

**Mount Polley Mine Permit Amendment Meeting
Public Liaison Committee (PLC)**

Meeting Notes

August 14, 2019 / 9:00 – 11:00 am Pacific Daylight Time (PDT)

Purpose of the meeting

- To discuss the changes Mount Polley Mining Corporation (MPMC) would like to make to their effluent permit and take comments back to the Statutory Decision Maker.
- Specific request from the last PLC meeting to discuss the permit amendment without MPMC present.
- Allow people to ask ENV questions and provide comments to us on the permit amendments.
- Proposed community meeting later this year for ENV to present out on status of ongoing work related to our oversight of MPMC, the Pollution Abatement Order and the *Environmental Management Act* (EMA) permits.

Attendance

- **Ministry of Environment and Climate Change Strategy (ENV):**
 - Allan, Kathryn - Program Assistant, Mining Operations, Williams Lake BC;
 - Chandran, Abhirosh - Impact Assessment Biologist, Mining Operations, Victoria BC;
 - Danyluk, Carol - Section Head, Mining Operations, Kamloops BC;
 - Gibson, Alan P.Eng. - Senior Environmental Protection Officer, Mining Operations, Victoria BC;
 - Hill, Douglas - Regional Director, Mining Operations, Williams Lake BC; and
 - Rainey, Erin - Hydrologist, Mining Operations, Nelson BC.
- **Ministry of Energy, Mines and Petroleum Resources (EMPR):**
 - Bush, Tracy - Senior Project Lead, Mines, Competitiveness & Authorizations Division, Major Mines Office, Kamloops BC; and
 - Shaw, Sean - Senior Environmental Geoscientist, Mines, Competitiveness & Authorizations Division, Major Mines Office, Victoria BC.
- **PLC:**
 - Cobb, Walt – Mayor of Williams Lake;
 - Holmes, Richard (Rick) - M.Sc., R.P.Bio., Q.E.P., Cariboo Envirotech Ltd., Likely, BC;
 - LeBourdais, Maureen – Director of Area F, Cariboo Regional District;
 - McLean, Christine - Likely BC;
 - Sarginson, Jackie- Cariboo North MLA Coralee Oakes office; and
 - Watt, Doug – Likely BC.

Meeting Notes

Format used:

- Question – Indicates a question from any participant
- Comment – Indicates a comment/concern expressed by any participant

Introductions and agenda review

Rules of Engagement:

At a recent meeting we heard from a Ktunaxa cultural trainer on how KNC (Ktunaxa Nation Council) engage. ENV would like to share Ktunaxa rules of engagement and ask that we agree to do our best use these rules as a guide to our participation today:

- Challenge ideas, not people
- Actively participate, offering your insight and wisdom
- Stay focused on the process/agenda
- Be positive and open to many different solutions
- Listen to others generously
- Speak to the issue at hand, being brief, succinct, and to the point
- Encourage new ideas and build on the ideas of others
- Ensure that everyone gets heard
- See situation from a point of view other than your own

Ministry of Environment and Climate Change Strategy (ENV) Roles:

- Senior Environmental Protection Officer – Al Gibson (P.Eng.)
 - Al reviews submissions required under the EMA Permits. Al will summarize all aspects of the review of this application and feedback/comments we receive in a technical assessment and recommendation package to the SDM.
- Subject Matter Experts – Erin Rainey (hydrologist P.Eng), Abhirosh Chandran/Gabi Matscha (R.P.Bios)
 - Our subject matter experts review the application and provide comments and advice relative to their area of expertise to be considered in the decision.
- Statutory Decision Maker (SDM) – Doug Hill
- ENV technical staff will review the comments and consider how MPMC application, and/or the resulting decision and revised permit conditions, may address the issues identified by the PLC.
- Technical recommendations made to the SDM will outline whether public concerns/questions have been sufficiently addressed by MPMC to facilitate a decision or modify the decision to address the concerns identified.
- ENV has decided not to record the meeting so as not to hamper open conversations and questions. Meeting notes will be taken by Kathy Allan to capture information for the SDM.
- Erin will help us to record questions/issues raised in a parking lot to be addressed later in the meeting or in follow-up.

- ENV are here primarily to listen; this meeting is to provide a forum for providing PLC comments to the SDM.
- ENV will share these meeting notes with MPMC so that they have an opportunity to address the concerns in their proposed work plan.
- ENV will answer questions in brief to the best of our ability, but do not want to dominate call so will check-in with participants to find the right balance.

Background

- The current permit conditionally authorizes the discharge of treated effluent to Quesnel Lake. The permit does not allow for MPMC to discharge from the Water Treatment Plant (WTP) to Quesnel Lake after December 31, 2022.
- The final water management plan will determine the ultimate treatment and nature of mine contact water following 2022.
- Among other conditions, the current permit requires MPMC to submit the final water management plan and implementation schedule for approval by December 1, 2019.
- MPMC has applied for a permit amendment that will set out a revised process for development of the final water management plan. A Mine Review Committee (MRC) has been initiated to review this application, which includes representation from First Nations, local government and local communities.
- This amendment will not decide specifically what MPMC is going to do for a discharge after 2022. This amendment process is about setting out a new schedule of the work required to assess alternatives for effluent management to be considered for the final water management plan. There is still work required of MPMC to assess alternatives which will support a future authorization process to decide how the effluent will be treated, managed and discharged post 2022.
- Clarifying ENV's requirements and providing a new deadline resulted in MPMC implementing a full scale treatment trials this past freshet to improve treatment for dissolved copper.

Why are we considering the amendment?

- MPMC has a right to request amendments to permit conditions, and in turn ENV is obligated to give all permit amendment requests due consideration.
- By considering the request, ENV is not endorsing MPMC's progress, nor is ENV restricted to only considering the specific wording in the request in front of us. ENV may recommend requirements to the SDM to satisfy in part or in whole the intent of the request, or may recommend refusal. The recommendations and the ultimate decision must be defensible and is subject to appeal.
- It is recognized that a revised work plan will be needed to position MPMC and the province to make sound, defensible decisions for managing the effluent following 2022.
- Today is an opportunity to inform ENV of requirements that the PLC may want to see in a potential permit amendment. PLC and community members may also provide written feedback to ENV.

Comment - The needs of the community on the lake had not yet been mentioned.

Comment - Putting off the deadlines for MPMC is huge concern of the community; concern that the discharge pipes in the lake might not be removed by the deadline (expiration of the authorization to discharge at the end of 2022)

Overview of the permit amendment application materials

- Sections 2.8, 2.9, 2.10 and 3.5 are subject of the application request, but these sections also overlap with the Ministry of Energy Mines and Petroleum Resources (EMPR) Mine Reclamation and Closure plan.
- EMPR has issued a *Mines Act* Permit for Mount Polley and ENV has issued an *Environmental Management Act* permit for Mount Polley. These are separate permits, administered by different the ministries.
- Basically ENV regulates waste discharges from the mine and EMPR regulates the digging of the hole and constructing the infrastructure.
- Amendments to Sections 2.8, 2.9 and 2.10 deal with:
 - Treatment works for operation and closure,
 - Treat all contaminants below water quality guidelines using Best Achievable Technology (BAT),
 - Pit Seepage assessments,
 - Implementation of bench scale, pilot and full-scale water treatment field trial studies,
 - Reporting out on the treatment studies,
 - Development of a Final Closure Plan, and
 - Optimizing existing treatment works and has effluent treatment works in place prior to closure. The permit does not allow Mount Polley to discharge effluent to Quesnel Lake after December 31, 2022.
- MPMC rationale for the amendments to Sections 2.8, 2.9 and 2.10:
 - Make changes to the timelines for the deliverables to allow more flexibility so they can properly conduct and complete water treatment and water management feasibility studies.
 - These studies, findings, conclusions and recommendations would be incorporated into a Final Water Management Plan for the mine site.
- MPMC has also requested amendments to Section 3.5. These amendments include:
 - The requirement of a pipeline leak detection system be removed,
 - The requirement to do an annual leak and pressure testing of the pipeline be removed,
 - Remove the requirement of a leak containment system, and
 - Increase the diffuser inspection frequency to every five years (currently an underwater inspection of the diffuser is required every 2 years).
- MPMC rationale for the amendments to Section 3.5:
 - The pipeline was pressure tested when it was constructed and is not designed to be pressurized because it operates by gravity.
 - The pipeline is inspected monthly by MPMC and an annual inspection is done by Golder.
- The last permit amendment was on October 2, 2018 to amend sections 1.2.3, 1.2.6 and 2.7, which included Implementation of the Discharge Plan and the Trigger Response Plan.

Question - Are pipelines visually or electronically inspected? We have snow cover 5-6 months a year in Likely. What are the MPMC looking for on visual inspections – snow melt?

Comment - Regular inspections of the pipeline is desirable, perhaps electronically inspecting the pipeline. Third party annual inspections are needed.

- The pipeline right of way is visually inspected, ENV will review MPMC's proposal against requirements at other mine sites and current best management practices in the industry.

Comment - No fines have been charged to Mt Polley.

Question - Has MPMC had any non-compliance penalties?

- The joint investigation by the BC Conservation Officer Service (COS), Environment and Climate Change Canada, and the Department of Fisheries and Oceans is the largest and most complex environmental investigation the COS has ever participated in.
- The matter is now with the Public Prosecution Service of Canada to determine charge assessment. ENV is not involved or informed, and thus cannot comment on the status or nature of the investigation, or the charge assessment process.
- Mount Polley has been issued non-compliance advisories and warnings regarding late or missing submissions of plans and reporting.
- As a result of non-compliance assessments, ENV compliance staff has recommended consideration of an Administrative Monetary Penalty (AMP) to be assessed against MPMC. An update will be provided to the PLC once a decision is made and MPMC have been informed of the results.

Open discussion and Review of "Parking lot" for questions/follow-up required

Question - What other water treatment technologies is MPMC looking at besides Biochemical Reactors (BCRs)?

Treatment and Research Options

- Water Treatment Plant – Active Water Treatment
 - On March 11, 2019 ENV sent MPMC a letter requiring them to undertake a full-scale chelation trial for 2019 freshet to target a mean total copper concentration of 0.012 mg/L.
 - Chelation is binding an ion or molecule to a metal atom, which then can be settled out. Used for removing dissolved copper.
 - This additional treatment was added to the existing Actiflo Water Treatment Plant that removes suspended material like copper.
- Source Control Optimization
 - On-site drainage collection and diversion works
 - Slope design
 - Low-flux cover test plots
- Pit Lake Treatment – semi-passive Water Treatment
 - In-situ Selenium treatment
- Biochemical Reactor (BCR) – semi- passive Treatment

- Treats mining influenced water by using microorganisms
- Substrate is usually wood chips or manure
- Effluent is anaerobic
- **Constructed Wetlands**
 - Constructed cells that contain vegetation to encourage microbial decomposition and settling, aerobic process
- Current permit section 2.8 (b) (v) requires an implementation plan that results in commissioning of all works necessary for full scale operations on or before December 31, 2022 (date that MPMC is no longer able to discharge from the WTP to Quesnel Lake).

Question - It was indicated that increase copper levels had been caused by a Sulphur pile, was this relocated off site?

- Sulphur moved to the leach pads. ENV not sure if it is a permanent solution.
- **Follow-up ACTION: Were the sulphur piles moved permanently?**

Comment - Moving concentrate into the tailing pond is not solving the problem. Not treatment but dilution.

- MPMC must optimize the water treatment plan.

Question - Is there an interim report on Contango's progress for the constructed wetlands?

- **Follow-up ACTION: Send MPMC progress reports to PLC**
 - Progress Report #3 Rev 1 and Progress Report #4 along with the permit amendment documents were emailed to the PLC for this meeting on July 31, 2019. If anyone did not receive them, please send Alan Gibson an email.

Comment - Minto mine in the Yukon has a permit limit of the 0.005 mg/L for total copper. If we allow these amendments, the people of the lake want something. Reconsider the limits on the discharge.

- ENV will review Minto Mine requirements and performance against MPMC requirements and consider revising the permit limits.

Comment - Suggest we require MPMC improve upon active treatment system in the interim while they develop a passive treatment system(s).

- ENV will be continuing to require MPMC to keep optimizing their current treatment works.

Comment – Significant concerns over slime or “rock snot” on Quesnel Lake shoreline

- ENV Monitoring, Assessment and Stewardship (MAS) group is reviewing data collected from Quesnel Lake, forthcoming assessment report will be available to PLC once finalized this fall.

Question – Are there any active permit requests under Mines Act regarding the Tailing Storage Facility (dam raises)?

- EMPR not aware of any current request, but may be part of MRC (subsequent to meeting EMPR has confirmed they have not received Mines Act amendment requests from MPMC)

- **Follow-up ACTION:** Participants can email Sean Shaw (EMPR) questions about possible TSF dam raise (or other EMPR permitting questions). Sean will forward questions on to the correct person/department.

Question – Is Likely considered a community watershed? Does drinking water use influence ENV decisions?

- ENV considers all current and potential uses of water in our decision making processes, i.e. drinking water whether community watershed or private wells/intakes, irrigation, fisheries and habitat criteria for local species, comparing water quality against established water quality criteria and objectives.

Question - What are alternatives for inspecting the pipelines?

- ENV is reviewing alternatives. MPMC uses a gravity fed pipeline that has not been designed to allow routine pressure tests. Visual inspections are performed every month. Part of assessment will be reviewing the design engineer recommendations and considerations.

Comment - Golder is an MPMC paid consultant and some in community will not trust their recommendations.

Question - When responding to an amendment application, are only the specific sections sited considered for amendment or can the entire document be changed?

- Generally, the sections subject to the application are considered for possible amendment or updates. Other revisions may be considered by the SDM as a consequence of the application and any information received throughout the process.

Question - Will ENV be applying the new Best Achievable Technology (BAT) guidance to the current permit amendment?

- BAT guidance is not specifically new but determining what qualifies as BAT is a challenge for regulators.
- **Follow-up ACTION:** forward PLC members ENV's Best Achievable Technology fact sheet.

Comment - Sufficient money /security needs to be set aside by MPMC to clean-up after the mine closes.

- Financial Security is reviewed by EMPR following outcome of the Reclamation and Closure Plans.

Comment – ENV should move the appeal ahead; legal fees are incurred by appellants.

- The appellant (not ENV) has requested the appeal be temporarily suspended until after this application decision is made.

Comment - Full public disclosure of documents on ministry websites (ENV and EMPR), reports are difficult to find online.

- The provincial Mine Information website is updated regularly by EMPR and ENV, and is continuously being improved: <https://mines.nrs.gov.bc.ca/>
- ENV is working to improve our responsiveness and timelines. Contact ENV directly if you are having difficulty locating specific documents.

Summary Statements from PLC Participants:

- Support for an ENV public meeting in Likely early in the fall. Not many PLC members have joined this meeting as they may not want their names published. People don't want to attend meetings due to fear their concerns may be dismissed while Government states public has been consulted.
- Dilution is not the solution.
- Feel that people who have participated in the meetings are being heard. Appreciate the meeting today without MPMC present. The community has really been negatively affected and it is quite sad.
- Appreciate the time the ministries have taken to meet with the community and to explain the ministries' concerns.
- Sometimes the mine "doesn't walk the talk".

ENV Summary Statement:

- The concerns expressed today are not surprising or unanticipated by ENV but important for us to hear and document. ENV will be forwarding today's meeting notes to ensure that all the concerns have been captured accurately.

Adjourned at approximately 11:00 PDT

Appendix C

Public Liaison Committee Meeting Notes





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

Meeting Details

Date: February 25, 2019
Time: 13:00
Location: Conference Call

PLC Members and Guests

Member		Assigned Alternate		Organization
Bee Hooker				Big Lake Community
Joan Sorley				Cariboo Regional District
Steve Hocquard (SH)	X			Horsefly Community
Linda Bartsch				Horsefly Business
Lisa Kraus (LK)	X			Community of Likely
Doug Watt (DW)	X			Citizen of Likely
Claudine Kadonaga (CK)	X			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes				Morehead Community
Mark Doratti (MD)	X			Williams Lake Chamber of Commerce
Bill Caruthers				Williams Lake Community
Walt Cobb				City of Williams Lake
Steve Forseth				Cariboo Regional District
Georgia Bock				Soda Creek Indian Band
Jackie Sarginson (JS)	X			MLA Cariboo North Coralee Oaks Office
Michael Gash				Ministry of Aboriginal Relations and Reconciliation
Diane Howe				Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk	X			Ministry of Environment
		Sam Barnes (SB)	X	Ministry of Environment
Lee Williston				Forests, Lands, Natural Resource Operations
Conrad Cofre				Forests, Lands, Natural Resource Operations
Nicole Pressey				Ministry of Agriculture
Margie Henley				Ministry of Transportation
Kevin Marks				MPMC Employee Representative
Stephen Monninger (SM)	X			MPMC Meeting co-chair
Colleen Hughes (CH)	X			MPMC Meeting co-chair
Valerie Holweck (VH)	X			MPMC
Dale Reimer (DR)	X			MPMC General Manager
'Lyn Anglin (LA)	X			Imperial Metals
Don Parson (DP)	X			Imperial Metals
Melissa Winfield				Independent



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Acceptance of Agenda

PLC Terms of Reference Ratification

- ToR will be sent out to PLC members for their vote

Presentations (see 2019 02 25 PLC Meeting Presentation)

- **Site Update** – Dale Reimer
- **Water Management and TSF Update** – Stephen Monninger
- **Remediation and Monitoring Update** – Colleen Hughes
- **Compliance Update** – Colleen

Operations Update – Dale Reimer

- Plan to stop processing stockpiled ore at the end of May 2019 and go into Care and Maintenance; may be earlier due to labour shortage.
- Sulphur pile was moved to the leach pad (no final plan yet).

Tailings and Water Management Update

- Water Treatment Plant (WTP) continues to operate at 500-800 m³/hr
- TSF Free water ~ 2.5M m³
- Pond elevation 961.44 m
- Beach length > 100 m

Remediation Update

- Spring floodplain planting in Reach 3 and continued remediation work; may not get to lower Hazeltine Creek this year
- Continuing programs and CEMP monitoring
- Committed to breach and compliance work.

Monitoring Update

- CEMP 2018 Update – government and G2G had requested changes
- MPMC requesting that next CEMP update be delayed to March 2020
- No exceedances of any permit limits
- No changes to monitoring program
- MPMC requests that the biochemical reactor research program be delayed

Compliance Update

- Environment Canada 2018 Audit under MDMER: Administrative non-compliance



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- Radium sampling back to weekly
 - WTP was not discharging and not able to sample as scheduled
- Sumps overflowed beginning of November
 - EMA Permit non-compliance as notification was not sent within the 24 hours
- MPMC response to latest ENV audit; disagree with 4 points
 - MPMC response on SharePoint as ENV has not posted to the government website

ENV Update – Carol Danyluk

- MPMC going into Care and Maintenance does not change any permit requirements
 - Permit amendment will be needed to change anything
- Research projects and alternatives to be ready for 2022 as discharge authorization ceases
 - February 14 correspondence with ENV and MPMC outlines the documentation and justification to delay projects
 - Draft submitted to PLC for comment prior to submission to ENV as part of detailed package for the permit amendments
- Frequency of PLC meetings
 - Part of the permit amendment if MPMC asks to decrease frequency
 - Maintain the ability to hold extraordinary meetings
- Extended deadline for the CEMP
 - ENV in the process of responding to MPMC

Other business brought forth by MPMC:

- Membership to the PLC
 - Mickey from Dog Creek Mining

Questions/Comments:

CM: If MPMC delays research projects, will ENV allow discharge post-2022?

CD: That has not been brought to the table.

DW: 2022 is less than 4 years away and there is a lot of research work that has to be done, any delay will ensure that they [MPMC] will not be ready. How hard is ENV going to be pushing MPMC to continue this research? Any delay is bad news for Quesnel Lake.

CD: MPMC will submit a detailed plan under the Long Term Water Management Plan

DW: Is ENV considering this a minor amendment?

CD: Would suggest MPMC to first provide the draft to the PLC for comment

DW: What is the timeline for permit application?

SM: Possibly mid-late March?

DW: Next meeting still quarterly?

SM: Default back to quarterly for now

DW: The news release states that there will be no impact of monitoring and remediation but research projects are being delayed; those statements are counterproductive.

Question (not sure who spoke): Does terrestrial monitoring include survival rates year after year?

CH: Yes; survival surveys are ongoing and MPMC is meeting forestry standards. All that information can be found in the Conceptual Remediation Plan.



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Proposed next meeting date

- May 29, 2019 – tour & meeting



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

Meeting Details

Date: April 29, 2019
Time: 13:00
Location: Conference Call

PLC Members and Guests

Member		Assigned Alternate		Organization
Bee Hooker				Big Lake Community
Maureen LeBourdais	X			Cariboo Regional District
Steve Hocquard				Horsefly Community
Linda Bartsch				Horsefly Business
Lisa Kraus				Community of Likely
Doug Watt	X			Citizen of Likely
Claudine Kadonaga				Likely Business
Christine McLean				Community of Mitchell Bay
Richard Holmes	X			Morehead Community
Mark Doratti				Williams Lake Chamber of Commerce
Bill Caruthers				Williams Lake Community
Walt Cobb				City of Williams Lake
Steve Forseth				Cariboo Regional District
Edna Boston				Soda Creek Indian Band
Jackie Sarginson	X			MLA Cariboo North Coralee Oaks Office
Lowell Constable		J McConnachie		EMPR
Carol Danyluk	X	Alan Gibson	X	Ministry of Environment
Erin Rainey	X	Sam Barnes	X	Ministry of Environment
Lee Williston				Forests, Lands, Natural Resource Operations
Stephen Monninger	X			MPMC Meeting co-chair
Colleen Hughes	X			MPMC Meeting co-chair
Valerie Holweck				MPMC
Dale Reimer				MPMC General Manager
'Lyn Anglin	X			Consultant to MPMC
Don Parson	X			Imperial Metals

Meeting Notes

Welcome and Roll Call on Phone and Roundtable

Introduction

Stephen: Thank you all for join us today. This is an extraordinary meeting of the PLC to review /consultation of *EMA* Permit 11678 (the permit)....

