

# **Mount Polley Mining Corporation**

an Imperial Metals company Box 12 • Likely, BC VOL 1NO • T 250.790.2215

# MOUNT POLLEY MINING CORPORATION (MPMC) PUBLIC LIAISON COMMITTEE (PLC) MEETING SUMMARY

# **Meeting Details**

In person Meeting and Conference Call Hybrid Meeting General Meeting – Q4 2022

October 6, 2022 9:00 am to 1:00 pm. Tour to follow.

Meeting called by: MPMC Designated Representation

Meeting Chaired by: Gabriel Holmes

Minutes by: Alicia Lalonde

Member	Present	Call-in	Organization	
Aaron Higginbottom		х	T'exelc - Williams Lake First Nation	
Abhirosh Chandran (AC)		х	Ministry of Environment and Climate Change Strategy	
Alicia Lalonde (AL)	х		DWB Consulting	
Alexander Kaul			Ministry of Energy, Mines and Low Carbon Innovation	
Alex Gresl			Williams Lake Chamber of Commerce	
Bee Hooker (BH)	х		Big Lake Community	
Bill Carruthers			Williams Lake Community	
Christine McLean (CM)		х	Mitchell Bay Community	
Claudine Kadonaga			Likely Business	
Don Parsons (DP)	х		Imperial Metals	
Doug Watt (DW)		х	Concerned Citizens of Quesnel Lake	
Edna Boston			Xatśūll - Soda Creek First Nation	
Emily Sonnag	х		Xatśūll - Soda Creek First Nation	
Erin Rainey (ER)		х	Ministry of Environment and Climate Change Strategy	
Gabe Holmes (GH)	Х		Mount Polley Mining Corporation	
Kelly Parker	Х		Mount Polley Mining Corporation	
Jackie Sarginson			MLA Cariboo North Coralee Oaks Office	
Jason Raine			University of Northern BC	
Linda Bartsch			Horsefly Business	
Lisa Kraus			Likely Community	
Lyn Anglin			Consultant to Imperial Metals	
Luc Lachance (LL)		х	Ministry of Environment and Climate Change Strategy	
Mathieu O'Leary (MO)	х		Mount Polley Mining Corporation	
Maureen LeBourdais			Cariboo Regional District	
Micky McIntosh			Likely Resident	
Mike Stinson			Xatśūll - Soda Creek First Nation	
Richard Holmes			Morehead Community	
Steve Hocquard			Horsefly Community	
Victoria Stevens		х	Ministry of Energy, Mines, and Low Carbon Innovation	
Walt Cobb		х	City of Williams Lake	
Nishitha Singi			T'exelc - Williams Lake First Nation	

#### **Meeting Start: 9:05**

#### Roll Call - Introductions and acknowledgements - Gabriel Holmes

• I'd like to acknowledge that we operate on unceded traditional territories and work in partnership with the Williams Lake and Xatsull First Nations.

#### Additions to Agenda, and Approval of Agenda – Gabriel Holmes

- As I have indicated in the agenda, we are going to go over the following:
  - COVID-19 Update
  - PLC Membership and Terms of Reference Review
  - Permitting/Amendment applications
    - NPM Decision
  - Environmental Monitoring Update
  - Discharge/WTP Update
  - Water Management Update
  - Remediation Update
  - Mine Re-start Update
    - Job opportunities/Production mining
  - ENV/EMLI Discussion
  - Roundtable Discussion
  - PLC Questions/Comments

#### **Site Tour Options**

- Mill Operations
- Pit Mining
- Water Treatment Plant
- Remediation
- Does anyone have additions to the agenda, or have objections to it? If not, we are going to move on through what we have planned.
  - Doug Watt (DW): I would like to request that the MOE members go over and discuss changes to draft Permit 11678
- Agenda approved.

#### **COVID-19 Update** – Gabriel Holmes

Restart activities are ongoing. We are almost up to full production. Most COVID protocols have been
rescinded (eg. room occupancy). Sanitary stations are still located throughout the facility and employees
are expected to stay home if sick. Hopefully the end is near.

