12 mechanical, electrical, all the other problems, some
13 of the -- some of the questions that you guys have
14 asked, you know, what -- what are you going to do in
15 case something goes wrong or -- or to ensure that we
16 stay on quality, that does not occur with
17 exfiltration. If the water quality is good going into
18 the pond, the water quality will be good coming out of
19 the pond.

20 MS. ANNE WILSON: And so -- Anne
21 Wilson. If -- you're saying the water quality's going
22 -- good going into the pond, so I'm to take that as
23 going forward as far as water quality going in?

24 MR. DOUGLAS WATT: Sorry, say that
25 again, Anne, please.

1 MS. ANNE WILSON: Just -- it's Anne
2 Wilson. I don't quite agree entirely with the
3 premise. But that said, do you anticipate that the
4 water quality going into the ponds will be maintained
5 at a good quality throughout the -- the next date of
6 operations?

7 MR. DOUGLAS WATT: Doug Watt. Yes, we
8 do. We don't foresee any changes in our process that
9 should cause the water quality to change. If
10 something was to occur that would change the water
11 quality, then obviously we would have to look at any
12 options that would be required to ensure that it stays
13 within -- within the standards.

14 MS. ANNE WILSON: I didn't have
15 anything else. Anne Wilson. I didn't have anything
16 else at the moment. Thanks very much.

17 MR. RODNEY AMBROSIE: Anne, this is
18 Rod Ambrosie again, with Wenck. I guess the only
19 thing I'll ask is that, as we go through the design
20 and permitting of our future -- as our future tailings
21 basin, tho -- those are questions relating to that
22 particular project.

23 And this -- this particular project is
24 -- is it's standalone. It's -- it's not going to be
25 located near the -- the new facility. And -- and we

1 would -- we would ask that this project be looked at
2 on its -- on its merits itself, and any future
3 permitting and design of future facilities will be
4 looked at. And I'm sure there'll be discussions on
5 those in the future.

6 But this -- this one, you know, we'd
7 like to be done on its own merits. Thank you.

8 THE FACILITATOR: Okay, is that
9 everything? It's Zabey Nevitt, with the Board.
10 Everything from Environment Canada on this subject?

11 MS. LISA LOWMAN: It's Lisa Lowman,
12 with Environment Canada. Amy Wilker, do you have any
13 additional questions on the phone?

14 MS. AMY WILKER: No, I have nothing
15 else to add.

16 THE FACILITATOR: Okay. Zabey Nevitt,
17 with the Board. In that case, are there any other
18 reviewers that have any questions on this issue of the
19 -- the pond conditions and capacity?

20 MS. KATHERINE CUMMING: Katherine
21 Cumming, with Parks Canada. Shall I go ahead?

22 THE FACILITATOR: Yeah, go ahead,
23 Katherine.

24 MS. KATHERINE CUMMING: Okay. I just
25 want to follow up on Nathan's questions about the

1 volumes in the Flat River. I'm thinking about canoers
2 downstream that are using the -- the river. And I
3 understand from your responses that it's a small
4 percentage flow and -- and, you know, that volume of
5 water has been going into the river so far.

6 I'm just wondering about the
7 opportunity for larger releases that might impact flow
8 in sort of a wave coming down the river or something
9 like that.

10 Is there a circumstance you can think
11 of where the -- there might be a larger discharge?

12 MR. RODNEY AMBROSIE: This is Rod
13 Ambrosie from Wenck. No, these -- these plants are
14 operated very, very -- we only have so many cubic
15 metres of water coming to the facility, the wastewater
16 tran -- the plants have limited capacity and the pipes
17 all are limited in size. So we don't -- we don't see
18 any -- any large flows or large surges like you've --
19 like you've indicated.

20 MS. KATHERINE CUMMING: Okay. Thank
21 you. That's all of my questions.

22 THE FACILITATOR: Okay. Zabey Nevitt
23 with the Board. Any further? You've had your turn,
24 what do you want now? No, go ahead.

25 MR. NATHAN RICHEA: It's Nathan Richea

1 with the Water Resources Division. I just had a
2 question in response to -- I can't remember who.
3 There were some, at least in my mind, it seemed to be
4 confusing whether or not the pond will freeze or not.

5 Like, do -- do you have any records or
6 do you know -- have knowledge on whether the surface
7 of the pond has frozen over completely in the past
8 during the winter?

9 MR. DOUG WATT: Doug Watt. I have
10 lots of knowledge about that, because I see it every
11 day. It does freeze over, but there's places where
12 once in a while it will break free. Like, there's a
13 little spring coming up and it'll -- it'll get one of
14 those little clear spots for a while, and then it
15 freezes over again.

16 Like I said, it's not a high-
17 temperature thermal pool, but once in a while you get
18 -- get a little bit of -- of ice melting.

19 MR. NATHAN RICHEA: Thank you. It's
20 Nathan Richea with the Water Resources Division. Do
21 you have any idea, I guess, if -- if the water is
22 opening up, the thickness of the ice? Is it very
23 thin, or relatively thicker in some spots, I guess,
24 versus other spots?

25 Like do you -- in the near shore areas,

1 do you feel it may freeze to the bottom, or do you
2 have any idea on that?

3 MR. DOUG WATT: Doug Watt. I don't
4 believe it freezes to the bottom at all. I -- I've
5 certainly never observed that. Certainly, around the
6 culvert, the ice can get thick enough -- not right at
7 the culvert, but near the culvert -- that you can walk
8 on it in the winter time. But I wouldn't want to walk
9 out too far on it, because I know that there's these
10 little areas that you do get -- get breakthrough
11 coming.

12 MR. NATHAN RICHEA: Thank you. It's
13 Nathan Richea. Nothing further.

14 THE FACILITATOR: Okay. Zabey Nevitt
15 with the Board. Were there any other comments or
16 questions on this particular issue from -- from other
17 reviewers?

18 MR. PETER REDVERS: Peter Redvers. I
19 -- I do have a general question, just about sort of
20 the -- the general water flow management and some of
21 the monitoring. And I know -- should that wait until
22 one of the other topics before we get into that? I'm
23 just not clear on some of these topics and where that
24 might be addressed.

25 THE FACILITATOR: Go ahead. Go ahead

1 now and then...

2 MR. PETER REDVERS: Okay. Peter
3 Redvers. Yeah, I'm just trying to get a sense of,
4 overall, sort of the -- the monitoring that is
5 occurring in terms of overall water management, based
6 -- considering some of the comments about quality of
7 water going into the tailing ponds now and the
8 exfiltration process.

9 So coming out of the actual mill or the
10 processing, I'm assuming there must be a monitoring
11 point then? You're mon -- doing monitoring of water
12 that gets pumped into the tailings pond.

13 Is that, first of all, correct?

14 MR. DOUG WATT: Doug Watt. Yes.

15 MR. PETER REDVERS: Okay. And so
16 there's a monitoring point there. You're going to be
17 moving to the temporary treatment pond -- or, sorry,
18 treatment plant. And for a period of time, they'll be
19 monitoring the outflow of that as you go from pond to
20 pond.

21 And that will establish some of your,
22 sort of, data over time, so you're more accurately
23 able to predict what you would actually be discharging
24 into the pond. So there will be a monitoring point
25 there.

1 Once you shift to -- assuming that you
2 meet the criteria, there will be -- that flow will go
3 into the pond and then through into the culvert. So
4 there will be a monitoring point at the end of the
5 culvert.

6 And then there's going to be some
7 discussion of the discharge into the Flat River or the
8 type of plume that might occur. And there will be a
9 monitoring point on that, at that point. I'm not
10 quite clear; it would be nice to have a map on there,
11 I guess, to have these different points.

12 And so one (1) of the things we're
13 trying to determine here, then, is at what -- which
14 point is the final discharge point, and at what point
15 you set your -- your water quality criteria? Or will
16 there be a set of criteria that you're following?

17 Could, maybe, we clarify that? Will
18 there be one (1) point at which criteria applies, or
19 will there be some varying criteria? And, obviously,
20 as you continue this monitoring over time, you're
21 going to get, one would hope, an idea of...

22 I think what maybe Environment Canada
23 was getting to is, if you're monitoring at the end of
24 the temporary treatment plant, it goes into the pond,
25 there -- if there is infiltration into the pond from

1 the tailings pond through the exfiltration process,
2 then there may be some addition, I guess, of...

3 So is that where the debate is, as to
4 where you do your -- your final discharge
5 measurements? Sort of, do you do it at the treatment
6 plant, or do you allow for some change that might
7 occur in the pond due to the exfiltration process and
8 the infiltration of some of the groundwater and then
9 measure at the end of the culvert?

10 I'm -- maybe we could sort of walk
11 through that a little bit, provide me some clar --
12 yes, that's the -- that's the perfect diagram to look
13 at.

14 MR. DOUGLAS WATT: Doug Watt. Where
15 I'm pointing there, 427-2, that is the culvert
16 discharging from the stinky pond. And that right now
17 is a final discharge point under MMER, and we're
18 requesting that it also become one (1) under the
19 Mackenzie Valley Land and Water Board water licence.

20 That is where we plan to have our final
21 discharge point, where we have to meet the quality
22 criteria. That being said, as I mentioned earlier, we
23 will be also keeping track of the water quality from
24 the treatment plant itself for our own in -- internal
25 control of it.

1 For -- you mentioned about the plume
2 and stuff on the Flat River. We do have a number of
3 points on the Flat River that we also sample. They
4 aren't -- they aren't on this -- this drawing here,
5 but there is one (1) downstream here, I'm going to
6 say, probably 300 metres down from where we expect the
7 water to go in there. And then there's another one
8 (1) about another 800 metres downstream below -- below
9 that.

10 MR. PETER REDVERS: Peter Redvers.
11 Which one is 428-1?

12 MR. DOUGLAS WATT: Doug Watt. 428-1
13 is actually a well, and that's our designated final
14 discharge point. I'll just point it to you here. It
15 is right here. And that just is sampling the
16 groundwater because of our exfiltration process.

17 Doug Watt. The points downstream on
18 the Flat River, like the first one (1) I mentioned is
19 S4-41, that is one (1) that was designated when we had
20 our licence renewed back in 2009. So we've -- we've
21 only got data from that point since 2009.

22 The one (1) that's another 800 metres
23 or so downstream is S4-5. That one (1) we have, you
24 know, years of data for that one (1), back to the
25 2000.

1 MR. PETER REDVERS: Peter Redvers
2 here. So maybe as -- thank you. As we go through
3 this then, I'm -- I'm just trying to get some
4 clarification, because we're going to be moving to
5 some of the EQCs and that as -- as to -- there seems
6 to be some debate over where final discharge is and --
7 and obviously the levels and criteria themselves.

8 So I'm assuming we'll get into that as
9 we proceed. Thank you.

10 THE FACILITATOR: Okay. Thank you,
11 Peter. Any final comments on this issue? Okay. What
12 we'll do, it's 10:30 now. We'll take a ten (10)
13 minute break. We are a little bit behind, so if we
14 can just try and stick as closely as we can to ten
15 (10) minutes.

16 We'll come back at -- at 10:40 here and
17 we'll resume with the next subject, which is erosion
18 and sedimentation. Thank you.

19

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

21 --- Upon resuming

22

23 THE FACILITATOR: Maybe I could get
24 everybody to take their seats again and we can start.
25 We've got quite a lot to -- to go over still today.

1 (BRIEF PAUSE)

2

3 THE FACILITATOR: Okay. Oh, I guess
4 we're missing our proponent. So the next subject that
5 we'll be moving on to is the erosion and
6 sedimentation. We'll go through again the same -- the
7 same way as we did before, and we'll start with --
8 with DFO.

9 So, Rick, if you're ready to -- to move
10 into -- if you have any comments, questions, or
11 outstanding issues you have on -- on that subject.

12 MR. RICK WALBOURNE: Yeah, Rick
13 Walbourne, Fisheries and Oceans. Yeah, I think I
14 actually covered a lot of these -- a lot of the
15 sediment and erosion control questions talking about a
16 pool in the channel.

17 Just to go back a little bit, I guess,
18 so at this point -- Zabey, for your benefit this is, I
19 guess, item 4, or comment number 4 from Fisheries.

20 So you're no longer entertaining the
21 ideas of a dissipation pool or lining that channel but
22 there will potentially be some, I guess, riprap added
23 to that channel.

24 As I mentioned before, I mean, there's
25 pretty high confidence that that area -- that area

1 would be fish habitat with that channel connected to
2 the Flat River. And there -- you know, there's going
3 to be areas of currently low velocity, so I can see a
4 lot of small-bodied fishery potentially hanging out in
5 there. So it could be an area that might be -- that
6 might be hit.

7 You did mention that there will be
8 revisions, I guess, to wa -- the water management plan
9 and a mine site erosion plan at some point that will
10 include potential erosion measures that'll take place
11 in this channel.

