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**MOUNT POLLEY MINING CORPORATION (MPMC) PUBLIC LIAISON COMMITTEE (PLC)**

**MEETING NOTES**

**Meeting Details**

Conference Call Meeting – General Meeting  
February 3, 2021  
9:00 am to 1:00 pm

Meeting called by: MPMC Designated Representation  
Meeting Chaired by: MPMC Designated Representation

**PLC Members and Guests**

Member	Present	Call-in	Organization
Aaron Higginbottom			Williams Lake First Nation
Abhirosh Chandran			Ministry of Environment
Alan Gibson (AG)		x	Ministry of Environment
Alicia Lalonde			DWB Consulting
Bee Hooker (BH)		x	Big Lake Community
Bill Carruthers		x	Williams Lake Community
Christine McLean (CM)		x	Mitchell Bay Community
Claudine Kadonaga		x	Likely Business
Don Parsons (DP)		x	Imperial Metals
Doug Watt (DW)		x	Likely Citizen
Edna Boston			Xatsull - Soda Creek First Nation
Gabe Holmes (GH)		x	Mount Polley Mining Corporation
Jackie Sarginson			MLA Cariboo North Coralee Oaks Office
Jaylyn Byer (Alternate)			Williams Lake Chamber of Commerce
Kira Jackson		x	Ministry of Energy, Mines and Low Carbon Innovation
Linda Bartsch			Horsefly Business

Lisa Kraus		x	Likely Community
Lyn Anglin (LA)		x	Consultant to Imperial Metals
Lowell Constable			Ministry of Energy, Mines, and Low Carbon Innovation
Luc Lachance (LL)		x	Ministry of Environment and Climate Change Strategy
Mathieu O'Leary (MO)		x	Mount Polley Mining Corporation
Mark Doratti			Williams Lake Chamber of Commerce
Maureen LeBourdais			Cariboo Regional District
Micky McIntosh			Likely Resident
Richard Holmes			Morehead Community
Steve Hocquard		x	Horsefly Community
Tara Cadeau (TC)		x	Ministry of Energy, Mines and Low Carbon Innovation
Walt Cobb		x	City of Williams Lake
<b>Guests</b>	<b>Onsite</b>	<b>Call-in</b>	<b>Organization</b>
Darren Sargent		x	Soda Creek First Nation
Lee Nikl		x	Golder Associates
James Ogilvie (JO)		x	Golder Associates

## Conference Call Meeting/Presentations 9:00am to 1:00pm Meeting Notes

### Welcome and Roll Call on Phone

- Recognition that the meeting is being held on the traditional territory of the William Lake First Nation

### Additions to Agenda

- UNBC report

### Approval of Agenda

- Approved

### MPMC Discussion Items (see 2020-02-03 PLC Meeting Presentation)

- Golder Review of 2022 Water Management Plan and Progress Report #7- James Ogilvie
- Care and Maintenance Update
- COVID-19 Update
- Environmental Monitoring Update
- Discharge/WTP Update
- Water Management Update
  - Site Water Quality Update
  - Pit Lake Water Quality Update
  - TSF Dashboard

- Water Management- Path Forward for Freshet
- Bypass Application/Appeal Update
- Remediation Update
- Exploration Update
- Mine Restart Update
- Compliance Review Update

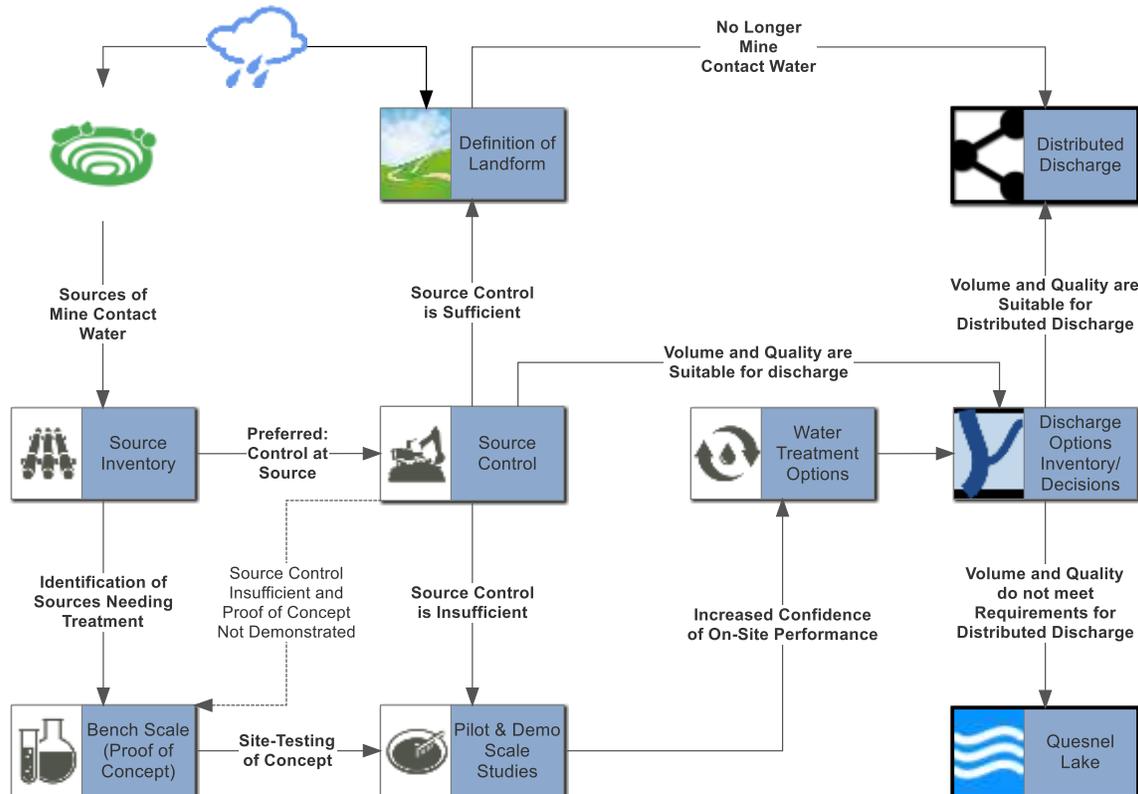
**Standing Agenda Items**

- Roundtable Discussion
- PLC Questions/Comments

**Next Meeting**

**Golder Review of 2022 Water Management Plan and Progress Report #7- James Ogilvie**

- Summarized the work done last year. One of the conditions of the Mount Polley discharge permit was to update the water management plan to address plans for water management and water treatment beyond the end of 2022. The plan that was updated focused on water management during operations, not closure or post closure, and the timeline for that operational period was assumed to be January 2023 so beyond 2022 to 2031.
- The framework that we used to develop this update and it outlines the approach that was taken and shows the thinking behind the water management plan where it is today and where we see it going. This framework built upon work that was carried out by Golder and others as part of the last long term water management plan in 2016.



- This figure shown in the presentation shows graphically the approach that was undertaken for this update. So initially using water quality and water balance models to identify sources of mine contact water. Include these in source control and water treatment options to manage these sources. Treatment options ranged from bench scale works all the way through to pilot systems and were included into treatment inventory. Then we looked at discharge options for where these sources discharged to. Whether through a future distributed discharge system or through the water treatment plant and pipeline. Part of the water management plan, the definition of a landform that discussion was around how you define landforms and when mine impacted areas can become sources of non-contact water through successful remediation efforts. This is not an area of established ministry policy here in BC, but it does have a lot of merit from a closure and sustainability side and would be priority to understand for any future distributed discharge scenario. In terms of outcomes, the findings from this updated water management plan indicated that the existing water treatment plan is the best available option for the remainder of land operations. While at the same time, Mount Polley is actively exploring other treatment options and technologies to inform the water management plan into closure and post closure. The water management plan also provided an implementation schedule, which included timelines based on typical project development timelines for these kinds of treatment technologies as well as a set of operational triggers that would require future updates to the operational water management plan.

#### Questions:

AG: A lot of that stuff that is in the water management plan is taken directly from the 2016 long term water management plan and so it's hard to figure out what stuff is going to apply and in which stuff in each document is still going to apply, because the long-term water management plan had a lot of information and this took some out of it and we don't know which stuff is going to apply for the long-term management plan.

AG: So, I am thinking the next permit amendment to continue this discharge into Quesnel Lake will be one big document, is that correct? That will supersede all these documents.

DP: Yeah, I would suggest that this new water management plan that got submitted in November is the plan going forward, and is the basis for the amendment application submitted to extend discharge into Quesnel Lake until closure.

AG: James, did you do the analysis to determine the regional flow stations? Which were used to determine the amount of water that would be on the site?

JO: Yeah, that was updated using data through to the end of 2019. So, this whole plan was a revised water management plan from what was submitted in 2016, as you know. This reflects the current site conditions, the current mine plans and all the current site data that was available. The models are to existing site conditions. All of the climate data was updated to the most recent available information. Some of the assumptions and the findings were consistent with 2016 because some of these has not changed.

AG: What regional flow station did you use for this new modeling for the water management plan? Did you use the Moffat Creek station, like the long-term water management plan?

JO: We used a combination of stations; Moffat Creek was one of them. We also have data from Likely and the Mount Polley site itself.

AG: Mount Polley has had a water management issue and there was an unauthorized discharge in 2020 during freshet. Mount Polley said they did a hydrology assessment and it said it was a 1- and 100-year 24-hour event but it used a proxy station from Sheridan Creek, which gave it that 1 in 100, but the long-term water management plan used Moffat Creek. If the data from Moffat Creek was used then the issues experienced in 2020 would only been a 1 in 10-year event. I just want to make sure that you guys are looking at it. It's not going to be a water management issue on site and that the same stations are used to carry on from one modeling event to the next because they are both showing that there's not going to be a problem, but there has been a problem with water management and that's why the bypass permit amendment is going forward.

JO: The modeling is based on average climate conditions and either wet or dry year events so when we see the level of snowpack and flow in the regional system that we saw in 2020 then it's going to be a problem and that isn't modeled in this kind of plan. So, I think that is the source of the issue.

AG: You are only modeling for 1 and 10 and not trying to go for a 1 and 100 storm event to ensure that is their unauthorized discharge like to Bootjack Lake like last year?

JO: The requirement of the permit is to convey and treat up to the 10-year event so that is the design basis of the modeling exercise. Events beyond that require conveyance and no damage to the Mount Polley water management infrastructure. But it wouldn't be practicable to store that volume of water in sumps and pumps and that kind of thing. That is consistent to all mine permits I have been involved with in British Columbia.

DP: You will see in later slides where we talk about the current water situation at the site. We will get into a little more detail. What you will see is that 2020 has been a wet year and it's more representative of a closure to 1 and 150 that kind of thing. What we've been dealing with is well over 9 million cubes of water over 2020, and normal is more like 6. You will see in the water management plan that during care and maintenance, the average amount of water we must deal with is about 6 million cubes. Of course, that reduces when we are in operation because the tailings tie up some water so you will see a difference there, but this has been an extremely wet year. So, we have extra water stored on site and that is the reason for the bypass authorization request and it being above normal rainfall is why the bypass is making itself onto the agenda.