#### PLC Membership and Terms of Reference Review – Gabriel Holmes

• I previously sent out the Terms of Reference for your review. I haven't received any feedback. If there are any changes you would like to discuss, please bring them up.

• There are still vacancies on the committee. I would like feedback from the membership on if we should try and fill those vacancies. Should we recruit more local community members as they are most affected by our operations? There is one seat for Mount Polley employee representation that we should fill. The United Steel Workers seat we should fill since we have an agreement with them at the mine. We have open communication about this so if you have ideas, please email me and the group.

#### **Care and Maintenance to Operations** – Gabriel Holmes

- What is happening:
  - Water management- source control and discharge through the Water Treatment Plant (WTP)this is ongoing at the mine site.
  - Pit operations- are in full swing, we are struggling with hiring in some departments which has affected our ability to meet targets in the mill and pit
  - Mill operations- all but one mill are operating
  - Tailings dam construction- construction is needed annually to keep ahead of milling operations, construction occurs under the guidance of our QP at Golder. Construction work creates a lot of traffic and receives a lot of scrutiny from various parties
  - CanMag is producing magnetite concentrate- they are sent magnetite slurry and they refine it into a marketable product
  - Mobile equipment overhauling- this is ongoing at the mine. There is a shelf life on all major components, and equipment needs maintenance. Major component replacements and maintenance requires a lot of planning. All equipment has a maintenance schedule.
  - Milling equipment refurbishment- this includes all mill motors and parts on the mill itself. All but one mill is turning.
  - Electrical equipment repair and replacement- all automation in the mill is being worked on by electricians to upgrade
  - Hiring in all departments- there is a need for more workers and staff. We are hiring people every day. We are starting to get key positions filled but we still have vacancies. We hired someone in the environmental department 4-5 months ago and are hoping to hire another shortly.
  - H&S training- We provide Mine Rescue training, First Aid training, fire suppression training, etc. I
    wanted to talk about the obligation of the mine to have a fully equipped mine rescue team on
    each shift with rescue vehicles. We can respond to many rescue scenarios at the mine. We have
    even responded to incidents off of the mine site.
- Don Parsons (DP): all shifts have to have a fully responsive mine rescue team. We are the closest to some
  areas like the Morehead so we have responded to a couple of offsite incidences, though we prefer to
  keep our crews onsite.
- GH: Road safety is something I wanted to bring up. In the last 6 months since we've increased our personnel on site, there has been an increase in road traffic. This was also brought to the Joint Occupational Health, Safety and Environmental Committee (JOHSEC) for discussion and resulted in a discussion at the department level and with subcontractors. In addition, a response was issued by the mine manager to all employees. Please continue to have open discussion with colleagues, friends, neighbors, etc. that interact with us at the mine so that we can resolve any issues that come up.
- DP: Gabe, we can mention the buses. We can put more people on the buses so we have less traffic on the roads.

- GH: We have two coaches. The 10 hour bus is pretty full but there is room on the 12 hour bus. That has already reduced the number of vehicles on the road. We can encourage our workers to take that transportation.
- Kelly Parker (KP): All employees will be held accountable for their actions on the road when we find out about it.
- GH: Yes, a memo was sent out by management indicating that there will be consequences. We've actually already let a few people go.
  - Scrap steel- we are selling a lot of this. We've had ABC Recycling here trucking it off site. It puts items back into the recycling stream, cleans up site and generates a bit of revenue.

#### **Communications**

• Are we effective communicators? We often don't hear feedback unless we have done something wrong. We adhere to our Communications Plan. Our doors are always open so please don't hesitate to reach out if you need to talk about anything.