Colleen: Brief background on the current *EMA* Permit

- MPMC applied for this most recent amendment to the permit for long-term (interim) water management in 2016. During the permitting process there were discussions with ENV regarding the prescriptiveness of the permit. We recommended that the details with regard to research approach and timelines belonged in work plans or management plans. Instead the timelines and prescriptive details on research were included in the permit.

Stephen continued with a read through of the proposed amendment application. During this read through there were a couple of additional explanations from both Stephen and Colleen.

- 1) Note that we update our water balance on a monthly, quarterly, and annual basis
- 2) Source control – includes ensuring that ditches convey water without erosion
- 3) A Constructed Wetland Treatment System (CWTS) pilot has been constructed and will be fully commissioned next week.
- 4) We are working toward piloting a BCR and pit lake treatment system this year
- 5) Outline how results of all trials and research feed into the closure plan. In fact the long term water management plan is part of the final closure plan.

Colleen: Note that timelines in the permit were challenging. The permit was received on April 7, 2017 and there was a requirement (section 2.10 (b)) to submit a detailed design for a Pilot Passive Water Treatment system(s) by August 15, 2017 for review by the director. This did not allow for a bench scale trial that would determine if a BCR would be feasible and if so what the design would be.

Questions/Comments:

Doug Watt: I sent an email just before this meeting and I apologize for the tone of it. The discharge pipeline needs to be out of the lake by December 2022. That is the basis of my concern. I appreciate the work you are doing I only wish you had got on it right away.

Richard Holmes: I reiterate what Doug said. I am happy you are going ahead with this, but this has been going on for a decade so I am questioning the sincerity of it. I wish you would get on with it.

Stephen: so noted

Carol Danyluk: duly noted. MPMC is doing some work. ENV is open to restructuring the permit. We are open to considering an annual work plan. This meeting is for the PLC to hear about the proposed changes and for MPMC to answer the PLC's questions.

Doug Watt: Carol? Based on MPMC putting their application in by Amy 15, 2019 what is the process and timeline?

Carol Danyluk: This depends on what is submitted. Also EMPR is looking at a review of the Reclamation and Closure Plan and there maybe a requirement for a joint review (CMDRC).

Richard Holmes: Just curious to know whether or not the progress (of research) is being hampered by budgetary restrictions or lack of personnel? I know for some of the process you do need to go through stages of research however I am curious to know if you are throwing enough money and people at it as well.

Stephen: So far we are okay. We did look at deferring some of these projects earlier in the year, but ultimately we decided not to. As of now we are moving forward. A lot of this is consultants. There will be a small amount of sampling by on site people. Mostly it is Golder and Contango.

Stephen: if there are no other comments we will end the meeting. Thank you for participating, we appreciate it.

Maureen: Noted that she has the document and should have enough information for a board update on Friday.

Richard Holmes: Thanks very much for the update Mount Polley we always appreciate it.



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

Meeting Details

Date: May 29, 2019
Time: 10:00 am tour; 11:45 am meeting
Location: Mount Polley Mine/Conference Call

PLC Members and Guests

Member	Onsite	Call-in	Organization
Sam Barnes			Ministry of Environment
Bee Hooker			Big Lake Community
Bill Carruthers			Williams Lake Community
Lyn Anglin (LA)		x	Consultant to Imperial Metals
Christine McLean (CM)		x	Mitchell Bay Community
Claudine Kadonaga			Likely Business
Colleen Hughes (CH)	x		Mount Polley Mining Corporation
Dale Reimer (DR)	x		Mount Polley Mining Corporation
Carol Danyluk (CD)	x		Ministry of Environment
Don Parsons (DP)	x		Imperial Metals
Doug Watt (DW)	x		Likely Citizen
Edna Boston			Xatsull - Soda Creek Indian Band
Alan Gibson			Ministry of Environment
Jackie Sarginson		x	MLA Cariboo North Coralee Oaks Office
Jaylyn (Alternate)			Williams Lake Chamber of Commerce
Linda Bartsch (LB)		x	Horsefly Business
Lisa Kraus (LK)	x		Likely Community
Lowell Constable			Ministry of Energy, Mines, and Petroleum Resources
Mark Doratti			Williams Lake Chamber of Commerce
Maureen LeBourdais (ML)		x	Cariboo Regional District
Jennifer McConnachie (JM)	x		Ministry of Energy, Mines, and Petroleum Resources
Micky McIntosh			Public
Richard Holmes			Morehead Community
Scott Scholefield			Xatsull - Soda Creek Indian Band
Steve Hocquard (SH)		x	Horsefly Community
Stephen Monninger (SM)	x		Mount Polley Mining Corporation
Steve Forseth			Cariboo Regional District
Valerie Holweck (VH)	x		Mount Polley Mining Corporation
Walt Cobb			City of Williams Lake
Guests	Onsite	Call-in	Organization
Pierre Stecko (PS)		x	Minnow Environmental Inc
Cathy Mackay (CMK)		x	EDI (Environmental Dynamics) Inc



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Conference Call Meeting/Presentations 11:45 am to 2:30 pm

Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction

Review and Acceptance of Agenda

Safety Share: CD – watch for ticks

Presentations (see 2019 05 29 PLC Meeting Presentation)

- **Aquatic Environmental Monitoring** – Pierre Stecko, Minnow Environmental
- **Terrestrial Monitoring: Ecological Succession** – Cathy Mackay, EDI
- **Site Update** – Dale Reimer
- **Water Treatment Update** – Don Parsons
- **Remediation and Monitoring Update** – Valerie Holweck/Colleen Hughes
- **Additional Updates** – Stephen Monninger
- **ENV Compliance Review** – Carol Danyluk

Aquatic Environmental Monitoring – Pierre Stecko (see Minnow PowerPoint presentation)

- Monitoring under the Comprehensive Environmental Monitoring Plan (CEMP) and Environmental Effects Monitoring (EEM) study which is a requirement from the Metal and Diamond Mine Effluent Regulation for every mine that has a discharge. Report due October 10, 2019
- Objective: to monitor impacts of mining and breach
- Monitoring and sampling of sediment chemistry, diffusive gradients in thin films (DGTs), benthic invertebrate community and fish tissue quality (Bootjack, Polley, and Quesnel Lakes)
- Review of the study designs:
 - Sediment quality monitoring
 - Polley Lake historically elevated copper; copper is higher post breach with lower organic carbon
 - Quesnel Lake sediment increased in copper concentrations and lower organic carbon post breach; seeing upward trend in organic carbon from deposition rates in sediment and indicates seeing 1% organic carbon by 2022.
 - DGTs: monitoring for metals that are bioavailable to organisms
 - Polley Lake: slight increase in DGT labile concentrations. Triggered further monitoring using DGT's and more water quality sampling. Concentrations remain very low
 - Quesnel Lake: concentrations are very stable, and very low. Strong indication that the materials on bottom of Quesnel Lake are not releasing metals.
 - In both lakes, levels of copper are well below concentrations that have any effect on sensitive aquatic life



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Questions:

DW: What does the increased monitoring entail? MPMC was recently approved to reduce the level of monitoring to 4 times per year? And who would sample?

CH: The monitoring frequency for Polley Lake did not change.

PS: Additional DGT and water quality sampling on Polley Lake; Minnow and MPMC would sample

CM: When, how long and where are the DGTs deployed?

PS: Deployed now for about a month in Quesnel Lake; the specific month doesn't matter but usually in May/June as the DGTs function in warmer water. They are deployed in the near field area (area most substantially affected) and far field in Horsefly Bay.

DW: Would there be a significant difference if deployed over winter?

PS: Not likely because of depths they are at; effects can occur when there is stratification in shallower lake like Polley; try to deploy when the lake is stable.

- Benthic invertebrate community: powerful monitoring component
 - Polley Lake: density has increased from almost nil to reference and pre event; richness has similar results. Suggesting the benthic community has recovered in Polley Lake.
 - Quesnel Lake: community and richness improving but not recovered completely. Related to total organic carbon (TOC). Recovery is faster in the shallow areas.

Questions:

DW: Recovery is based on the buildup of TOC, what effect would the continued discharge of effluent with a TSS of 15 to 30 ppm?

PS: given the volumes involved I cannot see that having an impact on Quesnel Lake; we expect to see recovery continue.

- Fish tissue quality: are the fish safe to eat? Use fish traps (not gill nets). Ovary samples important for selenium.
 - Polley & Quesnel Lake: tissue selenium and mercury are well below the guidelines for human health. Fish are safe to eat. Would not expect selenium effects on fish health.

Questions:

CM: What Human Health guidelines for mercury and selenium are you using?

PS: BC Health & Ministry of Environment

CM: Would those fish normally have those concentrations?

PS: Yes, it is normal and natural. There are pristine lakes in Canada that have mercury concentrations many time higher than what we are seeing in Quesnel Lake.

CM: What about copper?

PS: Copper is nutritionally essential and does not accumulate; there is no elevated mercury on site; no differences from fish between exposed and reference areas

JM: Are metals analysis done on benthics?

PS: Yes in 2016; very close association with benthic and sediment concentrations

JM: Could that not change over time?

PS: not in the deep areas; only would see it if water quality changes



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Terrestrial Monitoring: Ecological Succession – Cathy Mackay (see EDI PowerPoint presentation)

- Ecosystem mapping for terrestrial recovery (ecological succession) monitoring plan for the Hazeltine Creek corridor
- How to monitor succession?
 - Using Biogeoclimatic system to establish indicator species to achieve climax community from historic ecosystem map
 - Based on soil and moisture regime to identify site series
 - Establish monitoring points for succession from indicator species as recovery may take 80+ years

Questions:

JM: Why so many site series?

CMK: Based on how wet the site is

DP: Understand there will be a field component to the project?

CMK: EDI will be coming to site in July

JM: Will this work include habitat and ecosystems?

CMK: First will be to establish a basis

Tour overview – Colleen Hughes

- Eight (8) people were on the tour (CD, CH, DP, DW, JM, LK, SM, VH)
- Visited top end of Hazeltine Creek Reach 2, the Water Treatment Plant Influent Pond, Water Treatment Plant and Springer Pit (not enough time to visit the wetlands)
- Water Treatment Plant was operating and influent and effluent water samples were taken in glass jars to show clarity of both.
- The dredging operations were visited in Springer Pit. Forty (40) meters or 2 million cubic meters of tailings remain in the pit.
- The value of pit lakes for water treatment was discussed as an option going forward.
- At closure; Springer Pit, Cariboo Pit, Wight Pit and the Tailings Storage Facility will be available.



Site Update – Dale Reimer

- Final shutdown for the care and maintenance period is planned on May 31
- Ceased milling on May 27; have been feeding the mill with stockpiled ore in 2019
- No active mining since December 2018
- Final concentrate shipments in the next couple days
- All access points blocked up as is underground
- Dredging to commence in a couple days
- Last of MPMC crews will be done on May 31
- Care & Maintenance will consist of the enviro crew plus 11 people



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Water Treatment Update – Don Parsons [see presentation]

- Purpose is to go through DW's letter to the editor of May 17, 2019 to the [Williams Lake] Tribune and answer the questions posed by DW.
 - DW's letter uses a photo showing the mouth of Hazeltine Creek post breach event (2014) and states "Imperial Metals should clean up the mess they made".
 - A 2017 photo was presented showing Lower Hazeltine Creek as it appears today, complete with the sedimentation control ponds installed by early 2015. The Habitat Remediation Working Group (HRWG) will be discussing when to finally remove the sed ponds.
 - To be protective of the receiving environment while MPMC works on repairing the [Hazeltine] creek
 - DW's letter says "untreated" effluent; however the Actiflo® system in the Water Treatment Plant (WTP) is actively treating with coagulant, flocculant, and microsand (see slides 10 & 11 of PLC presentation), WTP has been functioning for about 3.5 years
 - EMA permit requires to assess and optimize the treatment process
 - Recalibration and maintenance by Veolia (original equipment manufacturer) in April 2019; plant improvements by Veolia implemented in May 2019
 - A TMT addition system was added and tested in Spring freshet 2019

Questions:

CM: Was reading one of your reports, says plant was not working so could not run TMT?

DP: TMT system is working, however with or without TMT the effluent has been consistently below 0.012 mg/L and compliance has been achieved over the past year

CM: is 0.012 mg/L the target?

DP: the 0.012 mg/L was a target suggested by D Hill, but it is not a permit limit. We are working to do better and working with Veolia to continue to optimize the WTP.

DW: Did the dissolved copper also increase in March?

DP: Don't have numbers in front of me, but the sources are being treated. We have been working on the 2 seeps that may be the major contributors to Cu in site-water.

CM: Can we get this graph for the last 2 years?

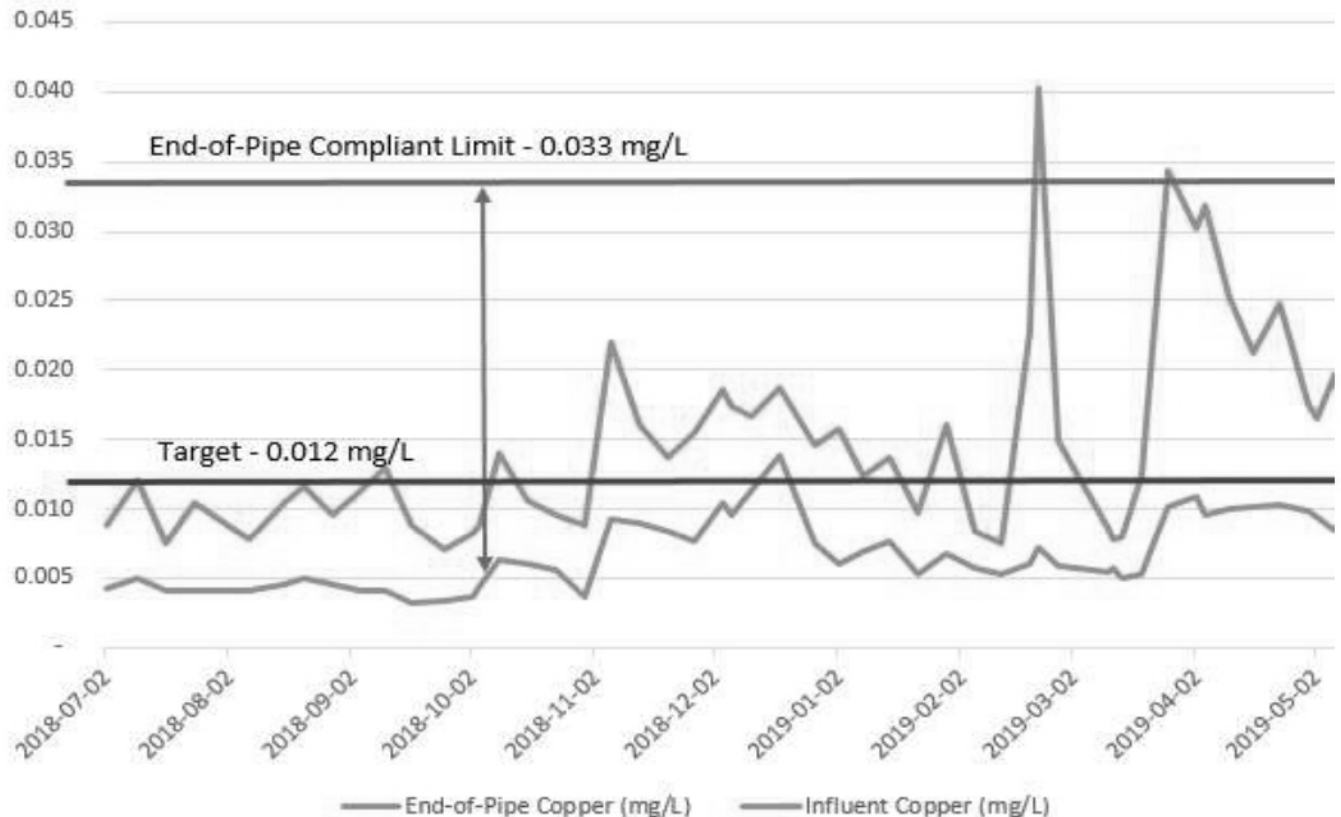
VH: In the 2018 annual report in section 6.2.3. 3 year trend graph is in the body of the report and the 5-year trend for all site water is in the appendices.



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Water Treatment Plant - Total Copper Reduction



CH: and we have captured and diverted the NEZ seep water to the TSF which has made a significant improvement

CM: is the Springer Pit water still being pumped to Quesnel Lake?

DP: In the process of dredging; Springer Pit water goes to the TSF and pumped back up to Springer Pit for dredging; and the WTP is pulling from sumps and ditches and/or TSF.

CH: Pumping directly from Springer Pit stopped in 2017

- Review of copper prices and how we will need to wait until copper is at \$3 per pound sustainably to start the next mine phase. Hopefully dredging is complete when copper prices come up. Will be working on permit amendments to go back into operation.
- DW's letter says "MPMC promised in the 1990s that there would be no water discharge from the mine site," and "untreated effluent discharge be terminated by December 31, 2022".
 - As long as rain falls on the mine we will have excess water and need to be managed as per TSF [Qualified Professional]
 - Environmental and Socioeconomic Impact Assessment from January 1991 on the MEM website states that MPMC had knowledge that it was going to discharge from site; "When surface runoff is greater than can be diverted to the tailings area, it will be discharged via sediment ponds from the site"



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Questions:

DW: I can give you a hydrological report from the late 1990s that says no discharge

DP: That is unimaginable

DW: I'm not arguing that you do not need to discharge, but I don't want it in Quesnel Lake

DP: There is a good reason why the [Technical Assessment Report] recommended discharge to Quesnel Lake. It was in order to meet stringent conditions [British Columbia Water Quality Guidelines] to be protective of the environment. The [Comprehensive Environmental Monitoring Plan] adds to that as well.

- Permit clauses: we are working on sections 2.8 & 2.9; we did the work previously for 2.10
- Science says we need to be protective of sensitive environments. [Best Achievable Technology] would suggest that we continue operation of the Quesnel Lake pipeline (beyond 2022). What we know now suggests that Pit lakes are the best treatment options. We will be requesting an amendment to continue to discharge to Quesnel Lake, until we have a better solution.

Questions:

DW: we had a discussion that the initial options analysis was flawed and IM cut it short before the community consultation was completed. So are you going to re-open the discussion of options analysis? And involve the community fully and not cut us off?

DP: we will review this and will consult. Quesnel River was an option but diffusers would be damaged by flow and discharge was right on spawning habitat. It did not rank as high as deep discharge to Quesnel Lake. I don't believe the science is any different now than it was then.

DW: Not enough study done – no proof of spawning habitat; other places discharge into rivers.

CH: [Department of Forest, Land, Natural Resource Operations] identified Quesnel River as spawning habitat; the science is not different today then back then.

CM: I know I don't speak for all residents, but I speak for quite a few. This info in the Golder report about keeping the pipe in the lake. I want this noted in the minutes that we are going to do everything we can to make sure that doesn't happen, further marring this pristine lake. And you do not get the privilege to discharge in Quesnel Lake. To me it is just beyond belief that the government would allow a pipeline of mine waste water being directed into a pristine salmon bearing lake. There will be an uproar about this. We have expert report and science that says it can be done differently, there are better ways to do this and other mines in BC are doing it but that cost a little bit more.

Remediation Update – Valerie Holweck

- Spring floodplain planting in Reach 3 and continued remediation work starting in June

Monitoring Update – Valerie Holweck

- Monitoring completed on Bootjack, Polley, and Quesnel Lakes (5 week intensive at IDZ)
- Quesnel Lake water quality loading table – lots of capacity
- Minnow: CEMP & EEM monitoring
- No exceedances of any permit limits
- No changes to monitoring program



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Additional Updates – Stephen Monninger

- Research projects: 2.8-2.10
 - Biochemical reactor report in draft and Pit Lake ongoing
 - Wetlands – commissioned and ready to go
 - Contango is up next week for sampling program overview
- Copper Optimization: report due tomorrow and will be shared
- Permit amendment: 2.8-2.10; submitted on May 14, 2019
 - Mine Review Committee meeting coming up and First Nations
 - ENV coordinate the review of the amendment and Reclamation & Closure Plan (under the Mines Act) with EMPR; may take 8-10 months

Questions:

DW: will there be any open public consultation?

CD: may not be looking at community consultation as currently designing the consultation process.

DW: public consultation should not be spur of the moment before Christmas.

CD: this review is not about making a decision for discharging into Quesnel Lake.

CM: consultation by ENV with First Nations but also with residents from Quesnel Lake without Mount Polley.

SM: this is a minor amendment for administrative changes; part of the onus goes to the PLC as it is their responsibility to inform Quesnel Lake residents about this.

CD: consultation proposal is recorded and will be discussed if it is the best use of time.

DW: if this is going to take 4-8 months, what is the existing timeline for the work that still needs to be done?

CD: this is a compliance issue and there is a separate unit that will determine compliance.

CH: Mount Polley is out of compliance as the deadlines in the permit have passed.

ENV Compliance Update – Carol Danyluk

- No finalized compliance reviews yet, but expect to see annual report and first quarter soon
- Review of the Conceptual Remediation Plan will be finalized in the next 2 weeks

Questions:

CH: Any updates with regards to posting Mount Polley's responses to the compliance reviews to the ENV website?

CD: I will follow up.

DW: Diffuser pipe picture

CH: We saw the WTP today, and the PLC has all of our effluent discharge info and data. We monitor this closely. The image looks like a lot of air bubbles in the discharge. Analogy = a bucket of water – water looks clear, but when you put a running hose into it, the water is full of bubbles and not as clear. Also, lots of lighting; a good ROV.