12 I was just wondering about a timeline,
13 even prior to that, once you're starting discharge, if
14 there will be any measures that will be made available
15 to the Board or reviewers on -- on how that's going to
16 be handled because they're -- like I know that you're
17 saying there shouldn't be any change to velocities or
18 flows coming out of the culvert, but how will that be
19 monitored at site and what measures, and I guess
20 contingency planning is coming up later as well, but
21 if -- if those plans will be made available prior to
22 discharge commencing for any potential erosion
23 measures at that site to ensure that there is no
24 impact on the channel between the culvert and the Flat
25 River, I guess, specifically.

1 MR. DOUGLAS WATT: Doug Watt. Yeah,
2 we are required to update our existing plan I think by
3 the end of this year. And we'll certainly be
4 including provisions for that channel. But going into
5 this we will also look at the possibility of, you
6 know, producing just an interim short document
7 covering that particular area.

8 As far as velocity changes, I -- I --
9 as I think was mentioned earlier by -- by Joel and
10 stuff, there's not really going to be much change in -
11 - in velocity there because we already get surges of -
12 - of -- you know, at high water flows.

13 MR. RICK WALBOURNE: Rick Walbourne,
14 Fisheries and Oceans. Thanks for that, Doug. Yeah,
15 even if there was I guess an interim short document of
16 how that was going to be ensured, I guess, that those
17 velocities didn't spike and -- or any measures that
18 were either planned to implement prior to discharge or
19 as a contingency measure, just so we know that's all
20 in place.

21 Another question -- and I had been -- I
22 guess for the last category, but I noticed throughout
23 your presentation now you're -- you mentioned multiple
24 times about potential for recycling this water back
25 through the mill. And it looks like you're now

1 potentially looking at a maximum discharge of closer
2 to 2,000 cubic metres.

3 I just wanted to clarify, if you're now
4 -- if that's what -- your application is going
5 forward, that you're looking at two thousand (2,000),
6 or are you still looking at potentially thirty-five
7 hundred (3,500) to five thousand (5,000) in the event
8 that you need it.

9 So I'm just trying to get my head
10 around where we're at in terms of volumes moving
11 forward from this point, if it's still higher or if
12 you're just going to say it's 2,000 cubes at this
13 point.

14 MR. DOUGLAS WATT: Doug Watt. We
15 still have to plan ahead as if, you know, all the
16 tailings water is going -- going through the tailing -
17 - the water treatment plant. Being a mechanical
18 system recycle or reclaimed back to the mill, if a
19 pump goes down or something like that, then there
20 won't -- you know, it won't be going back to the mill
21 for, you know, unspecified periods because of possible
22 problems. So the plant is designed to handle all the
23 water. And we have to go ahead with -- with the
24 amendment based on that being discharged.

25 I just want to go back to one (1) of

1 your previous questions there. Mon -- your -- you
2 mentioned about monitoring the flow rate through that
3 culvert. That is in fact monitored every week now.
4 And that will -- that will continue. That's part of
5 our MMER requirements.

6 MR. RICK WALBOURNE: Thanks for that,
7 Doug. That -- I don't have any other questions. But
8 I did want to address that DFO had initially raised a
9 concern that there may be some remobilization of
10 sediments downstream that may or not -- may or may not
11 be contaminated from some of those historic tailings.

12 But I did look at those numbers for low
13 flows in the Flat River compared to the potential
14 discharge coming out there, and it is a relatively low
15 input to the Flat River, like I say 1 to 1/2 percent.
16 So I just wanted to go on record that we do agree that
17 there's very little chance of any re-move (phonetic)
18 of those sediments as a result of this amendment.

19 That's it for us on that -- on that
20 topic. Thank you.

21 MR. DOUGLAS WATT: Doug Watt here.
22 Thank you.

23 THE FACILITATOR: Okay, Zabey Nevitt,
24 with the Board. We'll move on to AANDC.

25 MR. PAUL GREEN: It's Paul Green, with

1 the Water Resources Division of AANDC. Yeah, we don't
2 have any questions directly related to sedimentation
3 and erosion control, so we'll -- we'll pass on this --
4 this topic.

5 THE FACILITATOR: Okay, thanks.
6 Environment Canada?

7 MS. LISA LOWMAN: Lisa Lowman with
8 Environment Canada. I don't have any follow-up
9 questions. Anne Wilson or Amy Wilker, on the line, do
10 you have any follow-up questions?

11 MS. ANNE WILSON: Anne Wilson. No.

12 MS. AMY WILKER: Amy Wilker. No.

13 THE FACILITATOR: Zabey Nevitt with
14 the Board. Okay. Who do we move on to? Okay, any
15 other reviewers, any other questions on erosion and
16 sedimentation? Have specific questions? Board
17 staff...?

18 MS. LINDSEY CYMBALISTY: This is
19 Lindsey Cymbalisty, Board staff. I just want to
20 clarify first, I believe you said that you re-
21 evaluated and determined that lining the channel was
22 unnecessary. But, just what Rick said, that you had
23 sort of discarded the idea of the energy dissipation
24 pool. I -- I didn't get that from your presentation.

25 So I just wanted to clarify, is -- are

1 the energy dis -- dissipation pool also off the table
2 or is that still being considered?

3 MR. RODNEY AMBROSIE: As you -- as you
4 can see in that cross -- those cross sections with the
5 riprap and that, that we're showing, we -- Rod
6 Ambrosie with -- with Wenck Associates.

7 Originally we were thinking a second
8 culvert might be needed, and if we had a second
9 culvert we looked at a dissipation pool, to then have
10 a single point of monitoring, so we weren't sampling
11 from one (1) culvert versus the other, that we -- we
12 would actually be able to sample from that pool.

13 Now that we've done some further
14 analysis to determine the one (1) cu -- the one (1)
15 culvert is adequate, we actually did sizing and slope
16 and -- and those things in the interim here and made
17 the determination that it -- it does have adequate
18 capacity to handle it.

19 We just then looked at, can we just
20 actually just do a little more riprap or so at the
21 fall line and dissipate the energy at that particular
22 point. So there is no -- we don't believe there's any
23 reason at this point to do any further lining or -- in
24 any dissipation pool at this point.

25 MS. LINDSEY CYMBALISTY: Lindsey

1 Cymbalisy, Board staff. Thank you for that. And
2 just in follow-up to that, in terms of looking at the
3 culvert capacity, in your application you had stated
4 that any runoff in the containment ditch -- ditches
5 for the discharge piping would go also into the pond?
6 So I'm just thinking about, sort of, spring freshet
7 and whether you've contemplated the volume that -- the
8 additional volume that might be added to the pond from
9 those ditches where the discharge piping is running.

10 MR. RODNEY AMBROSIE This is Rod
11 Ambrosie again from Wenck Asso -- yes, as -- as you
12 can see, we went back to the historical records of all
13 of the flow of the pipe. And that's why there was
14 that one (1) very, very high number that we showed on
15 that -- on that drawing, I would believe, 17 or 18,000
16 cubic metres a day from the culvert.

17 And then we did our own calculations
18 on, if the -- if the water built up to a he -- a foot
19 above, which still does not go over the top of the
20 road, that that culvert has enough capacity up to, I
21 believe, 27,000 cubic metres a day.

22 So we looked at historical data in
23 terms of the flow coming into the pond historically
24 and then made determination that it wasn't necessary.

25 MS. LINDSEY CYMBALISTY: Lindsey

1 Cymbalistry for the Board. I guess my question was
2 just that the containment ditches for the discharge
3 piping would be new, they wouldn't be there
4 historically. So I don't know if that creates any
5 additional flow to that pond that wouldn't normally
6 drain to that pond.

7 MR. DOUGLAS WATT: Doug Watt.

8 Unlikely, because those areas where the ditch would be
9 running are -- already flow in that direction. It's
10 basically on the side of the tail -- tails dam. And
11 they flow down into the -- into the ditches that run
12 into that pond already.

13 MS. LINDSEY CYMBALISTRY: Lindsey
14 Cymbalistry, Board staff. Thank you. That answers my
15 question.

16 THE FACILITATOR: Okay, it's Zabey,
17 here. I think we're -- we've covered the erosion and
18 sedimentation item. And so we'll move on to
19 contingency planning. And back to you, Rick.

20 MR. RICK WALBOURNE: Rick Walbourne,
21 Fisheries and Oceans. I just had one (1) question.
22 It's related to comment 5, I guess, that I had
23 originally on the -- the control valves. I think you
24 mentioned it was -- the company was Actiflo and there
25 was some online analysis that controlled the valves to

1 prevent high discharge into the Flat River.

2 I was just curious on the -- is this a
3 new technology or is there -- you said it's been used
4 in the -- in the other areas so is there -- what's the
5 track record, I guess like just for control valves, or
6 have there ever been any problems with those or is
7 there any information on track record or success rates
8 of -- of these valves being used in this situation?
9 Thanks.

10 MR. JEAN-FRANCOIS BEAUDET: Jean
11 Beaudet from Veolia. So the -- the valve that we're
12 looking for is to have a -- to set a valve as Rob
13 described in order to avoid when we have a process
14 upset to discharge any water to the environment.

15 So we have actually a few -- a few
16 plants running that way. We have one (1) in Goldcorp
17 located in Ontario where they use a valve in the same
18 way we want to -- to proceed here in this project to
19 avoid any -- any water not meeting the regulation to
20 be discharged. So that's not something new, so we
21 have done that in a few projects. We have the same
22 thing in New Brunswick for another company, another
23 mining company called True Valley (phonetic) where
24 they -- we just built a new plant for them and that's
25 the way we do.

1 So there -- the fact that we're
2 recycling water back to the pond is the way we -- we
3 recommend in order to make sure that there is no -- no
4 issue, especially in winter when it would be also
5 really cold.

6 MR. RICK WALBOURNE: Yeah, Rick
7 Walbourne, Fisheries. Just a follow-up question.
8 You'd mentioned that the -- you had been using these
9 in mines in Ontario and New Brunswick, but in terms of
10 success rates, have you had any -- have they been
11 effective in doing what you hoped they would do, or
12 had there been any problems with, I guess, for
13 example, if you had a high TSS event and the valves
14 for some reason didn't close is what I'm trying to get
15 at.

16 Has there been any history of these
17 valves potentially not working or have they been very
18 effective in doing what they were intended to do?

19 MR. JEAN-FRANCOIS BEAUDET: Jean
20 Beaudet, from Veolia Water System. So in -- question
21 I could certainly dig a little deeper and make some --
22 some calls with our actual clients and see if they
23 have any issue.

24 But basically the -- the purpose of
25 that, and especially again considering the -- the

1 situation here in Cantung, we are looking for the safe
2 -- fail-safe valve in order to make sure that if there
3 is any power failure those valves will -- will close
4 the appropriate way to make sure they will be no
5 discharge.

6 Typically, it's mostly control that
7 will control those valves. So if appropriate
8 maintenance is done, if they system is running
9 appropriately, there will -- should not be any issue
10 with those valves.

11 MR. RICK WALBOURNE: Rick Walbourne,
12 Fisheries, and thanks for that. That's the only
13 question we had regarding contingency planning.

14 THE FACILITATOR: Okay. It's Zabey
15 here and we'll move on to AANDC.

16

17 (BRIEF PAUSE)

18

19 MR. PAUL GREEN: It's Paul Green with
20 Water Resources Division of Aboriginal Affairs. We
21 had a -- a question related to contingency and that
22 related to the ability to store water without
23 discharging in the event of a plant upset.

24 And I just -- just want to be clear in
25 my mind, in -- in the response -- it's -- it's, I

1 guess, row 12 on the list there. In response to our
2 question about the -- the volume that will remain as
3 TSF 5 fills with tailings, the condensity volume, you
4 indicate the there will always be thirty (30) days of
5 retained water in the pond.

6 And is that in -- in TSF 5? Is that
7 the pond that we're referring to?

8 MR. RODNEY AMBROSIE: Yes, that is
9 correct. Rod Ambrosie.

10 MR. PAUL GREEN: And Paul Green with
11 Aboriginal Affairs, and that'll be throughout the life
12 of this temporary treatment plant, you'll always have
13 at least thirty (30) days of -- of water in that pond?
14 Is that...?

15 MR. RODNEY AMBROSIE: Yeah, this is
16 Rod Ambrosie again with Wenck Associates. Right now
17 the plan right now is to have thirty (30) days of
18 storage. Actually, according to the numbers I showed
19 you earlier, it's much more than that.

20 The -- the facility uses approximately
21 20,000 cubic metres of storage a day of solids and
22 about 100 to 120,000 cubic metres of water. So we
23 need about 3 million cubic metre -- I'm sorry, cubic
24 feet of water for storage. And I think that -- that's
25 what we've shown on the plan. And -- and the plan is

1 to keep that much stor -- water in the pond for TSS
2 control.

3 Now what you're, I believe asking for
4 is, we have to have the 1 metre of freeboard that's
5 required by the regulations. We will have additional
6 capacity left with no water that will allow the seven
7 (7) day bounce in -- in terms of us needing that --
8 the water storage in case there's an upset. So we
9 will provide the 1 metre storage plus an additional
10 seven (7) day storage.