#### Permitting/Amendment Applications – Gabriel Holmes and Mathieu O'Leary

- ER- Written comments to the draft permit circulated are required by Oct 20. ENV hasn't had the opportunity to discuss these changes with Mount Polley yet as the draft was just sent out on Oct 5. The original amendment request was to extend the discharge period to Quesnel Lake. Any changes made are in red text. Some of the recommended changes other than the change to the discharge date are additional language around the Erosion and Sediment Control Plan and Flocculant Management Plan, as well language updated to reflect the updated management plan provided in Nov 2021, and the addition of updated language around the Numeric Performance Metric (NPM) which came from the appeal board. We've provided a definition of what the average NPM should be based on, a rolling 52 week average based on weekly sampling. Those are the main changes of the permit.
- Current Permitting Activities- We do have work going on in the background, projects that are to extend mine life. Matt will describe some of those.

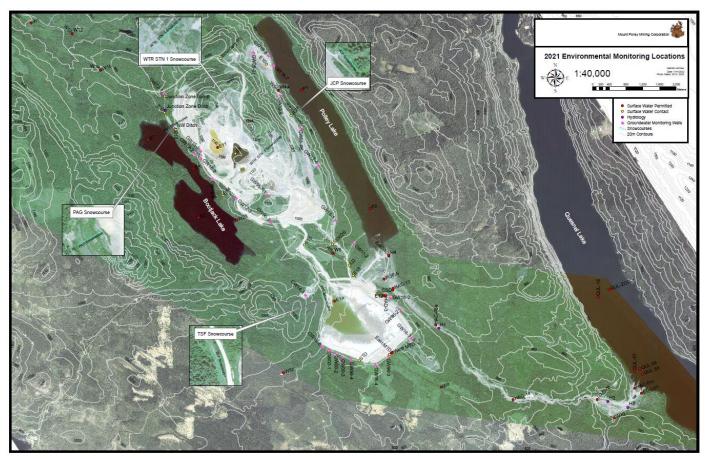
Submission Name	Permit	Projects	Pre-Application	Application Submission	Target Date			
	Joint Application							
Springer Expansion	M-200 Permit 11678	Springer Pit Expansion Southeast Rock Disposal Site Northwest PAG Stockpile Quesnel Lake Discharge	Oct 2022	Q4 2022	January 2024			
Individual Application								
Quesnel Lake Discharge [Interim]	PE-11678	Quesnel Lake Discharge [Interim]	December 2021	June 2022	November 2022			
Springer NAG Tailings Co-disposal	M-200	Springer NAG Tailings Co-disposal	December 2021	Oct 2022	Feb 2023			
NAG/PAG Ratio Reduction	M-200	NAG/PAG Ratio Reduction	June 2022	Q1 2023	May 2023			
TSF above 970m	M-200	TSF above 970m	April 2022	Q1 2023	May 2023			
Notice of Departures								
C2 Backfill	M-200	C2 Backfill Notice of Departure	N/A	October 2022	TBD			
Co-Disposal	M-200	Co- Mingling Departure from to trial excavation/placement of 500kt of tailings	N/A	October 2022	TBD			

- MO: The Springer Expansion is to extend mine life. We are currently permitted under Phase 4 until the summer of 2024, but we have reserves until 2031, so we have a Joint Application for that expansion underway.
- Quesnel Lake Discharge (Interim)- this application is in the final stages of review and decision making. It will extend discharge until June 2025.
- Springer NAG Tailings Co-disposal- We are in discussions with EMLI about co-disposal of tailings on the NAG site, similar to dry stacking. This would be a good outcome instead of building another Tailings Storage Facility (TSF). This application will be submitted within a week.
- NAG/PAG Neutralization Potential Ratio Reduction- this would be optimal for holding less PAG in the PAG stockpile. We have conducted an extensive study, about 20-40 weeks of kinetic testing and sampling, and we are waiting for preliminary results. SRK Consulting is working with us on that. Results are expected soon.
- TSF Raise Above 970m- We conducted many site investigations in the last year or so, and additional modeling and design work is being worked on. We want to raise the dam 14m above 970m. We are hoping for a detailed design at the beginning of 2023. We have to continuously raise that dam annually until the final years of mining.
- C2 Backfill- This pit was mined out in 2015. We would like to backfill it with NAG (~2 million tons). This Notice of Departure is going to be submitted in the next couple of weeks.
- Co-Disposal- This is another Notice of Departure. We want to put NAG and tailings onto the SERDS dump. We are trialing Springer tailings.