Other business brought forth by MPMC:

Proposed next meeting date:

August 21, 2019 – tour & meeting



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

Meeting Details

Date: October 2, 2019
Time: 9:00 am meeting. 11:00 am tour
Location: Mount Polley Mine/Conference Call

PLC Members and Guests

Member	Onsite	Call-in	Organization
Sam Barnes			Ministry of Environment
Bee Hooker (BH)	x		Big Lake Community
Bill Carruthers			Williams Lake Community
Lyn Anglin (LA)		x	Consultant to Imperial Metals
Christine McLean (CM)		x	Mitchell Bay Community
Claudine Kadonaga		x	Likely Business
Mathieu O'Leary (MO)	x		Mount Polley Mining Corporation
Dale Reimer (DR)	x		Mount Polley Mining Corporation
Carol Danyluk (CD)		x	Ministry of Environment
Don Parsons (DP)	x		Imperial Metals
Doug Watt (DW)	x		Likely Citizen
Edna Boston			Xatsull - Soda Creek Indian Band
Alan Gibson (AG)		x	Ministry of Environment
Jackie Sarginson (JS)		x	MLA Cariboo North Coralee Oaks Office
Jaylyn (Alternate)			Williams Lake Chamber of Commerce
Linda Bartsch (LB)			Horsefly Business

MPMC Public Liaison Committee
Meeting Notes: October 2, 2019



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Lisa Kraus (LK)		x	Likely Community
Lowell Constable			Ministry of Energy, Mines, and Petroleum Resources
Mark Doratti			Williams Lake Chamber of Commerce
Maureen LeBourdais (ML)		x	Cariboo Regional District
Jennifer McConnachie (JM)			Ministry of Energy, Mines, and Petroleum Resources
Micky McIntosh (MM)	x		Public
Richard Holmes (RH)		x	Morehead Community
Scott Scholefield			Xatsull - Soda Creek Indian Band
Steve Hocquard (SH)			Horsefly Community
Gabe Holmes (GH)	x		Mount Polley Mining Corporation
Steve Forseth			Cariboo Regional District
Kala Ivens (KI)	x		Mount Polley Mining Corporation
Walt Cobb		x	City of Williams Lake
Alicia Lalonde (AL)	x		DWB Consulting
Abhirosh Chandran		x	Ministry of Environment
Guests	Onsite	Call-in	Organization
Pierre Stecko (PS)			Minnow Environmental Inc.
Cathy Mackay (CMK)			EDI (Environmental Dynamics) Inc.



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Conference Call Meeting/Presentations 9:20 am to 12:30 pm

Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction

Review and Acceptance of Agenda

- CD: will wait until the next public meeting in Likely to update on compliance details

PLC Terms of Reference Ratification

- ToR was submitted within the 7 day notice period

Presentations (see 2019-10-02 PLC Meeting Presentation)

- **Care and Maintenance Update** – Dale Reimer
- **Remediation Update** – Gabriel Holmes
- **Environmental Monitoring Update**– Don Parsons/Gabriel Holmes
- **Wetland Update** – Gabriel Holmes
- **Water Treatment Update** – Don Parsons/Matt O’Leary
- **Dredging Update** – Don Parsons/Matt O’Leary
- **Copper Optimization Update** – Don Parsons
- **Permit Amendment Update** – Don Parsons
- **ENV Compliance Review Update**– Carol Danyluk/Alan Gibson

Care and Maintenance Update – Dale Reimer

- Current employees: 11 full time MPMC employees, 2 additional contract employees, Alicia Lalonde from DWB Consulting and 5 contract employees working on Hazeltine Creek remediation.
- MPMC in process of removing grinding media from the ball mills.
- General site maintenance with a focus on water balance and operation of the Water Treatment Plant. There haven’t been any real issues even with the high rainfall in the area.
- Ongoing preparation of the mine site for winter weather conditions.



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Remediation Update – Gabriel Holmes

- The Hazeltine Creek remediation season will be finished on Friday this week (October 4, 2019)
 - Hazeltine Creek upper channel habitat and lower floodplain areas were worked on this year (between the purple points on the map from the presentation below).
 - Planned remediation work for 2020 includes: Polley Lake shore near the creek as well as floodplain regrading at Lower Hazeltine Creek and Lower Edney Creek (see yellow highlights on the map from the presentation).
 - Golder is designing the Hazeltine Creek lower floodplain. Removal of the lower settling ponds and final habitat remediation in lower Hazeltine Creek will be contingent on erosion potential in upper Hazeltine Creek and also in the Hazeltine Creek canyon.

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- There have been short pulses of turbid water flows from the ongoing construction when new lengths of



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creek channel are opened to the water flowing from the upper reaches of Hazeltine Creek

- MPMC completed Reach 3 in-stream work in 2019 at Hazeltine Creek
 - The fish would have been stranded by the gradient without the work done this year
- The final designs for the Edney Creek (EDC) remediation are in the process of being completed
 - Sockeye salmon are actively using the rehabilitated EDC area
 - GH hopes to take PLC to see the sockeye salmon during the tour
 - In 2019, the increased precipitation that occurred before spawning seems to have led to an increase in salmon presence. Will be factored in during final design

Questions:

CM: Anybody doing fish counts on EDC?

GH: 3 fish counts and a drone flyover have been done. Consultants are currently onsite completing spawning and fish surveys at HAC and EDC. Approximately 50 sockeye salmon have been spotted, no fish have been seen above the ditch road bridge.

CM: Will there be a report done on this made available?

GH: Yes, Minnow Environmental does a complete report but it won't be completed before the new year. Also nothing has been uploaded to 'sharepoint' as of yet but this could be done based on specific requests and management approval.

Pollution Abatement Order (PAO) – Gabriel Holmes & Don Parsons

- MPMC was notified on September 12, 2019 by Doug Hill, Director, Environmental Management Act, Mining Operations that the PAO is no longer in effect and confirmed that MPMC has no further obligations under the PAO. MPMC met all of the requested deliverables and the remediation plan was approved.

Habitat Working Group Activities – Don Parsons

- MPMC completed a survey of culverts around the Quesnel Lake watershed forest service roads. Culverts were assessed for blockage to fish passage. The quality and quantity of fish habitat to be opened upstream by a culvert repair was also assessed.
 - MPMC sent a report to Habitat Working Group. The benefits were minimal for those culverts under consideration.



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- GH: Environmental department is also working on controlling flow from Polley Lake via the fish ladders.
- The Comprehensive Environment Monitoring Plan (CEMP) is being updated for monitoring the Mount Polley mine site and the surrounding receiving environment. The plan will be submitted October 31, 2019.

Environmental Monitoring Update – Gabriel Holmes & Don Parsons

- Three full time employees in the Environmental Department as well as various consultants are working on CEMP and site specific monitoring currently.
- MPMC has stayed compliant during Care and Maintenance in regards to Environmental Monitoring
- Consultants working onsite are:
 - Minnow - sediment, benthic invertebrates, plankton and fish population/tissue sampling
 - Golder - CEMP review, Groundwater program monitoring, Long term water management plan
 - DWB Consulting - Environmental monitoring coordination, Quality Assurance/Quality Control of sampling, Environmental Permitting/Reporting
 - Watersmith - Staff gauges & Benchmarking program
 - Contango Strategies - Constructed Wetland Treatment System (CWTS) pilot program

Wetland Update – Gabriel Holmes

- The Contango CWTS was constructed in the fall of 2018 to address its potential as a semi-passive long term water treatment option.
- A setup of three different series was constructed in this program. Currently the wetland is in the commission stage and three water quality samples have been completed so far.
 - Dissolved Oxygen (DO) is the limiting factor in the water column for a wetland
 - An anoxic environment is essential to wetland development and success, so far this has not occurred due to the presence of early stage vegetation. Contango added straw to the forebays in each series to help consume the oxygen in the water to accelerate the creation of anoxic conditions.
- The CWTS will be winterized within the next six weeks. This will include draining of the associated



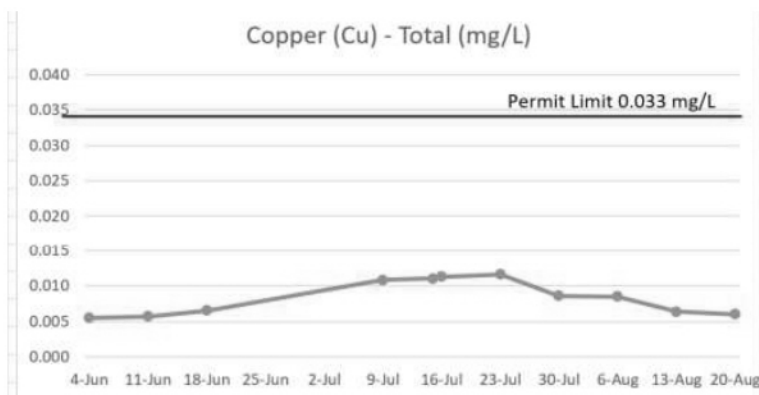
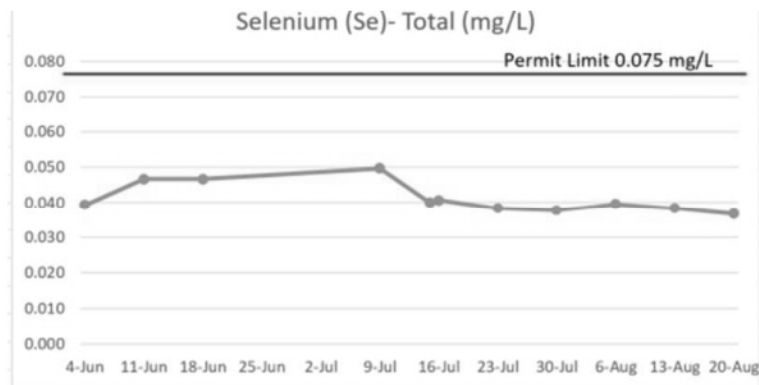
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plumbing & piping.

Water Treatment Update – Don Parsons & Matt O’Leary

- The Water Treatment Plant (WTP) is being operated on an as needed basis during Care & Maintenance. Currently MPMC is alternating WTP operation between 1 week of 24hr discharging and 1 week of 12hr discharging based on personnel availability.
- MPMC conducted Veolia recommended repairs, monitoring system upgrades and added the TMT dosing circuit for reduction of dissolved copper. Up to now, dissolved copper concentration has been too low in the site runoff water for TMT to be effective. Many of the Care and Maintenance personnel have been trained in the WTP operation.
- 1.3 million-cubic meters of water has been discharged from the WTP for Quarter 3.
- The selenium & copper graphs below shows that MPMC discharge levels are well below permit limit.





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Questions:

DW: What do the Total Suspended Solids (TSS) levels look like for the discharged water?

DP: The permit maximum is 30 mg/L, the permit average monthly discharge TSS concentration must not exceed 15 mg/L. The plant has been averaging about 5 mg/L or 1/3 of the allowable monthly average.

DP: With the amount of rain lately we had to run the WTP at maximum flow rate.

DW: Is the WTP in active mode or bypass right now?

MO: Yes it's currently active. We can't use bypass without ENV approval.

- DP: Shauna Litke has completed her Master's thesis on the Northeast Zone (NEZ) Seep water chemistry monitoring. This water is currently being piped into the Cariboo Pit, which now contains ~830,000 m³ of water in total.

Questions:

DW: What is the long term plan for the water in the Cariboo Pit?

DP: We plan to eventually pump it back out. Our current water storage areas are the Springer Pit, Cariboo Pit and Tailings Storage Facility (TSF).

DW: Is the NEZ a natural seep?

DP: No it's not a natural seep, the main source is from below our Sulphur pile. We moved the pile to the lined leach pad area to prevent further leachate making its way into the dump.

MO: Leach pad water is piped into the TSF.

DW: Any plans to move the NEZ material off the mine property?

DP: No, it's been recommended that we submerge the Sulphur and Sulphur affected material under the water in the Cariboo Pit.

Dredge Update – Matt O'Leary & Don Parsons

- MDG has almost completed their second attempt (season) at dredging tailings from the Springer Pit.
- Unfortunately MDG is moving tailings to the TSF at a slower rate than anticipated. They will be shutting down for the winter season in the next few weeks.
- TSF Instrumentation monitoring schedule has remained the same biweekly frequency as before Care & Maintenance, as per Golder's request.



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Questions:

MM: How much material has been dredged so far?

MO: 1.3 million-cubic meters of material has been dredged so far (with a starting amount of 3.2 million-cubic meters).

MO: Further discussions are needed to determine if dredging will continue next year with MDG. At the current rate it would take them another 2-3 years to complete the dredging.

DP: Based on a couple of trial runs, hauling the tailings material out of the Springer Pit once it's dewatered may be another option if dredging is cancelled.

DP: We are looking at dry stacked tailings as one alternative for disposal rather than deposition in the TSF. This is not decided conclusively as of yet. It will require permit amendments to deposit anywhere but the TSF.

DW: Would you dry stack near the TSF, so it would be close enough to dump into during actual mine closure?

DP: Yes possibly, we've done it with TSF sand before.

DW: What's the status of the tails in the Springer Pit?

DP: It's all NAG. I worked with Steve Day to confirm this was the case, no leaching will occur.

LA: Could this material be used at dump cover?

GH: Yes using it as a soil dump cover is a good possibility.

BH: How cold does it have to be for the dredging to stop?

DP: They ended in the middle of December last year.

MO: Dredging could end earlier this year if it's a cold winter. ~ -20°C is when the dredging becomes too difficult.

Copper Optimization Update – Don Parsons

- The TMT system (to reduce dissolved copper) is installed. It's not running currently but will be used on an as needed basis.
- MPMC plumbed in the TMT reagent piping before freshet but influent dissolved copper levels did not spike high this year as it has done previously. Possibly due to the water from the NEZ Seeps being sufficiently diverted this year.



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- Source control of this water is noted to be a better option for dealing with the higher copper concentrations than treating it at the WTP before discharge.

Questions:

CM: Why is the target of the WTP discharge 0.012 mg/L when the permit limit is 0.033mg/L?

DP: Doug Hill wanted the copper concentrations to be below those achieved in bench scale tests. The permitted compliance limit allows for higher copper concentrations at the discharge point (HAD-3) while still ensuring that the “Edge of Quesnel Lake IDZ” site is meeting BC Water Quality Guidelines.

DW: My concern is that MPMC is just diluting the copper and discharging the water into Quesnel Lake instead of removing the copper concentrated water?

DP: We could use TMT to control the copper concentration but would prefer a passive control method instead. If successful, the CWTS will hopefully be used in the future to discharge the treated NEZ Seep water instead of being discharged with the rest of the water into Quesnel Lake.

EMA Permit 11678 Amendment Update – Don Parsons

- Four revisions were made to the permit (2.8, 2.9, 2.10 & inspection of the pipeline to Quesnel Lake)
- Golder is in the process of determining site water management needs.

Questions:

DW: Could we get more information on the 2022 Water Management Plan?

DP: We still need to look at alternative water discharge options by 2022 and also work on assessing the effect water discharge might have on the possible receiving water environments (I.E. Associated lakes and creeks in the area).

DP: We discharge ~ 6 M m³ of water annually on average.

DW: What's the timeline for the Water Management Plan?

CM: Will there be designated areas to access the research information for discharge alternatives?

GH: This PLC meeting is a good forum to bring these requests up in.

DP: According to EMA permit 11678 section 2.9, MPMC is required to deliver updates every 6 months.



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ENV Compliance Review Update – Carol Danyluk

- Now is a good time to ask Alan Gibson (AG) about anything related to the compliance review since he's currently on the phone. Alan Gibson and Carol Danyluk can be contacted via email as well.
- There will be a community meeting held in Likely on November 5, 2019 (since re-scheduled to November 27th) by the Ministry of Environment. It will include a presentation on the CEMP review, various receiving environment data assessments, and concepts for the 2022 Water Management Plan. Other reports such as the Metal and Diamond Mining Effluent Regulations (MDMER), Annual Discharge Plan (ADP) and Environmental Effects Monitoring (EEM) will also be discussed.
- The Ministry would like to discuss any topics of interest that the PLC believes should be included.

Questions:

CM: Has any data been compiled from the Ministry on changes to the lakes over the last 5 years?

CD: The EEM Report contains receiving environment data that is being reviewed currently and will be reported on at the community meeting. We will also be providing handouts, e-reports and taking follow up questions at the meeting.

RH: The Quesnel Lake research group will be taking place this Saturday. All are encouraged to attend. Does the Ministry have this data?

CD: Yes it's been included in the previously mentioned reports.

RH: Please consider in this mining funded document that there is overwhelming opinion that the discharge into Quesnel Lake should be stopped completely.

CD: Yes it will be considered.

DW: This community meeting on November 5th (now Nov 27th) occurs after the amendment review so how does it help us to discuss the amendments.

CD: The community meeting is not a forum to discuss the amendment decisions, only to raise any other concerns the public may have about the 2022 Water Management plan.

DW: MPMC did not stick to their deadline with the April 2017 permit limits so how can the Ministry expect to keep them on track with this new deadline?

AG: We are just trying to do the best we can as we move forward so that's why there aren't any firm dates in the permit.

DP: MPMC applied for amendments based on future alternative methods.



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CM: MPMC gets any amendments they want but we haven't gotten anything.

CD: MPMC received warnings for missed permit submissions etc. and administered fines are a consideration.

GH: Information is readily available for public consumption in regards to compliance oversight. The Ministry will make this information available and EMPR will be contacted to update their site.

CD: The ministry is proceeding with the permit amendments for MPMC. This is not what the community meeting is about, but we are looking for feedback on any other topics of interest regarding MPMC.

Standing Agenda Items:

- None raised
- GH: I encourage everyone to bring forth their questions and comments to the committee members. MPMC has resources available upon request.

Proposed next meeting date:

Tentatively December 4, 2019 – tour & meeting

- Meeting location possibilities: Likely Hall or Pioneer Center in Williams Lake

Questions:

CD: Is there anyone to help with advertising for ENV community meeting?

LK: Yes, I can put on website and post up flyers

CM: Yes, I can put on social media



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

Meeting Details

Date: December 4, 2019
Time: 9:00 am
Location: Pioneer Complex in Williams
Lake/Conference Call

PLC Members and Guests

Member	Present	Call-in	Organization
Sam Barnes			Ministry of Environment
Bee Hooker (BH)	x		Big Lake Community
Bill Carruthers			Williams Lake Community
Lyn Anglin			Consultant to Imperial Metals
Christine McLean (CM)		x	Mitchell Bay Community
Claudine Kadonaga		x	Likely Business
Mathieu O'Leary (MO)	x		Mount Polley Mining Corporation
Dale Reimer (DR)	x		Mount Polley Mining Corporation
Carol Danyluk			Ministry of Environment
Don Parsons			Imperial Metals
Doug Watt (DW)	x		Likely Citizen
Edna Boston	x		Xatsull - Soda Creek Indian Band
Alan Gibson (AG)		x	Ministry of Environment
Jackie Sarginson			MLA Cariboo North Coralee Oaks Office
Jaylyn (Alternate)			Williams Lake Chamber of Commerce

MPMC Public Liaison Committee
Meeting Notes: December 4, 2019



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Linda Bartsch			Horsefly Business
Lisa Kraus (LK)		x	Likely Community
Lowell Constable			Ministry of Energy, Mines, and Petroleum Resources
Mark Doratti			Williams Lake Chamber of Commerce
Maureen LeBourdais (ML)	x		Cariboo Regional District
Jennifer McConnachie			Ministry of Energy, Mines, and Petroleum Resources
Micky McIntosh			Public
Richard Holmes (RH)		x	Morehead Community
Steve Hocquard			Horsefly Community
Gabe Holmes (GH)	x		Mount Polley Mining Corporation
Steve Forseth			Cariboo Regional District
Kala Ivens			Mount Polley Mining Corporation
Walt Cobb	x		City of Williams Lake
Alicia Lalonde (AL)	x		DWB Consulting
Abhirosh Chandran		x	Ministry of Environment
Guests	Onsite	Call-in	Organization
Mike Stinson (MS)	x		Xatsull – Soda Creek Indian Band



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Conference Call Meeting/Presentations 9:00 am to 10:45 am

Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction

- Recognition that the meeting is being held on the traditional territory of the William Lake Indian Band.

Additions to Agenda

- More advanced scheduling of PLC meetings

Approval of Agenda

- Approved

Presentations (see 2019-12-04 PLC Meeting Presentation)

- Care and Maintenance Update – Dale Reimer
- Springer Pit Tailings Update – Mathieu O’Leary
- Environmental Monitoring Update – Gabriel Holmes
 - Compliance Monitoring Update
 - Environmental Effects Monitoring Update
- Discharge/Water Treatment Plant Update – Gabriel Holmes
- Permit 11678 Amendment Update – Alan Gibson
- ENV Compliance Review Update – Gabriel Holmes/Alan Gibson

Care and Maintenance Update – Dale Reimer

- Current employees: 11 full time MPMC employees working in 4 shifts including day shifts and night shifts and Alicia Lalonde from DWB Consulting.
- MPMC in process of dropping charges in the mills and preparing for freshet.
- General site maintenance with a focus on ensuring that all pumps, sumps and water discharge are functioning properly.
- Ongoing preparation of the mine site for winter weather conditions.

Questions:

DW: How often are the ditches/sumps inspected?



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DR: Twice a day (Once during the day shift and once during the night shift).

DW: How many employees work in the environmental department?

DR/GH: 3 MPMC employees, Alicia Lalonde from DWB Consulting and other consultants conducting environmental effects monitoring.

Springer Pit Tailings Update— Mathieu O’Leary

- Dredging of tailings from the Springer Pit has been problematic. The dredging contractor has now ceased work for the winter.
- MPMC is investigating alternative methods of moving the tailings to the Tailing Storage Facility (TSF) such as trucking. Dump covers were considered however, there is no room for 3 million tons of tailings on the mine site so most will have to be deposited into the TSF.
- The water in the Springer Pit is to be monitored more frequently in anticipation of its removal.

Questions:

MS: Where will the water be moved?

GH: That is dependent on the water chemistry results. It may be suitable to send through the Water Treatment Plant (WTP) and into Quesnel Lake or even bypass the WTP and go directly into Quesnel Lake.

MS: How often is water in the WTP tested?

GH: Water chemistry is tested weekly and TSS is tested twice per day.

MS: How long does it take to get the results back?

GH: TSS results are immediate. Water chemistry results take 1.5-2 weeks.

RH: Is there any evidence of seepage from Springer Pit into the groundwater?