11 We may have water level up there for
12 TSS control, but we won't go above that level because
13 we'll need that for contingency for the seven (7) day
14 upset if -- or plant breakdown if we need it. Did it
15 help?

16 MR. PAUL GREEN: Yeah, thanks, Rod.
17 That's -- that's great. And just what does seven (7)
18 day storage represent in terms of height? Like is
19 that an extra additional 57 metres of freeboard you'll
20 be maintaining? Oh, it's Paul Green, with Water
21 Resources Division, AANDC.

22 MR. RODNEY AMBROSIE: Rod Ambrosie,
23 with Wenck. I -- I've actually calculated it. I
24 believe it's about a foot -- 1 to 2 feet of storage.
25 Again, I -- I'd need to go to my calculations, but I

1 have -- I have calculated that.

2 That also depends then in how the
3 tailings are being filled, and then if there's still
4 space based upon beaches and things as well. So it --
5 it may vary depending upon how the pond is filled, how
6 the beaches are. And -- and with the Company doing a
7 number of surveys, you know, two (2) or three (3) time
8 a year, that will be taken into consideration.

9

10 MR. PAUL GREEN: Yeah, thanks. That
11 helps just to -- to put a -- to put a visual kind of
12 representation on it for me.

13 MR. NATHAN RICHEA: Hi. It's Nathan
14 Richea, with the Water Resources Division Aboriginal
15 Affairs. I have a follow-up question about the
16 potential for the newly designed pipe ditches, like
17 the tailings -- or the water pipe that goes from the
18 water treatment plant to the stinky pond.

19 Because there'll be new excavations,
20 there's always a potential for higher sedimentation
21 during freshet or wet conditions. And I think with
22 the potential for the culvert being the last point of
23 control, that additional suspended sediment may cause
24 an issue with meeting your EQC in your sediment pond,
25 stinky pond I guess, just because of the natural flow

1 through the -- through those newly designed ditches
2 may cause some suspension of sediments.

3 So it's kind of a contingency in the
4 event that, you know, I think Environment Canada was
5 kind of talking about having potentially a end of pipe
6 last point of control for the water treatment plant,
7 and then some discussion on whether the culvert being
8 discharged to the channel that goes into ta -- Flat
9 River being the final point of control.

10 It's -- it's hard to -- it's hard to --
11 to weigh one (1) option over the other. But a
12 consideration for the discharge pipe to the Flat River
13 would be the potential for suspended sediments from
14 outside of the source of process water, causing you a
15 non -- having a noncompliant event, which would mean
16 that the culvert would have to be plugged and water
17 within the stinky pond would start to increase and may
18 have to be put back into your tailings pond, like
19 pumped in rivers back just to avoid overtopping the
20 road and going uncontrolled into the receiving
21 environment.

22 So there's some considerations for --
23 for having your end of pipe or last point of control
24 at the edge of your treatment plant or at the culvert.
25 So I would just want to -- we're talking about

1 contingencies here. A contingency in the event that
2 the culvert is the point of control would be that the
3 cul -- there must be a method to stop discharge from
4 that pond getting into the Flat River, whether it be
5 plugging in or -- a valve on it or something like that
6 in the event that you don't meet your EQC at that
7 point.

8 MR. DOUGLAS WATT: Doug Watt. A lot
9 of the -- the new channel is actual going to be used -
10 - will be using existing ditches. But there's --
11 there's obviously some areas where we do have to do
12 some new excavations.

13 And as we indicated in our amendment
14 application, we will line those areas. We haven't
15 defined exactly how we'll line them, whether it would
16 just be fabric or with something else, but we would
17 take into account -- we would also be setting up silt
18 fences and stuff as required in different areas to
19 handle any potential silting that may occur.

20 MR. RODNEY AMBROSIE: This is Rod
21 Ambrosie. Again, I think the intent is to lay the
22 pipe on top. The pipe will be heat traced, and
23 insulated pipe is going to be used. And the intent is
24 to lay it in as much of the existing ditches as
25 possible.

1 So we don't see a lot of excavation as
2 we get down to the -- you know, closer to the pond.
3 Some may occur on the higher ele -- higher elevations
4 in case we need to cross roads or do anything like
5 that with it. But we -- we would expect most of the -
6 - the pipe just to be laying on -- on the surface, so
7 not a lot of excavation or construction activities for
8 those impacts.

9 MR. NATHAN RICHEA: Thank you. It's
10 Nathan Richea with the Water Resources Division.
11 Right now, as a contingency, do you have the option of
12 -- of moving water from stinky pond back to the
13 tailings facility?

14 Or that's not being -- you haven't
15 considered that aspect yet?

16 MR. DOUG WATT: We don't have anything
17 formal. We have, in fact, in the past used stinky
18 pond for dust control on TP3. We've set a pump up in
19 there and used it for -- to set up sprinklers on -- on
20 TP3.

21 And, in fact, I know we still have
22 power there for doing that. So it's certainly
23 something we could consider if -- if a problem started
24 developing. We could set up -- we could block the
25 culvert maybe and -- and set up a pump to put it back

1 in the tails ponds if we had to.

2 MR. NATHAN RICHEA: Thank you. It's
3 Nathan Richea with Water Resources. Yeah, and just
4 naturally during, you know, natural snow melt or
5 freshette-type conditions, you're going to get higher
6 suspended sediments even in a natural sort of
7 equilibrium-state environment.

8 So, yeah, if that stinky pond is your
9 last point of control, you're going to see some higher
10 suspended sediments in the -- in the spring time, even
11 if there is no new disturbances. So it's just
12 something to consider. So thanks.

13 THE FACILITATOR: Okay. Zabey Nevitt,
14 with the Board. We can move on to Environment Canada.

15 MS. LISA LOWMAN: It's Lisa Lowman
16 with Environment Canada. I just had one (1) question,
17 and it relates to item 32, where the Proponent said --
18 indicated that a water treatment plant operations
19 manual will be -- will provide contingencies regarding
20 noncompliant situations that may occur during
21 operations.

22 And just a follow-up question,
23 Environment Canada is wondering if this manual include
24 -- which will include contingency measures, be
25 captured under the water licence as a requirement with

1 review and approval by the Board. I'm not sure...

2 MS. LINDSEY CYMBALISTY: Lindsey
3 Cymbalsty, Board staff. That's definitely one (1) of
4 the recommendations that we're looking at, is how the
5 operations manual would be incorporated into the water
6 licence, whether it would be part of the operational
7 manual for the existing tailings containment area as -
8 - as a section of that, or whether it should be
9 standalone.

10 MS. LISA LOWMAN: Great. Thank you.
11 Lisa Lowman, Environment Canada. And that -- that's
12 the only question I had. Anne Wilson, do you -- on
13 the line, do you have any follow-up questions? Or Amy
14 Wilker?

15 MS. ANNE WILSON: Anne Wilson. No
16 questions.

17 MS. AMY WILKER: And Amy Wilker. No
18 questions.

19 THE FACILITATOR: Okay. Zabey Nevitt
20 with the Board. Just are there any other questions on
21 contingency planning from any of the reviewers?

22 MR. PETER REDVERS: Yes, Peter
23 Redvers. Just a question out of curiosity, given the
24 -- sort of the major flood events that occurred in May
25 there in the -- on the Nahanni River and into the

1 Yukon there.

2 To what extent was the mine site
3 impacted by that extensive rain events, and was there
4 any indications of any problems associated with that,
5 in terms of the mine site? I know your road was
6 washed out, but I'm wondering about the mine site
7 itself, because that seemed to be a fairly significant
8 or unusual event.

9 MR. DOUG WATT: Doug Watt. Yeah, they
10 -- they had a lot of rain on site, but being the
11 location where we're at, that actually happens a fair
12 amount. Being right in the mountains, we get some
13 large rain events.

14 And it did not cause us any major
15 problems on -- on site that -- that are out of the
16 ordinary for major rain events. We had no major
17 flooding or -- or washouts, or -- or anything like
18 that.

19 THE FACILITATOR: Any other reviewers
20 with questions? Board staff, anything from Board
21 staff? No? Okay. Well, we've covered contingency
22 planning then. We're not going to take a short break
23 now, because we've done that. We'll move on to
24 treatment plant test results and draft EQCs. DFO?

25 MR. RICK WALBOURNE: Rick Walbourne,

1 DFO. We have no questions on this topic.

2 THE FACILITATOR: Zabey Nevitt, with
3 the Board. INAC -- or, AANDC?

4 MR. PAUL GREEN: It's Paul Green, with
5 the Water Resources Division of Aboriginal Affairs. I
6 guess I'll start with a quick one, and it relates to
7 row 18 in our -- in our submissions, and it has to do
8 with the mercury result in the effluent. You've
9 indicated you were going to send the -- the result
10 back for a retest. Have you had a chance to do that
11 or have we seen a result of that?

12 It was -- the issue was that the
13 mercury in the effluent was higher than in the
14 influent, which is unexpected.

15 MR. DOUGLAS WATT: Doug Watt. Yeah,
16 that was an aberrant result. We have not yet got any
17 results back on a followup. We -- we are continuing
18 to follow up on it. And when we get more results, we
19 will forward them to the Mackenzie Valley.

20 MR. PAUL GREEN: It's Paul Green
21 again. Do you have an idea of when you expect to see
22 these results back?

23 MR. DOUGLAS WATT: It sounds like in
24 probably about a week or so. Doug Watt.

25 MR. NATHAN RICHEA: Hi. It's Nathan

1 Richea, with Water Resources. Can we ask for those
2 results when they are available?

3 THE FACILITATOR: Zabey Nevitt, with
4 the Board. Yes, I'm sure once they're received to the
5 Board, we can post -- they'll be posted on the
6 registry and made available.

7 MR. NATHAN RICHEA: It's Nathan
8 Richea, with the Water Resources Division. I also
9 wanted to follow up on a couple of things that we had
10 a chance to -- to speak with Rod, I guess, after our
11 IRs or our questions or comments I guess were
12 submitted and the responses were provided.

13 I think you mentioned when we had that
14 meeting that you'd be putting a table together or some
15 summation document that would sort of talk about which
16 per -- treatment method you were going to go with.
17 There were a couple options I think that were
18 identified in -- in the submission that you provided
19 that we commo -- commented on.

20 But I think there was going to be sort
21 of a summation where the data would be put together in
22 sort of a more final -- do you recall? No?

23 MR. ROD AMBROSIE: This is Rod
24 Ambrosie. Sorry, I don't -- I don't recall that. I
25 know we selected active flow based on test results and

1 based on the availability of equipment and, so.

2 MR. NATHAN RICHEA: Yeah, it's Nathan
3 Richea, with Water Resources. If I remember
4 correctly, there was a different flocculants and
5 coagulants that may have been tested, I guess, when
6 you were trying to choose, you know, which is the
7 optimal me -- method for your particular influent.
8 And I don't know if there was ever a final
9 coagulant/flocculant type selected for the treatment
10 plant.

11 And we are looking for maybe the final
12 design for that.

13 MR. PAUL GREEN: It's Paul Green, with
14 the Water Resources Division again. I'll just add to
15 Nathan's comment that we -- you did sent us a table
16 that -- that sort of -- that showed some effluent
17 results. But from -- from my read of it, it appeared
18 to be the result of a couple of different tests. And
19 so it wasn't clear to me, reading it, which was kind -
20 - which -- which was the preferred -- the preferred
21 test or which -- which you had actually settled upon
22 as -- as the overall treatment stream.

23 Like there was -- there was various
24 additions of flocculants and polymers and it wasn't
25 clear from this table what was going to be your

1 preferred...

2 MR. JEAN-FRANCOIS BEAUDET: Jean
3 Beaudet, from the Veolia Water Solutions and
4 Technology. So basically, the first report you got
5 probably a few months -- a few weeks ago, a few months
6 ago, was the first screening with the -- you know, to
7 determine which chemical we should use to meet the --
8 the clarified water requirements.

9 So basically, we test the different
10 coagulant, different polymer, and see which one (1)
11 give the best result, in terms of performances and
12 cost efficiency. So from this test, then we have to
13 perform other tests with other water samples in order
14 to confirm which one (1) we will be going with.

15 And it seemed from the result that we -
16 - we have recently obtaining will be the use of alum
17 base coagulant, or aluminum base coagulant with an
18 anionic polymer. Those two (2) products were actually
19 -- are actually used in other plants similar to -- to
20 the one here, not only for mining industry but also
21 for drinking water applications.

22 MR. PAUL GREEN: Yeah, thanks. It's
23 Paul Green, again, with Aboriginal Affairs. So have
24 we -- have you -- have you run tests that have been
25 scaled or -- or whatever scale you -- you're operating

1 on with your preferred, sort of, ratios of -- of the
2 alum and the polymers and generated a synthetic
3 effluent using this -- this -- your preferred, sort
4 of, mix?