#### **Environmental Monitoring Update** – Gabriel Holmes

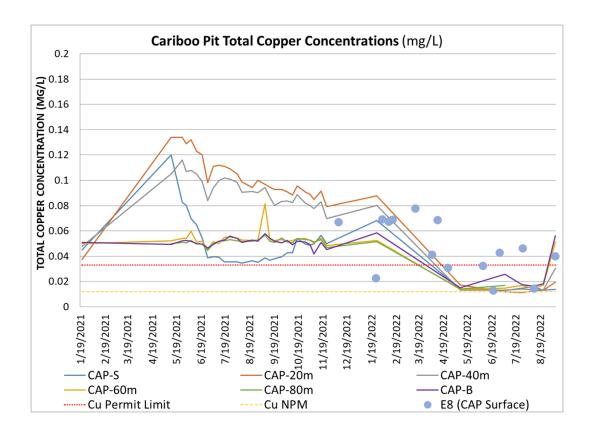
- We conduct extensive monitoring at the mine site to adhere to various permits and regulations.
- We do water quality sampling including ground and surface water

- Flow monitoring
- Wildlife monitoring cameras- we have long term wildlife monitoring going on with small and large mammal studies. We haven't received the results of the small mammal studies yet but the wildlife usage that we are seeing is actually surprising.
- Weather- we have two weather stations operating on site
- Specialized Comprehensive Environmental Management Plan (CEMP) components- fish population, fish tissue, spawning surveys, habitat assessment in reconstructed creek habitats
- Waste management
- Sump and ditch inspections- bi-annual looking at all water collection infrastructure to ensure it is in suitable condition
- Reporting and planning
  - o EEM (Environmental Effects Monitoring) Phase 3 report will be submitted today



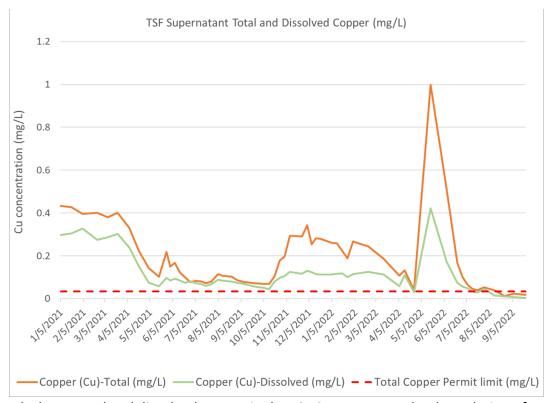
- Water sampling- Quesnel Lake, Polley Lake, pit lakes, Wight Pit, Hazeltine Creek, Edney Creek, mine site seepage, groundwater, WTP, routine weekly, monthly, quarterly, semi-annual sampling
  - The Springer Pit dewatering wells have been installed and are to be sampled.
  - The Wight Pit is flooded to 916masl, we are monitoring that as it is another opportunity to gain knowledge about how mine contact water reacts to the storage facility of the Wight Pit. It is monitored on a two week rotation. We want to understand quality of water in those pits. Storing water in pits has an effect on water quality, however the Wight Pit is filled with backfill material and we are seeing some parameters that we don't normally see that are an issue.
  - Seepage- all toes and dumps are monitored to understand quantity and quality of water that exits those areas. Bi-annual sampling will be conducted in the coming weeks.

- We do sample sites that are not required but help inform decisions about water management on site.
- o Groundwater- we just finished the quarterly groundwater sampling event. We did miss one sample due to power issues at GW05-01. We will sample that site at our earliest convenience.
- WTP- chemistry and toxicity testing- we have a big event next week. We use ALS and Nautilus in Burnaby for those analyses.