GH: No, the groundwater in the surrounding wells is monitored regularly. There was an increase in static water levels in the groundwater wells when water was being moved into Springer Pit but levels have since decreased to a normal level.

RH: Has the chemistry in Bootjack Lake changed in the last few years?

GH: Not to our knowledge. When water was being moved into the Springer Pit, the frequency of sampling in Bootjack Lake was increased. Minnow has conducted further sampling but MPMC is waiting for those results.

AG: What do you mean by bypassing the WTP?

GH: In 2015, MPMC was granted permission from the Director to discharge water directly into Quesnel



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Lake.

AG: Was it only bypassed in 2015?

GH: Yes, we would have to get permission and bring it to everyone's attention if we were to bypass again.

MS: How much more water is in the Springer Pit than was expected this year?

MO: There isn't much water in Springer Pit, it's only 2 m over the tailings but there is 1 million m³ in the Caribou Pit.

MS: How much water in total is on-site?

MO: Approximately 3.2-3.3 million m³.

MS: How much water would you have to get rid of if the mine were to be fully operational again?

MO/GH: All of the water in the Springer Pit and Caribou Pit would have to be removed.

DR: We would have to remove the water in the Springer Pit immediately but we could wait awhile to remove the water from the Caribou Pit.

CM: Where is the water in the TSF going?

MO: Water from the TSF is treated in the WTP.

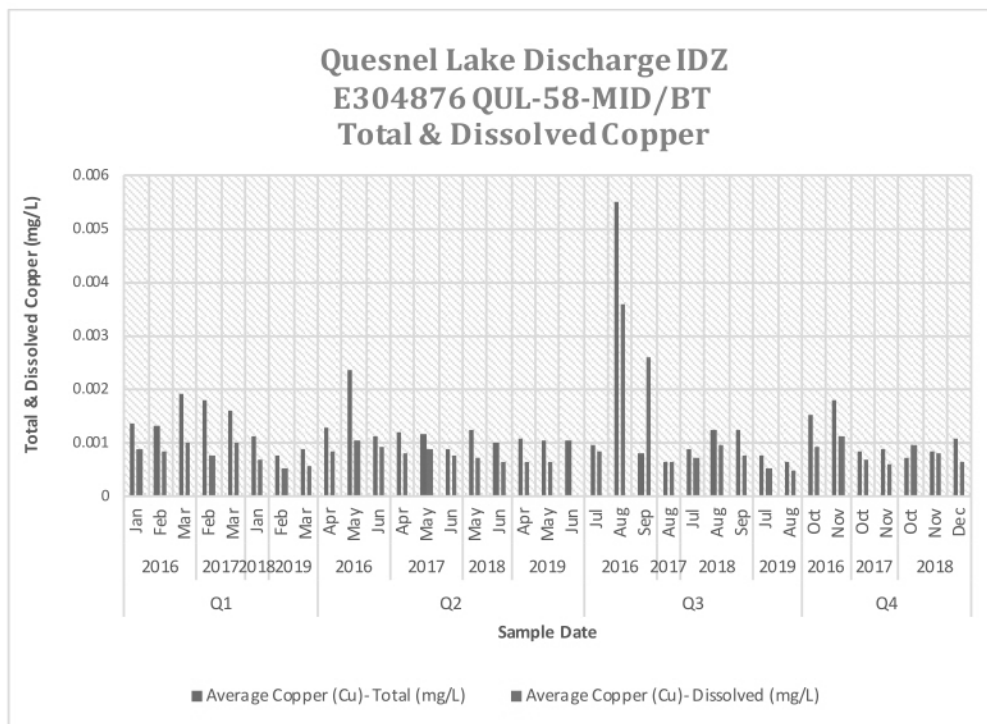
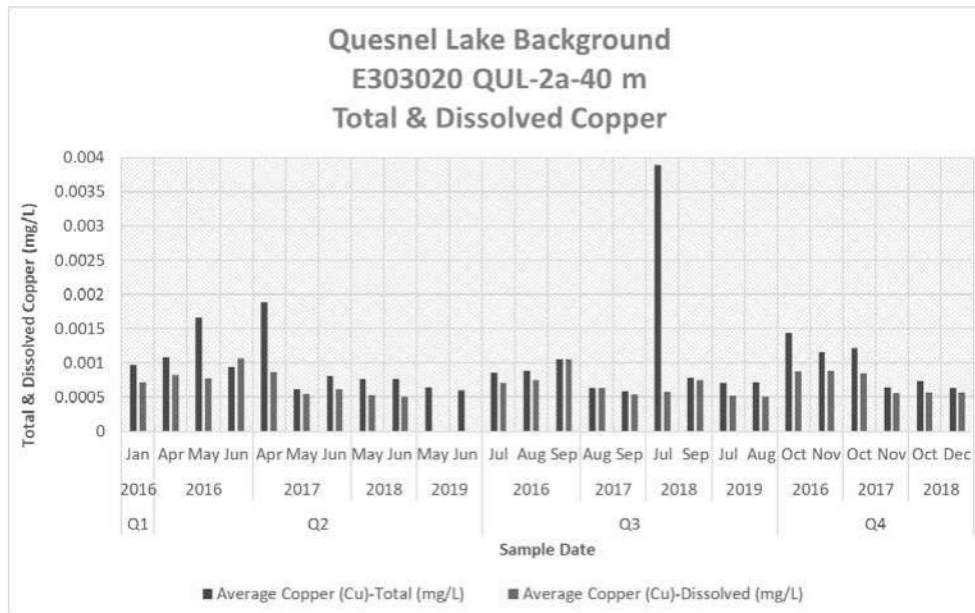
Environmental Monitoring Update – Gabriel Holmes

- All environmental programs have continued into Care and Maintenance as they are driven by permits and the CEMP, including routine and Environmental Effects Monitoring (EEM).
- Changes to the programs may occur as a result of winter conditions.
- Consultants do some work on-site over the winter but mostly provide reporting deliverables.
- EEM is required under the Metal and Diamond Mining Effluent Regulations (MDMER). The Phase 2 Interpretive Report was submitted by Minnow Environmental in October 2019 and stated that "there are no apparent mine effluent related differences in water quality, sediment quality or benthic invertebrate community when compared to an un-impacted and an impacted reference area".
- The total and dissolved copper concentrations at QUL-2a-40m (reference site upstream of diffuser and west of Caribou Island) and QUL-58-MID/BT (discharge from WTP at mid-depth and below thermocline) are very similar as presented in the graphs.



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Questions:

MS: Are there more crews on-site during freshet?

DR: More crews should not be needed unless a cataclysmic event occurs.

MO: 90% of the staff on-site have been trained to do pump watch and during freshet pump watch will likely increase to 2-3 times per shift.

DW: Is the statement from the Phase 2 Interpretive Report specific to water coming out of the WTP?

GH: Yes.

AG: Some dates there is no sampling conducted. Can you explain why this may occur?

GH: Sampling may not be conducted due to frozen conditions, rough water or dry/no flow conditions.

CM: Do you sample Quesnel Lake under the ice?

GH: Yes, in the last couple of years we've sampled right at the Initial Dilution Zone. We plan to sample under ice at this location annually provided that it is safe to do so.

AG: In the Annual Discharge Plan, MPMC asked for QUL-2a to become the Quesnel Lake reference site; however, the Ministry still has QUL-120a on record as the reference site.

GH: We need to revisit this. We thought we had resolved the issue and QUL-2a had been accepted as the Quesnel Lake reference site. MPMC will discuss.

Action Item: MPMC to review previous documentation and correspondence, and formulate a response for the Ministry.

RH: UNBC has background information showing how little of an influence the surrounding watersheds have on Quesnel Lake. You should reach out to UNBC and get that information.

CM: Why are some months missing from the graphs?

GH: Because the sites were not sampled in those months.

Discharge/Water Treatment Plant Update – Gabriel Holmes

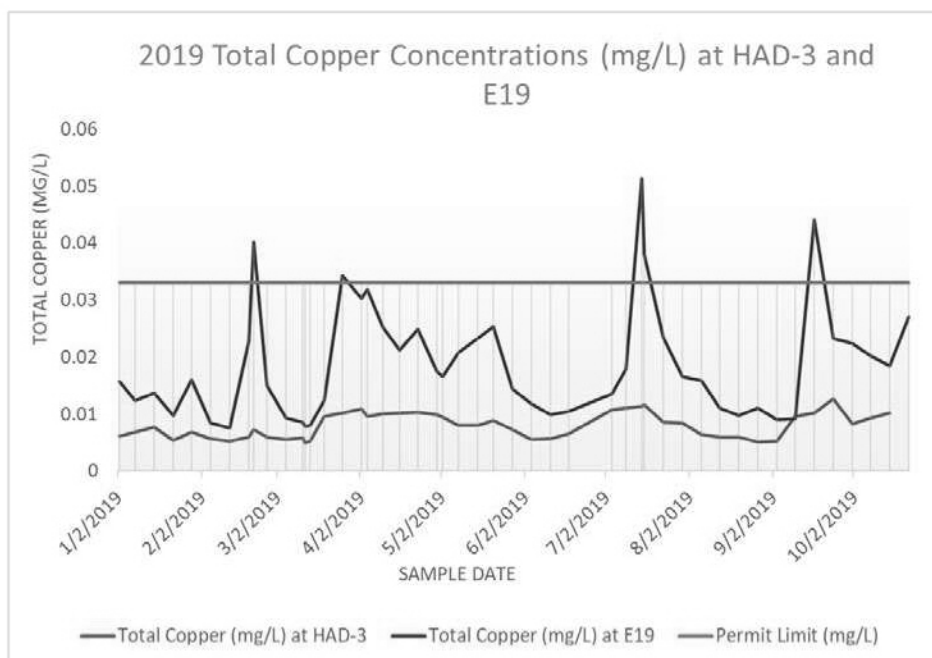
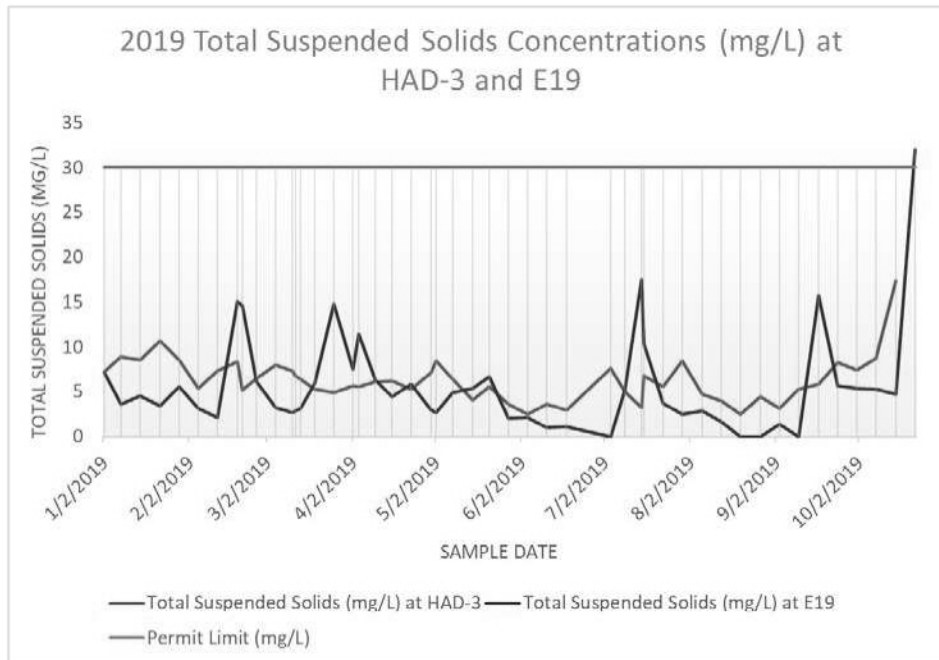
- Water in the WTP is treated for Total Suspended Solids (TSS) and can dramatically change the water chemistry.
- The graphs presented compare TSS, copper and selenium at E19 (WTP influent) and HAD-3 (WTP effluent end-of-pipe) and show that the WTP is effective in treating TSS in the water and reducing some constituents of concern such as copper.



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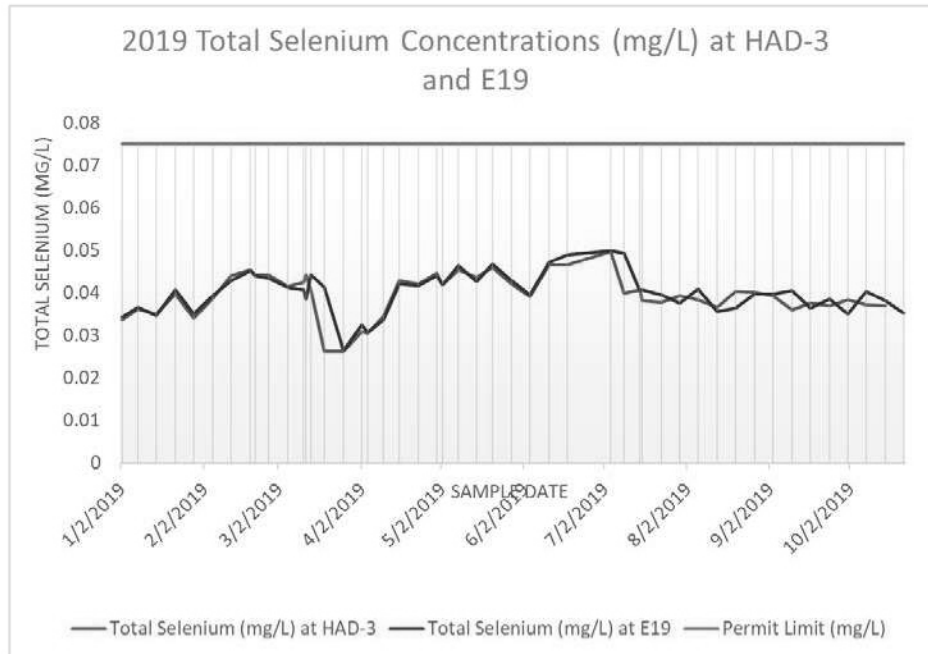
- The graphs also show that TSS, copper and selenium in the treated water are well below the permit limits. Sample E19 (WTP influent) and Sample HAD-3 (WTP effluent end-of-pipe) are compared.





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Questions:

DW: TSS is only referring to the suspended solids, not the metals and nutrients?

GH: Metals are tested weekly but the WTP does not treat for anything in solution as it was not constructed for that purpose.

DW: The public disagreed with the decision on the WTP as the treatment design was too simplified.

EMA Effluent Permit 11678 Amendment Update – Alan Gibson (BC-ENV)

- The 11678 permit amendment was drafted after reviewing the comments received by involved parties; however, a decision was made to wait until after the open house in Likely to move forward with the amendment.
- A justification document and draft permit amendment are currently being prepared. The permit amendment should be moving forward in the New Year.

Compliance Review Update – Gabriel Holmes

- MPMC reviews compliance on a weekly basis to ensure that the necessary scheduling and sample



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collection is conducted.

- The regulator conducts regular inspections.
- Permit 11678 Compliance Inspections were conducted in April and November 2019.
 - Outstanding items from the April inspection included 1) failure to provide reports and as-built drawings for some of the treatment programs 2) a missing staff gauge at one sampling location and 3) missing real time monitoring in Polley Lake.
 - All three outstanding items have since been addressed.
- EMPR- M-200 Compliance Inspection was conducted in Sept 2019
 - Recommended seeding of soil stockpiles to reduce the presence of noxious weeds.

Questions:

ML: Are inspections regularly scheduled?

GH: No, usually we are given a weeks' notice to ensure that someone at the mine site is available to tour the inspector around the site.

AG: The Compliance Inspector consults with me before going out to the mine site to determine what should be inspected. The inspectors call the mine site prior to the inspection to ensure that someone is present to tour them around. The inspection conducted at Mount Polley in November did not yield any non-compliances.

GH: The compliance inspection reports are public knowledge and can be found on the Natural Resource Compliance and Enforcement website. I will send that link out to the group.

Action Item: MPMC to send out the link to the Natural Resource Compliance and Enforcement website.

AG: Inspection reports can also be found on the BC Mine Info website.

Standing Agenda Items

- Roundtable Discussion/PLC Questions and Comments

AG: When do you think you'll come out of Care and Maintenance? Also, have you received any results from the exploration around Morehead Lake?

DR: When we come out of Care and Maintenance is dependent on the copper prices. I am not on the board but I think that the copper prices would have to hit 3.20 USD before the board would consider reopening the mine. Exploration around Morehead Lake will continue for another week so we expect the preliminary results



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in 3 weeks.

LK: We previously discussed summarizing the PLC meetings and sending them out to the public. This has yet to occur, would it be possible to do this going forward?

GH: The PLC has a select membership however, we can produce a summary document to send out to the PLC members which can then be shared with community members.

Action Item: MPMC to prepare and circulate a summary of the PLC meeting to the committee members.

EB: Next time there is an open house, can it be more informative?

GH: The open house in Likely was not a MPMC meeting, it was put on by the Ministry of Environment and Climate Change Canada (BC-ENV).

AG: We thought about having a presentation at the open house but the people who could not make it at a certain time would have missed the sharing of information so we thought it would be better to have it open to the public to come and ask questions to the MOE representatives present. We wanted to make it easier for people to ask questions privately.

MS: I asked questions and found that the MOE representatives present could not provide the answers, they did not have the knowledge and for this reason, I think that a presentation would have been more effective.

LK: I think that next time you could do both a presentation and give people the opportunity to talk to the MOE representatives privately.

AG: The open house in Likely was a meeting for the MOE to explain how we are moving forward on the file. I was asked about sampling results but cannot share that information. MPMC has their own open house so questions for MPMC should be addressed there instead. We will re-evaluate the format of the meeting going forward.

Proposed Next Meeting Date

- Tentatively scheduled for February 5, 2019 at 9:00am at the Pioneer Complex in Williams Lake.

Questions:

CM: Will the 2019 11678 Q4 report be available by February 5?

GH: No, it is not due until February 14, 2019.

MO: It may be better to have a meeting in January and then in April.

GH: We are having communication issues at the mine site. The 2019 Q3 11678 report has not been uploaded to Sharepoint despite multiple attempts by AL and myself. I will send the report to CM and DW.

MPMC Public Liaison Committee
Meeting Notes: December 4, 2019



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ML: Is it worth having a meeting in a month?

GH: Let's do a meeting on February 5 and hold it in Williams Lake. It will tentatively be at 9:00 am at the Pioneer Complex.

February 1, 2020

Tracking Number: 375053
Authorization Number: 11678

REGISTERED MAIL

MOUNT POLLEY MINING CORPORATION
SUITE 200
580 HORNBY ST
VANCOUVER, BC
V6C 3B6

Dear Permittee:

Enclosed is Amended Permit 11678 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties and comply with other applicable legislation that may be in force.

In the event that a reportable spill occurs, or there is an imminent risk of one occurring, the responsible person must ensure that it is reported in accordance with the Spill Reporting Regulation. Additional information on spill reporting requirements is available at gov.bc.ca/reportaspill

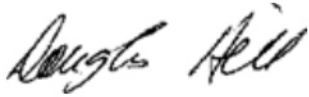
This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

For more information about how the Ministry will assesses compliance with your permit please refer to gov.bc.ca/environmentalcompliance.

For more information about how to make changes to your permit and to access waste discharge amendment forms and guidance, please refer to gov.bc.ca/wastedischarge-authorizations.

Yours truly,

A handwritten signature in black ink, appearing to read "Douglas Hill". The signature is written in a cursive, flowing style.

Douglas J. Hill, P.Eng.
for Director, *Environmental Management Act*
Mining Operations



**MINISTRY OF ENVIRONMENT
AND CLIMATE CHANGE
STRATEGY**

PERMIT

11678

Under the Provisions of the Environmental Management Act

MOUNT POLLEY MINING CORPORATION

**SUITE 200
580 HORNBY ST
VANCOUVER, BC
V6C 3B6**

is authorized to discharge effluent to land and surface water from a copper-gold mine and mill complex located near Likely, British Columbia, subject to the requirements listed below.

Contravention of any of these requirements is a violation of the *Environmental Management Act* and may lead to prosecution.

This Authorization supersedes and replaces all previous versions of Permit 11678 issued under Section 14 of the Environmental Management Act.

1. AUTHORIZED DISCHARGES

1.1 Discharges to Tailings Storage Facility

This section applies to the discharge of effluent from a Copper-Gold Mine and Ore Concentrator to the tailings storage facility. The site reference number for this discharge is E225309.

- 1.1.1 The monthly average rate of discharge of tailings slurry is 55,500 cubic metres per day.
- 1.1.2 The authorized discharge period is continuous.
- 1.1.3 The characteristics of the discharge must be typical of concentrator tailings from the milling of ore or metal contaminated soil, mill site runoff, rock disposal site runoff, open pit water, and septic tank effluent from a copper-gold mine and mill complex.

Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)



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for Director, *Environmental Management Act*
Mining Operations

- 1.1.4 The authorized Works are the following; a septic tank, tailings discharge line, open pits, tailings storage facility, water treatment and discharge system, seepage collection and recycle system, surface water collection works, tailings supernatant recycle systems; sediment pond(s) and related appurtenances approximately located as shown on the attached Site Plan A.
- 1.1.5 The location of the facilities from which the discharge originates is within Mineral Leases No. 345731, No. 410495, No. 524068, No. 573346, No. 933970, and No. 933989 as well as Mineral Claims No. CB16 204475, No. PM5 206540, No. POL2 411010, No. 514039, and No. 514044, Cariboo Mining Division, Cariboo Land District.
- 1.1.6 The location of the point of discharge (tailings storage facility) is on Mineral Claim No. 514039, Cariboo Mining Division, Cariboo Land District.

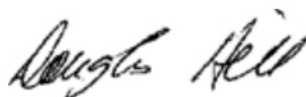
1.2 Mine Site Runoff and Seepage

This section applies to the discharge of treated effluent from the site runoff and seepage water collection and management systems to Quesnel Lake as sampled at the Treatment Plant Outlet (HAD-03). The site reference for this discharge is E304230.