5 MR. JEAN-FRANCOIS BEAUDET: Jean
6 Beaudet from Veolia. Once again, when we -- we did
7 this first batch of -- of lab testing, we were in
8 discussion with NATC, in order to get the, as I said,
9 other samples. We vetted it, what would be the impact
10 of the water quality that we were going to get, in
11 order to see what would be the effect on the chemical.
12 Those are just required to meet the -- the water
13 quality requirements.

14 So based on that, we have made some
15 tests with different level of TSS coming in, in order
16 to see how robust is the process, depending what is
17 the water that we -- we might get to the -- to the --
18 the actual treatment proposed.

19 So one (1) thing that would be good, as
20 Rod mentioned, once we will be operating the -- during
21 the -- the first month with the pumps, we will be --
22 we will have the capability to validate of where we
23 can go with the process, based on the water quality
24 coming out -- coming in, sorry, and then coming out.
25 And we will confirm also the lab testing we have

1 performed in -- in our lab.

2 So this will -- will allow us to
3 evaluate the limit of the technology for this
4 application. But basically, from what we have seen,
5 we have -- the worst-case scenario in the la -- in the
6 lab in order to see how the process will react.

7 MR. NATHAN RICHEA: Hi, it's Nathan
8 Richea with the Water Resources Division. So do you
9 currently have, like, the final selected simulations,
10 I guess, that you've done with your alim -- alimpol
11 (phonetic) coagulant and the polymer? Do -- do you
12 have that final report and is it available? Like,
13 could we have that provided for us to take a look at?

14 We're just trying to assess, like,
15 there -- I think there was three (3) different -- or
16 maybe a number of different coagulant, flocculant
17 polymer types of additives that you were using to --
18 to assess the performance. Because each one (1) will
19 perform differently and -- and it depends on the
20 influent.

21 And that's why you do these tests, to
22 try to optimize your -- your recovery and reduction
23 and -- and that kind of thing. So, we got that first
24 report that has all the different options. And we
25 just want to see, sort of, the final report that kind

1 of talks about, okay, we -- we've selected this one
2 and our tests show that this is what we can meet.
3 We're just looking for that one.

4 MR. JEAN-FRANCOIS BEAUDET: So Jean
5 Beaudet from Veolia. So that report was just released
6 last -- last week, last Friday. So they just got the
7 report recently. So I feel that -- that now the
8 report will be -- will be shared with the Board.

9 MR. NATHAN RICHEA: Thank you for
10 that. It's Nathan Richea, with the Water Resources
11 Division. At that meeting, we also talked a bit about
12 some toxicity testing. I think you mentioned that you
13 were going to run some toxicity testing. And I think
14 earlier today we talked about there was maybe one (1)
15 observation that was a bit different than the others.
16 Is that report available and is that something that
17 can be provided for us to take a look at?

18 MR. JEAN-FRANCOIS BEAUDET: Jean
19 Beaudet from Veolia again. So this information will
20 be provided in the -- the final report that we have
21 produced.

22 So basically what we do for the best
23 condition we have found in the lab, we produce a
24 certain amount of water which is quite significant in
25 order to get this water to the external lab where they

1 can do the daphnia test and the trout test to make
2 sure that they are not -- not toxic. So from this
3 report, you will get those results as well.

4 MR. NATHAN RICHEA: And it's Nathan
5 Richea with Water Resources. Just to confirm, was it
6 acute and chronic testing, or was it just only the
7 acute testing -- toxicity testing, acute and chronic
8 toxicity testing, or just the acute?

9 MR. JEAN-FRANCOIS BEAUDET: Jean
10 Beaudet. Acute. It's the seven (7) days test.

11 THE FACILITATOR: All right. Zabey
12 Nevitt with the Board. I just want to confirm, then.
13 This report, is this something that Cantung has now
14 and can provide to the Board for provision to
15 reviewers in the near future?

16 MR. DOUGLAS WATT: Doug Watt. Yes,
17 but we're not finished reviewing it. And -- but
18 what's today? Is -- is a week today okay for -- with
19 the Board?

20 THE FACILITATOR: Zabey Nevitt, with
21 the Board. Yes.

22 MR. NATHAN RICHEA: It's Nathan
23 Richea, with the Water Resources Division. Do you
24 have any idea whether you will be conducting any
25 chronic toxicity testing? I know they're longer --

1 they're longer tests than -- than the 'Q' testing, but
2 will any chronic toxicity testing be done on the
3 simulated effluent, the final effluent?

4 MR. DOUGLAS WATT: Doug Watt. Yeah,
5 once we start up the plant and start the test runs on
6 the plant we will be doing full range of toxicity
7 testing, both acute and chronic.

8 MR. NATHAN RICHEA: Thank you. It's
9 Nathan Richea, with Water Resources. Thank you for
10 confirming that you'll be doing it at that time. It's
11 just we're trying to consider it because with the
12 point source discharge, MMR regulations limit, you
13 can't discharge if you have acute toxicity.

14 However, if you're discharging and
15 you're not having acute toxicity there is a potential
16 for chronic toxicity in the receiving environment.
17 And your mixing zone usually identifies the zone of
18 chronic toxicity. And we would like to have a better
19 handle on what the potential chronic toxicity would be
20 of -- of the effluent in understanding that you might
21 get a license before we actually have the chronic
22 testing being conducted.

23 It's kind of hard to assess mixing
24 zones and appropriate effluent quality criteria
25 because if you're looking at objectives where chronic

1 toxicity is avoided, it's hard to assess that if you
2 don't really know what the chronic toxicity is during
3 the licensing. So it's just hard to put the package
4 together for a water license without that -- that
5 piece of information, so.

6 Thank you for -- for committing to
7 doing that in the future, but it's just something that
8 we -- it's kind of a missing piece of the puzzle, I
9 guess, at this point that we'll have to somehow work
10 with knowing that, you know, before August 21st, which
11 I think is our intervention deadline, even if we did
12 chronic toxicity testing right now we wouldn't get the
13 results in time. So it's a missing piece of the
14 puzzle that we'll have to sort of work with.

15 Paul, did you have -- have any?

16 MR. PAUL GREEN: Paul Green again,
17 with the Water Resources Division. I guess one (1) --
18 one (1) last item from our -- our July 13th
19 teleconference was we asked about plume delineation or
20 mixing studies. And you said you'd sort of consider
21 it. And I'm just wondering if you've given any
22 further thought to whether you'll look -- you'll
23 conduct any sort of delineation or plume mixing study?

24 MR. DOUGLAS WATT: Doug Watt. We
25 have, of course, over the history of our operation the

1 last few years already completed three (3) plume
2 studies. And I believe I -- we committed in our
3 response that we would do another one this coming
4 spring, in spring 2013, to confirm what -- what's --
5 what's happening in that area if -- you know, with the
6 new point discharge relative to what's happening now
7 with exfiltration.

8

9

(BRIEF PAUSE)

10

11

MR. NATHAN RICHEA: Thank you. It's
12 Nathan Richea. Again, as we transition away from
13 exfiltration into a point source discharge, a critical
14 piece of information is how your effluent will behave
15 in the immediate receiving environment, which is
16 surface waters.

17

So, similarly, with the chronic
18 toxicity information, without sort of an analysis of
19 how your effluent will mix in the Flat River it's
20 another piece of the puzzle that's kind of missing.
21 So it's hard to -- to estimate, you know, with
22 confidence what appropriate objectives will be, what
23 the zone of -- you know, mixing zone would be, and
24 then what an appropriate effluent quality criteria
25 would be for your -- your point source discharge.

1 So again, it's kind of related to the
2 chronic toxicity I talked about earlier. It -- it's a
3 piece of the puzzle for point source discharges that's
4 very difficult to -- to make recommendations and do
5 assessments on without that -- that piece of
6 information. So it will mix in Flat River, we agree,
7 but we just don't how it'll mix and how far down from
8 the point source will we actually re -- achieve full
9 mixing or, you know, across the channel, I guess. So
10 it's a piece of -- that we'd be interested in. But
11 given the time, it may not be something that can be
12 provided and fully analyzed for our intervention, so
13 we'll just have to do the best that we can without
14 that.

15 But thank you for -- for bringing the
16 commitment, like for the spring, to -- to do that
17 assessment. It's -- it's still needed, so it's
18 something we'll still be looking for, but it's just a
19 piece that we're -- we're going to have to struggle
20 with for our intervention.

21 Paul, did you have anything?

22 THE FACILITATOR: Okay, Zabey Nevitt,
23 with the Board. Unless -- did you have a response
24 still to that last comment, or...

25 MR. DOUGLAS WATT: Doug Watt. No, we

1 -- we understand that there's -- there is another
2 piece of the puzzle missing there but that we will do
3 a plume survey next spring to fill in that blank, for
4 sure.

5 THE FACILITATOR: Okay, thank you.
6 Moving on. Environment Canada?

7 MS. LISA LOWMAN: Lisa Lowman, with
8 Environment Canada. I have no questions. Anne
9 Wilson, do you have any questions?

10 MS. ANNE WILSON: Thanks. It's Anne
11 Wilson. Nathan pretty much covered my questions on
12 the toxicity aspects. And I will look forward to
13 seeing the results in an upcoming report. One (1)
14 quick question was whether or not tox testing has been
15 done on the point at Tailings Pond 4 -- I guess it's
16 designated S4-6 -- prior to the exfiltration?

17 MR. DOUGLAS WATT: You're asking
18 whether we've done toxicity testing on S4-6?

19 MS. ANNE WILSON: It's Anne Wilson.
20 That's correct.

21 MR. DOUGLAS WATT: Doug Watt. No, we
22 have not done that.

23 MS. ANNE WILSON: A concern would just
24 be that if the -- and this is crossing over from the
25 process we're looking at today. The MMAR will

1 probably look at the treatment plant as a last point
2 of control and have acute toxicity test required to be
3 passed at that point.

4 And I'm just wondering if elements
5 other than TSS and their associated metals were
6 responsible for toxicity, if you've got a backup plan
7 as to how that would be addressed.

8 MR. DOUGLAS WATT: Our backup plan, if
9 we run into a problem with toxicity or -- or any other
10 problem of water quality coming from the water
11 treatment plant, is we would make changes to the
12 operation of the plant to ensure that -- that we will
13 produce water whi -- which will meet the requirements.

14 We have discussed that with Veolia.
15 They have a lot of experience with controlling various
16 elements in other water treatment plants. And if
17 something is discovered that is of concern, we will
18 make the changes we need to make to ensure that we're
19 compliant.

20 MS. ANNE WILSON: Anne Wilson. I
21 think it does give us a bit of comfort that the test
22 period will have the effluent in cler -- through the
23 closed loop there. So that'll be a time to get some
24 of those bugs worked out. That was it for me.

25 THE FACILITATOR: Zabey Nevitt, with

1 the Board. If that's everything from Environment
2 Canada?

3 MS. LISA LOWMAN: Lisa Lowman,
4 Environment Canada. Amy, did you have any follow-up
5 questions?

6 MS. AMY WILKER: No, nothing to add.

7 THE FACILITATOR: Okay, moving on to
8 other reviewers. Are there any questions or comments
9 on treatment plant test results and draft EQCs?

10 MR. PETER REDVERS: Peter Redvers,
11 representing the Nahanni Butte Dene Band. I'm just
12 looking at the memorandum that was provided by the
13 Board on August the 2nd, which is quite recent, and
14 note that some of the conclusions were fairly
15 significant, I guess, from a community perspective in
16 that there seemed to be some indication that some of
17 the water quality guidelines could not be met. And
18 that showed up in, I think, tables 2 and 3 at the end
19 of the report. And I've stapled over the page number,
20 so I can't give you the page numbers, but table 2 and
21 3.

22 And I'm -- I realize it's a bit early
23 perhaps for the company to respond to that because you
24 would have just received that recently. But I'm just
25 wondering if there could be some preliminary comment

1 on that in terms of, you know, how this particular
2 technical report might be addressed or is going to be
3 addressed in the context of the -- the regulatory
4 process that we're under right now, just to determine
5 whether the significance of -- of these conclusions
6 and whether or not there is some -- going to be some
7 plan to try and address them in a -- in the near
8 future.

9 MR. DOUGLAS WATT: Doug Watt. I just
10 wanted to point out a statement that the Mackenzie
11 Valley had in there, is that this memorandum is for
12 discussion and does not represent a recommendation. I
13 just want to make that clear, okay?

14 MR. STEPHAN KLUMP: Stephan Klump,
15 with EBA. I guess, first of all, I just want to
16 restate that North American Tungsten's position is
17 still as proposed in the application, to use the same
18 standards that are set in the current water licence
19 for the final discharge point, which is 4-28-1, right?
20 That's the final discharge point.

21 And so North American Tungsten is
22 proposing to set the same standards at the final
23 discharge point, proposed as being the station S4-27-2
24 at the culvert.

25 Now with respect to the -- to the memo

1 and the draft EQC in that memo, we hadn't -- we hadn't
2 the time to go through it in -- in detail and prepare
3 a -- a proper response to it.