• This graph shows total copper concentrations in the Cariboo Pit over the last year and a half. The major increase in copper shown was the result of us putting our leachate into the Cariboo Pit. We see the process of settling from May 2021 to Feb 2022. From Feb 2022 to May 2022, we saw a dramatic decrease. We think the pit lake mixed up and we saw major improvements in water quality. We were constructing a ramp at that time as well so we've mixed even further. Our latest sample has an increase due to turbid water due to ramp construction but we are now seeing settling.

MO: We are dewatering the Cariboo Pit and the pumps are located 1m below surface. GH: We need more data from the Wight Pit as we filled it recently and only have a couple of months worth of data.



• This graph shows total and dissolved copper in the TSF Supernatant. The degradation of water quality is the result of leachate being added to the TSF. The leach pad facility will be decommissioned to limit this risk and liability at the site. Over the last few months, we've seen the water quality improve, we think due to the milling process and mixing of the TSF.

MO: TSF water during care and maintenance is different than now that we are in operations. This is stability is more what we can expect to see going forward.

- Weather- We make a lot of decisions based on weather data that is collected at our 2 weather stations. Snowpack was above average this year, June, July and August had above average precipitation and September had below average precipitation.
- We were having issues at station 2 but we revamped the power station and it has been working well for the last 4 months.
- Waste Management- I'm going to discuss this at each meeting as it is ongoing. We have thousands of materials that are disposed of at the site. We need to be cognizant of regulations and permits. We must recycle a number of materials to the extent practicable and all materials must be taken from the site by the end of mine life. I would recommend Call2Recycle for small batteries. It's a free program, they send the boxes for shipping and they pay for shipping back to their warehouse.

#### Water Management, Discharge/WTP Update – Gabriel Holmes and Mathieu O'Leary

#### Discharge/WTP Update- Gabriel Holmes

- Discharge/ WTP update- A total of 2,074,340 m<sup>3</sup> was discharged in Q3 with an average discharge rate of 0.271 m<sup>3</sup>/s, an average of 22,547 m<sup>3</sup>/day
- Our permitted annual average rate of discharge is 29,000 m³/day

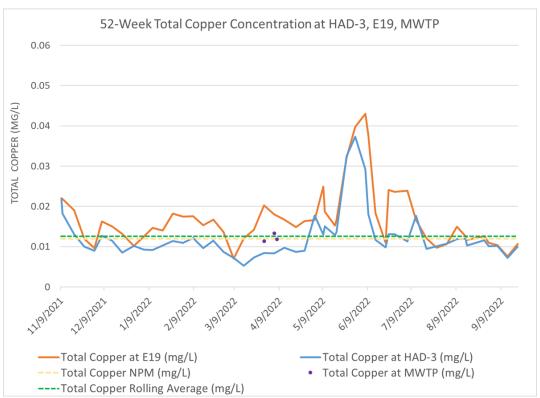
- The maximum authorized rate of discharge is 52,000 m<sup>3</sup>/day
- The mobile plant is operational however, due to operational issues, it has been down periodically over the quarter
- The annual pipeline inspection has been completed and the report is to be submitted within 60 days
- Regraded pipeline at plant outlet- some issues were encountered but we've been in contact with our pipeline designer about the path forward
- Permit 11678 Amendment
  - Permit 11678 Amendment s2.8.2(b):

The Permittee must operate and optimize the design and performance of the WTP to target achievement of any prescribed NPM. The stated NPM target value represents WTP operation that achieves annual average effluent quality that is at or below any specified NPM. Assessment of the attainment of NPM values must be reported in an annual optimization update progress report appended to the annual report required in section 4.2. If the effluent quality does not achieve an NPM value specified by the Director, the Permittee must identify and propose response actions to bring the effluent quality toward meeting the target value in the annual optimization update progress report. Response action may include treatment plant optimization and/or source control and/or water management improvements, and a schedule for implement the response action must be included in the annual optimization update progress report.