- 1.2.1 The authorized annual average rate of discharge is 29,000 m³/day.
- 1.2.2 The maximum rate of discharge is 52,000 m³/day.
- 1.2.3 The discharge period is authorized until December 31, 2022.
- 1.2.4 The characteristics of the discharge at the treatment plant outlet must be equivalent to or less than the values specified below in column 2 of Table 1 below.
- 1.2.5 The Annual Discharge Plan required under section 2.6 must show how the concentrations of the parameters meet the objectives for the “Edge of Quesnel Lake Initial Dilution Zone (IDZ)” in Quesnel Lake as specified below in Table 1 below.

Date issued:
Date amended:
(most recent)

May 30, 1997
February 1, 2020



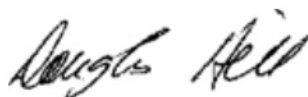
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Table 1

Parameter	Treatment Plant Outlet (1)	Edge of Quesnel Lake IDZ (1)(2)(3)
Rainbow Trout 96hrLC50	50 % Mortality in 100% effluent	-
Daphnia Magna 48hrLC50	50 % Mortality in 100% effluent	-
pH	< 9.5 and >6.0 pH units	-
Total Suspended Solids	30 mg/L, and 15 mg/L Monthly Average	-
Total Sulfate	1,100 mg/L	218 mg/L
Total Ammonia (as N)	1.3 mg/L	0.18 mg/l as N
Total Nitrate (as N)	34.0 mg/L	3.0 mg/l as N
Total Nitrite (as N)	0.78 mg/L	0.02 mg/L as N
Total Phosphorus	90.0 µg/L	10.0 µg/L
Fluoride	17.0 mg/L	1.0 mg/L
Total Arsenic	28 µg/L	5.0 µg/L
Total Chromium	4 µg/L	1 µg/L
Total Copper	33 µg/L	2.2 µg/L (30-day rolling average)
Total Iron	1.0 mg/L	1.0 mg/L
Dissolved Iron	0.35 mg/L	0.35 mg/L
Total Manganese	3.4 mg/L	0.84 mg/L
Total Molybdenum	0.36 mg/L	0.05 mg/L
Total Silver	0.24 µg/L	0.05 µg/L
Total Selenium	75 µg/L	2 µg/L
Total Zinc	59 µg/L	7.5 µg/L
Dissolved Aluminum	0.75 mg/L	0.05 mg/L

Date issued:
Date amended:
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Dissolved Cadmium	0.34 µg/L	0.13 µg/L
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- (1) All values are maximum values from grab samples unless otherwise specified.
- (2) Only applies while discharging directly to Quesnel Lake.
- (3) The “Edge of Quesnel Lake IDZ” is a point located 100m from the Quesnel Lake outfall, represented by site QUL-58 mid and/or near bottom samples, or alternative location approved by the Director.

1.2.6 The Permittee must implement the response steps set out in the approved trigger response plan under section 2.6 (5) without delay if either:

- (a) The effluent monitoring at the outlet of the treatment plant indicates that trigger levels set out in the approved trigger response plan are reached for any parameter set out in Table 1 above; or,
- (b) An objective set for the Edge of Quesnel Lake IDZ in Table 1 above is exceeded, or is predicted to be exceeded, as determined in accordance with procedures in the approved trigger response plan.

Where the Permittee must cease discharging, the discharge may resume only in accordance with the approved trigger response plan. The requirement to implement the trigger response plan does not authorize an exceedance of the maximum values specified in section 1.2.4 for the characteristics of the discharge at the outlet of the treatment plant.

1.2.7 The discharge is authorized from the Authorized Works, which are the settling pond(s), tailings storage facility, mine contact water collection system, the Veolia Actiflo treatment system, flow control valve(s), continuous flow meter, pipeline and outfall system and associated appurtenances as generally shown in the attached Site Plans.

1.2.8 The location of the facilities from which the discharge originates is the same as in section 1.1.5 above.

1.2.9 The location of the discharge is the Quesnel Lake outfall at a point within Mineral Claim No. 501479 when discharging to Quesnel Lake.

1.3. Springer Pit Discharge to Ground

This section applies to the discharge of seepage water from Springer Pit to Ground. The site reference for this discharge is E307887.

Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)



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- 1.3.1. The Permittee must maintain Springer Pit water levels at less than 1025 meters above sea level (masl) to limit seepage towards Bootjack Lake.
- 1.3.2. The characteristics of the discharge are typical site runoff and seepage water.
- 1.3.3. The authorized works are Springer Pit, and its associated water management works and related appurtenances.
- 1.3.4. The location of the facilities from which the discharge originates and the point of discharge are as shown in the attached Site Plan A.

2. GENERAL REQUIREMENTS

2.1. Maintenance of Works and Emergency Procedures

- 2.1.1. The authorized works must be inspected regularly and maintained in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents effective operation of the authorized works or leads to an unauthorized discharge, the Permittee must take appropriate remedial action and notify the Director immediately. The Director may require the Permittee to reduce or suspend operations to protect the environment until the authorized works have been restored, and/or corrective steps taken to prevent unauthorized discharges.
- 2.1.2. All ponds, ditching, and other runoff or seepage collection and diversion works must be inspected at least twice per year, once in the spring after freshet and once in the fall before freeze-up. Records of these inspections must be maintained and made available for inspection by an Officer immediately upon request.
- 2.1.3. The authorized works must be complete and in operation while discharging.

2.2. Bypasses

Any bypass of the authorized works is prohibited unless prior approval of the Director is obtained and confirmed in writing.

2.3. Process Modifications

The Director must be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the authorized discharges. Despite notification under this section, permitted levels must not be exceeded.

Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)



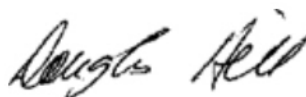
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Mining Operations

2.4. Surface Runoff and Mine Drainage Control

- 2.4.1. Unless required for operational purposes, surface runoff from undisturbed areas and groundwater pumped from up gradient of pits or other undisturbed areas, must be diverted so that it does not flow to the tailings impoundment, or to the mine and mill areas.
- 2.4.2. Seepage and runoff from the open pits, rock disposal sites, and from down gradient of the tailings storage facility must be collected and conveyed to treatment works, the tailings storage facility, mill or open pits.
- 2.4.3. Inactive open pits may be used for storage of mine water, tailings storage facility supernatant or mill site runoff, provided records of volumes transferred to any pit are maintained and reported quarterly.
- 2.4.4. Recycling of on-site water and evaporation enhancing techniques must be practiced.
- 2.4.5. Surface water control works must be provided for all areas disturbed by roads, open pits, rock disposal/storage sites, the mill site and ore storage sites. The surface water control works must convey all flows up to a 1 in 10 year 24-hour storm event and must withstand all flows up to a 1 in 200 year 24-hour storm event, without significant damage.
- 2.4.6. The tailings storage facility must provide adequate storage, beach width and freeboard as required by Mines Act Permit M-200. All other effluent storage ponds, seepage ponds, and surface runoff ponds must provide at least 0.5 meters of freeboard.
- 2.4.7 Freeboard is defined as the difference in elevation between the contained liquid level and the top of the berm structure at its lowest point. The lowest point does not include a spillway where a discharge is authorized or where the supernatant over flows to a downstream collection pond that is part of the authorized works.
- 2.4.8. The Permittee must maintain and implement an Erosion and Sediment Control Plan developed by a qualified professional that will prevent sedimentation of watercourses during construction and operation of any mine structures or facilities. The Director may specify and require implementation of additional measures to prevent sedimentation of watercourses caused by construction or operational activity at the site.

Date issued:
Date amended:
(most recent)

May 30, 1997
February 1, 2020



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2.5. Environmental Emergency Response Plan

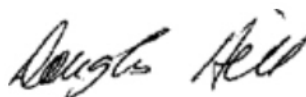
- 2.5.1. The Permittee must maintain and implement an up to date Environmental Emergency Response Plan by January 31st of each year. The Environmental Emergency Response Plan must include all of the following:
- (a) adequate procedures for responding to all probable environmental emergencies, including spills,
 - (b) permit exceedances associated with the Mount Polley Mine operations and mine site area,
 - (c) procedures for the suspension of the effluent discharge to Quesnel Lake.
 - (d) A notification protocol for immediate advising the Soda Creek Indian Band, the Williams Lake Indian Band, the Cariboo Regional District, and the community of Likely of significant emergency events, and permit exceedances at the mine site.
- 2.5.2. The Permittee must ensure mine personnel are trained on the contents of the Emergency Response Plan and is reviewed annually.

2.6. Annual Discharge Plan

- 2.6.1. The Permittee must maintain and implement an Annual Discharge Plan approved by the Director for the discharge authorised in section 1.2 above. The plan must include the following:
- (a) An outline of the expected volume, timing, and duration of effluent released to Quesnel Lake;
 - (b) Consideration and account of hydrology and snowpack information, mine water balance information, Polley Lake discharge control, and background water quality information;
 - (c) Demonstrate how the objectives, set out in column 3 of Table 1 above, will be met at the Edge of Quesnel Lake IDZ in Quesnel Lake;
 - (d) A maximum turbidity target(s), as measured at the outlet of the treatment plant, which requires immediate reporting to the Director should the turbidity target(s) be exceeded for longer than one hour in duration;
 - (e) A trigger response plan for treatment system shutdown(s), and/or for suspension or reduction of discharge, and for the resumption of the discharge, if the effluent discharge limits at the outlet of the

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treatment plant cannot be met, or if an objective for the Edge of Quesnel Lake IDZ in Quesnel Lake cannot be met;

- (f) Identification of the sources of mine water and the percent of each source in the total effluent discharge for each day;
- (g) Demonstrate how the discharge will be managed to minimize suspended solids deposition into Quesnel Lake; and,
- (h) Identification of equipment, including calibration and maintenance schedules related to continuous measurements of flow, turbidity, specific conductance and temperature.

2.6.2 The Annual Discharge Plan must be reviewed at least once each year, and any necessary updates to the plan must be submitted to the Director for approval at least 30 days prior to adoption.

2.7. Nitrogen Management Plan

The Permittee must maintain and implement a Nitrogen Management Plan developed by a Qualified Professional. The plan must describe measures that prevent the loss of nitrogen species into the environment arising from the use of explosives and handling of waste rock. Any update to the plan must be provided to the Director within 30 days of implementation.

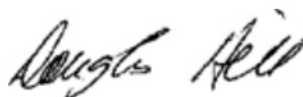
2.8. Water Treatment and Discharge Program

The Permittee must undertake a program to develop passive and semi-passive water treatment options necessary for distributed discharges across the mine site without the use of the Quesnel Lake outfall and to reduce the contaminant levels during and after mine operation. The water treatment and discharge program must include all mine site water treatment works and source control optimization activities which includes the following:

2.8.1. Best Achievable Technology (BAT) Assessment

- (a) The Permittee must undertake a BAT assessment when developing treatment technologies for consideration in the water treatment and discharge program.
- (b) The Permittee must undertake a BAT assessment when developing bench and pilot scale testing of potential alternative treatment technologies to inform the 2022 Water Management Plan required by Section 2.10.

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- (c) The Permittee must submit to the Director for approval by January 31st of each year a study plan that details bench and pilot scale testing and other BAT assessment planned for the year. The BAT assessments must be implemented without delay.

2.8.2. Water Treatment Plant Optimization

The Permittee must operate the Veolia Actiflo Water Treatment Plant (WTP) to remove contaminants present in the mine site contact water to meet the discharge requirements of Section 1.2.4.

- (a) “Numeric Performance Metric” (NPM) means a measurable value that quantifies the outcome or result of water treatment and the ability of the treatment to remove specified chemical constituent. It forms the basis for a numeric comparison of untreated water, to water that has been treated by the treatment system.
- (b) The Permittee must optimize and operate the treatment plant in a manner to target achievement of any prescribed NPM. The stated NPM target value represents operation that achieves average effluent quality that is at or below any specified NPM. Assessment of the attainment of NPM values must be included in the optimization update progress report. If the effluent quality does not achieve an NPM value specified by the Director, the Permittee must identify the reason and propose and implement without delay response actions to achieve the target value including treatment plant optimization and/or source control and/or water management improvements.

The following NPM is established:

Total copper 12 ug/L

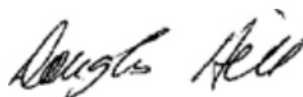
- (c) Based on the progress reports and any other relevant information available, the Director may amend or specify additional NPM that are suitable for evaluating the effectiveness of removal of parameters of potential concern by the WTP.

2.8.3. Source Control Optimization

The Permittee must undertake ongoing maintenance and surveillance of on-site water management systems and activities undertaken to increase source control of any potential contaminants of concern.

- (a) The Permittee must undertake source control optimization yearly.

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- (b) The Permittee must undertake an analysis of the treatment plant effluent to determine selenium species present and at a minimum determine the typical proportion of total selenium that is selenate, selenite, and organoselenium. Based on these results the Director may require additional analysis for selenium speciation of mine source waters.

2.8.4. Review of Discharge Alternatives

The Permittee must review discharge alternatives for direct discharge of treated mine water on and around the mine site including consideration of physical (geomorphological and hydrological), chemical, and biological characteristics of potential receiving environments. The Permittee must ensure the proposed discharge locations have the capacity to receive the additional discharges of treated water and meet applicable environmental benchmarks.

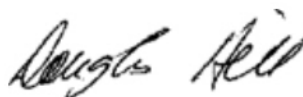
2.9. Water Management Progress Reporting

The Permittee must report on all aspects of Section 2.8 every 6 months, beginning June 30, 2020 and continuing until such time as the Director deems the reporting no longer required. The reporting is to include, but is not limited to, the results of all BAT assessments, bench and pilot testing of treatment systems, optimization studies, discussion of proposed discharge locations that have the capacity to receive the treated water and changes from the previous progress reports and any other studies related to the Water Treatment and Discharge Program outlined in section 2.8. The reporting out must include documentation that the testing and piloting programs are relevant for all the different types of mine influenced water on site and for the 2022 Water Management Plan needs.

2.10. The 2022 Water Management Plan

The Permittee must submit a revised water management plan (the “2022 Water Management Plan”) and an implementation schedule to the Director for approval prior to December 1st, 2020, outlining the water management and treatment options informed by the requirements in Section 2.8 and the most recent Reclamation and Closure Plan for the site. The 2022 Water Management Plan must address water discharge plans from December 31, 2022 onward.

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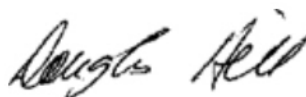


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The 2022 Water Management Plan must meet all of the following requirements:

- (a) Provide for the full treatment and/or management of 1 in 10 wet year flows, including the associated freshet flows for all mine influenced water sources on site that do not meet Water Quality Guidelines, once the works are fully complete, without requiring the use of the Quesnel Lake outfall.
- (b) Include all the essential information necessary for review and support of the final design, assessing its expected performance and the impacts of the discharge(s) on the receiving environment.
- (c) A review of discharge alternatives including assessment of physical (geomorphological and hydrological), chemical and biological assessment of potential receiving environments for direct discharge of treated water on and around the mine site. The Permittee must ensure the proposed discharge locations have the capacity to receive the additional discharges of treated water.
- (d) Detailed bench scale, and pilot scale results for all the proposed works. Performance assurances from vendors for active treatment systems may also be considered in lieu of pilot scale tests.
- (e) Discussion and documentation of the ability and/or design criteria necessary, for the works to treat all contaminants known to be above all relevant BC Water Quality Criteria at the edge of the IDZ to levels below appropriate water quality guidelines where possible.
- (f) Discussion of how all the bench and pilot system findings, and/or other performance assurances have been incorporated into the final design of the individual components and/or the system as a whole to assure discharge standards and/or B.C. Water Quality Criteria at the edge of any IDZ is met.
- (g) A siting map and implementation plan for commissioning of all works necessary for full scale operations. Siting must also allow for potential future mining operations or ongoing mining operations to take place.
- (h) An updated and refined water balance and water quality model acceptable to the Director, with appropriate sensitivity analyses for both onsite and receiving waters, which predicts the impacts to the receiving environment. The water quality model must use updated site monitoring data to demonstrate how well the model is calibrated to observed site conditions.

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- (i) The plan must be prepared by a Qualified Professional.
- (j) The Permittee must implement the approved 2022 Water Management Plan according to the approved implementation schedule.
- (k) Any updates to the 2022 Water Management Plan or the implementation schedule must be approved by the Director prior to their implementation.

2.11. Communication Plan

The Permittee must maintain and implement the Communication Plan dated March 20, 2016. The Communication Plan must demonstrate the sharing of environmental data with the Soda Creek Indian Band, the Williams Lake Indian Band, the Cariboo Regional District, and the Community of Likely. Any changes to the communication plan must be discussed with the Public Liaison Committee and submitted to the Director prior to adoption.

2.12. Public Liaison Committee

- 2.12.1. The Permittee must maintain a Public Liaison Committee (PLC), in accordance with the approved Terms of Reference dated November 21, 2018. The Permittee must submit any Terms of Reference updates to the Director for approval 30 days prior to adopting them.
- 2.12.2. The Committee must meet at least quarterly to share and receive information about mine activities and the results of monitoring programs with interested members of the public, the Soda Creek Indian Band, the Williams Lake Indian Band, and regulating agencies.

2.13. Posting of Security

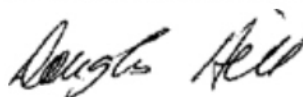
The Permittee must maintain a Reclamation Security as required by *Mines Act* Permit M-200.

2.14. Metal Contaminated Soil Milling

Tailings from the processing of metal contaminated soils in the mill from off mine site sources may be discharged to the tailings storage facility subject to all the following:

- (a) The soils must be contaminated only with metals.
- (b) The Permittee must notify the Director 14 days prior to receiving these materials at the mine site and provide results of chemical analysis of the material at the time of notification.
- (c) Records of the volumes processed must be maintained and reported as part

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of the annual reporting requirements.

2.15. Qualified Professionals

All documents submitted to the Director must be signed by the author and where specifically required by this permit, authored and signed by a Qualified Professional.

A "Qualified Professional" means an applied scientist or technologist specializing in an applied science or technology applicable to the duty or function, including, if applicable and without limiting this, agrology, biology, chemistry, engineering, geology or hydrogeology and who:

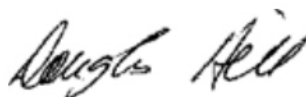
- (a) is registered with the appropriate professional organization, is acting under that organization's code of ethics and is subject to disciplinary action by that organization; and,
- (b) through suitable education, experience, accreditation and/or knowledge, may be reasonably relied on to provide advice within their area of expertise.

3. MONITORING REQUIREMENTS

3.1. Springer-Cariboo Pit Hydrogeology Work Plan and Assessment

- 3.1.1. The Permittee must submit a summary, when requested by and to the satisfaction of the Director, all hydrogeological work that has been completed downgradient of the Springer Pit and Cariboo Pit relevant to the Springer Pit filling and drawdown. The summary must describe all monitoring, modelling, and drilling investigations, and must provide recommendations by a Qualified Professional for additional hydrogeological investigations required to manage water in the pits during any future refilling and for mine closure. Recommendations must consider ongoing collection of water quality and geology data as the mine advances, review of the groundwater monitoring network, and hydrogeological model refinements, as appropriate.
- 3.1.2. Based on the review of the summary, the Director may require additional hydrogeological investigation and assessment of the hydrogeology along the seepage path from the Springer-Cariboo Pit to Bootjack Lake. Any additional monitoring recommended in the summary of hydrogeological work or required by the Director must be incorporated into updates of the Comprehensive Environmental Monitoring Plan.

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- 3.1.3. The recommendations of the summary of hydrogeological work required above, and all ongoing hydrogeological data collected must be re-assessed as part of the annual reporting requirements under section 4.2 of this permit. This includes an annual update to the characterization of the groundwater system in the area between the pit and the lake, refinements and updates to the seepage model near the pit and reporting on the groundwater monitoring network near the pit.
- 3.1.4. In addition, updated results and interpretations of the Springer-Cariboo Pit Hydrogeology Assessment, including an updated calibration and verification of the seepage model near the pit, must be prepared by a Qualified Professional and must be submitted to the Director prior to any planned refilling of Springer Pit above 1025 masl.

3.2. Comprehensive Environmental Monitoring Plan

- 3.2.1. The Permittee must continue to develop, submit and implement an ongoing Comprehensive Environmental Monitoring Plan (CEMP) to evaluate the effects of mining-related activities on the physical, chemical, and biological characteristics of Hazeltine Creek, Edney Creek, Bootjack Lake, Morehead Creek, Polley Lake, Quesnel Lake, Quesnel River, and associated riparian and upland areas.
- 3.2.2. An updated CEMP must be submitted to the Director for approval by March 31, 2020 and every three years thereafter.
- 3.2.3. The Permittee must undertake monitoring in accordance with the approved CEMP immediately following its approval.
- 3.2.4 The CEMP must meet all the following requirements:
- (a) Consolidate and integrate all of the monitoring programs that are being conducted in the vicinity of the mine site and include, at minimum, surface water (quality and quantity), groundwater (characterization and interactions with surface water), sediments, soils, periphyton, phytoplankton, benthic invertebrates, zooplankton, fish, floodplain and upland vegetation, and wildlife.
 - (b) At a minimum address a three year time span.
 - (c) At a minimum include all sampling sites, frequency of sampling, variables to be analysed, method detection limits, sampling methods, sample analysis methods, and data analysis methods.
 - (d) The updated CEMP must be approved by the Director.

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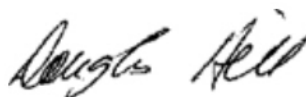
- 3.2.5. The Permittee must provide all data and information collected under the CEMP to the Director, in electronic format, on a quarterly basis.
- 3.2.6. The Permittee must submit a three-year detailed monitoring program interpretive report to the Director by March 31, 2022, and every three years thereafter.
- 3.2.7. During the period of treated effluent discharge authorized by section 1.2 above, the Director may require expedited sampling, testing and reporting of treated effluent discharged during the spring freshet (March through July annually).
- 3.2.8. The Director may require revisions to the CEMP based on review of monitoring data and/or any other relevant information.