CM: James did you say there were other options that Mount Polley was looking at, other discharge options?

JO: No, you have that correct. Part of the work of this water management plan was to identify water treatment options as well as discharge options with discharge at different locations. We did look at the assimilative capacity of different receiving bodies around the site, which there is a limited number of creeks and lakes that can take discharge flows. Ultimately the best option at the time is to use Quesnel Lake. When we moved towards looking towards a distributed discharge scenario assuming water quality is good enough once remediation and reclamation have been done or other treatment technologies are available then that's when some of these other discharge locations may become suitable distributed discharge scenarios.

CM: Other discharge locations that they are looking at, is there a report or plan we can look at that would show what they are looking at?

JO: The locations are summarized in the water management plan, but they are in essence the creeks and lakes around the mine. Those are the ultimate discharge locations for run off on the site. Bootjack Lake, Polley Lake, Hazeltine and Edney creeks, those would be the discharge locations. We looked at the similar surface capacity, the physical volume capacity as well as the chemical capacity to these waters but until treatment options are developed and an understanding of finer water quality is available, it's not possible to say which of those options are feasible. So, we are really listing them as potential options for distributed discharge scenarios depending on how the mine plan develops and how water treatment is assessed and proven to be effective or not effective for the site waters.

AG: The water management plan does not provide any new information on the distribution and why Quesnel Lake was chosen, it just took the information that was from the long-term water management plan which was in the 2016 long term water management plan.

CM: But have they not extended it now? Are they asking for an extension or is it extended until 2023?

AG: The permit still says that they can only discharge into Quesnel Lake until December 31, 2022. Mount Polley must apply for a permit amendment to extend it. I think they're going to be getting into this later. They have submitted the official copy. They plan on discharging into Quesnel Lake past 2033, two years after closure on December 31, 2031.

DP: That's right Alan. We have done a long-term mine plan which looks at surface and underground mining through the next 8 to 10 years, and we've applied to extend the discharge to Quesnel Lake based on this water treatment plan and our long-term mine plan to carry us over to closure.

AG: James, the water management plan did not show any modeling for any new exploration areas, like areas to the North of the mine which is Morehead Lake. How can you say this plan is moving forward without including new areas?

DP: We are doing mineral exploration north of Mount Polley, but we haven't identified a mineral resource that we can turn into a reserve and mine in the future. Any thoughts on what might be north of the mine is pure conjecture at the moment until we finish up our exploration program. Then of course we would have to do a fairly detailed environmental assessment study to decide or figure out just what impacts there might be if we were to even consider mining up there.

CM: Did I understand by the discussion between James and Al that the bypass was approved until the end of March?

AG: No, the bypass was asked for as a director because we did not consider it an emergency. Mount Polley has applied separately for a permit amendment which is the procedure. That has to go through to bypass the water treatment plant and dewater the Springer Pit and pump it into Quesnel Lake. That's where the appeal part comes in which is numeric performance metrics and stuff like that. There is a lot of stuff going on so, it hasn't been granted, they just applied for it. They just applied for it and hasn't made it to me, I just got the notice yesterday.

DP: Quick history, Mount Polley on October 26, 2020 applied for a bypass authorization request. It's clause 2.2 in Permit 11678 which says that if you apply to the Director and it's approved, you can bypass water. Our understanding when we read the permit was that the emergency wasn't necessary, infrastructure did not have to be at risk to apply for a bypass in our interpretation of the permit. That's why we applied. We had the engineer of record for the tailings dam. We wanted to point out that the Springer Pit only had 3.9 million cubes of space to store water because of the wet season and we felt that if it was a wet winter, we would use up all storage space capacity. The Springer Pit has water that meets the permit limits and we felt that applying to bypass through the Director would allow us to discharge into Quesnel Lake anywhere from 1.6 to 2 times the amount that the water treatment plant would allow through active treatment, and so we've been talking back and forth with the Ministry in hopes that we can get rid of the extra water and make room for fresh water. Once we found out that was going to be an issue and that the Ministry might not approve it, we decided to apply for a permit amendment instead to attempt to change that clause so that we can bypass when water meets permit limits at any time and gives more flexibility in our annual discharge plan.

LL: We be reviewing or discussing these applications shortly, but we think it is a better approach at this point because it will allow us a bit more time to structure a review and come up with a best decision in this context. So upon receiving this and this will be assigned to Alan, we can prioritize this in context of the other applications you are also submitting for extending discharge.

DW: Is the amendment application going to be forwarded to the PLC members as well?

DP: Yes, I would say so. Let's just say we have to go through the front door of the Ministry who checks the applications for accuracy and that the submission has all be done correctly. Once it moves onto Alan's desk then the application has been properly submitted and we will make that available to the PLC.

AG: Doug the process we have is to make it fair for everybody, not just the mine but for everyone who is applying for a permit. There are four phases. The first phase is submitting the application with the forms and is the input stage and where it goes to our business services people who make sure all the boxes are checked, the right names are on the form and stuff like that and from there, they're given to us to decide what we're going to do. The second phase is the primary assessment phase and there are two; the minor permit amendment and the major permit amendment. With a major permit amendment, there are certain things that have to be done. We have to follow the Public Notification Regulation with regard to who gets notified. This one would be a minor permit amendment because it's not changing the volume that is going to be discharged into Quesnel Lake or the discharge quality that is in the permit right now. The only thing that is changing is water not going through the water treatment plant so it considered a minor permit amendment. The third stage is to sit down with Mount Polley for a pre-assessment

meeting and say this is the info you must submit. Don and I have been going back and forth for 3 months now and I've received a lot of information now that he has submitted to me and there is going to be more that is needed. Then he will submit a technical assessment report. Each application will stand on its own, so all the information has to be in that application. The fourth stage is to make sure that this information that Mount Polley must submit is all there. It will be submitted, reviewed and passed on to Luc as a statutory decision maker.

DW: How likely is this to occur before the end of March? That was the end of the time period that Mount Polley applied for, for this extra discharge.

DP: That's the problem, Doug, with this process. Now that the Ministry is not approving the bypass authorization request and asking us to go through a permit amendment, we are missing the opportunity to reduce the water onsite, which was the concern in the first place. I am not saying we are going to have unauthorized discharge all over the place but if we have a wet spring and we are missing our opportunity then this backs us into a corner.

AG: In the very beginning of October, we told you to apply for a permit amendment, as this does not fall under an emergency or a change in work. We wasted 3 months going back and forth. This could have been done earlier. We asked you if this was an emergency, and if your engineer of record had an issue with a risk to the environment or risk to infrastructure and you did not respond. The engineer of record did not receive anything, we did get something from Matt from Mount Polley saying there is no risk to infrastructure, and in that case, we do not consider it an emergency.

LL: We will have a pre-application meeting very shortly. As soon as we receive the application, we will sit down with you, Don and whoever is working with you on this application. Plus, Alan and I need to understand the critical path and see how we can work through this following the process. Yes, we are not entertaining a bypass per se, under emergency conditions, but there could be a review that's more expedited than usual since it's a minor amendment, so we need to look at that more carefully.

#### **Care and Maintenance Update-** Gabriel Holmes

- We have our typical water management carrying on. We are operating our water treatment plant, doing environmental monitoring and snow removal. The CanMag plant is in a kind of stasis, not much action going on over there currently. We are heavy into reporting season and our personnel is on significant schedule changes. It has been a mild winter so far up on the mine site, our access around site has been reasonable. We have not got a ton of snow; our snowpack is below typical for this time of year. Water treatment has been operating nearly continuously for the last few months. We have our environmental team working hard maintain our Permit 11678.

#### **COVID19 Update-** Gabriel Holmes

- Our care and maintenance activities are still on going and everyone is still reporting to work. As of March of last year, we have implemented some COVID policies and strategies to maintain a safe work environment. Things like social distancing, wash your hands, sneeze/cough etiquette, wear face masks, stay at home if feeling sick, keep hands away from your face as much as possible and general housekeeping and clean hygienic practices. We have a COVID questionnaire for anyone entering the mine site and they will be turned away if they are showing any symptoms. A few months ago, we posted room occupancy limits and additional cleaning requirements have been implemented.

#### **Environmental Monitoring Update-** Gabriel Holmes

- As indicated, we have our environmental team onsite working on a weekly basis. Myself, Kala Ivens, Kim Sandy, Alicia Lalonde, Matt O'Leary, Don Parsons and a part-time employee Amanda Nicholson. We

spend a lot of time doing water sampling, we have been developing new plans in accordance with our ENV permit and M200 permit, our mining permit. We are carrying on with our sump and ditch inspections as a regular occurrence. As a requirement for our environmental permit, we have to do a twice annual survey of them, in detail where we walk each of the significant water infrastructure and look for any deficiencies or anything that might need repair or improvement. Seep surveys we finished in the fall. Flow monitoring, we have some continuous monitoring devices out in the field, but we must be careful about snow and ice damaging any recording instruments out there. We have a limited amount of instrumentation out in the field. We continue to make wildlife observations and document that. Our construction monitoring is mostly wrapped up but we do kind of imply the little information that we have from our daily environmental sheets. Reporting and planning, we have our annual ENV report associated with our permit due at the end of March. That's an accumulation of our monitoring activities for the year and all components to satisfy the permit requirements for the year. Future planning is being conducted for the 2021 field season for our comprehensive environmental monitoring plan and our routine monitoring.

- Water sampling- We do spend a lot of time collecting samples of Polley Lake, Bootjack Lake, Quesnel Lake, the pit lakes, Hazeltine Creek, Edney Creek, mine site seepage, groundwater and the water treatment plant. We try to preschedule everything so that it is routine weekly, monthly, quarterly, semi-annual and annual sampling. We just did some sampling on the Cariboo Pit just last week, we sampled Hazeltine Creek on Monday. We have a sample schedule for Polley Lake sometime this month, our partners at DWB Consulting will help us with that, if we need it.
- Plan Development- We are developing some plans in accordance with our permits. We submitted a mammal monitoring plan for the Hazeltine Creek corridor recently. The plan is for a camera trap survey for a one-year period, so we are looking at procuring some cameras that are suitable in all weather conditions. Then we will establish monitoring locations, location frequency and implement the plan as provided by DWB. That will hopefully give us an inventory of mammal usage throughout the Hazeltine Creek corridor and show what kind of mammals are utilizing the habitat since the tailings dam failure and its subsequent remediation. We are developing a framework for a Wildlife Management Plan as well as a Biosolids Management Plan and site Water Management Plan (M-200 permit). Some of these plans have overlapping requirements in both the ENV 11678 permit and our M-200 mining permit.
- Sump and Ditch Inspections- We do inspect them twice annually, intensively. As a follow up to those inspections we do any repairs or improvements. An example is the Bootjack Creek Sump. After freshet 2020 we had a small amount of erosion that took place on the embankment of our sump there, so we repaired that. One of the improvements that we are making to limit some of the issues that we had in 2020 at the water treatment plant associated with our NEZ seeps is the new gravity feed pipeline for the NEZ seep so they are not relying on power to manage that water, so that new pipeline is going to the Wight Pit.
- Reporting and planning- We prepare and submit our monthly, quarterly and annual reports in accordance with our permits. Those are available on the PLC Sharepoint site. We have an obligation in our Communication Plan to make those available in a timely fashion. Our CEMP execution takes some planning. We plan our sampling events; we plan our specialized monitoring with our consultants and things like weather stations we have them both hooked up to our network now so we can view real time data and download all the data we may need for our submissions and check the status.