The following NPM is established:

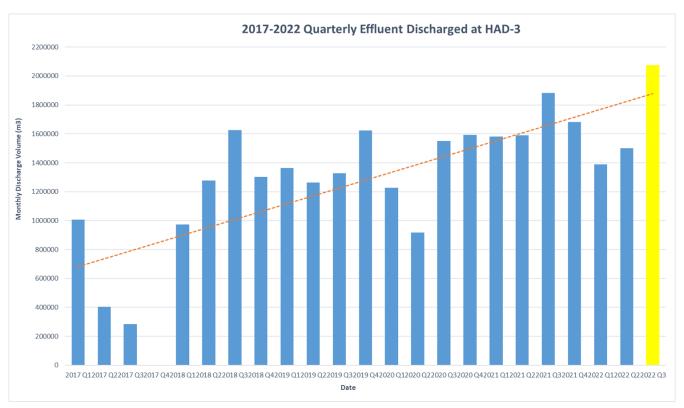
Total copper 12 ug/L

 We have tried to meet the NPM target the last couple of years through source control and WTP optimization.

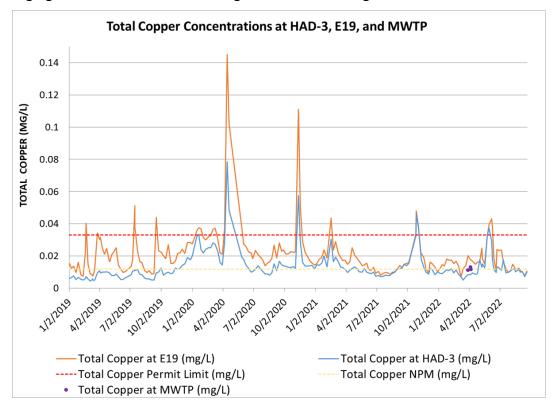


• We're at 0.01254 mg/L for our average for 2022 so we are close to meeting that NPM. We need to be diligent with water management on site.

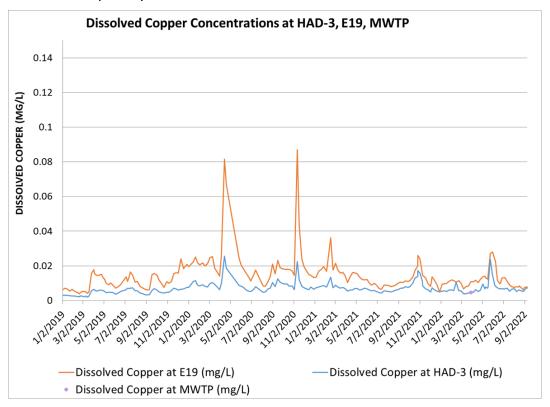
• The plant is designed to treat for suspended solids so with their removal we do see a significant decrease in permit parameters.



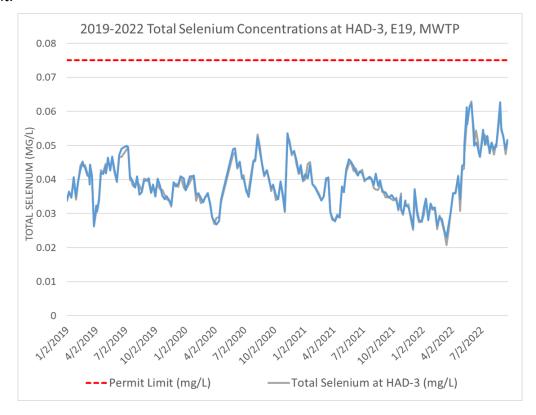
• We have discharged over 2 million m<sup>3</sup> this quarter. We have very favorable water quality and could discharge more volume. This is important for the Quantitative Performance Objectives at the TSF and for managing the water volume remaining on site. This is a big win for us.



• This graph shows that there is copper reduction in the effluent compared to the influent at times. Treatment did not occur effectively all of the time. There are exceedances from the past but we do still see the treatment capability there.