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

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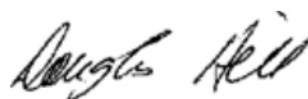
3.4. Water Flow Measurement

- 3.4.1. The Permittee must provide and maintain suitable flow measuring devices and record staff gauge measurements, during open water, at surface water stations at W1B (Morehead Creek), W4A (North Dump Creek), W5 (Bootjack Creek) W12 (6K Creek), H1 (continuous, Upper Hazeltine Creek), H3 (Edney Creek), H4 (Polley Lake outlet) and H2 (continuous, Lower Hazeltine Creek), located approximately as shown on the attached Site Plan B, or at alternative monitoring stations satisfactory to the Director.
- 3.4.2. Springer Pit water level elevation shall be monitored and recorded on a monthly basis.
- 3.4.3. Staff gauge readings must be taken at the same time as stream flow measurements and/or water quality sampling are collected at the same or associated sites.
- 3.4.4. A stage discharge curve must be developed for all staff gauges.
- 3.4.5. All staff gauges and flow measuring devices must be checked and calibrated once per year, after June 15th but prior to August 31st of each calendar year.

3.5. Outfall and Pipeline Commissioning and Inspection

- 3.5.1. The Permittee must develop and implement a monthly visual inspection program for the pipeline from the Actiflo treatment plant to the outfall in Quesnel Lake. The monthly visual inspection program must include all of the following:
 - (a) The pipeline corridor must be visually inspected every month.
 - (b) Records of the monthly visual inspections must be made available for inspection by an Officer immediately upon request.
- 3.5.2. The Permittee must conduct a comprehensive annual inspection of the pipe line corridor by October 1st of each year.
- 3.5.3. The Permittee must conduct an underwater inspection of the diffusers every 5 years to ensure they remain in good working order.
- 3.5.4. An annual inspection report with recommended remedial actions must be prepared by a Qualified Professional and submitted to the Director within 60 days of completion of the comprehensive inspection.

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3.5.5. The pipeline and outfall must have all the following signage:

- (a) A sign must be maintained along the alignment of the outfall facing Quesnel Lake above the high water mark.
- (b) Signs must identify the nature of works.
- (c) Signs must be posted along the effluent pipeline right-of-way at points of public access to identify the right-of-way.
- (d) All signs must include emergency contact information.

3.6. Climate Monitoring

The Permittee must maintain meteorological stations and measure continuous daily precipitation; daily maximum, minimum and mean temperature; and daily evaporation calculation or suitable alternative as approved by the Director. Climate Monitoring sites are as shown in Site Plan C.

3.7. Sampling and Analytical Procedures

3.7.1. The Permittee must carry out sampling in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013 Edition (Permittee)" or most recent edition, or by alternative procedures as authorized by the Director.

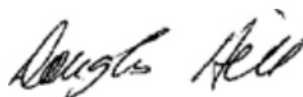
3.7.2. The Permittee must carry out analyses in accordance with procedures described in the "British Columbia Laboratory Manual (2015 Permittee Edition)", or the most recent edition or by alternative procedures as authorized by the Director.

Copies of the above manuals are available on the Ministry web page at <https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance/bc-field-sampling-manual>.

3.7.3. Bioassays must be conducted using the following methods:

- (a) the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout", Report EPS 1/RM/13 December 2000;
- (b) the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna", Reference Method EPS 1/RM/14 December 2000;

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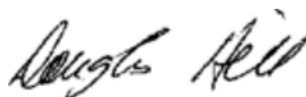
- (c) the "Biological Test Method: Toxicity Tests Using Early Life Stages of Salmonid Fish (Rainbow Trout)", Report EPS 1/RM28, July 1998 - Embryo/Alevin;
- (d) the "Biological Test Method: Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia", Report EPS 1/RM/21, February 2007; or,
- (e) by suitable alternative procedures as authorized by the Director.

3.8. Quality Assurance

- 3.8.1. The Permittee must maintain and implement a "Quality Assurance Manual" consistent with "British Columbia Field Sampling Manual for Continuous Monitoring plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples 2013 Edition (Permittee)", or most recent edition. The Permittee must ensure that all data submitted as a requirement of this permit is produced in accordance with the Quality Assurance Manual, that data is handled and reviewed in accordance with protocols established in the Manual and is accompanied by quality assurance data required by the Manual. The Permittee must provide the Director with any updates to this Manual within 30 days of adoption.
- 3.8.2. Analysis of samples for parameters designated under the Environmental Data Quality Assurance Regulation must be at a laboratory registered for the designated parameter under the Regulation. In addition, the Permittee must participate in quality assurance audits as required by the Regulation.

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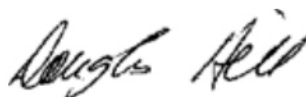
4. **REPORTING**

4.1. **Routine Reporting**

- 4.1.1. In each month that discharge occurs as authorized by section 1.2 above, the Permittee must submit a monthly report, suitably tabulated and formatted, to the Director summarizing:
- (a) the volume of treated effluent discharged,
 - (b) a summary of continuous Turbidity readings of the treated effluent discharged, and
 - (c) the most recently available water quality results for the effluent discharged, including toxicity.
- 4.1.2. Each monthly report must be submitted within seven days of the end of previous month via email to EnvAuthorizationsReporting@gov.bc.ca. Each monthly report must also contain and present all data submitted in the previous 2 monthly reports in a manner that would identify potential trends.
- 4.1.3. Each monthly report must also be provided to the Williams Lake Indian Band and Xatsull First Nation and be made available to the Public Liaison Committee within 7 calendar days of the submission to the Ministry.
- 4.1.4. The Permittee must cause each data submission required by this Authorization to include a statement outlining the number of exceedances of permitted discharges that occurred during the reporting period, the dates of each such exceedance, an explanation as to the cause of the exceedances, and a description of the measures taken by the Permittee to rectify the cause of each such exceedance. If no exceedances occurred over the reporting period, the required statement may instead indicate that no exceedance of permitted discharges occurred during the reporting period.
- 4.1.5. The Permittee must submit all data required to be submitted under this section by email to the Ministry's Routine Environmental Reporting Submission Mailbox (RERSM) at envauthorizationsreporting@gov.bc.ca or as otherwise instructed by the Director. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: <https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>.

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- 4.1.6. The Director may require modification to the monitoring program based on the evaluation of the monthly and annual reports and on any other information that pertains to the operations and or discharges.
- 4.1.7. The Permittee must upload monitoring data associated with this permit to the Ministry's Environmental Monitoring System (EMS) database, within 45 days of the end of the three month period in which the data is collected.

4.2. Annual Report

- 4.2.1. The Permittee must also submit by March 31st of each year, a comprehensive annual report of all monitoring via email to the above email address, in a format suitable for public release. The annual report must include:
 - (a) all monitoring sample results required under the permit,
 - (b) an evaluation of quality assurance, including collection, sampling, and data handling protocols,
 - (c) an evaluation of the treatment plant operation and control,
 - (d) an evaluation of the impacts of the mining operation on the receiving environment from the previous year,
 - (e) a summary of any non-compliance with the permit and other incidents that may have led to impacts to the receiving environment,
 - (f) updates of the water balance, and a calibration assessment of the water balance and water quality models,
 - (g) assessment of the outfall dispersion and dispersion modelling for the Quesnel Lake discharge,
 - (h) an update to any modeling relating to the Springer Pit groundwater seepage and its impacts on Bootjack Lake as described in section 3.1,
 - (i) a progress update with respect to the 2022 Water Management Plan,
 - (j) a review and update of the assessment of acid rock drainage (ARD) potential and water quality impacts from mine waste management,
 - (k) a comparison of monitoring data with water quality guidelines, predictions and targets,
 - (l) an update on the progress of reclamation and any updates to the reclamation plan that impact on site water quality,

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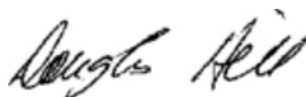
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- (m) an evaluation of the effectiveness of the Surface Runoff and Mine Drainage Control programs,
 - (n) a summary of the Public Liaison Committee meetings, including any issues and concerns presented,
 - (o) an evaluation of the Outfall and Pipeline Inspection program; and,
 - (p) trend analysis (graphs) of water monitoring data at each site for the past 5 years.
- 4.2.2. Monitoring data and the analysis of that data, as it will be presented in the annual report, must be reviewed by a third party Qualified Professional.
- 4.2.3. A groundwater monitoring program review, including but not limited to sampling, well locations, site water balance, interpretation of data trends and possible environmental impacts, and suitable recommendations, must be completed for the entire mine site at least every three years, with the next review required by March 31, 2022.
- 4.2.4. A copy of the annual report must be provided to the Williams Lake Indian Band and Xatsull First Nation within 30 days of the report being submitted to the Director.

4.3. Non-compliance Reporting

- 4.3.1. The Permittee must immediately notify the Director or designate of any noncompliance with the requirements of this Permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director.
- 4.3.2. Both the initial notice and the confirmation must also be emailed to EnvironmentalCompliance@gov.bc.ca.
- 4.3.3. Within 30 days of any non-compliant event, the Permittee must submit a follow-up report to the Director and the above mailbox that includes, but is not necessarily limited to the following:
- (a) all relevant test results related to the non-compliance instance(s),
 - (b) an explanation of the most probable cause(s) of the noncompliance(s); and,
 - (c) remedial actions taken and planned to prevent similar noncompliance(s).

Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)



Douglas J. Hill, P.Eng.
for Director, *Environmental Management Act*
Mining Operations

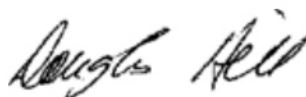
4.4 Reporting of Toxicity Failure

- 4.4.1. The Permittee must immediately notify the Director of any toxicity failure according to the Non-Compliance Reporting requirements in Section 4.3. For the purpose of this section, a sample is considered to have failed the specific toxicity test if:
- (a) 96-hr LC50 Rainbow Trout: Using 100% effluent concentration, more than 50% of the fish die within a 96 hour test period,
 - (b) 48-hr LC50 Daphnia magna: Using 100% effluent concentration, more than 50% of the organisms die within a 48 hour test period,
 - (c) 7-day Ceriodaphnia dubia reproduction: The water is determined to cause greater than 25% inhibition of survival and reproduction; or,
 - (d) 7-day ELS toxicity test with a salmonid fish: The water is determined to cause greater than 25% non-viable embryos.
- 4.4.2. The Permittee must investigate each toxicity failure to determine the cause(s). Reasonable efforts must be made to obtain preliminary and in progress results from the analytical laboratory during the toxicity testing. The Permittee must make immediate arrangements to retest in the event of potential and confirmed failures. The Director may require additional toxicity testing based on the evaluation of results from toxicity testing and the causes of failure.


4.5. Other Documents

All documents to be submitted to the Director must be sent as a separate document and named according to the name listed in this permit.

Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)

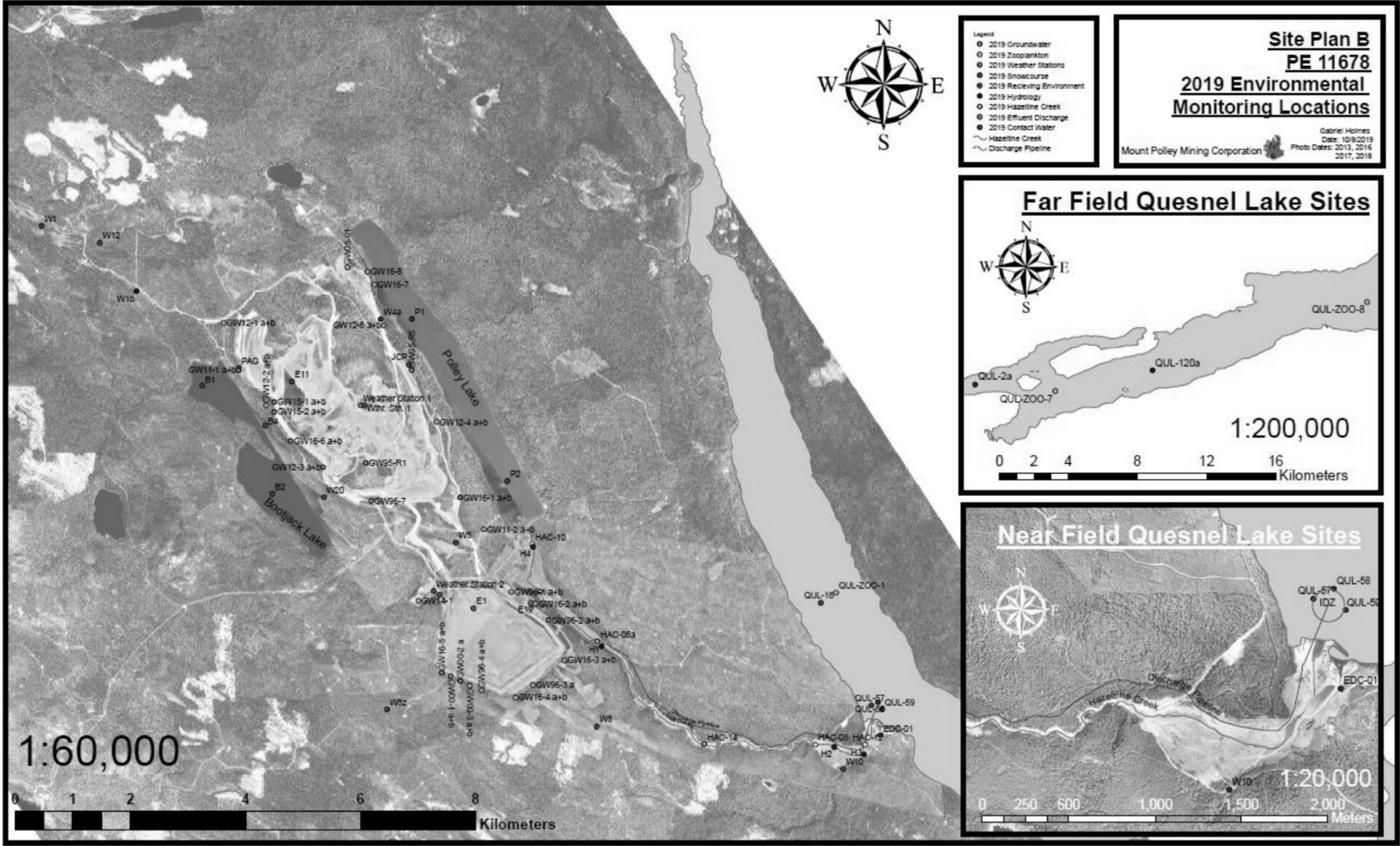


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for Director, *Environmental Management Act*
Mining Operations

Permit Number: 11678

Site Plan B – Monitoring Sites




Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)

Douglas Hill
Douglas J. Hill, P.Eng.
for Director, *Environmental Management Act*
Mining Operations

Site Plan C – Climate Monitoring Locations



Date issued: May 30, 1997
Date amended: February 1, 2020
(most recent)


Douglas J. Hill, P.Eng.
for Director, *Environmental Management Act*
Mining Operations



Mount Polley Mining Corporation
an Imperial Metals company
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AGENDA

Mount Polley Mine Public Liaison Committee (PLC)

Conference Call Meeting – General Meeting

April 1, 2020

9:00 am to 1:00 pm

Meeting called by: MPMC Designated Representation

Meeting Chaired by: MPMC Designated Representation

Roundtable Introductions

Additions to Agenda

Approval of Agenda

MPMC Discussion Items

- Care and maintenance update
- COVID-19 Update
- Environmental Monitoring Update
- Remediation Update
- Discharge/WTP Update
- ENV compliance reviews

Standing Agenda Items

- Roundtable Discussion
- PLC Questions/Comments

Next Meeting



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

Meeting Details

Date: July 8, 2020
Time: 9:00 am
Location: Conference Call

PLC Members and Guests

Member	Present	Call-in	Organization
Bee Hooker			Big Lake Community
Bill Carruthers			Williams Lake Community
Lyn Anglin (LA)		x	Consultant to Imperial Metals
Christine McLean (CM)		x	Mitchell Bay Community
Claudine Kadonaga			Likely Business
Mathieu O'Leary (MO)		x	Mount Polley Mining Corporation
Dale Reimer		x	Mount Polley Mining Corporation
Carol Danyluk (CD)		x	Ministry of Environment
Don Parsons (DP)		x	Imperial Metals
Doug Watt (DW)		x	Likely Citizen
Edna Boston			Xatsull - Soda Creek Indian Band
Alan Gibson (AG)		x	Ministry of Environment
Jackie Sarginson		x	MLA Cariboo North Coralee Oaks Office
Jaylyn Byer (Alternate)		x	Williams Lake Chamber of Commerce

MPMC Public Liaison Committee
Meeting Notes: July 8, 2020

Linda Bartsch			Horsefly Business
Lisa Kraus (LK)		x	Likely Community
Lowell Constable			Ministry of Energy, Mines, and Petroleum Resources
Maureen LeBourdais (ML)		x	Cariboo Regional District
Micky McIntosh			Likely Resident
Richard Holmes (RH)		x	Morehead Community
Steve Hocquard			Horsefly Community
Gabe Holmes (GH)		x	Mount Polley Mining Corporation
Walt Cobb			City of Williams Lake
Alicia Lalonde		x	DWB Consulting
Abhirosh Chandran		x	Ministry of Environment
Aaron Higgenbottom		x	Williams Lake Indian Band
Guests	Onsite	Call-in	Organization
James Ogilvie (JO)		x	Golder Associates
Sean Shaw (SS)		x	Ministry of Energy, Mines, and Petroleum Resources

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

Welcome and Roll Call on Phone and Roundtable Introduction

Additions to Agenda

- Permit appeal status update proposed by Alan Gibson
- Turbidity in Quesnel Lake research paper proposed by Gabriel Holmes

Approval of Agenda

- Approved

Presentations (see 2020-07-08 PLC Meeting Presentation)

- Care and Maintenance Update – Dale Reimer
- COVID19 Update – Gabriel Holmes
- Environmental Monitoring Update – Gabriel Holmes
 - Unauthorized Discharges
- Discharge/Water Treatment Plant Update – Gabriel Holmes
 - Exceedances
- Water Management Update – Gabriel Holmes/Mathieu O'Leary
- Remediation Update – Gabriel Holmes

- Exploration Update – Gabriel Holmes
- ENV/EMPR Discussion – Alan Gibson/Carol Danyluk/Sean Shaw

Standing Agenda Items

- Roundtable Discussion
- PLC Questions/Comments

Next Meeting

- Public meeting?

Care and Maintenance Update – Dale Reimer

- Care and Maintenance operations include daily inspections of water management infrastructure, monitoring of the Water Treatment Plant (WTP) to ensure proper operation, regular equipment maintenance, environmental monitoring including water sampling, reporting, and planning for the upcoming months, and maintenance of site power/communications.
- With COVID19 there are still two cross shifts working; however, they do not physically interact.

COVID19 Update – Gabriel Holmes

- COVID policies for the mine site are still in place.
- As of March 19 all personnel at the mine site must: practice social distancing, frequently wash hands, practice safe sneeze/cough etiquette, wear a face mask while in a vehicle with others, stay home if feeling sick, keep hands away from eyes, nose and mouth, and keep work areas and tools clean and hygienic.
- Implementation of room occupancy limits and additional cleaning requirements have been added since the last PLC meeting. A questionnaire must be filled out upon arrival onsite and people will be turned away if they show symptoms of illness.

Environmental Monitoring Update – Gabriel Holmes

- A regimented environmental monitoring program centered on permit and CEMP requirements is conducted.
- Water sampling of Polley Lake, Bootjack Lake, Quesnel Lake, Hazeltine Creek, Edney Creek, mine site seepage, groundwater and the WTP is conducted as part of the routine weekly, monthly, quarterly, semi-annual, annual sampling requirements.
- Split sample audit results from Nov 2019- 96%

Questions:

AG: Any changes in monitoring since the last meeting?

GH: We have been implementing the 2019 CEMP which includes some minor changes to the monitoring program and we've done some additional sampling with unauthorized discharges.

AG: Any new seepages?

GH: Spring seep surveys have been completed. No changes were noted. Seep surveys are used to quantify water coming out of dumps and future impacts of downstream water quality. They help to form the closure strategies.

AG: All seeps are collected into drainages and flow into sumps on site?

GH: Seeps report primarily to the collection ditches and some go into pits.

- Surveys and Studies

- Spawning surveys- During the high-water event, the fish exclusion fence in Reach 3 in Hazeltine Creek was inundated with water and fish got around the fence and as such, this area was added to the existing survey area.
- Bird nesting surveys
- Vegetation surveys
- Fish tissue sampling in Polley Lake, Bootjack Lake and Quesnel Lake
- Zooplankton program has begun, one sampling event has been conducted in Polley and Bootjack Lakes
- The Constructed Wetland Treatment System (CWTS) is in the commissioning stage. Last year the dissolved oxygen in the wetland cells was not as low as was needed so more vegetation was added to help accelerate the process. Currently, the Mount Polley environmental team conducts weekly monitoring and bi-monthly sampling under the guidance of Ensero.
- JO: Saturated Rock Fill (SRF) treatment feasibility testing is ongoing and trimercapto-s-triazine (TMT) trials for water treatment were conducted in late May/early June. Golder has developed a concept design for an SRF system in the Wight Pit and is now working on bench scale testing using rock and water samples from the Mount Polley mine site in our lab. Results from this study will be incorporated into the 2022 Water Management Plan. Submerged Sand Reactor and TMT usage in the WTP have also been explored.

Questions:

AG: SRF is long process, you are anticipating that you will have the results by this fall but it's been 2.5 years and you're just getting into bench scale testing. Will it be another 2.5 years before everything is finalized?

JO: We just started looking at SRF last year, so yes, we won't get a final answer if any of these technologies are feasible for a few years. When I say the bench scale test will be completed in the fall, I mean identifying if this technology will work with site water and rock.

AG: There are two treatments on the go for closure- CWTS and SRF. What happens if SRF does not work? Are there any other treatments you are planning on looking at?