Questions:

AG: Gabe, so the only onsite works resulting from the inspections were for the creek erosion and NEZ ditch pipeline, anything else?

GH: I do not have the list in front of me, but no there are some logs and trees that have fallen into some ditches that could be cleared out. The biggest point source of erosion for us that we've experienced was freshet in 2020 at the Bootjack Creek Sump. It was about 1 to 2 cubic meters of material that washed out of the embankment.

AG: Was there any work done to deepen any of the sumps or take the sediment out of the ditches that have accumulated?

GH: Most of our ditches are armored so they do not carry a tremendous amount of sediment, even during freshet and unauthorized discharges. We had very little total suspended sediments moving down the ditches. We had spent some time in the past armoring those ditches specifically for that purpose just to limit sedimentation. In the past, we have had to clear up a couple of our sumps. Prior to us armoring it, the SERD Sump had a steep pitch in the ditch that would erode. It's been a few years since we've had to clear out any of the sumps, they have stayed in pretty good condition to my knowledge. It is something we do inspect we also have our pump watch personnel that drive around on a daily basis to assess the sumps and pumps and document any high turbid water or erosion that has occurred in the ditches or any sedimentation in the sumps.

CM: Are you picking up selenium in the discharge in your monitoring?

GH: We do have selenium. We monitor for it on a weekly basis, at least try to get it from our water treatment plant. Selenium is certainly characteristic of our mine contact water; it hasn't popped up as being an issue for treatment in our water treatment plant. It is always well below the permit limit. However, when you look at selenium through the lens of distributed discharge, some of the sites we have seem like they may not be suitable or some of our treatment options haven't been effective for selenium but it is something we monitor closely knowing that we do have exceedances or a lot of our point sources water exceed the BC water quality guidelines for selenium so they couldn't be directly discharged, but they do meet our permit limits for discharge.

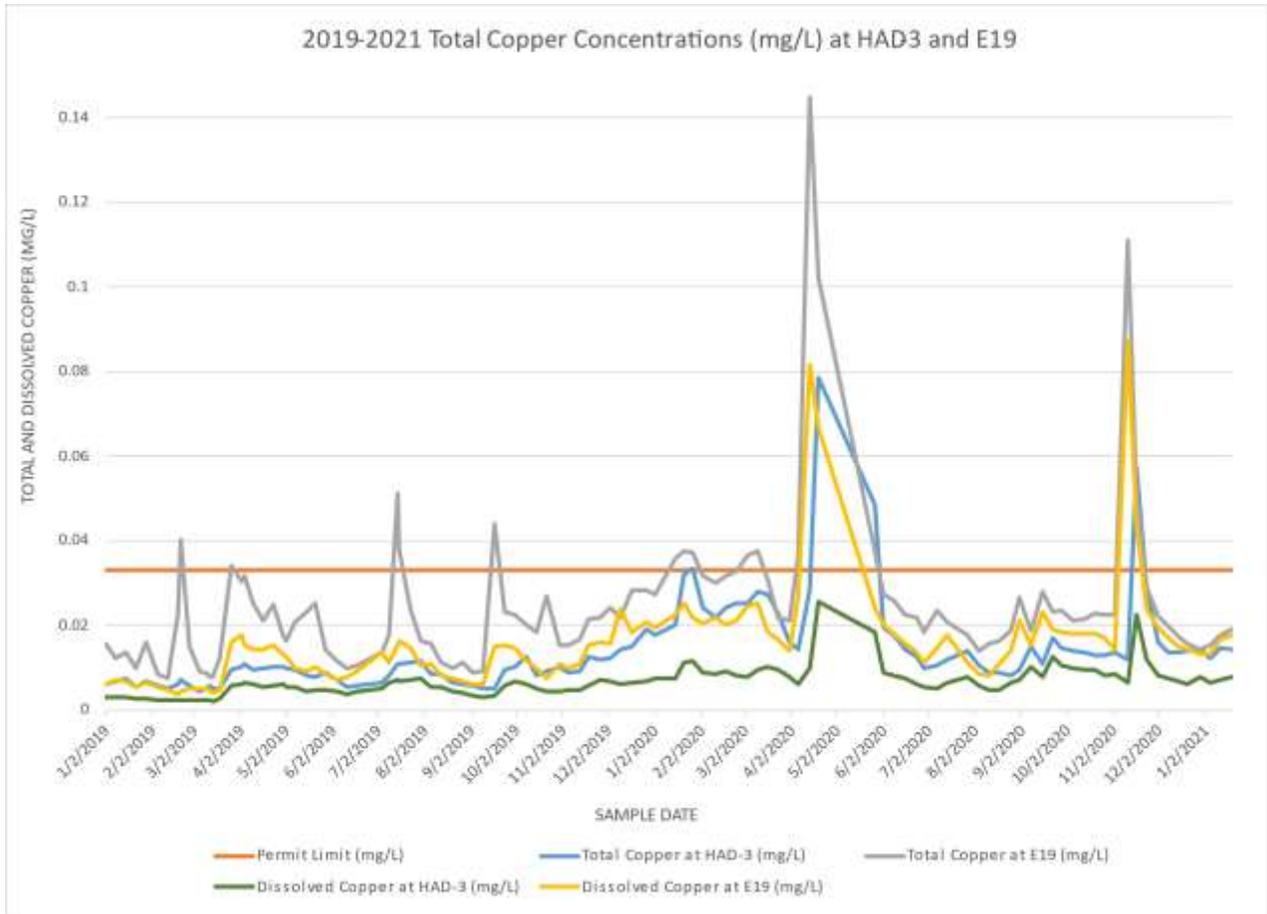
CM: Do you do any work to enhance your selenium treatment or to improve it?

GH: We haven't to date, no. We did, to satisfy the condition in the permit, identify the proportion of selenate, selenite and organoselenium but outside of that bit of work, I don't think we've done much. We haven't really enhanced the treatment process.

AG: Progress Report #7 will discuss some of that, and they did collect one sample for selenium speciation to determine what type of selenium is present. For some of the other treatments, there is the Cariboo Pit. They sampled there three times. They want to add lime to it. There is saturated rock fill and a constructed wetland treatment system. Those are the three treatments that they have moving forward, and they all go for selenium. The issue is, what about the other contaminants of concern. That's going to be some other stuff we are going to be speaking with Mount Polley about.

### **Discharge/WTP Update- Gabriel Holmes**

- The water treatment plant has discharged nearly continuously throughout Q4 and to present. In Q4, total of ~1,592,581 m<sup>3</sup> was discharged with an average discharge rate ~0.2 m<sup>3</sup>/sec, an average of 14,894 m<sup>3</sup>/day compared to our authorized annual average rate of discharge of 29,000 m<sup>3</sup>/day with a maximum authorized rate of discharge of 52,000 m<sup>3</sup>/day. We did have a copper exceedance occur on November 11 as a result of a power failure to mine site infrastructure, resulting in flooding in the Wight Pit and overflow of the NEZ seeps into the Long Ditch. This has been an issue for most of 2020. We have had a few exceedances associated with power failure and pumps in our Wight Pit failing. So, our NEZ seep was pumped from the seep location into the Wight Pit, and we experienced significant flooding in the Wight Pit as we opted to turn those pumps off for those NEZ seeps, allowing water to overflow into the Long Ditch. However, the water quality in those NEZ seeps is not amenable to the treatment facility that we use and it causes issues so we've seen exceedances associated with those NEZ seeps at the water treatment plant. We have hopefully sorted that issue out with the new installation of a gravity feed pipeline from the NEZ seeps to the Wight Pit, so we hope we don't see that issue moving forward.



- This is an updated graph of our copper values, our influent versus effluent. We have total and dissolved copper represented on the graph. Total copper is what is noted in the permit. We have to be below 0.033 mg/L, which is represented by the orange line on the graph. Total copper is represented by the grey (influent) and blue (effluent) lines. Dissolved copper is represented by the yellow (influent) and green (effluent) lines. One thing I do want to point out is in most cases our water quality does need a permit limit. Without treatment you can see we have some exceedances, exceedances associated with freshet and our NEZ seeps. Those spikes you see are mostly associated with the NEZ seeps.
- As per our discharge permit and the Metal and Diamond Mining Effluent Regulation (MDMER), toxicity testing is a requirement and our testing is outlined in the CEMP. It is standardized testing completed by Nautilus Environmental to satisfy regulatory requirements. We try to set out an annual schedule that is planned to suit our needs. We do monthly, quarterly and semi-annual testing.

### 3.3. Effluent Toxicity Testing

Acute and chronic toxicity testing of discharges to Quesnel Lake authorized under section 1.2 of this permit must be conducted as follows:

Acute Bioassay	Frequency	Source for Sample Collection
96-hr LC50 Rainbow Trout	Monthly	HAD-03 - Effluent discharged to Quesnel Lake (E304230)
48-hr LC50 Daphnia magna	Monthly	HAD-03 - Effluent discharged to Quesnel Lake (E304230)
Chronic Bioassay	Frequency	Source for Sample Collection
7-day Ceriodaphnia dubia survival and reproduction, and 7-day ELS toxicity test with a salmonid fish and or other tests specified by the Director	Quarterly or as required by the approved CEMP	as specified in the approved CEMP when discharging direct to Quesnel Lake

- The figure above shows Section 3.3. of Permit 11678 which outlines the required toxicity testing. These are routine tests that we do that look at exposing certain organisms to 100% concentration of our effluent. To date we have never failed any tests on any of the organisms that we test on. We have an obligation under the MDMER to test the most sensitive organisms which is part of the standard testing.

#### Questions:

Unknown: If Mount Polley gets approval to bypass the water treatment plant to discharge directly into Quesnel Lake, are you going to be doing toxicity testing on that water before you discharge it?

GH: Yes, I would say we would. We will maintain our current monitoring practices and we will probably for any source of water we intend to bypass we will probably intensify our monitoring at the source. For instance, we have pumps in the Springer Pit, we can sample weekly at the water treatment plant but we can also sample weekly in the pit itself and offset those samples so that we get an early warning as to any changes that might occur to the water quality at the pump location. We will continue to maintain our program prior to discharge into Quesnel Lake, that includes chemistry, toxicity, our in house TSS analysis and our inline sensors.

Unknown: The inline sensors for TSS in the water treatment plant?

GH: that's correct.

Unknown: There is no metals or anything like that?

GH: No, we had a conductivity sensor but it since has been removed. As far we know, we have a pH sensor, TSS sensor, turbidity sensor but the trigger is TSS. That would shut the treatment plant down. That sensor is set up to read at a certain threshold. I think we had it set at 15 mg/L at permit value so that if we see 15 mg/L for greater than, I don't know what the exact averaging timing is, it's about 20 seconds. If we see it for greater than 20 seconds then the water treatment plant goes into a recirculation mode. We did recently change the averaging mode on the sensor because it was set to 1 second or something like that so if one tiny particulate floated or flocculated in front of the sensor would put it in recirculation mode and we were having multiple recirculation events per hour so we changed the averaging mode to extend that sampling period.