4 But there are a few things where we
5 believe that things like the dilution calculations
6 based on a 10 percent fraction of the low flow of the
7 river doesn't necessarily represent the most realistic
8 value that should be used in these calculations.

9 Also, some of the standards, for
10 example, the first one, ammonia, was set at a very low
11 value of point two-eight (.28) for the CCME guideline.
12 Now this was set for -- for a high temperature. It's
13 temperature and pH dependent. And if you use a more
14 realistic temperature during low flow conditions in
15 the winter, that value would be significantly higher.

16 And so, I guess, we didn't have time to
17 go through it in -- in great detail, but I guess we're
18 going to prepare a response, or -- well, Doug, do you
19 want to comment on that?

20 MR. DOUGLAS WATT: Doug Watt. Yeah, I
21 guess we're a little bit unsure of where we need to go
22 from here, and maybe the Board could provide us a
23 little bit of guidance as to what sort of response
24 they may want from this.

25 MR. PETER REDVERS: Peter Redvers.

1 And also some timing, I guess, of that response, given
2 that there are a number of steps that have already --
3 dates have been set for, and so, certainly, would --
4 would need to be addressed sooner rather than later.

5 THE FACILITATOR: Zabey Nevitt with
6 the Board. I think what we should recognize at this
7 point is this is evidence that's being put on the
8 record, that this will be part of the materials the
9 Board will be deliberating over when they make their
10 decisions.

11 The intervention deadlines are set. So
12 as part of those interventions -- and I think that was
13 what was indicated in the memo itself, that this is
14 part -- that the memo is designed to help parties
15 assess and make recommendations on what the EQCs could
16 be.

17 It's a series of evidence that's
18 provided. It did state that there are a number of
19 uncertainties, potentially, in there. And so if North
20 American Tungsten either wants to provide a response
21 prior to interventions or at a late -- or as part of
22 their response to interventions, that would be the
23 appr -- probably the appropriate times.

24 It's -- again, the -- the purpose was,
25 of course, because the Board does have a water quality

1 policy in place now, that would not have been in place
2 originally when your EQCs were set a number of years
3 ago. So it's important to consider that when you're
4 thinking of making a recommendation that, you know, we
5 just want to adopt the existing EQCs. Do remember the
6 Board has a policy in place now. That was the
7 purpose, and we do that.

8 This is a process we've been -- now
9 been through with each water licence renewal or type
10 A, new type A licence, or whatever amendment that
11 we've been going through over the last while. It's
12 producing material like this. In this case, it was
13 produced internally from one (1) of the Board staff.
14 In other cases, we've -- we've brought in some
15 external experts as well.

16 But this -- again, this is evidence
17 that's helping the Board make decisions on EQCs and
18 interconnection to the water quality policy we have.
19 So a -- a response from North American Tungsten or a,
20 you know, clarification on certain issues would not, I
21 think, be amiss in any way. I think it -- it would be
22 an important step. It might help reviewers in making
23 their -- their recommendations, if that could be
24 provided before -- before the -- the intervention
25 deadline.

1 And again the information that's in
2 here is also available for reviewers as they're
3 considering their recommendations in the
4 interventions. I hope that provides some clarity.

5 MR. PETER REDVERS: Peter Redvers.
6 Just for -- for clarification then, and I'm going --
7 gone through some of the material, but there is quite
8 a material -- quite a bit of material to go through.
9 So the -- the criteria that you're proposing to carry
10 forward you mentioned was from 428-1. Is -- isn't
11 that the grou -- that's the groundwater well, correct?
12 That's the...

13 MR. DOUGLAS WATT: Doug Watt. Yeah,
14 that's -- that is our -- I guess our final discharge
15 point as designated by MMER. And that is where the --
16 the discharge criteria is set by -- at present by the
17 water license at that point.

18 MR. PETER REDVERS: Peter Redvers.
19 And that's based on the exfiltration system, which
20 means that you're still at that point a ways from the
21 actual river or the actual infiltration into the river
22 system itself.

23 So by converting to the direct
24 discharge there's a significant change in the -- the
25 characteristics of discharge. Wouldn't that be a fair

1 assumption? So -- so I'm assuming that raises some of
2 this discussion or debate about whether those criteria
3 should -- should change given the significant change
4 in the -- in the discharge.

5 One (1) -- and maybe when you're
6 answering that one (1) question, given that this is a
7 -- you're -- you're proposing this as a temporary
8 treatment plant with the idea that -- assuming that
9 the geotechnical work is okay, that you can construct
10 the new water storage pond or -- or tailings pond, and
11 then you will convert back to the exfiltration
12 process.

13 So what timeline are you estimating for
14 that, the -- the temporary plant to be used? Because
15 that may have some bearing, I guess, in terms of
16 whether you carry those criteria forward if it's for a
17 short period of time in terms of overall sort of
18 chronic or long-term impacts.

19 But -- but certainly there's a
20 significant change in -- in the process of discharge.
21 And so I'm wondering why you would propose the current
22 ones to be used for a direct discharge given the --
23 the change in the nature of the discharge process.

24 MR. DOUGLAS WATT: Doug Watt. It --
25 it is a fairly si -- significant change, and certainly

1 we recognize that. We believe moving forward that the
2 standards that are set now are -- are still good
3 standards. And based on our actual water quality that
4 we produce at the mine site, that they would continue
5 to be effective.

6 I don't know whether Rod might want to
7 discuss further about -- about the temporary nature of
8 this and -- and the timeline for -- for the
9 construction of the next tails pond.

10 MR. RODNEY AMBROSIE: This is Rod
11 Ambrosie, from Wenck Associates. Just again to
12 comment, yes, we talk about these wastewater treatment
13 plants as temporary. That would -- temporary is going
14 to be defined on how quickly we can move through the
15 permitting process and construction, knowing we have
16 limited construction seasons.

17 Originally there was the plan or the
18 goal to construct the new tailings facility next year.
19 But now that we're just going through geotech and that
20 application won't get submitted until late this fall,
21 we may have to move to 2014 for that construction.

22 But again, the intent is -- we -- we
23 realize that we cannot put any more raises on 3 and 4,
24 so that does limit the capacity. There is the goal of
25 the Company now to reprocess the tailings and actually

1 dismantle 3 and 4 and -- and go through reprocessing,
2 which provides the environmental benefit, not only
3 removing tungsten, but copper as well from that
4 processing.

5 And -- and again, we're looking at
6 probably 2014 as that timeline for that. So as soon
7 as that's constructed these plants would come out of
8 service once that was then in operation because no
9 more water would be going there.

10 MR. PETER REDVERS: Peter Redvers.
11 I'm still just curious about the rationale for
12 carrying the water quality criteria forward, where
13 you're moving to quite a different discharge. It
14 looks like at least a 2 year, year and a half, 2 year
15 period of time, so which is reasonably significant in
16 terms of possible impacts on the aquatic system.

17 MR. STEPHAN KLUMP: Stephan Klump,
18 from EBA. I guess the rationale behind the -- the --
19 the recommendation to use the same standards as set in
20 the current water licence would be that it's the same
21 water that's eventually entering Flat River. Right
22 now, there's exfiltration used as the pathway for this
23 water. This will be released directly into the pond
24 and then, from there, into Flat River. But the
25 volumes don't change. The same volume of water is

1 exfiltrating into the river right now.

2 And the -- this -- the standards in the
3 water licence, if you -- in that memo, it also shows
4 the -- the current water quality data at a downstream
5 station, 4-33, which is, you say, about 800 metres
6 downstream of the --

7 UNIDENTIFIED SPEAKER: No, that one is
8 about five (5) clicks down --

9 MR. STEPHAN KLUMP: Okay. About 5
10 kilometres downstream on Flat River, and it shows
11 slightly elevated concentrations for some of the
12 parameters when compared to the upstream station, but
13 it still meets all the -- the CCME guidelines. And
14 this is with current exfiltration from the -- from the
15 tailings pond. And we're not changing the volume;
16 it's just the way we exfiltrate the water. So that's
17 part of the rationale behind -- or, why we -- why
18 we're proposing to use the same standards as set in
19 the -- in the current water licence.

20 MR. PETER REDVERS: Peter Redvers.
21 That 428-1 monitoring site, then, which is a -- a --
22 as you mentioned, a well, how far is that from the
23 river itself? In other words, how much further
24 filtration might be occurring between that site and
25 the time that it actually got into the river? Because

1 certainly the volume's not changing, but you are
2 changing the concentration and patterns by which the
3 water is being discharged.

4 And also, if there is some distance
5 between the well site and the river, then, you know,
6 the assumption would be there would -- might be still
7 some filtering that is occurring in fact and that at
8 the point of contact of that groundwater into the
9 river system, the level is in fact -- there might be
10 some reduction that's not really taken into account in
11 this.

12 So I'm just trying to get some
13 clarification on those different aspects.

14 MR. STEPHAN KLUMP: Yes. So if you
15 look at the map again, the well 428-1 is -- is fairly
16 close to the river. And there will probably be some
17 additional filtration over the short distance from the
18 well to the river, but it's very likely that the
19 majority of the filtration would occur before that
20 well, because currently, the water's exfiltrating from
21 Tailings Pond 5, which is a much greater distance from
22 that tailings pond to the well as compared to the
23 distance from the well to the river.

24 MR. PETER REDVERS: Peter Redvers.
25 But, I mean, that's a -- that's an assumption that one

1 could -- could -- could make, I guess, depending on
2 the -- the -- the ground conditions and soil and rock
3 conditions underneath. But certainly the -- when you
4 go to point-source discharge, the concentration of the
5 discharge is -- is much greater in the sense there
6 isn't a diffusion.

7 The water that's passing through that
8 well site is there is going to be some diffusion of
9 that, if not further filtration of that, whereas
10 you're dealing with a direct discharge into a -- a
11 small creek leading into the river itself. So one
12 might assume that that -- I think, reasonably, that
13 there would be more concentrated whatever -- the
14 impacts would be more concentrated.

15 Now, the degree to which they're
16 concentrated in the river and how far down the river,
17 I'm -- I -- I -- still, that's not clear to me, I
18 guess, in terms of the some of the information I've
19 looked at. And I guess maybe that's associated with
20 some of that research around the pluming and plume
21 effects and those kinds of things.

22 So maybe there's others that I've
23 missed. You know, again, I haven't gone through the
24 materials probably in as much detail as some of the
25 other Intervenors here, but if I could just get some

1 help in understanding that and how significant that
2 change is from -- in terms of the discharge system.

3 MR. DOUGLAS WATT: Doug Watt. I
4 guess, potentially, yes, the concentration at the --
5 at or near the point discharge would be higher
6 initially. But within the mixing zone, after it's
7 mixed, the effect further down the river will be no
8 different than it is right now.

9 Doug Watt. Just recalling some of our
10 previous plume studies, the water from the tailings
11 ponds diffuse through the groundwater into the river
12 and somewhere between 2 and 300 metres downstream of
13 the -- the tails ponds is where we believe, based on
14 those results, that all the wa -- tails water has
15 pretty well entered the river.

16 And so then the eff -- the effect at
17 that point with mixing of the point discharge should
18 be very similar.

19 MR. NATHAN RICHEA: Thank you. It's
20 Nathan Richea with the Water Resources Division. So
21 if I can just understand the conversation that's gone
22 on so far, it seems to me like if within 2 or 300
23 metres from downstream in the Flat River, the effluent
24 from infiltration is basically mixed in the river; and
25 as far as 5 kilometres downstream we still see

1 differences between the level of concentration in the
2 river compared to upstream.

3 It seems to me like there's a 5-
4 kilometre-plus mixing zone currently in place and that
5 what is being proposed is a similar-sized mixing zone,
6 which obviously gets to the chronic toxicity part that
7 I was talking to a bit earlier.

8 Without an assessment of how the
9 effluent is going to mix in Flat River, we cannot
10 assess what the appropriate mixing zone would be. My
11 gut feeling at this point is 5 kilometres is a bit
12 long. And, you know, I think what's alluded to in the
13 -- in the memo that's been provided and Zabey's
14 statements is the Land and Water Boards have issued a
15 new policy, and the policy talks about minimizing
16 impacts to receiving environments and ensuring that
17 whatever can be done at the point source is done to
18 prevent adverse effects from happening in the -- in
19 the downstream environment.

20 To do that, we need to assess: What
21 are we trying to protect? And also we need to assess
22 how -- how will the effluent behave in that -- in that
23 mixing environment?

24 And I think what was talked about with
25 Peter was the difference between having water

1 exfiltrate into a aquifer-type sys -- system versus a
2 discharge pipe or a culvert going into a -- into a
3 river. And those are two (2) different, very distinct
4 -- dis -- distinctly different discharge mechanisms,
5 and both will behave differently.

6 So the Board's tasked with a very
7 difficult decision on how do you set appropriate
8 effluent quality criteria, keeping in mind what their
9 policy states. And I guess the risk is the Board may
10 set effluent quality criteria that may not be
11 achievable by the operator.