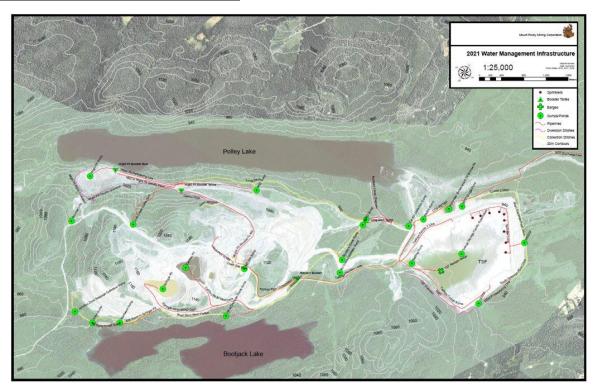


• This graph shows that in some cases, we do see significant reductions in the dissolved copper in the effluent.



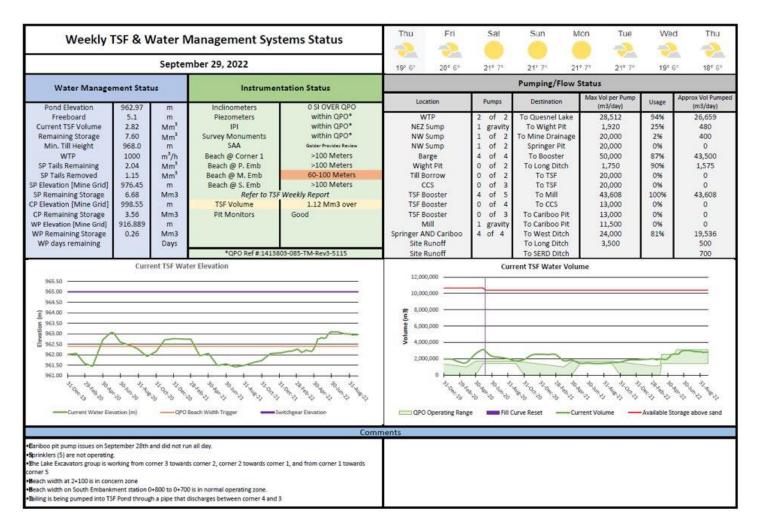
• This graph shows the selenium concentration at the WTP. Here we see an upward trend. We are watching this closely and have done an internal investigation. Water from the NEZ seeps reports to the Wight Pit during power outages and we need to be careful as we don't see significant treatment of selenium in the plant.

# Water Management Update- Mathieu O'Leary



- This slide shows an overview of the critical water management infrastructure on site.
- Water Balance
  - We know that we have surplus water on site and have since freshet 2020. We do water elevations weekly and compare previous weeks data. This week (September 29) wasn't a good week, we have an increase of 40,000 m³. We are starting to see an improvement in water balance now. We have the mobile WTP and will keep it until next year, likely. The Cariboo Pit is the priority to dewater. Once that's done, we will dewater the Wight Pit and TSF.

Location	Volume - This week (Mm3)	Volume - Last Week (Mm3)	Total Change (Mm3)	
TSF	2.82	2.787885045	0.03	
Cariboo Pit	2.05	2.13	(0.08)	
Springer Pit	0.08	0.07	0.00	
Wight Pit	3.01	3.01	0.00	
Total	7.96	8.00	(0.04)	



- Everything looks good at the dam. There are currently 2.8 million m³ in the dam. We need to dewater it before next year's freshet. Once we have the water quality data, we will start dewatering. All instruments are showing normal results. Beach widths are over 100m. There is a small section that is within a 60-100m range where the toe drains are located. Weather has been favorable this summer which is helping with construction and evaporation. We completed the site visit for the Dam Safety Review, a report will be produced and submitted to EMLI.
- Water Management Infrastructure
  - Tailings Storage Facility
    - Storing water from freshet 2022, pumping down to meet Quantitative Performance Objectives (QPOs)
    - Target beach width > 100 m to meet Engineer of Record QPOs
  - Springer Pit
    - Pit treatment successful and dewatered
    - Construction of causeway to mine out remaining tailings
    - Dewatering wells in tailings are in use
  - Cariboo Pit
    - Undergoing in pit passive treatment
    - To be partially dewatered to Wight Pit and WTP
    - Partially backfilled to facilitate mining near north wall of Springer Pit