Unknown: Does the plant go into automatic recirculation mode without an operator there?

GH: Yes, that's right. In the event of a power failure or in the event of a TSS exceedances there are knife gates, there. One closes and one opens.

MO: Yeah, the plant has multiple sensors on it, like an overflow sensor and equipment failure sensor that would either shut down the plant or put it into recirculation mode without an operator there. It's not just turbidity, there is a couple of sensors and triggers on it that would send the plant into recirculation mode if it senses a problem mechanically or with the water.

Unknown: I have a question, Matt. A couple of slides ago you showed the amount of discharge which is quite a bit. How much you discharged in the last quarter was quite a bit but still less than you're allowed. Why is that and why are you not discharging the maximum?

MO: Well, the plant is actually running slightly higher than capacity for the water quality we have so the plant is running at its maximum rate or slightly more which is less than what we have it authorized for in the permit.

**Water Management Update- Mathieu O'Leary**

- Water management is a big component for what we do at the mine site. Could be our biggest challenge at the mine site. Some of the aspects of water management at the site include water storage on site (TSF and pits), water treatment plant, water treatment plant bypass, Polley Lake control structure, research, ditches and sumps, pump watch, NEZ seeps and TSF status.

Location	Volume Jan 1, 2021 (Mm <sup>3</sup> )	Volume Jan 1, 2020 (Mm <sup>3</sup> )	Variance (Mm <sup>3</sup> )
Tailings Storage Facility	2.55	1.96	0.594
Cariboo Pit	2.45	1.18	1.274
Springer Pit	2.84	0.54	2.30
Wight Pit	0.00	0.002	-.002
<b>Total</b>	<b>7.84</b>	<b>3.68</b>	<b>4.16</b>
Volume Discharged			<b>5.02</b>
Volume Gained & Discharged			<b>9.18</b>

- This figure shows the current water stored on site. The first column is Jan 1, 2021 and the second is Jan 1, 2020 so you can see that one year ago the TSF had 1.96 million cubes. At that point we were still dewatering it up until the end of February, and just a month ago we were at 2.5 million cubes. We are at a higher amount there, same with the Cariboo Pit and Springer Pit. We accumulated this water on the mine site in one year. There is a difference of 4.16 million cubes of additional water compared to last year. We went from 3.68 million cubes to 7.84 million cubes. At the same time, we have discharged approximately 5.02 million cubes so if you add in the additional water on site plus what we discharged, the total gain is 9.18 million cubes for 2020. From the long-term water management plan TAR, we talked about a 1 in 200 wet year estimate being at 9, so like Don Parson said, a typical year is about 6 million cubes of water be gained on the mine site and 2020 was an extremely wet year and we gained over 9 million. This the stem of our water management problem for this year, all this extra water we got from rain and snowmelt.

Questions:

AG: The tailings storage facility was dewatered in 2016 because MPMC was given a bypass because within 3 months the Springer Pit would have been filled to capacity so the tailings storage facility had no water stored in it. However, from then on there has been about 2 million cubic meters stored in there per year which shows the water management problem has been going on for years and that's one of the things we need to discuss with you to make sure that this doesn't continue on like this.

MO: We accumulate water year to year at the mine site, but the tailings storage facility is required to store water when we are in operations. Then we have a directive to try to dewater as much as we can before the next year's freshet. So, 2 million cubes in the tailings storage facility before freshet is higher than the parameter that we need but the storage facility does have to hold water while in operations.

AG: The Golder technical memo suggested that the TSF emergency level is monitored above 1.5 million cubic meters, so have you been testing and checking the volume of the TSF everyday because it's over the 1.5 million cubic meters?

MO: Yes, we actually check out water elevations at a minimum weekly and like I said, now we are at 2.55 which is too much going into freshet so we will be dewatering and moving that water to the Cariboo Pit starting this week or next week prior to freshet to bring it down to the quantitative performance objective which is less than 1.5.

AG: Okay, the Springer Pit is at 2.84 but can go up to 14.8, which is the amount that gets modeled as a part of the water management onsite. Anything above 1025 requires additional monitoring to ensure the groundwater flow does not go into Bootjack Lake. There is quite a bit of water but we need to get it out of there.

MO: Yes, we do have a lot of water onsite and we would like to get it off as fast as possible. The Springer Pit has a maximum elevation that if we get close to, we have to inform you and do extra monitoring.

DW: In the TSF you say you have 2.55 million cubic meters the first of the month. How much storage do you have if you were at the maximum allowable in the tailings pond?

MO: Doug, that will come up in the dashboard slide where we will have something specific to the tailing's facility.

Unknown: Is there any way the Mount Polley mine would consider putting in additional treatment so that they can treat this water and get it offsite? Wouldn't it be cheaper in the long run?

MO: That's going to be a conversation with Alan, Don, Luke and others because 99.5% of the time the water is below the permit limits. When it goes through the water treatment plant, we are actually adding stuff to it and increasing the total suspended solids.

GH: That's the basis of our bypass application. We can meet the end-of-pipe permit requirements without active treatment and allowing in pit treatment to occur, and that's what we are seeing in the Springer Pit right now. Having left the water in the Springer Pit for the last 6 to 8 months has polished it to a point to where it meets those end-of-pipe permit conditions without any treatment. The end-of-pipe result in the lake is the expected simulation and permit values are expected to be achieved. What Matt was indicating is that typically our water is clean when it goes into the water treatment plant. Clean in a sense where it doesn't have a lot of total suspended solids. The treatment system utilizes a flocculation method where we add sand to it to kick start that process and a small amount of that sand is kicked out the pipe and so what we see is a minor increase in total suspended solids. Its associated with the treatment and not with the water quality as it sits on the mine site.

AG: When you say it meets permit limits is that from Section 1.2.3, but does it meet the NPM of 12 ug/L for copper?

GH: Not in the Springer Pit. A lot of our water approaches that NPM and that's part of the issue. That's why we are currently appealing that section of the permit because we can meet it without treatment, the water quality

objectives, excluding that NPM. One of the things we find ourselves wrestling with is, if the permit limit was 0.012 ug/L to begin with, it should have been stated in the table. As the NPM is a mechanism to lower that permit value.

**Site Water Quality Update-** Mathieu O’Leary

Location	NTU	pH	Cu Total (mg/L)	Cu Diss (mg/L)	Se Total (mg/L)		Date
Heap Leach Leachate	0.76	3.30	919	884	<0.0100	ALS	Jan 19 <sup>th</sup>
Wight Pit	0.50	7.86	0.0188	0.0181	0.0201	ALS	Dec 21 <sup>st</sup>
NEZ	6.97	7.56	0.583	0.512	0.138	ALS	Jan 19 <sup>th</sup>
Tailings Storage Facility	2.77	7.73	0.428	0.305	0.0268	ALS	Jan 19 <sup>th</sup>
Cariboo Pit (avg)	0.29	7.88	0.0463	0.0439	0.0766	ALS	Jan 21 <sup>st</sup>
Springer Pit (avg)	0.23	7.96	0.0286	0.0287	0.0375	ALS	Dec 3 <sup>rd</sup>
WTP Influent	0.32	7.93	0.0192	0.0177	0.0444	ALS	Jan 19 <sup>th</sup>
WTP Effluent	1.31	7.67	0.0156	0.00818	0.0451	ALS	Jan 19 <sup>th</sup>
Quesnel Lake IDZ (QUL-58-Mid)	0.24	7.85	0.00068	0.00056	0.000130	ALS	Nov 4 <sup>th</sup>
<b>Permit Limits</b>	<b>TSS (mg/L)</b>	<b>pH</b>	<b>Cu Total (mg/L)</b>	<b>Cu Diss (mg/L)</b>	<b>Se Total (mg/L)</b>		
<b>End-of-Pipe</b>	15 avg 30 max	6.0>pH>9.5	0.033	-	0.075		
<b>Quesnel Lake IDZ</b>	-	-	0.0022 (30 day avg)	-	0.002		

- The table above shows the majority of our water sources. The location is shown on the left, some of the parameters we are concerned with are on the right: NTU, pH, total copper, dissolved copper and total selenium. We sample the water treatment plant weekly when it’s operating and all the other sources are sampled every two weeks. You can see the heap leach pad has a really low pH and high copper, so that is one of the sources we have to treat with lime. It doesn’t produce a lot of water throughout the year so we send that to the mill where we dose it with lime, run over it with some iron and pull some copper out. It then goes to the TSF. The Wight Pit that’s near the underground where water is coming out is relatively good. It has low NTU, low copper and low selenium. NEZ water has been going to the Wight Pit on and off for couple years. It’s been going to the Wight Pit since freshet this year. Water goes down the ramp into the open pit and into some backfilled rock. We then pump it out and sample it at the Wight Pit. You can see the difference from the NEZ which has high copper and when it comes out of

the Wight Pit, the copper is significantly reduced. Any numbers in red in the table are exceeding the permit limits. In the TSF the total copper is above our 0.033 mg/L permit limit. It's about 13 times higher, so we can't treat that water. If we put any of that water into the WTP we would exceed the permit limit. We have plans to move that water to the Cariboo Pit. The Cariboo Pit also has high copper and the total selenium is actually just slightly over the permit limit. The Cariboo Pit is holding our worst water on site right now. When we move it from the TSF, there is going to be high copper and high selenium. That's part of our pit lake demonstration site, so Golder has written up a work plan on how to treat that using lime, and potentially some other products such as organics to treat the selenium and copper. The Springer Pit is all average, it's below the permit limit. This is all excluding the NPM we talked about, so the Springer Pit water is dischargeable if we were to bypass the WTP. The WTP influent/effluent is all running good except for the exceedance we had in November due to high rains and a power failure. We continue to sample these sources weekly and bi-weekly and determine where we have potential issues.

### Questions:

DW: The NEZ water, which is 0.5 ppm copper, where specifically is the copper coming from?

MO: It's coming from those seeps. Shauna Litke did her thesis about this and thinks it came from the sulfur pile which was placed on top of the dump and was later moved on top of an engineered lined pad at the leachate facility. That's where they suspect the source is.

DW: You haven't been able to get control of that yet?

MO: We have a consulting company looking at that. Part of our new M-200 permit is that we have to come up with a plan for decommissioning that leach facility and the contaminated soils around it which would include where that location of sulfate is so they're going to look into how we can get control of this. Perhaps we will have to dig up the waste rock and place some limestone or some high carbonated rock down there or possibly create a seal to prevent water from going in.

DW: The heap leach total copper is 919 mg/L. I assume that's being pumped into the TSF. Is that why the TSF is so high?

MO: That's partially why it's so high. The main reason it's so high is because we were dewatering the TSF from August to October to reduce the water volume in there and the water quality was fine. In the middle of October, we had a significant rain event. We saw that rain event coming, ordered some rental diesel pumps that move a lot of water and then we had the power failure so we weren't able to move the NEZ water into the Wight Pit. NEZ water was starting to flow in to the Long Ditch which ended up in the influent pond and WTP, and caused an exceedance in the effluent. At the same time, we had those same diesels pumping from the influent pond to the TSF. The TSF was fine up until October and once the NEZ water got into it, it definitely ruined it.