12 And -- and that's a real risk, and --
13 and I think that's where some of the discussion was
14 about how will the Company respond to the memo and how
15 do -- how will reviewers provide information for the
16 Board to consider when it sets final effluent quality
17 criteria.

18 That's a huge risk for us too. We want
19 to make sure that the effluent quality criteria that
20 are set in the water licence are achievable by the
21 operator, but we also want to make sure that effluent
22 quality criteria are protective -- or, is protective
23 of that downstream environment.

24 And to do that we need to assess how
25 that effluent will behave in that receiving body. So

1 chronic toxicity and assessment of mixing are two (2)
2 key indicators of how -- how you would assess and set
3 appropriate effluent quality criteria.

4 And we don't have those pieces, so it's
5 hard -- it's hard to set effluent quality criteria
6 that we can be -- be assured that will -- will be
7 protective of downstream environment.

8 I guess -- in the -- that's all I
9 really wanted to say. It's more of a comment that
10 anything. It's -- it's not a question. I think if
11 we're all just tasked with coming up with the best
12 solution to -- to set effluent criteria, that it meet
13 both those obj -- both -- both of those objectives.

14 That 1) the proponent can meet them,
15 and 2) the downstream environment is protected. And
16 there's some key parts of that information, I guess,
17 that aren't there. In the -- in the absence of that
18 information, then we have to use precautionary
19 principles.

20 And the principles that are used in the
21 memo are standard principles that have been used
22 through US EPA, Alberta Environment; it's all
23 referenced in -- in the memo. Those are standard
24 principles that apply to other jurisdictions, and it
25 would be appropriate to apply them here. However,

1 they don't -- they -- they have identified some
2 problems with achieving those -- those standards. So
3 what we need to do is work on how to best achieve
4 those but still, you know, give the operator some
5 flexibility in -- in what the influent and effluent
6 might be.

7 So I think that's the discussion I
8 think that needs to happen now.

9 MR. PETER REDVERS: Peter Redvers
10 here. And, I mean, the other -- from a community
11 perspective, the other factor, of course, is the issue
12 of dragging things on for too long, given that you do
13 have tailing ponds that are beginning to fill up and
14 showing some signs of failure. So we're in a
15 different scenario than if this was a new -- you know,
16 a new project.

17 And so trying to balance all three (3)
18 of those, in terms of, you know, im -- impact and
19 risk, certainly doing nothing is not -- is not an
20 acceptable option, given the current status of the
21 tailings ponds. So the -- the temporary treatment
22 plant seems like a logical approach while you continue
23 to pursue looking at establishing a new tailings pond
24 to -- and the discussion of whether or not to move
25 back to exfiltration or still have some water

1 treatment is -- is maybe something -- a discussion
2 that'll have to occur at another time.

3 But I guess the question I would have
4 is: Has the company, as -- as opposed to just
5 carrying forward those criteria that were already
6 being used for the -- for the well, looked at trying
7 to develop or find some balance between, you know,
8 some of the numbers maybe that the -- the Board has
9 used for -- as part of their assumptions and -- and
10 conclusions and looked realistically at what you could
11 achieve so that you can, in a sense, I guess, create a
12 best, you know, scenario kind of a situation, given
13 that the -- the option of just leaving things the way
14 they are is not -- is not a feasible option, but
15 trying to find some balance or strike some balance,
16 with some reasonable predictions of what -- you know,
17 what those impacts might be.

18 The rule I work -- sort of working with
19 community is, is essentially no surprises, which is
20 that, you know, when -- when it's said and done and
21 some criteria are set, that recognizing that there may
22 be some impacts on the receiving environment, that
23 there has been an effort gone into reducing those, and
24 that the -- the effects or impacts are reasonably
25 understood, which means that the community can have

1 some understanding that there would be an impact,
2 whether it be 300 metres or 2 kilometres, and this
3 would be the nature of the impact.

4 Then it's much easier for them to be
5 able to say, Well, given the other alternatives, you
6 know, that -- that's an acceptable one. And if it in
7 fact is a temporary, then, you know, that might even
8 be more reasonable. It's just trying to get all of
9 these -- all of this information out in a -- in an
10 open and honest way, what's achievable and what's
11 reasonable, given the other circumstances.

12 So I guess that would be my specific
13 question. Has the company come forward with trying to
14 find some balance between what you've proposed and
15 maybe some of the numbers that might be more
16 appropriate, based on the new -- the new policy that
17 the Board has come up with?

18 MR. DOUGLAS WATT: Doug Watt. I think
19 one (1) of our conversations just a few minutes ago,
20 we -- we mentioned that we hadn't really had time to
21 review all this yet but that we do plan to, and -- and
22 there is that intervention period. And we hope to
23 have a response back, based on our review of -- of
24 this paper and what we would propose maybe as -- as --
25 try to get a common ground somewhere in between.

1
2 THE FACILITATOR: If -- if I may for a
3 second, Peter. A couple of issues I just want to
4 raise briefly at this point. One (1) is that we're
5 getting quite close to -- to twelve o'clock,
6 lunchtime. I think there's a bit more discussion we
7 want to have on -- on this issue. And I -- I just
8 wanted to check and see if we carried on a little bit
9 into lunch to -- to go carry on this subject, there's
10 a little -- there's one (1) more agenda item after
11 that.

12 Is there a mass objection to carrying
13 on that way, or would people rather sort of take a
14 break now and come back at one o'clock and start
15 again? I think we -- we actually lose a staff member
16 at lunch. So for me, I -- to be honest, I would
17 prefer to carry on a little bit if possible.

18 But -- but if people have various
19 commitments at lunchtime...

20 People are okay carrying on for a
21 little bit? I'm not seeing any ha -- hands jumping up
22 saying, No, I've got to go.

23

24 (BRIEF PAUSE)

25

1 THE FACILITATOR: Okay, we'll let you
2 do that. Please go ahead, Nathan. Okay. The -- the
3 second issue there is really sort of a bit of a
4 follow-up to -- to what you're saying, Doug. As you
5 say, the Board has now put out some discussion paper,
6 essentially is what it is.

7 You've commented a couple of times here
8 now. And like I -- I mentioned, it's -- it's now some
9 evidence on the record. And, you know, you're
10 indicating that the Proponent may -- will have some
11 thoughts on this. Is this something that you could
12 commit to doing prior to the interventions to allow
13 some people some time to think about how you may be
14 responding, particularly to some of the issues about
15 the -- there are some speci -- specifics that are
16 issues of non-achievability that might help reviewers
17 in their -- in their final recommendations.

18 And is that something you think you
19 could commit to within the next week or so, preferably
20 at sort of the same time as the other responses are
21 due?

22 MR. DOUGLAS WATT: Doug Watt here.
23 Yeah, we're going to make a best effort to -- to -- to
24 respond before that date. What we would like to
25 suggest is maybe the 16th, which I think is a week

1 Thursday, we would have it in to you.

2 Does that give you enough time?

3 THE FACILITATOR: Peter...?

4 MR. PETER REDVERS: Peter Redvers.

5 Yeah, I -- I -- certainly if something could be
6 prepared, you know, prior to August 20 -- 21st. I
7 think the key issue is that it -- it -- you know, it
8 does get tabled. If it's -- I mean, if it's not
9 tabled before then, then it would be logical that one
10 (1) of the interventions might be asking that question
11 as to, you know, what that balance might be or how
12 that mi -- might be achieved.

13 So, you know, the -- you would -- you
14 would have to be able to respond to that at -- by
15 August 24th, so at least in preparation for the public
16 hearings. But sooner -- certainly the sooner it --
17 you can do that, the better, at least, so that there's
18 some options, I guess, that, you know, are -- are
19 available as well and it's not sort of either/or; that
20 there -- there is some possibility of movement, if not
21 on all parameters, then at least on some parameters
22 that -- that -- where things are achievable.

23 Peter Redvers. So, yes, the 16th is
24 fine.

25 THE FACILITATOR: Ok -- okay, so -- so

1 there's a commitment from the Company to -- to -- to
2 respond to this paper and provide some more
3 information on the record for -- for consideration
4 within -- that will allow propon -- the reviewers
5 time, the ability to respond in the interventions to
6 these issues.

7 Okay, that was Zabey Nevitt with the
8 Board. Nathan?

9 MR. NATHAN RICHEA: Hi, it's Nathan
10 Richea with the Water Resources Division. Yeah, I
11 just wanted to flag that, I guess, I think August 21st
12 is our intervention deadline, and I don't know how
13 we're going to be able to turn around that -- you
14 know, basically take in that information, analyze it,
15 compare how it -- how it fits with the memo and, you
16 know, obviously make some -- our own thoughts and
17 write that all down for August 21st is pretty ti --
18 turnaround for us.

19 And we do have an internal approval
20 process that also takes a few days for us to get
21 things out, so I don't know how -- how well we could
22 respond to -- to what the Company may have.

23 And just judging by the one (1) comment
24 that was brought forward, I guess, earlier today,
25 which is a valid, you know, point that we need to look

1 at some of the very technical details and some of
2 these numbers. And by doing that, you may have to
3 look at old data and try to -- to do some assessments
4 on your own.

5 So it's very difficult to turn that
6 around in a really tight timeline. So it's going to
7 be challenging for us to -- to take in the
8 information, process it, and -- and -- include it in
9 our intervention.

10 So I just comment, I guess, from --
11 from Water Resources.

12 THE FACILITATOR: Zabey Nevitt, with
13 the Board. We -- we sort of realized that as we made
14 this commitment to give you a bit of extra time for
15 that, so we're -- what we -- we're just debating
16 quickly as actually pushing the intervention deadline
17 just by a couple of days.

18 So if -- if -- we'll send the
19 notification that we'll -- we'll just shift that to
20 the 24th, we'll shift the response deadline
21 appropriately by a couple of days and deal with that.
22 So at least you get a couple of extra days there,
23 okay, and the same for the Company deadline for us.

24 Okay, go ahead.

25 MR. STEPHAN KLUMP: Stephan Klump with

1 EBA. I just wanted to make one (1) more comment on
2 your previous statement that the current data shows
3 that the mixing zone may extend all the way to that
4 lower station 5 kilometres downstream.

5 I guess based on what Doug said
6 earlier, these previous plume studies indicated that
7 the effluent would be exfiltrated into the river and
8 fully mixed within about 2 or 300 metres downstream of
9 the tailings ponds, right? And I guess that's still
10 what -- what we're expecting, that the -- the mixing
11 would occur relatively quickly based on the -- the
12 stream characteristics.

13 And the point I wanted to make with the
14 downstream station is, as outlined in the memo, both
15 stations were compared to CCME guidelines. The
16 upstream station meets CCME guidelines, and so does
17 the downstream station, even though some of the
18 parameters seem to be slightly elevated.

19 Now this is 5 kilometres downstream.
20 There is additional groundwater exfiltrating and
21 discharging into -- into the river. There's other --
22 other inflows into the river. But the point is, like
23 with the exfiltrating tailings pond water via
24 groundwater right now, the downstream station meets
25 the CCME guidelines.

1 And I guess for many of the projects,
2 you don't have this data record. You just go by
3 baseline conditions and then estimated water quality
4 data for -- for the effluent to come up with effluent
5 quality criteria.

6 In this case, this -- this mine has
7 been operating -- operating for a long time. And we
8 can show that with exfiltrating of the tailings pond
9 water through groundwater into Flat River, the water
10 quality still meets CCME at the downstream station.
11 So that -- that was the point I -- I wanted to make.

12 And that's part of the rationale why
13 North American Tungsten is proposing to -- to use the
14 same standards that are set currently in the water
15 licence for that new final discharge point, even
16 though we understand that it -- it's a different
17 method of discharge.

18 MS. KATHERINE CUMMING: I -- I can't
19 tell whether this is an appropriate time to jump in or
20 not.

21 MS. LINDSEY CYMBALISTY: That's fine,
22 Katherine, go ahead.

23 MS. KATHERINE CUMMING: Okay. I --
24 I'm just curious on the last comment. From reading
25 the table that was in that report, copper and iron

1 appear to be above CCME guidelines downstream. And
2 there's other reports also that demonstrate that they
3 are elevated downstream.

4 And just wondering, sort of, how we can
5 say there's no impact with the current guidelines,
6 given that?

7 MR. STEPHAN KLUMP: It's Stephan Klump
8 with EBA. Yeah, iron and -- and copper seem to exceed
9 CCME slightly. Now we -- we don't really know if this
10 is based on additional groundwater discharge.

11 Anyways, the -- and I didn't say that
12 there is no impact to the environment. All I wanted
13 to -- to emphasize is that with current exfiltration
14 of the -- of the tailings pond water via groundwater,
15 the -- the water quality at station -- at the
16 downstream station 4-33, still meets CCME for most of
17 the parameters, maybe with the exception of iron and
18 copper, which is very slightly above the guideline.

19 But as I said, we didn't have the time
20 to prepare a proper response or look into any of the
21 details specifically.