JO: We've looked at a suite of options developed over the last 5-10 years including biochemical reactors (BCR), pit lake treatment and a pilot study for water in the Wight Pit. We are currently looking at the range of possibilities for long term treatment and which can be carried forward and implemented.

AG: Only SRF, CWTS and WTP are being explored right now?

JO: We also looked at pit lake treatment and BCR and have progressed through the bench scale phase. We are looking at study designs using the Cariboo Pit.

AG: When you're designing these treatments, are you designing them to treat the most water in a certain

area? And where will discharge from those systems be going?

JO: That will come in with the water management plan after we figure out which technologies are feasible.

- Sump and Ditch Inspections
 - All critical ditches, sumps, ponds, and pipelines are inspected twice annually once in the spring and once in the fall. We inspect for integrity issues. During our spring inspections, limited erosion and downed logs were identified but nothing significant.
- Seep Surveys
 - All of the dump toes are walked, observations made and samples collected during annual seep surveying. From the seep surveys, NEZ Seep 1 and 2 were identified as an issue.
- Unauthorized Discharges – April 21 (NW Sump and Mine Drainage Creek) and May 6 (Bootjack Creek Sump)
 - 3 days, NW Sump- 25, 200 m³
 - 4 days Mine Drainage Creek – 56,448 m³
 - 10 days Bootjack Creek Sump- 25,173 m³
 - There was a rapid melting event this spring, it was the coldest March on MPMC's records and there was no significant melting in the winter months. This year also yielded the second largest snowpack since Mount Polley began keeping records in 1999. The largest snowpack was recorded in 2014.
 - The largest issue initially was that the water management infrastructure was keeping up with the water with the exception of the Perimeter Embankment Till Borrow Pond (PETBP); as a result, MPMC made the decision to allow the sumps to overflow in order to save the PETBP. The PETBP does not have an emergency spillway and would have overflowed into Hazeltine Creek which was viewed as an environmentally sensitive scenario. Water flowed through a forested area to Bootjack Lake from the NW and MDC sumps when they overflowed. The Bootjack Creek Sump is located directly adjacent to Bootjack Creek. A pump failure caused water to overflow and the replacement pump was insufficient to keep up with the flows. Water flowed into Bootjack Creek. Outcomes- The water quality was reasonably favorable. There were exceedances of BCWQGs in dissolved aluminum and copper. It was found that the dissolved aluminum exceedances were existing. Both events were unlikely to have any adverse effects as there were favorable water quality results and there was very little erosion and physical disturbance. Communication with ENV is ongoing and repercussions are still unknown at this time. AG has requested some information and MPMC continues to work with ENV to ensure this does not happen again.

Questions:

AG: The WTP was shut down during this whole time and was not discharging for a month and a half during freshet. The volume discharged to Bootjack Lake was well below the allowable limit from the WTP. Why not treat to a certain level instead of allowing sumps to overflow with no treatment?

GH: If we get an exceedance at the WTP, we cannot legally start it up. We weren't going to knowingly start up plant and discharge when we knew the water exceeded our permit limit. We also know that there is an increase in copper during freshet. Neither scenario was favorable but we chose to let the sumps overflow.

AG: What procedures do you have in place? *Environmental Management Act* Section 2.5 Adverse

Environmental Emergency Response Plan requires an emergency response plan be in place. What procedures do you have to follow leading up to these events?

GH: We pump down our sumps and reservoirs and have extra pumps onsite to use if needed in preparation for freshet. We also have a water management inspection guide which has a section on different scenarios and steps to be followed. Not all sumps have the same risk level on the site, so they have been weighted and there is a decision-making process depending on where the incident is occurring. Since this occurred, MPMC is going to review their Emergency Response Plan and incorporate some of the shortcomings identified during these unauthorized discharges.

CM: Is there a plan for future monitoring in the areas where the discharges have occurred?

GH: I've done some physical observations. Bootjack Creek is a non-fish bearing stream and as is illustrated with our sample results, the water quality met the BCWQGs by the time it got to Polley Lake. We couldn't do any sampling at Bootjack Lake because there was ice on the lake but the samples collected on the shore of the lake yielded positive sample results.

CM: As a result of the exceedances, are there any penalties or fines that have to be paid?

GH: We have not received any yet but AG has been working with ENV to determine if a fine will be required.

AG: Compliance is still looking at the results and the incident. We have requested more information from Mount Polley since the report was lacking a lot of information.

CD: What is required (permit) in the case of an overflow or exceedance, is that Mount Polley notify us as well as provide a post-investigation report. How does Mount Polley revise its programs and procedures so that this type of event does not occur again? Review of this information will take a bit of time and a compliance inspection will be done later this year.

CM: Does the PLC receive a copy of the assessment?

CD: When the report is available, Alan will forward to the PLC.

CM: Environmental Emergency Response Plan-is it reasonable to include some community members in review of this plan?

GH: Maybe. Especially in terms of communications and understanding community values during very serious events. We will have a look at it and see if there is room for community input.

DW: When the Water Management Plan was being formulated, there was discussion of level of flood. What happened this spring was a high-water event and with climate change, these events may become more frequent. As part of this review, will Mount Polley look into a higher level of flood response so that systems are more robust so that these discharges will not occur?

GH: I cannot say at the moment. Our systems are designed to adhere to permit conditions. But climate change does need to be considered. That needs to change at the regulators as a starting point.

DW: That's something that moving forward ENV and EMPR should consider.

ML: Is the Cariboo Regional District allowed a copy of the mine's Emergency Response Plan? We do not have a copy of it as of now. Was it an intent or requirement that we have one?

AG: As part of ENV permit Section 2.5.1 d) a protocol for immediately advising the Soda Creek Indian Band,

Williams Lake Indian Band, Cariboo Regional District, and community of Likely of significant emergency events and permit exceedances must be implemented. MPMC should be doing it but they haven't.

GH: We did notify the PLC members. We will look into whether the Cariboo Regional District can have the most up to date copy. When we have these discharges occurring, we inspect, collect samples, consult with ENV, and contact the 24-hr spill hotline who notifies First Nations, Interior Health, etc. These were what I perceive to be low-level unauthorized discharges, which are those that are not a significant health threat but I am familiar with terrain, infrastructure, etc. That being said, I understand why the systems are in place. I think we did cover all of the bases when reporting. Please provide feedback about whether you agree or not.

ML: I agree, the unauthorized discharges were reported quickly. If there ever was a catastrophic event again, how would that get shared and be dealt with? If the Cariboo Regional District has copy of the plan, they will know how to address a bigger issue. We can follow up later on that.

DW: Rumors were going around about a spill at the mine, and it wasn't until after that that MPMC sent out notification to PLC. I think that more work to the emergency response plan is needed so that Mount Polley is more proactive in providing information to the public.

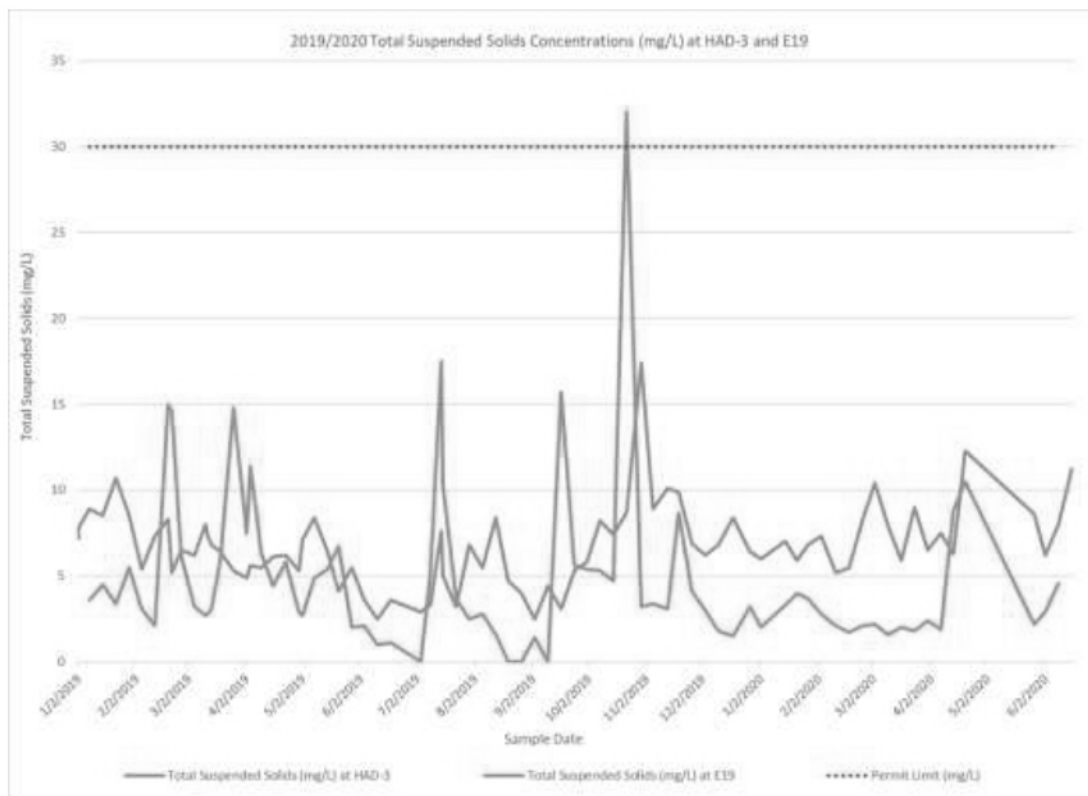
GH: I wanted to wait to notify people until we knew what was going on and had some results so that I could answer questions. I should have responded earlier. We can disseminate information in a timelier fashion going forward.

Action Item: Alan will provide information about compliance with regard to the unauthorized discharges to the PLC members once a decision is reached.

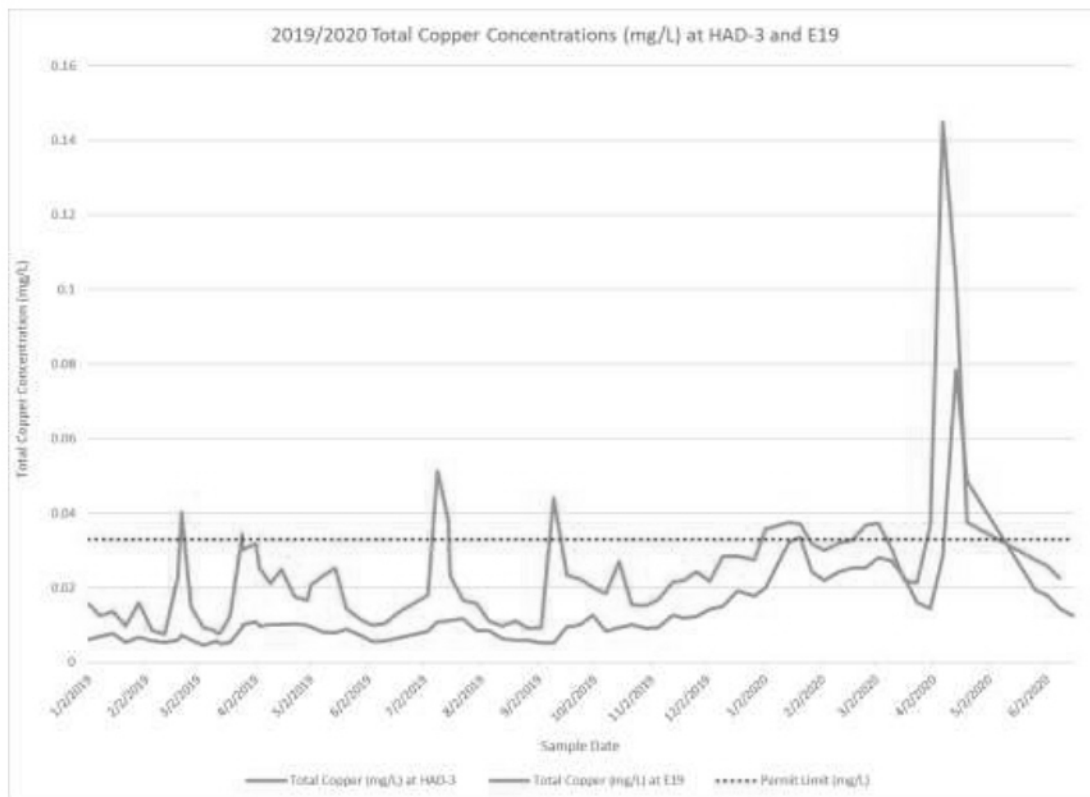
- Reporting and planning
 - In house planning is required to execute the CEMP, meet permit reporting requirements and coordinate with consultants for specialty work (Ensero for the CWTS, Minnow for the plankton program, etc.).
 - Monthly and quarterly reporting is underway.

Discharge/WTP Update – Gabriel Holmes

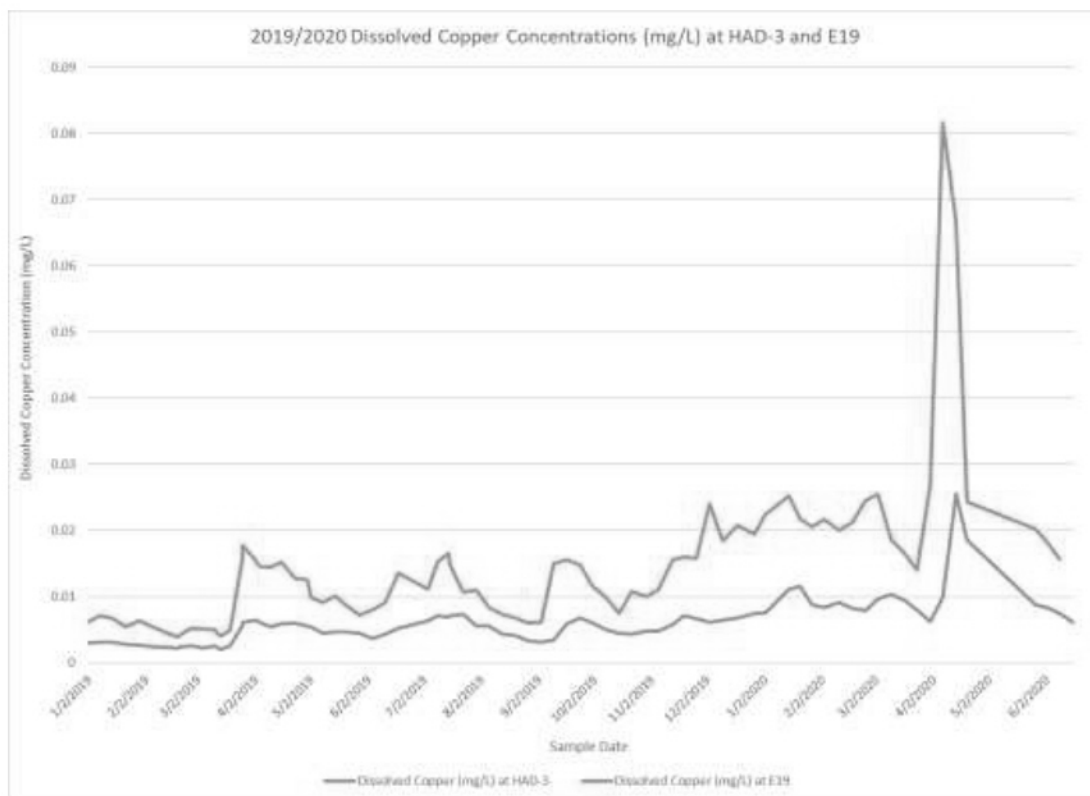
- The WTP operated until April 19 when it was shut down due to elevated copper concentrations.
- The sample collected on April 7 had a total copper concentration within 80% of the permit limit, which initiated the trigger response plan in MPMC's Annual Discharge Plan (ADP). The response involved reducing throughput in the WTP by 20%, initiating a data review and collecting another sample. The April 14 sample was found to have a total copper concentration that exceeded the permit limit. Influences on water quality reporting to PETBP included the NEZ Seeps and SERD ditch because TSF water was pumped into SERD ditch and leachate from leach pad was pumped to the TSF without lime addition. Lime used to be added to the leachate during the milling process. The heap leach is currently inactive but without the mine being in operation, that water is not pH regulated since we quit milling. The small amount of water being pumped from the leach pad has had a large impact on the water quality of the TSF.
- During some periods of operation, the WTP actually adds TSS with addition of the floc particle. In order to initiate the treatment process, sand and reagents are added which adds TSS, though they are consistently below the permit threshold.



- In Oct 2019, we see an increasing trend in total copper values. We think that's associated with the wet fall we had and the pump in the NEZ Sump freezing up resulting in overflow from the NEZ sump making its way to the WTP, in combination with leachate in TSF. You can see the exceedance in total copper experienced in April and a decreasing trend in the copper values in the last 6 weeks or so.



- The WTP is treating dissolved copper but by and large, dissolved copper is not the issue.



- Golder was onsite to conduct a TMT trial from May 29-June 2, 2020
 - Key findings: The TMT was effective at precipitating copper but the WTP was not effective at removing the precipitate even though TSS permit limits were met.
 - JO: The main objective was to evaluate the performance of TMT as an add on to the existing WTP. We started with a low influent flow rate and increased it throughout the study. High copper levels in the influent gave a good opportunity to do this trial. The main findings of the study were that TMT as an add on was effective at precipitating dissolved copper and the percentage removal was high for dissolved copper (up to 80-90%) but what we did find was that the total copper was not being reduced as much due to the effectiveness of the plant at reducing the TSS. Further work is needed to optimize the WTP so that the copper precipitate can be removed from the system.

Questions:

AG: Part of trial was based on the bench test from Feb 2017, was any extra polyaluminum chloride (PAC) added? Would that have helped remove some of the TSS?

JO: PAC is used as part of WTP operation already. I would have to follow up with the treatment team on whether more was added during the trial.

AG: If there is more PAC going through, more coagulant would need to be added to bring it down.

JO: PAC is added proportionally to flow rate. But I'm not sure what was done during field trial.

AG: What are some of the recommendations that Golder made following completion of the trial?

JO: Golder recommended that adjustments be made to the WTP that focus specifically on removing the coagulated copper, moving TMT dosing points further upstream and increasing some of other ratios in system. We are currently looking at making some of these adjustments with the help of Veolia.

DW: In the February PLC meeting where high copper from the NEZ sump was discussed, I asked what could be done to track those problems quicker. Has anything been done?

MO: We planned to install a weir system with continuous loggers in NEZ Seep 1 and NEZ Seep 2 in late 2019 but the everything was frozen and then freshet happened. We purchased a photometer device that detects copper which gives an instant reading. We have trained the staff and have been taking daily samples during the month of June in NEZ Seeps 1 and 2. There was a delay in the training of second crew but now both crews are using the unit. We are currently working on taking samples on same day as the environmental department to determine the unit's accuracy.

GH: We do know when they are discharging into the Long Ditch because we do our daily pump watch checks and we can make observations about whether the pumps are running properly. We don't know if we let the seeps flow into the Long Ditch how long it will take to affect the downstream water quality (influent water) until we collect samples and send them to the lab.

SS: Has anything been done regarding the heap leach pad and leachate coming from it?

GH: There is a large volume of Sulphur stockpiled on top of the leach pad, and the leachate is extremely high in copper values, we underestimated the effect on the TSF water. What we have been doing is adding lime

to the leachate prior to discharge to the TSF to reduce those copper values. Prior to lime treatment, leachate samples had copper concentrations of up to 710 mg/L, after treatment the copper concentrations in the leachate was reduced to 149 mg/L which is still very high. Treatment with lime was done consistently during milling; however, was not being done during Care and Maintenance. We are now attempting to raise the pH to ~8.1-8.2 to help precipitate the copper out. We are going through a series of tests to determine optimal treatment before discharging to the TSF.

MO: The large rain events have created more leachate than in typical years so to keep the leachate down, we need to pump it more. We can't treat the leachate with iron for as long due to the volume of water. We are constrained by the rain and large volume of water but we are working to determine the optimal amount of time for batches before discharging to the TSF.

SS: Otherwise, the mill is shut down?

GH: Yes.

SS: What's the purpose of the leach pad and the Sulphur? Is it needed on site anymore? Can the source of high metals be removed?

DP: The plan in the Reclamation and Close Plan is to excavate all of those materials and submerge them under water so the reaction stops.

SS: Will that be done soon?

DP: The best place to dispose of it would be the TSF. It should be done before we go into full closure.

JO: To address AG's previous question, the PAC was not adjusted during the trial so they could focus on the adjustment of TMT at different flow rates.

Water Management Update- Gabriel Holmes/Mathieu O'Leary

- MPMC is actively moving water around the site utilizing the TSF, and Cariboo and Springer Pits for onsite water storage. The Wight Pit flooded during the spring as a result of diverting water away from the PETBP. We are continuing to monitor water levels closely.
- MPMC is working to pursue a WTP bypass with ENV. By implementing the bypass, we can increase our throughput significantly.
- Polley Lake control structure
 - Water has been continuously discharging over the structure since the beginning of May. The structure is designed for this to occur but there has been a lot of water on site. Water did inundate the floodplain allowing fish passage for approx. 10 days. We actively manage this water and make sure there is flow during even the driest months of the year.
- Research projects are ongoing and include the SRF, CWTS, etc. Closure strategies are being developed based on this research.
- ENV TM Request from June 23 for the unauthorized discharges.
- NEZ Seeps are monitored regularly.

- TSF status
 - The TSF volume pre-freshet was 1.43 Mm³ which met our objective in dewatering the TSF. We were communicating with our Engineer of Record prior to freshet and notifications were provided to ENV and EMPR weekly. Additional information was requested from EMPR and MPMC has provided all of that information. Water is still accumulating on site. Last week the volume of the TSF was 2.51 Mm³ and this week it was 2.33 Mm³. The goal is to bring the dam back down to operating levels by pumping water from the TSF to the Cariboo and Springer Pits. The rain has slowed down the process. Water is being pumped from the PETBP to the TSF as needed.
- Lime addition to Sulphur pile/leach pad leachate was already discussed.