DW: Are you looking at treating the heap leach directly to get rid of the copper?

MO: Yes, the leachate is not many cubes of water throughout the year, it's only a few thousand. That goes into the mill at 300 cubic meters per bag and we dose it with lime for 24 hours, and we also run it over with scrap iron. The iron takes the copper out of it and coats the copper onto the iron so we reduce the amount of leachate in it which is still high at 919 mg/L. The 919 mg/L sample is probably one of our highest samples, usually it's only around 700 mg/L. After we put in lime, run it through the iron and take a sample of it, it usually drops down to 100-150 mg/L which is still high compared to our permit limit, and that water goes into TSF and settles. That's been the practice during operations. The leachate was also mixed with the tailings, lime was added and was sent to the TSF. That's part of why the TSF has high copper but it's not the full reason. The NEZ water is what caused the TSF to really jump up in copper.

DW: With your closure planning are you going to accelerate getting rid of that heap leach?

MO: Part of our new M-200 permit is that we need to develop a plan to decommission that, so SRK is working on that. The closure plan was submitted a couple years ago had a majority of that facility submersed in water in the Cariboo Pit. Now looking at that with our current mine plan, it's not really good to push that facility off until closure. SRK is looking into burying it in the TSF. The problem with that is, the best case, is during operations when we are producing NAG tailings, we can decommission that pad, put it into tailings and bury it in NAG tailings. We are thinking that's a better solution than putting it into the pit and waiting until closure. We have qualified professionals that will let us know what the best option is.

GH: The heap leach has been a source of water management issues for the last few years and the sooner it's taken care of and decommissioned, those water management issues can be mitigated.

AG: If the stuff in the heap leach gets buried in the TSF, is there a worry that the seepage from the TSF will have a higher copper level then?

MO: This is where we are having SRK determine what is the best location to decommission that pad, so we don't have an answer for that. They are going to assess all of the samples, the loading and the metal leaching and maybe their results will come up that we cannot bury that in the TSF and it has to go into a pit under water.

**Pit Lake Water Quality Update- Mathieu O'Leary**

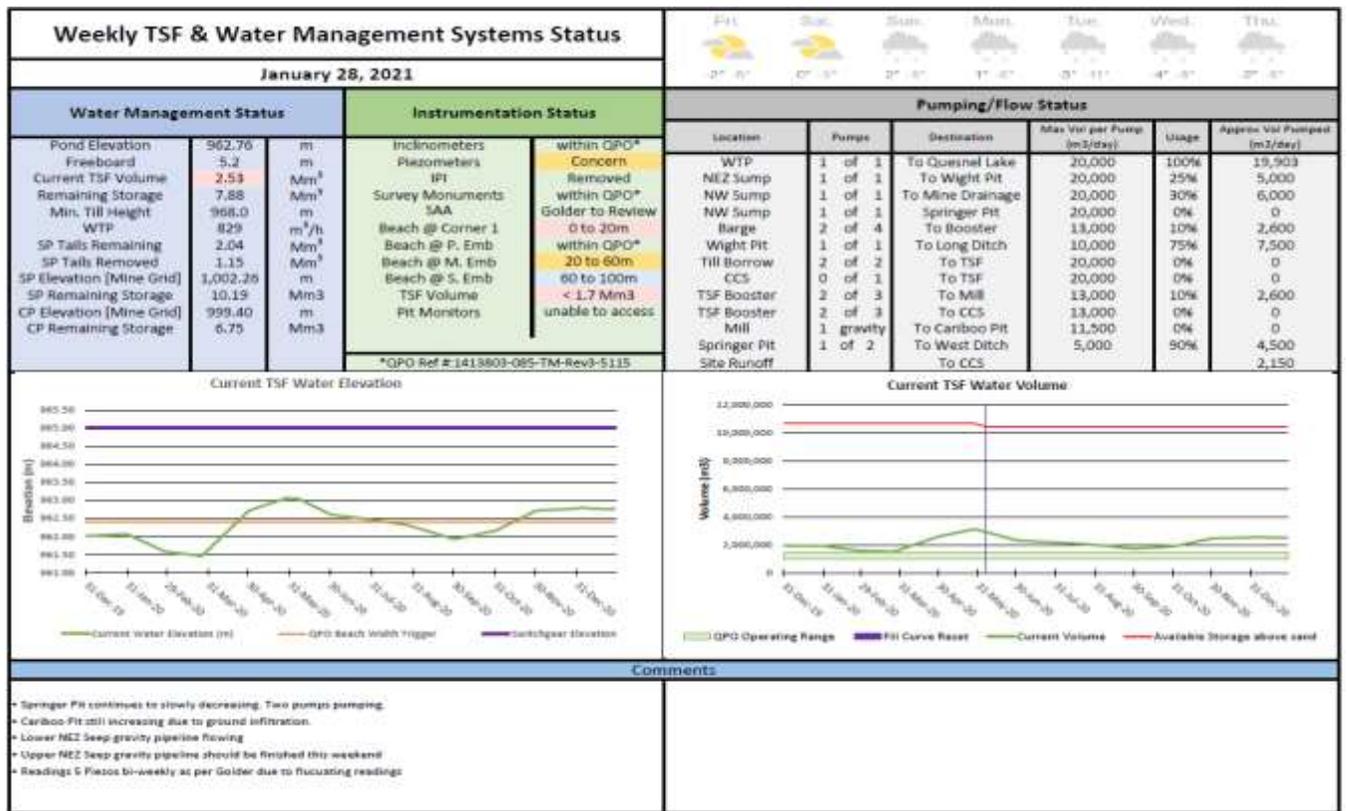
Sample ID	NTU	pH	Cu Total (mg/L)	Cu Diss (mg/L)	Se Total (mg/L)
<b>Cariboo Pit</b>	<b>Jan 21<sup>st</sup></b>				
Surface	0.49	7.97	0.0450	0.0425	0.0649
20 m	0.48	7.95	0.0373	0.0350	0.0654
40 m	0.27	7.83	0.0479	0.0455	0.0857
60 m	0.13	7.81	0.0501	0.0469	0.0847
Bottom	<0.10	7.83	0.0510	0.0495	0.0822
<b>Springer Pit</b>	<b>Dec 3<sup>rd</sup></b>				
Surface	0.25	7.98	0.0289	0.0289	0.0370
10 m	0.23	7.96	0.0276	0.0278	0.0373
20 m	0.24	7.95	0.0290	0.0286	0.0379
Bottom	0.18	7.94	0.0288	0.0296	0.0377

- This specific to our two open pits- the Cariboo Pit and Springer Pit. Right after freshet they both filled up with a lot of water. The water quality is significant between the two.
- The Cariboo Pit contains NEZ water, TSF water, run off water and pumped water. Copper levels are still pretty high so we take a profile. Every 20 m in depth, a water sample is collected and sent off to the lab. You can see at surface the total copper is 0.045 mg/L and as you get deeper it increases. Another interesting thing about the Cariboo Pit is the selenium. We notice the Cariboo Pit has higher selenium than other sources and we are trying determine where the selenium source is coming from. We suspect it might be the old bell dump because there may be some runoff from the backfilled bell dump into the Cariboo Pit. We are hoping to be able to get out there and sample safely it while there is enough water.

This has been identified for a sample, we just have to do it safely. As it sits right now, the Cariboo Pit is high in copper and as you get deeper, the selenium increases.

- The Springer Pit is the one that's been sitting more or less. No water has been introduced since May and as it sits right now, the total copper is below the permit limit of 0.033 mg/L. At the beginning of the summer total copper was above the permit limit so with time the copper levels have been decreasing. That's a good observation for pit lake treatment. Is time as a factor? Time also affects the water quality in the Springer Pit.
- We were profiling the Cariboo and Springer pits every two weeks; however, when the ice formed there was a good month to two months where we couldn't get onto the pits safely. We were able to get on the Cariboo Pit lake two weeks ago, the ice was thick enough, and the enviro department is going to attempt to get to the Springer Pit next week if it is safe.

### TSF Dashboard- Mathieu O'Leary



- The TSF Dashboard is updated weekly and sent to our engineer of record. It tells you your pond volume, freeboard which is 5.2m, current TSF volume which was 2.53 as of January 28th, remaining storage. With all of that freeboard the dam can store a lot of water; however, that goes against the best operating practices of the dam. There are also a bunch of water management metrics such as where the water is being pumped to and at what rates, percent and we also included the Springer Pit (SP) and Cariboo Pit (CP).
- The dashboard also tells you the instrumentation status, which is inclinometers, piezometers, IPI, survey monuments, our SAA as well as the beach. You can see we have a couple of areas which are outside of our normal operating parameters. A couple of our piezometers are giving funny readings or just frozen

so that is why it is under concern. They have been highlighted so our instrumentation tech has to pick up at a little higher frequency and sends results over to our Engineer of Record. They have not indicated that there is an issue, it's just sometimes that data does not get collected properly. We also have our beaches so part of our quantitative performance objective (QPO) is to maintain our sandy beaches to prevent erosion of the stream fill, so with this higher volume of 2.53 you can see our beaches in corner 1 there from 0 to 20 m, the main embankment from 20 to 60 m and the south embankment from 60 to 100 m. They are below the 100 m limit the Engineer of Record is fully aware of this. There is no emergency with the integrity of the dam, we are just outside the best practices. That's why we will be moving this water from the TSF into the Cariboo Pit as soon as we can. We will be continuously pumping that until we get the pond volume down below 1.5.

- The bottom left chart is our beach with our QPO so you can see that red line which is our trigger is slightly below 962.50 in elevation and the green line is where we are trending. From the end of July until October we had 100 m beaches around the dam. We were doing well dewatering the dam and then we had the big rain event at the end of October and it spiked the water elevation up. That also caused the water quality of the dam to decrease with those high total copper concentrations and we weren't able to dewater the dam using the WTP anymore so the water has been just sitting there.
- The bottom right chart is our pond volume operation. You can see the QPO that's the lighter shade of green. At the end of February 2020, we were just there so we were good. We hit a big spike during freshet and then we were slowly decreasing in volume up until October and that is when the rain happened. We are above the QPO for pond volume. We will be dewatering that and moving the water to the Cariboo Pit which will take several weeks to do but we will get it done before this coming freshet.

#### Questions:

AG: How will that affect the pit lake treatment that is going on in the Cariboo Pit?

MO: We will be messing with the water quality there. We are going to be adding almost 1 million cubes of additional water with higher copper but lower selenium concentrations. I really want to get some profiles of the Cariboo Pit prior to us moving that water. As soon as we're done moving the water, at the end of March, we will be doing more profiling as well to see what the impact has been and to see what the water quality is like. We have a work plan for the pit lake treatment and we probably have to look at that again once we know what the water is going to look like. We have no choice; we have to get the water from the dam before freshet and we don't want to alter the Springer Pit water because we are pumping that water to the water treatment plant right now and is being treated. As you know its slightly less than the permit limits and we are able to treat that water. We just don't want to contaminate that source with high copper water from the TSF so it has to go into the Cariboo Pit.