22 MS. KATHERINE CUMMING: Katherine
23 Cumming, with Parks Canada. Okay, I -- I guess we'll
24 wait for your response as well. It just -- yeah,
25 because I think those two (2) need particular

1 examination.

2 MR. NATHAN RICHEA: Hi, it's Nathan
3 Richea with Water Resources Division. Oh, thank you
4 for those comments. They're all -- they're all
5 relevant and important considerations. And the
6 potential for contributions from groundwater
7 downstream from the mine could cause some of those
8 concentrations to be higher in those downstream
9 monitoring stations.

10 And I guess that's the downfall of
11 having an exfiltration system. You can't really fully
12 model exactly where your effluent is going once it
13 goes into the ground. So a precautionary principle
14 would be the mine is causing that, but until it's
15 demonstrated that it's not, then it's hard -- hard to
16 say that it isn't. So that's the downfall of having
17 an exfiltration system.

18 However, when you -- when you transfer
19 to a point-source-type discharge, you can fully model
20 how that behaves in the receiving environment. And if
21 you do it in a relatively in-depth method close to the
22 discharge point, you can actually assess how it's
23 behaving and how it's mixing.

24 And you can, sort of, remove those
25 external factors from the assessment, unless you have

1 a lot of upwelling of water coming from the ground
2 into the surface, which could happen too.

3 I guess my comment was, if CCME is the
4 standard that we're -- you know, objective that we're
5 trying to meet in the receiving environment, I think
6 what the memo outlines is we may not be able to
7 achieve CCME from a point source. So I think that's
8 where the discussion is at this point, and we'll have
9 to wait for the responses and everything to fully
10 analyze that.

11 But if CCME is our standard that we're
12 trying to achieve, so our water standard for
13 downstream water protection, then we may have some
14 trouble setting an EQC that's attainable for all
15 periods of flow through a natural hydrograph.

16 So obviously, during freshette, there's
17 more water, there's a potential for, you know, more
18 mixing. Mixing may be a little bit faster, because
19 the water's going to be more turbulent and there's
20 more water to mix with. So it helps with the
21 assimilation and dilution of your effluent. However,
22 during a low-flow period, such as the 7Q10 flow, you
23 may have some trouble obtaining your mixing and
24 meeting your objectives in the downstream environment.

25 So I think one (1) of the

1 recommendations in the memo was to look at whether you
2 could sequence your -- your discharge so that during
3 higher periods of flow, you can discharge more water,
4 and then during lower flow periods, you may not be
5 able to discharge the same volume.

6 I don't know. There's -- it's just
7 ways to sort of manage your effluent to try to obtain
8 the best mixing and protection and meeting your
9 objectives in the receiving environment. So there's
10 ways to consider, and obviously no one has done a
11 complete assessment of the memo, including ourselves.
12 So we'll have to wait for that to -- to come in. So
13 just a comment. Thanks.

14 MR. DOUGLAS WATT: Zabey, can we ask
15 for a five (5) minute recess?

16 THE FACILITATOR: I think so, yeah.
17 Zabey Nevitt, with the Board. If we'll just take five
18 (5) minutes quickly, and we'll continue then and try
19 and get through the rest of that agenda quickly.
20 Yeah.

21

22 --- Upon recessing

23 --- Upon resuming

24

25 THE FACILITATOR: Are we -- are we

1 ready to reconvene, or do you need another minute?

2 Okay. It's Zabey Nevitt, with the Board. I think

3 we're ready to go.

4 At this point, I think the next step
5 was -- did -- did you have any further response at
6 this point of anything you wanted to make comment on,
7 or are you pretty much...

8 MR. DOUGLAS WATT: Doug Watt. No, we
9 were just looking at different options. I don't think
10 we want to comment too much more. We will -- we've
11 committed to -- to submitting some reports and stuff,
12 and we'll do that.

13 THE FACILITATOR: Okay. Zabey Nevitt
14 with the Board. Thank you. Are there any final
15 follow-ups on this -- this issue before we -- the
16 Board staff had a couple of issues they wanted to
17 flag. Are we -- are we good at this time?

18 Okay. Lindsey?

19 MS. LINDSEY CYMBALISTY: Lindsey
20 Cymbalisty, Board staff. So I know that you're going
21 to look at a more detailed response to the memo, but
22 just in thinking about that, and maybe while you have
23 your water quality expert here on -- on the plant,
24 just looking at table 3 on page 8 there, there were a
25 couple of parameters that were sort of highlighted as

1 not achievable based on the current data. And I know
2 the calculations that we made are all -- all based on
3 very conservative assumptions, so that's kind of
4 taking the approach of looking at the worst-case
5 scenario.

6 But for any of the ones that are here,
7 any or all of them that are here that are listed as
8 sort of not achievable based on the current data, are
9 there, that you can think of, options for reducing
10 those further with the treatment plant that you're
11 proposing, or are there additions that could be made
12 to -- to look at reducing those parameters further?

13 MR. JEAN-FRANCOIS BEAUDET: Jean
14 Beudet from Veolia. So based on the -- the table we
15 have received, table 3, and the different parameters,
16 some of them can be -- will be removed by the actual
17 treatment chain that is proposed. Depending for sure
18 of the level that we're looking, it might require,
19 let's say, some -- some additional treatment that
20 might be required to -- to reach those levels.

21 So it really depends how the per -- the
22 plant would be performed, for sure, and what we need
23 to go once the -- the value will be determined. But
24 actually, for some parameters -- for example, copper -
25 - it might be possible to -- to play with other

1 chemicals to reduce it, you know, in order to avoid
2 any additional treatment step.

3 MS. LINDSEY CYMBALISTY: Okay.
4 Thanks. Yeah, I was just sort of trying to see if
5 there were some options there for further -- sorry,
6 Lindsey Cymbalisy, Board staff -- for maybe getting a
7 little bit further with some of those.

8 And, yeah, maybe that's all I'll say
9 about that and just wait to see what's in your -- in
10 your response when you've had a chance to look at it
11 in more detail.

12 THE FACILITATOR: Nathan...?

13 MR. NATHAN RICHEA: Hi, it's Nathan
14 Richea with Water Resources Division. I just have one
15 (1) question, and I think it's -- it was brought up a
16 bit earlier today. It was about the sludge, the
17 treatment sludge.

18 Once the coagulants and the pol --
19 bringing out the TSS metals or whatever, the sludge
20 will be removed, and then I think it was put back in
21 the tailings.

22 And I don't know which pond it was
23 going to go into; was it four (4) or five (5)? I -- I
24 don't remember.

25 MR. RODNEY AMBROSIE: Rod Ambrosie

1 with Wenck. Yes, it's planned to go back into
2 Tailings Pond 4 as tailings.

3 MR. NATHAN RICHEA: It's Nathan Richea
4 with Water Resources Division. In your modelling for
5 the influent quality, have you considered the
6 potential implications of that sludge leaching or
7 causing degradation of -- of water quality going into
8 the treatment plant over time?

9 I'm just trying to assess how
10 conservative, I guess, your numbers are for your --
11 your effluent.

12 MR. RODNEY AMBROSIE: Again, Rod
13 Ambrosie. Because this will be going into Tailings
14 Pond 4, will be in Tailings Pond 5, going to the
15 treatment plant, and then going into the environment,
16 so the sludge will not be in contact with any of the
17 new tailings water going to five (5) and into the
18 treatment plant.

19 So it -- we're starting a separate
20 tailings pond from operations, so we shouldn't see any
21 impact from the sludge.

22 MR. NATHAN RICHEA: All right. Thank
23 you. It's Nathan Richea with Water Resources. So if
24 I understand correctly, then the Tailings Pond 4 water
25 will not go into Tailings Pond 5 at any time?

1 MR. RODNEY AMBROSIE: Once -- once the
2 treatment plant is set up to go to the environment,
3 we're going to be going from the mill to Tailings Pond
4 5, to the treatment plant, and then either back to the
5 mill or the environment, with the sludge then going to
6 four (4).

7 So there will be no regular water --
8 now if we have to pump water out of four (4) because
9 of freshette or some other reason, there may be some
10 isolated times where we move some water from four (4)
11 to five (5), but the majority of the time four (4) --
12 four (4) will just be like three (3) now. It'll be a,
13 you know, almost a dead pond and -- until we start the
14 reclamation process.

15 MR. NATHAN RICHEA: Okay. Thank you.

16 THE FACILITATOR: Okay. I think we
17 made it through that agenda item. I think all those
18 comments -- we do have one (1) more and that's on the
19 management plan and reporting requirements.

20 I'll go back to DFO. And that was
21 Zabey Nevitt with the Board.

22 MR. RICK WALBOURNE: Rick Walbourne,
23 Fisheries and Oceans. I don't have anything specific
24 to this topic, but I did have a couple of things I had
25 left here so I just wanted to get them out while I had

1 the mic so I could leave early. I'm just kidding.

2 I was just wondering, would it be
3 possible, or is it planned to give a copy of this
4 presentation to the Board, or would I be able to get a
5 copy of this presentation, or Zabey already has it?

6 THE FACILITATOR: Zabey Nevitt, with
7 the Board. Yeah, we have a copy. We'll get -- make
8 sure it's posted.

9 MR. RICK WALBOURNE: Okay. Thank you.
10 Secondly, I know there was some mention -- you're --
11 you're saying that there's not going to be much change
12 to velocities or flows coming through the culvert or
13 the channel.

14 Would it be possible to get -- I'm not
15 sure if you have some kind of evaluation or modelling
16 or -- or the information that you looked at to make
17 those conclusions. So I was -- was wondering if it
18 would be possible for Fisheries to get a copy or -- or
19 whatever report that maybe have been done by your team
20 to take a look at?

21 MR. JOEL TOSO: This is Joel Toso.
22 Just a clarification on that, what areas of interest
23 are you -- is it the stream or is it the pipe itself
24 or both?

25 MR. RICK WALBOURNE: I would say both.

1 Just a determination -- because I know it went from
2 you were looking at potentially a new culvert. You're
3 -- you've made a determination that that culvert is
4 sufficient.

5 You've implied a couple times that you
6 don't anticipate much change to that channel, which I
7 guess links into the water coming out of the culvert
8 obviously. So I would expect that it's -- if it's
9 different reports, they should be very closely linked
10 anyway.

11 So I was just wondering if that
12 information could be made available for us to take a
13 look at?

14 MR. RODNEY AMBROSIE: Yes, we'll
15 provide that. This is Rod Ambrosie.

16 MR. RICK WALBOURNE: Rick Walbourne,
17 Fisheries. So I'm not sure if the Board needs a
18 timeline on that or if they're even -- if they're even
19 listening to me anymore.

20 THE FACILITATOR: It's Zabey Nevitt,
21 with the Board. Maybe I shouldn't comment on that.
22 But, yes, let's go for a timeline and...

23 Do you have a proposed timeline?

24 MR. RODNEY AMBROSIE: Yeah, this is
25 Rod Ambrosie. I think we'll have that to you Monday,

1 to -- to the Board.

2 THE FACILITATOR: Okay, Zabey Nevitt,
3 with the Board. Okay, we'll -- we'll add that to our
4 list of -- we have a list here of the various things
5 that are being committed to, and we'll -- okay. Well,
6 maybe we weren't listening as closely as we were
7 supposed to.

8 Could you repeat what the report is
9 that we'll be committing to? Thank you.

10 MR. RODNEY AMBROSIE: This is Rod
11 Ambrosie, with Wenck. We're going to submit a report
12 that talks of our evaluation of the existing culvert
13 and the exis -- and the ability of the existing stream
14 to handle the impacts and additional water coming from
15 the treatment plant.

16 THE FACILITATOR: Zabey Nevitt, with
17 the Board. That's what I thought. I just wanted to
18 confirm. Than you. That's everything, Rick?

19 MR. RICK WALBOURNE: No. I was just
20 wondering what the timeline was going to be on the
21 transcripts from this meeting.

22 THE FACILITATOR: Zabey Nevitt, with
23 the Board. They're often available by the next day
24 once we -- as soon as they're drop-boxed down to -- to
25 our transcriber. She's very efficient. And often --

1 if it's not tomorrow, it'll be, I would say, the next
2 day.

3 MR. RICK WALBOURNE: Thank you. Rick
4 Walbourne, Fisheries. That's it for me.

5 THE FACILITATOR: Zabey Nevitt, with
6 the Board. Thank you, Rick.

7 Lisa, does Environment Canada have any
8 final comments or questions on the -- this next
9 subject?

10 MS. LISA LOWMAN: Lisa Lowman, with
11 Environment Canada. No, I don't. Anne Wilson or Amy
12 Wilker on the line, do you have any questions?

13 MS. ANNE WILSON: It's Anne Wilson.
14 Lisa, I just have a question actually that was posed
15 in an email, whether or not the water treatment plant
16 operation would form part of their plan and go forward
17 to a licence as a requirement to have the operations
18 manual apply.