- Ongoing monitoring
- Water quality meets discharge permit limits
- Wight Pit
  - Currently flooded
  - Possible Saturated Rock Fill Treatment facility investigation on hold
  - Ongoing monitoring
- Maintenance / Improvements
  - Pipeline from Cariboo Pit to Wight Pit completed and in use
  - NEZ seep water pipeline to the mill
  - Maintenance of pipelines and pumps is ongoing
- Mobile Water Treatment Plant operations

#### **Remediation Update** – Gabriel Holmes

- No remedial works were conducted in Q3. Monitoring is ongoing for specialized requirements (spawning surveys, fish population, etc.)
- We've seen great results from our wildlife monitoring, revegetation monitoring, etc.
- Outstanding work:
  - Polley Lake Shoreline re-contouring, soil and coarse woody debris (CWD) addition, rough and loose
  - o Polley Flats roads re-contouring, soil and CWD addition, rough and loose
  - o Reach 3 "Blowout Area" Re-contouring, soil and CWD addition, rough and loose
  - Planting ground cover, shrubs and conifers
  - Monitoring
- On Sept 6 sockeye salmon were observed in Hazeltine Creek. Two more surveys were conducted after that. On Sept 22 I observed 688 fish. Seeing the sockeye come back and use the features designed, is very rewarding. Props to the Habitat Remediation Working Group. We are starting to see really great results.
- Video shown from Sept 24- 11 fish noted above the falls. Fish are finding all of the available habitat that they can.
- Bumper crop of alder cones- alder are reproductively mature at year 4 or 5 which is where we are at and they are starting to bear fruit.

#### Mine Re-start Update - Gabriel Holmes

- It's started!
- Pit operations began last November
- We are working toward full scale operations in the mill
- 11 years of mining in the Springer/Cariboo Expansion Pit
- 1 year backhaul of PAG material into the Springer Pit (subaqueous disposal)
- Currently addressing- site water management, mill commissioning, concentrate production, mobile equipment maintenance, pit mining underway, TSF construction is ongoing

#### **Economic impact**

- Local companies benefitting from our operation
- We have an obligation to use local companies which we prefer to do
- Employment for 2022 Operations:
  - o 341 full-time employees
  - 42 part-time employees

- First Nations:
  - 27 full-time employees
  - 12 temporary/part-time employees
- We do try and use companies with First Nations partners, try and hire from our First Nations partners

# **ENV/EMLI Update**

- We have compliance items underway- a recent Interior Health inspection has outstanding action items
  - Our freshwater is not for consumption, we provide bottled water onsite
  - We do weekly microbiological sampling around the site to identify pathogens
  - We are undertaking a Groundwater at Risk of Containing Pathogens (GARP) assessment for the wells that service the infrastructure at the mine
- We missed our GW05-01 sample for Q3. GW05-01 serviced the Wight Pit before it was flooded. We cut
  power, realigned the powerline and installed a substation when the pit was flooded. A sample is required
  under our CEMP, and we will collect one as soon as we can. We are going to increase the monitoring at
  that well since it is an interface well.

#### **Round Table Discussion**

None.

### **Next Meeting**

- January 5, 2023
- Meeting rotation as per the Terms of Reference- propose holding the next meeting in Likely or Williams Lake
  - GH: Doug, is there a sufficient internet connection to host a Teams meeting at the Likely Hall?
  - o DW: I don't know if it's sufficient but they are bringing fiber optic into Likely in the future.
  - o GH: Let's tentatively plan to hold it in Likely. I will confirm with Lisa.

#### Meeting End 12:15pm