#### **Water Management- Path Forward for Freshet- Mathieu O'Leary**

- Short term planning- Dewater the TSF to bring to the QPO volume prior to March 31st. The TSF water does not need to meet total copper permit limits as it cannot be treated in the WTP. It has to be sent to the Cariboo Pit. At the same time, we are going to continue dewatering the Springer Pit so we have two high flow head pumps right there and that water is reporting to the West Ditch then flows down into the WTP where it gets treated. It could be sent to the plant without treatment if we had authorization, not including that NPM value that we discussed. This summer and fall the entire water management infrastructure was tested twice; once during freshet, the second highest freshet recorded on the mine site, and then again in October with the high rain event. What we did was we looked at every pump we

have. We pulled a lot of them and sent them off for repair and maintenance and for some areas we had to buy brand new pumps. COVID is wreaking havoc on getting materials and supplies from our vendors. Many of these pumps come in from Europe or other countries. The pumps we sent away in September we are just going to start getting them back. In February or March, we will be installing them in the appropriate locations so the entire system will be robust for 2021 freshet.

- The other big project we worked on and talked about was at the NEZ seeps. The last time we had an exceedance, it was 100% due to power outages. We identified those as high risk and we dug in a 1.7 km gravity fed pipeline from the NEZ seeps to the top of the Wight Pit ramp. We started that project in November and it just got completed recently. That was a very big project and we knew the amount of work was going to reduce the future risk for high copper.
- Golder is designing a spillway in the Perimeter Embankment Till Borrow Pond, that's the influent pond. During freshet we looked at everything that has happened and not having a spillway at the very end of the line was identified as a risk so we are going to be designing that and possibly installing and building it prior to this year's freshet.

#### Questions:

DW: Where does that spillway go to if it happens to spill over?

MO: Right now, the design has it going into the Polley Flats area. The water will be absorbed into or around that area. It has to spill over in a controlled manner and it can't cause any damage.

GH: One of the things they are looking at is utilizing that habitat wetland below the perimeter embankment of the TSF, so it will spill out towards the wetland, settle in the wetland and report to Hazeltine Creek and ultimately to Quesnel Lake.

DW: That water quality in there is generally pretty good being at the water treatment plant?

GH: It is, generally yes, however, it's hard to say if we are in a scenario where we are discharging unauthorized discharge water from that till borrow pit, it's difficult to forecast what the water quality will be like. Typically, our spring time water quality is often high in TSS, it's high in melt water. Some of the sources are diluting the copper and some of the sources are picking up copper, but yes, it will be hard to forecast.

MO: This spillway is a contingency for any water above the permit limits. The permit says we must convey water in a 1 in 10-year storm event for 24 hours. For instance, in 2020 we pretty much conveyed 9 million cubes of water when the permit says we only have to convey 6. It's only a contingency for back up during these bad weather events when we see 1 in 50 to 75 or more flows coming in and we can't control them. We have to get that water off site in a controlled manner without causing damage.

DW: Does this have to be approved by the Ministry of Mines and/or the Ministry of Environment before you actually put it into use?

MO: The way I see it, we should have a spillway. Every other sump we have on site has a spillway to control water in case there is an emergency. There isn't one down there and that's the very end of the water management system. I will follow up with ENV and EMLCI to see if we need a permit to build it but I imagine it's supposed to be there.

GH: It was identified in previous years after we mined the till out of that pit, we decided to use as an influent pond. We had that discussion because of the capacity of that pond. I guess it was deemed being a lesser risk compared to the rest of our other sumps onsite which are considered smaller. But certainly, the issue was highlighted in freshet 2020 when we were losing that pond and decided to allow unauthorized discharge to

occur at other areas of the mine site to protect that particular bit of infrastructure because we knew we couldn't discharge water from that site in a controlled fashion.

AG: Do you plan on still storing water during freshet and not discharging anything?

MO: We going to have to wait and see how it goes, but I can see us continuously dewatering the Springer Pit during freshet because we have the ability to pump into the dam and then into the Cariboo Pit during freshet. As long as the water quality stays good in the Springer Pit, there are over 2 million cubes in there that I hope we could put through the water treatment system. If the system gets overwhelmed then we are going to have to store water elsewhere. We can only discharge so much water at a time out of that plant.

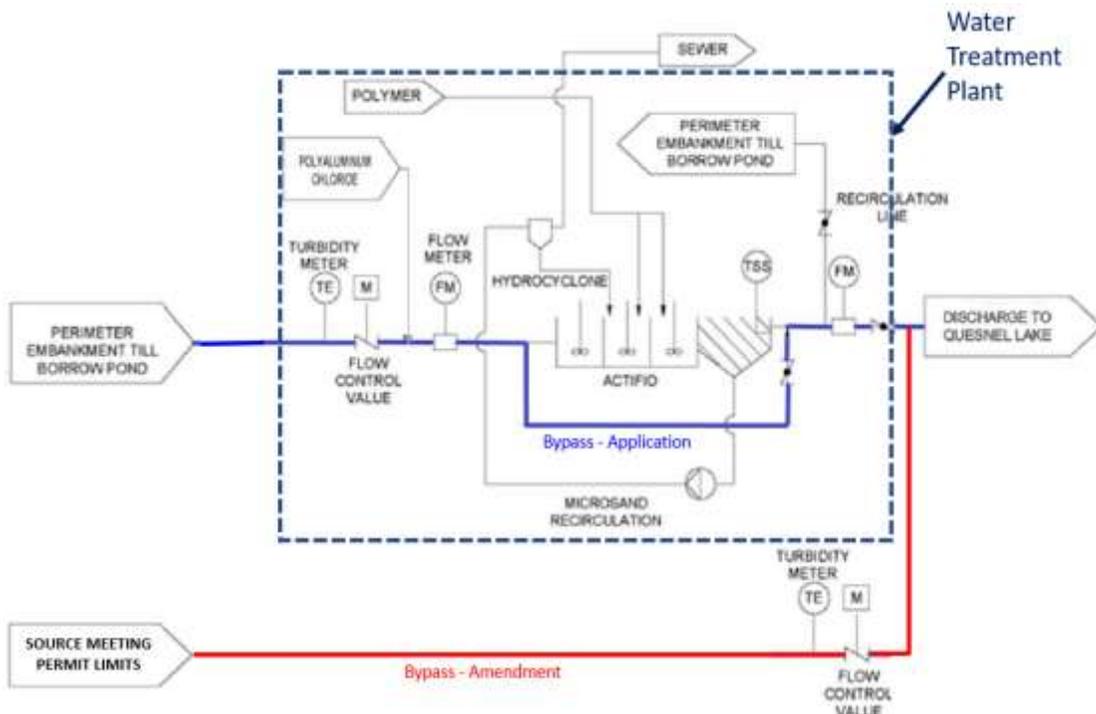
AG: So, you're not shutting down the water treatment plant?

MO: No, in fact with that new gravity fed line, all the NEZ seeps should be going into the Wight Pit. We are hoping we don't have any more exceedances of copper and the plant should run all year round now.

AG: What about passive treatment of the water treatment plant where it just flows through without any treatment. Would you plan on doing any of that during freshet or any other time?

MO: We would have to have authorization from you, Alan, and if we had that application approved, we probably would have Springer water moved down there. It's all going to depend on the water quality. So far, the snow pack is half of what it's supposed to be but a lot can happen in February and March. Hopefully we have a good freshet this year. We need to get this water off of the site.

### Bypass Application/Appeal Update- Don Parsons



- In our bypass authorization request we showed how we would bypass the active treatment portion of the water treatment plant. The blue line shows water as it comes into the plant. It normally would go through the ACTIFLO treatment, you can see the propellers. Those are agitators in the tank. What we would do is flip a gate valve and have the bypass run through to the discharge side of the plant, and

when we do that, we can run anywhere from 1200 to 1500 cubes an hour verses the 800 cubes an hour that would be the case during active treatment.

- An alternative is to bypass the water treatment plant entirely (red line) and plumb it directly into the discharge to Quesnel Lake. The pipeline to Quesnel Lake is quite large (20 or 22 inches) and we can push a lot of water through including water from the Springer Pit which meets permit limits. We could also run water from the influent pond through active treatment which would really give us a lot of discharge capacity. This is one of the alternatives we are looking at. At the red line we involve the bypass. You can see we have a turbidity meter and flow control valve on there so we can monitor the water coming in along the red line and the blue line even during active treatment. This is one hybrid system which instead of adding more active treatment would give us the capacity to make use of this discharge to the Quesnel Lake pipeline, which we already have a much higher permit limit or flow limits on and the system has already been built. This is one of the options that we will be discussing in the amendment application to the permit when we talk bypass.
- It is important to note that a lot of the water does meet the end-of-pipe permit limits but it doesn't meet the new NPM so that's part of the reason we are looking at appealing that section of the permit. We can consolidate all of our water management issues and increase our discharge and still meet those permit limits with a bypass amendment that will allow us to identify discharge water that meets those end-of-pipe limits. However, the NPM does pose an issue for the bypass application or amendments. That's part of the reason it is being appealed.

#### **Remediation Update-** Gabriel Holmes

- These are some of the important steps to improving the area affected by the TSF failure/dam failure in 2014. We saw some great habitat improvements in lower Hazeltine. We created the foundation for an abundance of diverse habitat, both aquatic and terrestrial, and while it's still the foundation, there is no vegetation cover on that fresh construction. What we have been able to see through our years of construction throughout the Hazeltine Creek corridor is a robust ecosystem and its capability to restore habitat functionality.
- We had just wrapped up the construction in lower Hazeltine prior to our Q4 meeting. We finished the ground cover seeding in Q4, we collected cattail seed and dispersed it, collected alder seed for broadcasting in 2021 and I have that stratifying in the cabinet on the mine site. We are planning for the 2021 construction season and of course, we are doing monitoring down there.



- The photos in the presentation show some of the rough and loose treatment that we did and some of the course woody debris that we distributed throughout the site. The wetland is a habitat wetland that we were able to retain. As part of the design, we do have an overflow discharge channel connected to Edney Creek, beyond the pond flows through the wetland. You can also see Quesnel Lake.
- The outstanding work we have planned is in Upper Hazeltine, Middle Hazeltine and Lower Hazeltine Creek. We have projects up and down the creek.
- In Upper Hazeltine we still need to address the Polley Lake shoreline which we are proposing to cap with soil and shore gravel to stabilize that littoral zone. Roads on the Polley Flats have to be removed. We want to leave one single lane access road to the Polley Lake control structure, but all other roads we want to remediate and return to their original habitat. There is a small section on the lower flood plain that requires a rough and loose treatment, some course woody debris and revegetation.
- Middle Hazeltine Creek- The lower floodplain on the south side of the creek still requires rough and loose treatment, course woody debris, and perching and denning habitat. We started recontouring the area that we call the blow out area. It's a big area of erosion in the Hazeltine Creek corridor. We are halfway done the final design. I am not sure where we are with that. James O from Golder was working on that and was going to give us direction on where to go from there. We also have to recontour some access roads to the tree line and return them back to habitat.
- Lower Hazeltine Creek- We didn't complete our work plan in 2021. There is Reach 5 of Hazeltine Creek which is approximately 700 m and runs from the ditch road bridge down to just above the confluence of Hazeltine Creek. We may do a little work immediately upstream of the ditch road bridge to a small section, 100 m or so, we haven't decided yet. Then there is a parking area. We still have some aggregate piles that we want to deal with. It is bit of a tourist attraction in a lot of ways. We have people stopping and checking it out all the time and so we will probably have a little work there, like a parking area. We just need to touch up some of the roadside to make it safe, clean up some aggregate piles, remove the one gate and any other roads that need to be removed.