19 MS. LINDSEY CYMBALISTY: Lindsey
20 Cymbalsty, Board staff. Yeah, I had just mentioned
21 earlier that the operations manual for the wastewater
22 treatment plant would either be required as part of
23 the -- the tailings containment area operations manual
24 or as a separate thing. We haven't quite figured out
25 exactly how that would -- which would work best. But,

1 yeah, that would be part -- part of the water license.

2 MS. ANNE WILSON: Anne Wilson. Sorry,
3 I missed that earlier.

4 MS. LINDSEY CYMBALISTY: No problem.

5 THE FACILITATOR: Okay, Zabey Nevitt,
6 with the Board. Was that -- that's the rest of the
7 questions?

8 MS. LISA LOWMAN: Amy Wilker, you
9 don't have any other questions, do you, or...

10 MS. AMY WILKER: I don't.

11 MS. LISA LOWMAN: Okay. Thanks.
12 Yeah, Lisa Lowman, from Environment Canada. That's
13 all. Thanks.

14 THE FACILITATOR: Okay, thanks. Zabey
15 Nevitt, with the Board. And now we'll -- we'll go
16 back to INAC, who I just skipped, so.

17 MR. PAUL GREEN: It's Paul Green, with
18 the Water Resources Division. Our row number 8, we
19 just made a comment about the plans generally. And as
20 long as the appropriate plans are updated to reflect
21 what's occurring on site, you know, in a reasonable
22 amount of time, I think we're -- we don't have
23 anything further on this -- on this particular topic.

24 THE FACILITATOR: Okay. Zabey Nevitt,
25 with the Board. Thank you. Are there any other

1 comments from any other reviewers on the issue of
2 management plan and reporting requirements or -- or
3 any other general comments that you may have at this
4 time?

5 MR. PETER REDVERS: Peter Redvers,
6 representing the Nahanni Butte Dene Band. Just for
7 clarification, the pilot phase monitoring reporting
8 relates to the -- the operation of the treatment plant
9 and that period during which it's basically going pond
10 to pond, correct?

11 And so we assume that there will be --
12 and what -- well, obviously there needs to be -- at
13 this point in time, what time period are you looking
14 at that occurring, just...

15 MR. RODNEY AMBROSIE: The -- the
16 treatment plants will be delivered by the end of this
17 month. We expect a few weeks of construction. So the
18 mid to latter part of September until probably mid to
19 late November is when we'll be running that -- that
20 phase of it.

21 MR. PETER REDVERS: Peter Redvers.
22 And really that's the phase at which you're really
23 going to be testing the ability of that equipment to -
24 - to achieve certain water quality levels. So the
25 other question I have maybe is for the Board, because

1 I'm not clear on it, what point in time are those
2 water quality levels set? And is there going to be
3 some consideration to, given in terms of timing of
4 that to this pilot phase work and what is, in fact,
5 achievable? Or are we setting criteria before the
6 piloting is being done?

7 So I'm just wondering how that is going
8 to work.

9 THE FACILITATOR: Zabey Nevitt, with
10 the Board. The -- the EQCs will be set as part of the
11 water licencing process which the intent is to have a
12 -- a water licence in place before that stage begins.

13 MR. PETER REDVERS: Peter Redvers. So
14 in the event then that they are set and there is some
15 problems associated with achieving them through that -
16 - through the -- you know, that becomes apparent
17 through the piloting, what's Plan B in that -- un --
18 under those circumstances, both from the Company
19 perspective and the Board perspective?

20 THE FACILITATOR: Zabey Nevitt, with
21 the Board. I won't speak to the Company perspective,
22 but if any proponent can't meet certain EQCs, the
23 option is open to them include applying for an
24 amendment to -- to change those EQCs, not discharging,
25 those -- those -- or -- or being out of compliance is

1 -- is, you know, which is not the preferred option, of
2 course.

3 So -- so those are some of the -- the
4 options, in a sense, available; the last one not
5 really being an option, bear that in mind, as I look
6 at the Company here. Did ent --

7 MR. RODNEY AMBROSIE: This is Rod
8 Ambrosie with Wenck. It -- it also gives the Company
9 time, then, with Veolia to look at what additions or
10 what modifications could be made to the plant to help
11 lower the discharge criteria as well.

12 So it does give us a period of time to
13 -- to try and -- and work through those items as well
14 at the plant site.

15 MR. PETER REDVERS: So -- Peter
16 Redvers. So -- so, just for clarification, if -- if
17 the criteria are set and you find through the pilot
18 phasing that you can't achieve them, there is the
19 possibility to apply for amendment at that point to
20 try and see whether or not there could be some
21 adjustment to them.

22 And I guess that's -- to me,
23 procedurally, at -- there's a -- perhaps a little bit
24 of cart-before-the-horse in the sense of criteria
25 being set before the piloting -- you know, some of the

1 piloting being done so you have some realistic, you
2 know, objectives and some clarity as to what's not
3 only desired, but what is possible given the
4 technology.

5 So, I'll just throw that out for some
6 consideration in terms of how that might get
7 addressed. It seems a little complex, and I -- I'm
8 not sure about the timing on it in the sense,
9 obviously, you need the criteria set before you
10 discharge.

11 So, if there's any consideration of --
12 of being able to hold back on, certainly, maybe
13 setting some targets in a draft licence, but allowing
14 some piloting to occur.

15 Would that, perhaps, expedite things on
16 all sides? And I'll just throw that out at this
17 point?

18 THE FACILITATOR: Yeah, I -- I don't
19 think we can comment any further at this time on that
20 in terms of process, but it's certainly on the record
21 as a consideration. Okay, thank you. Zabey Nevitt
22 with the Board.

23 MR. PETER REDVERS: Peter Redvers.
24 And then clarification, the plume delineation study, I
25 understand, is going to be 2013. The -- that was the

1 next date for that to occur or the next one to occur?

2 MR. DOUG WATT: Doug Watt. That's
3 correct. We usually try to do them in low-flow period
4 in the spring; date somewhere mid-April to mid-May
5 depending on conditions -- snow conditions and
6 conditions of the river.

7 We have, in the past, actually had
8 problems accessing the river at all during the low-
9 flow period and we had to put it off for a year, but
10 we certainly don't plan to do that and we will plan to
11 do one in spring next year.

12 MR. PETER REDVERS: Peter Redvers and
13 representing Nahanni Butte Dene Band. I guess just
14 one (1) kind of final comment and it relates to
15 something that was mentioned or raised earlier with
16 AANDC which is really what the objective is on your
17 water quality, you know, guidelines or criteria.

18 And it would certainly be helpful from
19 a community perspective if that was very clear what
20 the objective is. I mean, if the objective is to meet
21 CCME at 5 kilometres, then -- then that -- we've got
22 some target.

23 If it's -- the objective is to meet it
24 at 300 metres down, if the objective is -- just, yeah,
25 real -- some real clarity and some comment, obviously,

1 then on the -- which is the community concern of the -
2 - the -- the potential short impacts of that over the
3 period during which that particular processing
4 methodology would -- would be used.

5 Again, I kind of work on the basis of
6 trying to -- trying to have no surprises, so, you
7 know, if there are impacts then be upfront about them
8 and try and define those and then it makes it much
9 easier for the community then to -- to weigh off the
10 other options that are available to them. And it's
11 certainly most helpful.

12 So -- and -- and particularly in this
13 case, where you're dealing with a project that is
14 already occurring and is likely to continue, and
15 you're really looking at, as I understand it, to
16 address the -- the situation of the potential failure
17 of -- or reaching capacity of the existing tailing
18 ponds, which would certainly be a -- a situation that
19 the community downstream wouldn't want to -- to occur.

20 So, there needs to be some balancing
21 here, and so being upfront as possible about what is
22 achievable and what the potential impacts of those
23 are, would -- would be extremely helpful from a
24 community perspective before going into the public
25 hearing.

1 And just one (1) final thing. Pub --
2 where's the public hearing being held?

3 THE FACILITATOR: Zabey Nevitt with
4 the Board. The -- the location is not, as yet,
5 finally determined. But it is likely, to be honest,
6 it will be in Yellowknife.

7 MR. PETER REDVERS: Peter Redvers.
8 That's it for now on those topics.

9 THE FACILITATOR: Paul...?

10 MR. PAUL GREEN: Sorry, it's Paul
11 Green of Water Resources Division, Aboriginal Affairs.
12 I just -- one (1) note on the plume delineation study.
13 Up till now, it's my understand -- like, the -- the
14 plume delineation study has been conducted to --
15 looking at, you know, looking to -- to delineate where
16 the groundwater plume and how that enters the river.

17 Going forward, the -- I guess the study
18 design might need to be altered a little bit, because
19 you're going to be looking at a, obviously, the point
20 source discharge. And so it's just a note that that
21 might -- you should maybe consider that when you're
22 putting together the -- the plume delineation study
23 for the spring.

24 MR. DOUGLAS WATT: Doug Watt. Yes,
25 we're well aware of that and we -- we'll -- know we

1 have to change -- change the design of the -- of the
2 study a little bit.

3 And I just wanted to reply a little bit
4 to Peter, going back a step. We will absolutely be
5 clear on our objectives when -- when we produce our --
6 our document. And I also wanted to mention that the
7 absolute last thing that we want to do is have any
8 sort of failure of any dam so.

9 THE FACILITATOR: Okay. Zabey Nevitt
10 with the Board. Are there any final closing comments
11 or questions before we wrap up here? No? Okay.

12 MR. PETER REDVERS: Sorry -- sorry,
13 just Peter Redvers. One (1) quick comment, just for
14 the -- just to put it on the record for the Board if
15 it's not already, is that I am -- have been made
16 contact on behalf of the community with Northern --
17 North American Tungsten and am trying to make
18 arrangements for a site visitation by chief and
19 council so that they can get a much better
20 understanding of the layout of the land.

21 And I would hope that that would occur
22 before the public hearing so that there would be a --
23 a better sense of, sort of, spatially understanding of
24 what it is that's being talked about and the location
25 of monitoring sites and those kinds of things.

1 Because I think that would be quite useful.

2 I believe that -- that NATC has agreed
3 to that and it's just really a matter of working out
4 some of the logistics for that.

5 THE FACILITATOR: Okay, that's great.
6 Thank you, Peter. And the -- the Board always
7 encourages getting people to understand the projects
8 that are, you know, going on in their -- in their
9 backyard, so that would be great.

10 Okay, I'm just going to do some wrap-up
11 with some closing comments and some final, sort of,
12 followup. The -- a couple of items we'll be
13 distributing from the Board in the next day or so will
14 be -- there have been some slight changes to the work
15 plan in terms of dates, based on the -- the material
16 that we need and the -- the slight amendments to -- to
17 deadlines there. We'll distribute that in the form of
18 an amended work plan in the next day or so.

19 Also, we will forward to the company
20 for confirmation and then also circulate to everybody
21 else the commitments that have come out of this
22 session. Essentially, that will be the Board's
23 Information Request that is talked of.

24 And we have a number of items. I don't
25 know whether we want to run through them or --

1 Lindsey, do you want to do that quickly, just run
2 through just to confirm those?

3 MS. LINDSEY CYMBALISTY: Lindsey
4 Cymbalusty, Board staff. The items that we have are
5 the final report from the wastewater treatment plant
6 testing; that can be provided by August 14th.

7 And the second item is Cantung's -- or
8 North American Tungsten's response to the memorandum
9 of -- on the draft EQC; and that was for August 16th.

10 And the third item that we had was an
11 evaluation of the culvert and stream capacity for
12 August 13th.

13 And it -- it just says an -- another
14 item we had, the mercury retest results, but those
15 were just -- you said you would provide them when --
16 when you got them.

17 Those were the only items that we had.

18 THE FACILITATOR: Okay. Zabey Nevitt,
19 with the Board. Thank you, Lindsey.

20 Just in closing, we have the
21 intervention deadline coming up follow -- followed by
22 the company response and the hearing date and we'll
23 provide further details on the actual hearing once we
24 receive that.

25 Please ensure in your interventions

1 you're very clear on, you know, your -- your
2 recommendations in relation to the -- to this proposed
3 amendment. And also one (1) of the issues we've --
4 we've run across in the last while is having
5 interventions and then people say they're not actually
6 planning to attend the hearing.

7 If you could make it very clear in your
8 interventions what your intentions are at that point,
9 so, we know whether we will actually need to proceed
10 with a in-person public hearing or not, because we
11 realize that there are a lot of capacity issues that
12 are affecting this right now and if we could just have
13 that very clearly stated, what -- what intentions are
14 here.

15 Finally, I'd just like to thank
16 everybody, the company, all of our reviewers, and
17 everybody who's involved in this today. It's a lot of
18 work going into this. I thank the staff. I thank our
19 sound people and the people who will be writing the
20 transcripts when you write this down, thank you to you
21 too.

22 And -- and thanks for going into the
23 lunch hour. I know it's been a long morning, but I --
24 I think we've managed to -- to go a long way here. So
25 thanks all. Enjoy the rest of the day.

1 --- Upon adjourning

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4 Certified correct,

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8 Wendy Warnock, Ms.

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