#### Questions:

AG: Are there going to be any other places on the mine that are going to have remediation that's being planned?

GH: I do have plans for six other places. They are limited in size; I think the largest one is 1.2 hectares. They are plans I put together in 2018. When we transitioned into care and maintenance, we put all those plans on the back burner. They are small areas of the mine that don't see active mining. They involve a recontouring process and soil application process, and some of them are suitable for biosolids application. We looked at receiving a few loads of biosolids for some very particular projects. We don't intend to receive any biosolids or stockpiles at this point but if we can receive some immediately to the site to use, we might plan for that. They all have been shelved at the moment, but we do have a number of areas that are ready to go. I have outlined the process, the soil stockpiles that we can feed from and some of the objectives. We won't address those until we are well into an operational phase and we have some general revenue coming in.

AG: Sometimes if you remediate an area you lessen the risk so your security bond decreases.

GH: Absolutely, one of the things we look at is soil cover and how they affect our downstream water quality so some of our bigger jobs that we have done on the North Bell Dump have had an effect on that downstream water quality. Everything we have planned are smaller projects and they don't address large components of the mine site so I do suspect that while there will be a monetary value associated with potential gains, it would be minimal overall. It is important to maintain the progressive reclamation program and the more progressive reclamation we do, the better understanding we have of cost and efficacy of those treatments that we employ

and we also get an opportunity to assess whether or not our end land use objectives, as per our reclamation closure plan, are going to be able to be met.

GH: We have had a range of success and failures in our reclamation on the mine site. Generally speaking, everything has been successful in terms of site stability and revegetation. One of the challenges we have encountered is excess herbaceous competition associated with high nutrient soils that have been blended with biosolids. And the subsequent ingress of rodent species into those parcels of vegetation, which have actually devastated some conifer plantations. Those were unexpected outcomes that we saw where we thought we should be able to grow a forest on these sites but due to the heavy vegetative cover, rodent activity in turn ate the trees. We have been successful with growing trees on all of our sites; however, we have not achieved our density target and there are a couple of reasons for that. Excessive vegetation with high nutrient soils creates a typical dry condition. That heavy vegetative cover demands so much moisture out of the ground that it actually out competes the conifer species which are our primary target species to fall through on the site successional trajectory.

DW: Lower Hazeltine is a little bit of a tourist area. People come in and check it out. Would it be conceivable to think about leaving that area above the ditch row bridge like it is as a demonstration of what it was like after the breach occurred and let it naturally do its own thing as a comparison to the work you guys have done on the remediation?

GH: I've never thought of that. It is a good idea because I know eventually it's going to be difficult to describe where the site has come from. We have some photo images which we will be able to present, an information kiosk and that sort of stuff but eventually the vegetation will grow in and it's going to obscure that event. Great idea. We have been looking at the remediation maximizing habitat to address the loss of habitat. If we could install a couple more pools in there maybe we do that. There is value in that.

GH: We could create an education component to those areas of remediation that we have down there at Lower Hazeltine Creek in the form of a kiosk and an interpretive trail, maybe something that can link up with the Raft Creek rec site. There is an important educational component to what's happened here. As bad as the whole event was and as challenging as it was, it does invite a lot of interest from people. If we can provide further opportunity for learning beyond the remediation phase of the project, there will be a lot of interest there.

LA: That's a great idea having some kiosks and an interpretive trail with some before and after pictures. Especially down in that Lower Hazeltine area where you've already done so much work. It isn't even close to what it was when it first happened.

### **Exploration Update- Gabriel Holmes**

- In late 2019, a comprehensive exploration program consisting of a geochemical MMI-soil sample survey and geophysical 3D-IP survey was carried out over the Frypan/Morehead area located west and north of the Mount Polley mine. The target area is roughly 3 km by 3 km in size, largely till covered, and shows a similar magnetic response to that obtained over the Mount Polley mine host rock of monzonite and hydrothermally altered monzonite breccia pipes. During June 2020, an additional 3D-IP survey was conducted over the Mount Polley mine site to identify the geophysical response of the known mineralization. Interpretation of the new geophysical data sets led to numerous high priority targets both in the Frypan/Morehead area and on the mine site. A drill program was planned to test the new high priority targets on and off the mine site and to expand zones of known mineralization on the mine site. The first phase of drilling was carried out at the end of 2020. Due to prolonged delays with assay labs, the program is waiting for results before drillings resumes.

- We still have one of the drills onsite, we will follow up on more drilling sometime in 2021. Depending on some of the outcomes of the previous year
- DP: We submitted our samples for analysis at the lab and they told us it would take 3 months to get the results back. We put holes through some high priority targets and to plan the next phase. We like to see the results first.

Questions:

DW: On January 27<sup>th</sup> around 4 pm I heard what I thought was a very large blast. It came up somewhere above the ditch road or in the direction of the mine. Did you guys do a blast or have any idea what that might have been?

GH: I don't, I would have been at work that day. We haven't done any blasting to my knowledge.

MO: No, we are not blasting.

GH: Is there any other work being done up at Spanish Mountain Gold or is there some other mine site that's actively mining?

BH: On the same day at Big Lake, it actually rattled things in our community. So far, it's just been a mystery. We thought maybe it came from Gibraltar but it was felt throughout the whole community up on Ridge Road and down by the lake itself. It was a noise outside and it was a rumble people felt in their buildings. It wasn't Spanish, they're just doing exploration there.

GH: I wonder if they did a big blast up at Gibraltar, maybe they had some big pattern there or something.

CM: With this exploration on the mine site, is that adding to the issue of collecting all of the water on the site? I don't know how much land you have to clear when you are doing exploration but does that add to your water problem?

GH: The exploration phase doesn't and comes with its own remediation type of requirements. Now should those explorations areas be targeted for future mining then it would. Currently, with this drilling program we try to use existing roads and try not to create a larger footprint in our exploration areas but typically, even if we have to use a road or trail or blade a trail with a small dozer, drag the drill in, create a pad, and do the drilling we re-contour and grass seed it on the way out. I'm not exactly sure if they would add course woody debris to the trails. One of the exploration guys has come and grabbed a bunch of grass seed from us. Typically, they are targeting areas with existing roads to minimize the footprint. In terms of site water management, they are outside our collection area. Sorry not all of them, some of the drilling is right in the mine site. Those additional areas are outside our water collection infrastructure.

**Mine Restart Update-** Don Parsons

- We've done what we call pit optimization work. We are trying to sort out the other resources in the ground that would be mined at today's prices and so we have come up with a 7- 8 year mine plan which mines the Cariboo and Springer pits as a combined pit. One of the reasons for getting the water off site is so we can get access to the ground and also there would be a period afterwards later on in that program where we would backhaul the rest of the PAG. The PAG right now, potentially acid generating rock, is being hauled in stockpiles and the NAG rock waste is going into the dumps. The PAG rock at the end of mining will be returned to the pits and put under water, that's the correct way to dispose of any PAG material. Also, we are looking at extending the ramp that we have underground in the Wight Pit and mining what we call the Martel zone. We've already drilled that and are looking at maybe a 16-

month underground program similar to what we did in the boundary zone in that underground area. We also have a mining consultant looking at potentially block caving the Springer Pit. That's a preliminary project. We could actually drive a ramp underneath, put a couple drop points in, mine that resource underground and take the high-grade ore out, maybe run the mill at 5000 tons a day instead of 20,000 tons a day which would have a lower upfront cost. That is just a thought right now, it's very preliminary but in the surface mine plan we have allocated capital to upgrade some flotation cells in the mill, maybe even work on the concentrate filters and do some work there. There are 6 months of pre-stripping in the mine that are required for access so that we can feed the mill at 20,000 tons a day.



- We have all this mining equipment that needs major component replacement, so there is money involved there so that's up-front cost. Matt and I put together this plan along with a capital and operating cost estimate. We put it in front of the board, and right now the board is looking at not just the cost of getting the mine running and the return it might generate but whether or not the copper prices are going to stay where they're at. Today it's \$3.52 a pound US, but in these uncertain times, can we plan on that? How long would that price last? We are checking through all those figures and I'm expecting some kind notice from the board as to what the plans are going forward. Ideally, we would like to get the mine started when the snow comes off. We would like to know from the board fairly soon so we can get working on our equipment. That's our status of our life of mine plan. Nothing outside the permit area as of yet.

#### Questions:

TC: The idea of block caving, that's under the Springer Pit?

DP: Yes, actually when we look at potential deep ore reserves there are probably 3 or 4 areas that we would consider as an underground operation. We are doing some really high-level figures to see if it's worth carrying on doing any kind of prefeasibility work.

TC: Can you remind me which of the pits have waste rock and tailings backfill?

DP: The Wight pit has been backfilled with PAG waste from mining in earlier years. That pit is one of the areas we are considering as a saturated rock fill (SRF) potential. We think the NEZ water going down in there right now may actual be treated through a SRF type situation.

TC: What kind of backfill is in the Springer and Cariboo pits?

DP: In the Springer Pit there are 2 million cubic meters of NAG tailings that were deposited in 2015/2016. The Cariboo Pit has none. There is an old bell pit that's been backfilled and there is a dump over top of the pond

zone. There are a couple of other pits that have been buried. If we were going to get back into mining the Cariboo and Springer pits, the tailings would have to be removed. That's part of the mine plan.

CM: Do you have a date for restart of the mine or an approximate date?

DP: The board would have to approve the mine plan, and of course, if we were going to start surface mining, we would have to start say late April-May.

### **Compliance Review Update- Gabriel Holmes**

- We had a couple of non-compliance issues. To touch on what Alan/Doug had discussed about our monetary penalty which we received in 2020. That was associated with not submitting some design drawings for our constructed wetland treatment system.
- We recently received a non-compliance advisory letter regarding our landfill permit where review items were deemed out of compliance and not determined. The review could not determine the quantity of refuse discharged during 2019 and we were found to be out of compliance because our 2019 annual report was not submitted. This is a continuity issue. It turns out that nobody that currently works at Mount Polley was aware that we had a permit amendment submitted and that there were new conditions, so I still haven't read that permit that was issued in 2019 and only realized that had been issued as a result of receiving the non-compliance advisory letter. It was not our intention to not submit an annual report. We were simply unaware of it and I suspect that what happened is the amendment process was going on with a previous employee at Mount Polley and that information was not conveyed to the current employees.
- Other permit activities include our 2019 CEMP, which is still not approved. We have a new plan due on March 2023. There are some changes which we would like to make even to the 2019 CEMP. We are really feeling challenged with the CEMP issue because the document is predicated on an adaptive management framework. These types of timelines do not allow for adaptive management to take place. We find it challenging to include recent science and recent observation from a couple years of monitoring to the current plan based on the approval process that we are in.
- LL: I am reviewing that documentation now and a lot of work has been done that you might be aware of. Essentially, we have all of the documentation from our end and are almost ready to issue approval. I am just looking at those documents now and I expect that sometime next week I should be able to issue something to Mount Polley. I am interested in what kind of changes you are talking about, but I think it's probably better to initiate a different process once you have that approval. I know it's been late coming to you and I understand there has been a number of delays for various reasons. We are a week away from initiating approval.
- GH: One of the things we are looking at currently is taking recommendations from our QPs and biologist that do some of the specialized monitoring on the site and changing some of the monitoring frequencies, in addition to some minor changes to the bottom of the document. What we are thinking about doing is applying the changes in the document and tracking those changes, providing a cover letter and having our QP sign off on all the changes we propose, and perhaps resubmitting it. We are not quite sure where we are at yet. We have had a couple technical memos prepared by our QP on our behalf looking at a reduction in monitoring but to get back to key issue that adaptive management is difficult to employ through this process and the CEMP does have sections in it that allow for changes to be made and implemented with notification, but we have yet to make any changes under those sections but it is something we are looking at right now. It is something that will be coming on to your

desk in a month or two. There are a few programs we might want to discontinue based on our QP review and some of the programs we want to change the monitoring frequencies that would be the bulk of the submission.

- We received a revised Permit 11678 which rolled in the components of the consent order and that was issued on December 31, 2020. We do have a new permit which is posted on the PLC Sharepoint site. We are still appealing the Numeric Performance Metric total copper value in the permit. We have submitted some applications to bypass the water treatment plant when water quality meets permit conditions which allows for more flexibility on our part to manage water, and the extension to discharge into Quesnel Lake until mine closure. Both of those topics we've discussed at length.

#### Questions:

CM: I have a question for Alan. You said the bypass to the water treatment plant amendment would be a minor amendment, but it looks like it's been rolled into one submission or application which includes the extension of discharge into Quesnel Lake. That's not a minor amendment, is it?

AG: It's going to be two separate permit amendment applications because the extension is going to be a major amendment and there is no way anything will take a long time for the bypass. There two separate applications.

DW: Gabe, you mentioned that there are some challenges and possible changes you're considering in the CEMP. Are those going to be brought forward to the PLC members also so we can be aware of them and have a chance to discuss them?

GH: Yes, absolutely, and I think if you look at the permit condition for the CEMP it does need to be approved so I am not entirely sure what we are going to do. Our QPs have already submitted technical memos indicating what they suggest to be reasonable monitoring requirements for the components in the CEMP and what they look like is a reduction or a discontinuation of some monitoring components. Once that's compiled and submitted, yes, that will be available to the PLC membership for review. All the components in the CEMP, whether you're reviewing or not, have to be completed by a qualified professional as defined in the permit. Whether it's you or me or anyone making legal changes to it, it has to have a professional designation stamp on the line.

DW: Can you give a brief description of what the administrative monetary penalty was given to Mount Polley by ENV? What was the problem that they had to give that penalty?

GH: We had an obligation to submit as built construction drawings of our constructed wetland treatment system as one of our previous permit conditions. We actually had those construction drawings and this occurred in 2019 during our transition into care and maintenance, and we submitted them late, probably 10 months late. It was a lack of submission of these drawings for the constructed wetland treatment system.

DP: The biochemical reactor (BCR) is the technology we were supposed to fast track down the path of being able to use it as a treatment method for flows leaving site and so what we've done with the BCR has to follow the best available technology track. We have done some of that work and in fact, we submitted a passive treatment plan for 2021 at the end of January and we have actually parked the BCR passive treatment work. One of the things we have found in the bench scale testing is it doesn't handle flows, and it's probably not the system we would look at for distributive flow in the future. You will see in this new document that we are looking at other technologies. We looked at the way BCR was being rolled out into permits and we won't be going down that road. It wasn't appropriate. ENV shouldn't have assumed that was the way we were going although we got the penalty of \$9,000 we are going to appeal that saying it didn't follow the BAT framework that is an ENV policy. Other than that, it's really up to the environmental board to decide.

GH: For clarity that \$9,000 penalty wasn't about the constructed wetland treatment system drawings, it was about not pursuing the BAT assessment for the bio reactor?

DP: The drawings didn't go in because we thought that technology was not going to be followed in the future. We should have handled that better and informed ENV on how we were trying to roll out the BAT framework. If we were to follow the BAT framework for BCR then it would have taken much longer to get to that stage that had been proposed in that clause of the permit.

### **Additions to the Agenda- UNBC Report**

GH: The Hamilton paper that looked at the resuspension of potential out wash material in Quesnel Lake. I'd like to get people's feedback. I know it was a topic for discussion. I know one of the things we have done is reached out to UNBC to make further observations on that material. To my knowledge they declined our offer to help fund some of the research. Don, why don't you give us an update on what it was you offered to UNBC and whether they accepted that or not.

DP: With Lyn's help we offered to help speciate the suspended solids that they noticed were coming off the bottom of Quesnel Lake or maybe being held in suspension. There is some work that we offered to do to help figure out if any of it was tailings or if it was just naturally occurring sediments. We know there are sediment loads coming in from other sources like the Horsefly River and creeks that pour into Quesnel Lake especially through freshet 2020 when flows were high, but UNBC declined our offer. Folks will be speculating what those suspended solids might be and we were offering to help identify the source.

GH: From my understanding there will be ongoing work that UNBC has planned. We may be seeing some follow up work to that paper.

CM: I'm glad UNBC turned down MPMC's offer because UNBC is a scientific research center and they're not in any way motivated by profits or anything else. Their information coming out of UNBC is actually scientific, it's not speculated and they're not speculating what's going on in the lake, they're actually doing scientific research on what's happening in the lake. It's too bad that we can't get more funding out of the government of BC in order to help them.

GH: I am glad they are there. A lot of the work they have done has reinforced a lot of the science that we have employed on the project. To be clear, all the work we do characterizing that event is scientific too and backed up by professionals associated with professional associations which have repercussion should they run afoul of those associations. The science we do and the science they do are supportive of one another in clarifying and identifying what is occurring out there in the lake.

LA: I am going to second that comment. They look at questions differently than some of the work we've done but it is good to be reminded that there are other perspectives. I am glad you said that the actual work done by qualified professionals for the mine is still good science. The data is the data and it's there, it's available. I am reassured that most of their observations are in fact supporting the data the mine has collected.

LA: This is for Alan. If there are specific questions that Gabi has, it would be really good to find out what they are.

AG: That sounds like a great idea.

DW: Gabe, the data may be scientific but the interpretation is different when it is an independent interpretation and an interpretation being paid for by particular party that is trying to achieve certain things.

GH: There is a lot of scientific work we do on the lake to specifically address questions and concerns regarding our CEMP monitoring and Metal and Diamond Mining Effluent Regulation. There are targeted studies that we do to satisfy those permit conditions. It's great that UNBC happened to be established in advance of the TSF breach and was able to study it and provide opportunities and perspective. While we do and have learned a lot about the TSF breach, we probably haven't learned everything. There are several changes occurring out in the environment. To continue to have other eyes on it as well, I find it encouraging for the general wellbeing of all of us.

GH: On a different note, I have approached UNBC to be part of the PLC and would love to re-establish the working relationship with them. I know that may be a little distasteful to some of the PLC members, but I think we can offer them opportunity. To be frank, in 2014 we had a great working relationship. We were monitoring in tandem at their sites and then something occurred in the relationship to break that down and maybe it's that independent component of the research center standing alone and not being perceived to having any influence for MPMC, but in the end it may have done us a disservice. We still have them doing the work out there and us doing the work out there.

CM: I have a question for Alan. When you mentioned Gabi, it reminded me that in November 2019 the Ministry of Environment told us they were at the meeting in Likely and there was a group of people who gathered including MPMC, the Ministry of Environment, the Ministry of Mines and UNBC, and they were going to be specifically looking at some of the issues that the residents had brought up that they were worried about on the lake. We never heard anything from that group. Is that group happening or has it dissipated, can you tell us what's going on with that?

AG: I don't know, I do know the Ministry was doing some sampling on Quesnel Lake but I don't know what's been happening with it. I'll have to get back to you on that.

CM: If you could, I'd appreciate it. Even if I can contact one of them.

GH: On that topic, I can see there is a buoy out there in front of Hazeltine Creek that just showed up some time in the last month. Someone from UNBC may be out there. It may have been under the surface of the water. It looks like there is some activity out there.

LA: As Christine explained back in September or October of 2014, we were actually in active discussions with the Quesnel River Research Center and the researchers there about doing some work together but then we received a letter from their VP of research indicating that they wanted to stay completely independent and not take any resources from the mine.

### **Roundtable Discussion/PLC Questions/Comments**

GH: I did approach Christine Mclean about discussing her environmental appeal of the permit with us and she might present some information regarding her appeal at a later date.

DW: Don mentioned we submitted this report to the Ministry of Environment about the distributive past discharge treatment. Is that report going to be put up on the Sharepoint site also?

GH: We will make it available to the PLC.

DW: Some of the new reports put on the site like the new water management plan, can you make sure the files have the date at the beginning of it? Because otherwise, you have this long project number and you have to open every link to find the correct one.

GH: Maybe there is a date modifier you can use? Or we can probably change the naming convention and put the date they are uploaded as the prefix to the naming convention. It would probably be like 20200103, or something like that.

MO: A lot of the naming conventions are governed by BC environment upload submission requirements so I'd be hesitant to rename files that have been submitted, just to keep everything aligned. Whenever we have to submit to the Ministry, we would have to have the same name on the PLC. I'd just sort it by latest modified date.

AG: Does anyone have any issues with the size of the files?

DW: I live in Lively so it came in kind of slow.

GH: We have difficulty with some of the submissions and receiving documents. We can try reduce some of those files a little bit.

GH: Alan, this is for you. Don has indicated that earlier when we requested a bypass it didn't have to be an emergency in nature. There is no indication of that in the permit and as far as I can tell there is no indication in the *Environmental Management Act* so I guess I'm just wondering if that is a Ministry policy or how did that management objective come to be because I can't find any documentation aside from our discussions with you?

AG: It goes back to the *Environmental Management Act* and what a Director has authority for and for us if it's an emergency or something like a piece of equipment broke and they need to bypass that equipment or bypass that sediment pond just so they can repair it, that is what that bypass requirement is for. If it's a change in the permit that's going to go on forever then that is a permit amendment. Bypass is usually a temporary measure because of something that happened or is going to happen.

GH: Okay, thanks for the clarification.

TC: I'm wondering if you can point me to the series of reports that include your surface water, groundwater and seepage monitoring program for the mine site.

GH: The best place to find details about the results is in our annual report and also in our CEMP. The latest approved version is the 2018 CEMP which should be on our PLC Sharepoint site, and also, we did submit one 2019 which may be pending approval shortly, in the coming weeks. If you have specific questions or find it difficult to find those resources, don't hesitate to email me.

### **Next Meeting**

- Q2 meeting the first Wednesday of each quarter which puts us at April 7, 2021 at 9 am