Remediation Update – Gabriel Holmes

- Commenced 2020 remediation work on July 6. There was a late start due to the wet and rainy conditions.
- A comprehensive fish salvage is starting on Monday.
- The majority of the work being done this year will be in Lower Hazeltine Creek.
- Fish exclusion fences are to be moved to accommodate the fish in Reach 3.
- The HWRG met and discussed the upcoming work and some changes to the designs were recommended. JO: Minor changes to the alignments, movement of the confluence of Hazeltine and Edney Creeks downstream and configuration of the outfalls leaving the system were requested. Those changes have been incorporated and the designs are being finalized at this time. GH: Planting and seeding is ongoing.

Questions:

CM: is this area open to the public yet?

JO: Currently, no as it is an active construction area.

GH: We are working towards having it accessible to the public. There is a public road that runs through the area that is still open although throughout the 2020 construction season there will be no access.

AG: Is there remediation going on the mine site itself?

GH: No, that has been postponed as we have a very limited workforce. We haven't created much disturbance since we've been in Care and Maintenance and remediation is done on a project by project basis. I have identified a few areas for progressive reclamation, totaling approximately 10 hectares but we do not have plans to complete the work in the near future.

Exploration Update – Gabriel Holmes

- Notice of Work applications for the new Mineral Claims have been filed.
- A Deemed Authorization Permit on Mine Permit Area has been submitted for expansion around the Cariboo and Springer Pits.
- Geological mapping of "New" areas, ground truthing of the exploration drill targets, planning of the easiest, non-

invasive access to diamond drill sites and diamond drilling will be conducted.

- Diamond drill prioritized targets, MMI and Geophysical targets.
- Complete 3-D-IP over the mine site known mineralization for new exploration and create fingerprint of known mineralized bodies.
- White shows the survey area done last year, yellow are surveys completed this spring. Drilling is planned in ~20 holes.

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ENV/EMPR Discussion – Alan Gibson/Carol Danyluk/Sean Shaw

- Opened up the meeting to Carol, Alan, Sean and Abhirosh to discuss any concerns.
- SS: EMPR has been radio silent on the PLC recently. In the last meeting attended, the EMPR promised an amalgamated M-200 permit draft. EMPR has been stretched on capacity and the amalgamated permit draft will be sent out by the end of next week. The amalgamated permit draft will take all existing amendments and bring them into one permit.

Questions:

DW: Updating the reclamation and closure plan has not been done. Will it be done?

SS: EMPR requires an update to the mine's reclamation and closure plan every 5 years so we expect to see an update in Dec 2022.

DW: It was my understanding that the 2017 plan was not up to standard. I don't recall it being accepted or

approved.

SS: When the site isn't going into formal closure, in 2017 Mount Polley was in full operation and now the site is planned to go back into operation, that document is dynamic and is not formerly approved. Any review comments and recommendations would have been communicated at that time. Until the mine is actually going into closure, that plan just sketches out what they are going to do and the timing.

DW: I'm concerned that the Reclamation and Closure Plan is not up to date. Is the mining department going to be working with Mount Polley to ensure they do update their Water Management Plan to accommodate these higher water level event?

SS: The appropriate facilities are in place to handle the expected rain events and we review those on a 5-year basis. During our review, we look to see that companies have incorporated best practices into those plans and are constantly reassessing.

DW: We can see that Mount Polley had problems this spring and unless the regulators stay on top of it some of us will not feel that they are doing what needs to be done.

SS: Of any site in this province, Mount Polley is definitely under a microscope in terms of water management.

- CD: Just to add to Doug's question around water management, one of the opportunities that we take as a result of overflows/spills and the required reporting from Mount Polley is to look at the permit requirements and see if they are effective or if they need to be revised. ENV will evaluate whether or not the permit requirements need to be revised in the coming weeks and if we need more specific water management on the site. In terms of a compliance update, Colin is in the process of completing a review of the 2019 annual report. The assessment should be completed in the next 2-3 weeks so Mount Polley can expect to see an assessment in the next month or so. The compliance team has been modifying and prioritizing their onsite inspections. It can be expected that an onsite assessment will be conducted at Mount Polley later this year though there is no schedule set yet. The release of a report about the water quality in Quesnel Lake by UNBC- ENV representatives, UNBC and DFO have had a meeting to discuss collaborative research on Quesnel Lake. More time will need to be spent looking at the results of the report and what we do with monitoring and permit conditions at the mine going forward.

Questions/Comments:

- GH: We would like to discuss that paper and its findings at some point.
- DP: We have Lyn Anglin ready to put some comments out to the group today if people are interested.
- See "Preliminary Comments of the Hamilton et al 2020 Paper on Turbidity in Quesnel Lake" document following the meeting minutes.
- RH: Photos may be mislabeled because that is not Poquette Creek, it is Cedar Creek.
- RH: This is an opinion on the report. I hope you're going to back this up with some research.
- LA: We are planning to write a response. The data that supports what I'm saying is publicly available.
- RH: I think this conversation should be held with the Quesnel Research Centre and UNBC.
- LA: I think it would be great to have that discussion with them.
- CD: Do you know what the plans are with the open house at the Quesnel Research Centre this year?

- RH: I suspect that it won't be held this year due to COVID19.
- CD: I encourage anyone to come to Abhirosh with any questions or dialogue on this paper.
- LA: Has anyone from Mount Polley been involved in any discussion to date?
- GH: Not to my knowledge.
- DW: That report also mentions a trend in increased conductivity in the west basin compared to what was measured pre-2014. This is something that concerns me as a resident of Quesnel Lake. It also says that there are turbidity inputs from other watersheds.
- LA: There are no observations passed 2016 or 2017. Their pre-spill data in the West Arm is also very limited which is critical to the discussion about this input.
- DW: Mount Polley's data is also limited as they were not going to discharge into Quesnel Lake.
- LA: Exactly, it is hard to make statements when you don't have that background data.
- GH: Let's address this again at our next meeting.

Roundtable Discussion/ PLC Comments/ Questions

- Update on appeal process
 - DP: We appealed Sections 2.8, 2.9 and 2.10 of the Feb 1, 2020 *EMA* Permit. Up to now, ENV and Mount Polley have had information sharing outside of Environmental Appeal Board. We have been discussing the intent of the Long-Term Water Management Plan (LTWMP) and Reclamation and Closure Plan. There are three tiers to LTWMP- Operations, Closure, Post-Closure. Discussions about that are ongoing. These documents are currently being produced for the Environmental Appeal Board. No hearing has been scheduled yet.
 - DW: After Mount Polley put in their appeal application, I got the application and circulated it to the PLC. I spoke to the Environmental Appeal Board and anyone who is affected by this appeal, can apply to become a participant. I have been approved as a participant in the process.
- Community meeting is required annually as a permit requirement.
 - The idea of an information booth style meeting held in lower Hazeltine creek was brought forth so that we could be outside and social distance. Please email Gabe any ideas. We could also do a call-in meeting.
 - DW: It sounds interesting to have it in lower Hazeltine but I'm not sure about transportation and who is comfortable traveling with the COVID19 situation.
 - LK: I think it's a great idea and people can travel within their social bubbles.
 - GH: I think we should have the meeting in August when it's a bit drier.
 - CD: There would be interest in having MOE representation at that meeting. Please let us know a date as soon as possible.
 - GH: Absolutely, I will also extend an invitation to the Quesnel Research Centre.
 - DW: There may be concern about having it late in the season as some local residents head back into town.

- GH: Good idea. Let's aim to have the meeting before the end of the summer.
- DP: Mount Polley has started their own website at MountPolley.com. We have been posting common questions and photos. We also have a Facebook page.
- GH: There is also a slide in the presentation with other available resources.

Next Meeting

- Oct 7, 2020 from 09:00-13:00
 - CD: Will you be sending an invite for the meeting on Oct 7 well in advance?
 - GH: Yes, I will send it out today.

Action Item: Gabe to send out Q4 PLC meeting invitation following the meeting today.



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

Meeting Details

Date: July 8, 2020
Time: 9:00 am – 12:30 pm
Location: Conference Call

Care and Maintenance Update

- Care and Maintenance operations include daily inspections of water management infrastructure, monitoring of the Water Treatment Plant (WTP) to ensure proper operation, regular equipment maintenance, environmental monitoring including water sampling, reporting, and planning for the upcoming months, and maintenance of site power/communications.
- With COVID19 there are still two cross shifts working; however, they do not physically interact.

COVID19 Update

- COVID policies for the mine site are still in place.
- As of March 19 all personnel at the mine site must: practice social distancing, frequently wash hands, practice safe sneeze/cough etiquette, wear a face mask while in a vehicle with others, stay home if feeling sick, keep hands away from eyes, nose and mouth, and keep work areas and tools clean and hygienic.
- Implementation of room occupancy limits and additional cleaning requirements have been added since the last PLC meeting. A questionnaire must be filled out upon arrival onsite and people will be turned away if they show symptoms of illness.

Environmental Monitoring Update

- A regimented environmental monitoring program centered on permit and CEMP requirements is conducted.

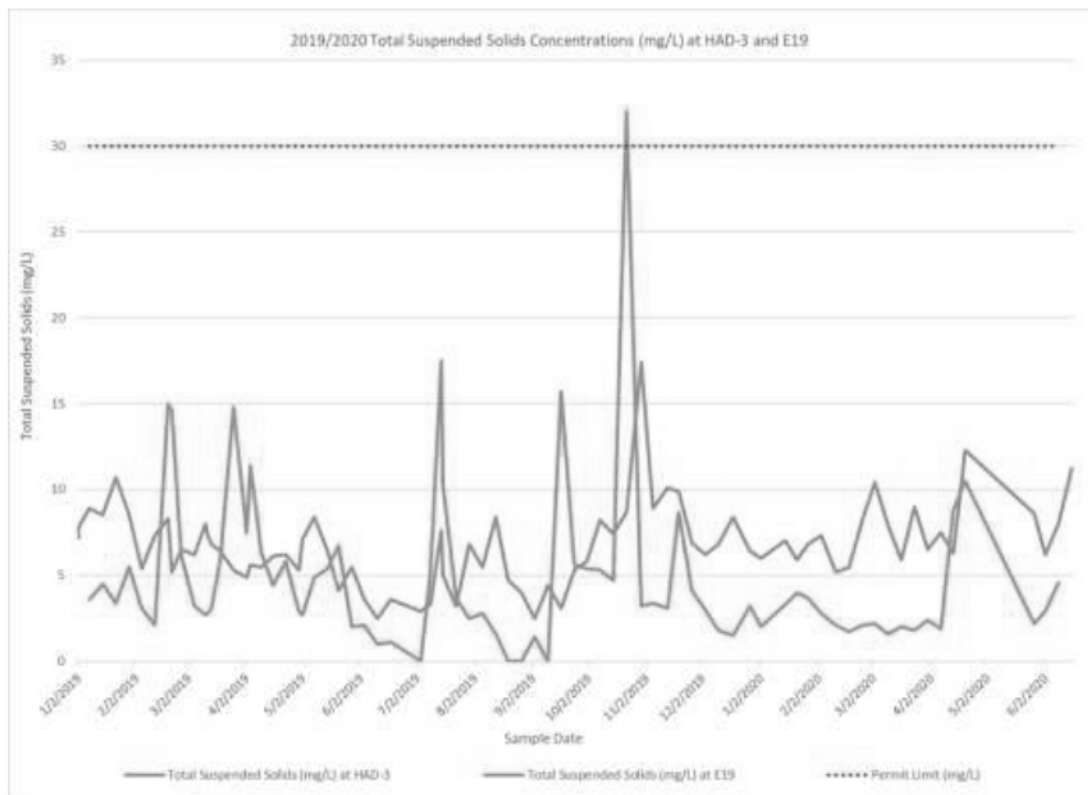
MPMC Public Liaison Committee
Meeting Summary: July 8, 2020

- Water sampling of Polley Lake, Bootjack Lake, Quesnel Lake, Hazeltine Creek, Edney Creek, mine site seepage, groundwater and the WTP is conducted as part of the routine weekly, monthly, quarterly, semi-annual, annual sampling requirements.
- Split sample audit results from Nov 2019- 96%
- Surveys and Studies
 - Spawning surveys- During the high-water event, the fish exclusion fence in Reach 3 in Hazeltine Creek was inundated with water and fish got around the fence and as such, this area was added to the existing survey area.
 - Bird nesting surveys
 - Vegetation surveys
 - Fish tissue sampling in Polley Lake, Bootjack Lake and Quesnel Lake
 - Zooplankton program has begun, one sampling event has been conducted in Polley and Bootjack Lakes
 - The Constructed Wetland Treatment System (CWTS) is in the commissioning stage. Last year the dissolved oxygen in the wetland cells was not as low as was needed so more vegetation was added to help accelerate the process. Currently, the Mount Polley environmental team conducts weekly monitoring and bi-monthly sampling under the guidance of Ensero.
 - JO: Saturated Rock Fill (SRF) treatment feasibility testing is ongoing and trimercapto-s-triazine (TMT) trials for water treatment were conducted in late May/early June. Golder has developed a concept design for an SRF system in the Wight Pit and is now working on bench scale testing using rock and water samples from the Mount Polley mine site in our lab. Results from this study will be incorporated into the 2022 Water Management Plan. Submerged Sand Reactor and TMT usage in the WTP have also been explored.
- Sump and Ditch Inspections
 - All critical ditches, sumps, ponds, and pipelines are inspected twice annually once in the spring and once in the fall. We inspect for integrity issues. During our spring inspections, limited erosion and downed logs were identified but nothing significant.
- Seep Surveys
 - All of the dump toes are walked, observations made and samples collected during annual seep surveying. From the seep surveys, NEZ Seep 1 and 2 were identified as an issue.
- Unauthorized Discharges – April 21 (NW Sump and Mine Drainage Creek) and May 6 (Bootjack Creek Sump)
 - 3 days, NW Sump- 25, 200 m³
 - 4 days Mine Drainage Creek – 56,448 m³
 - 10 days Bootjack Creek Sump- 25,173 m³
 - There was a rapid melting event this spring, it was the coldest March on MPMC's records and there was no significant melting in the winter months. This year also yielded the second largest snowpack since Mount Polley began keeping records in 1999. The largest snowpack was recorded in 2014.

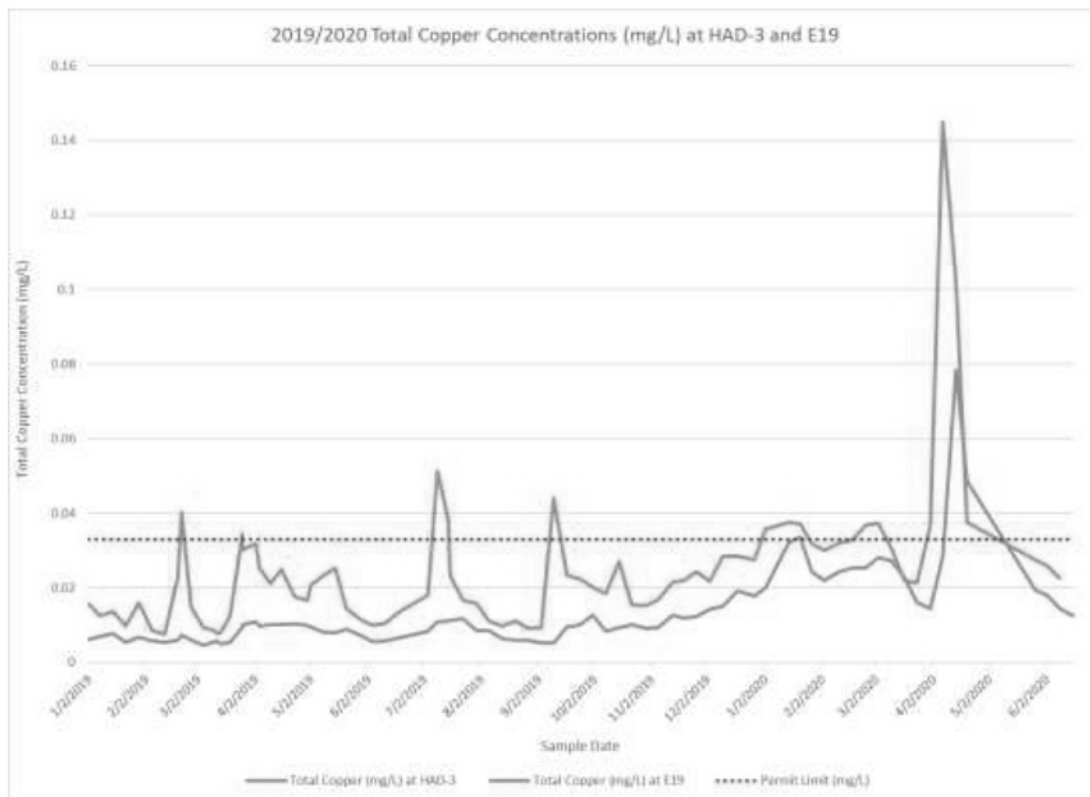
- The largest issue initially was that the water management infrastructure was keeping up with the water with the exception of the Perimeter Embankment Till Borrow Pond (PETBP); as a result, MPMC made the decision to allow the sumps to overflow in order to save the PETBP. The PETBP does not have an emergency spillway and would have overflowed into Hazeltine Creek which was viewed as an environmentally sensitive scenario. Water flowed through a forested area to Bootjack Lake from the NW and MDC sumps when they overflowed. The Bootjack Creek Sump is located directly adjacent to Bootjack Creek. A pump failure caused water to overflow and the replacement pump was insufficient to keep up with the flows. Water flowed into Bootjack Creek. Outcomes- The water quality was reasonably favorable. There were exceedances of BCWQGs in dissolved aluminum and copper. It was found that the dissolved aluminum exceedances were existing. Both events were unlikely to have any adverse effects as there were favorable water quality results and there was very little erosion and physical disturbance. Communication with ENV is ongoing and repercussions are still unknown at this time. AG has requested some information and MPMC continues to work with ENV to ensure this does not happen again.
- Reporting and planning
 - In house planning is required to execute the CEMP, meet permit reporting requirements and coordinate with consultants for specialty work (Ensero for the CWTS, Minnow for the plankton program, etc.).
 - Monthly and quarterly reporting is underway.

Discharge/WTP Update

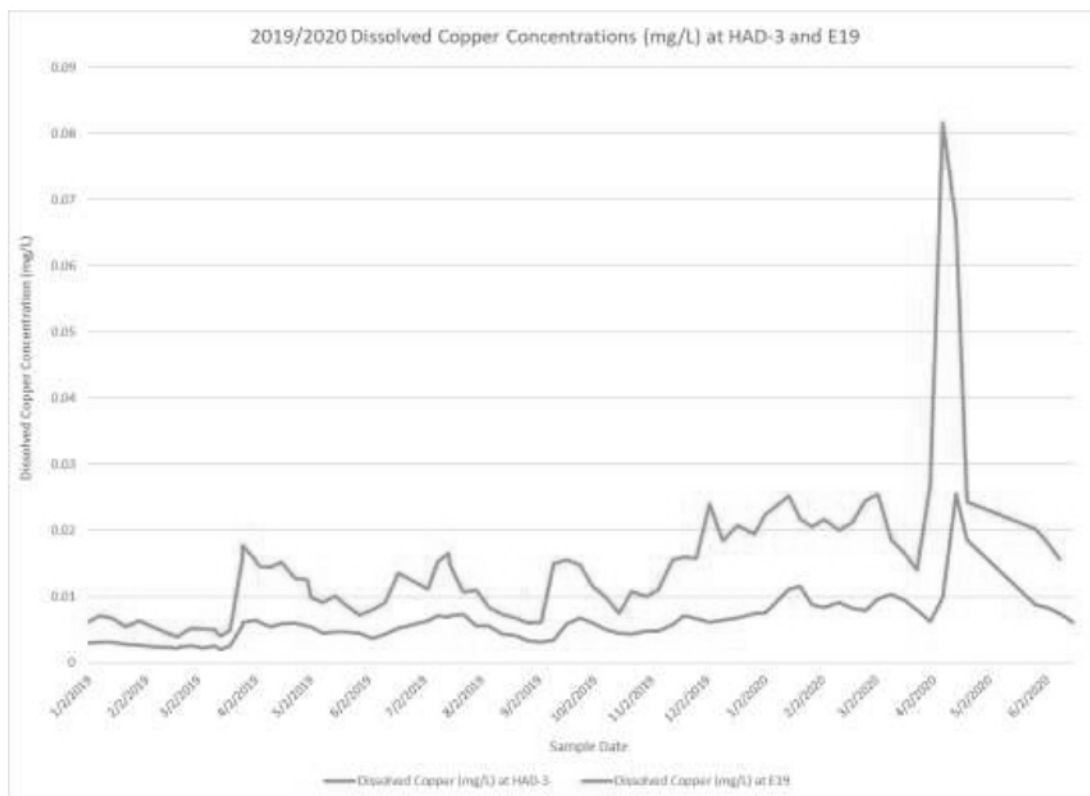
- The WTP operated until April 19 when it was shut down due to elevated copper concentrations.
- The sample collected on April 7 had a total copper concentration within 80% of the permit limit, which initiated the trigger response plan in MPMC's Annual Discharge Plan (ADP). The response involved reducing throughput in the WTP by 20%, initiating a data review and collecting another sample. The April 14 sample was found to have a total copper concentration that exceeded the permit limit. Influences on water quality reporting to PETBP included the NEZ Seeps and SERD ditch because TSF water was pumped into SERD ditch and leachate from leach pad was pumped to the TSF without lime addition. Lime used to be added to the leachate during the milling process. The heap leach is currently inactive but without the mine being in operation, that water is not pH regulated since we quit milling. The small amount of water being pumped from the leach pad has had a large impact on the water quality of the TSF.
- During some periods of operation, the WTP actually adds TSS with addition of the floc particle. In order to initiate the treatment process, sand and reagents are added which adds TSS, though they are consistently below the permit threshold.



- In Oct 2019, we see an increasing trend in total copper values. We think that's associated with the wet fall we had and the pump in the NEZ Sump freezing up resulting in overflow from the NEZ sump making its way to the WTP, in combination with leachate in TSF. You can see the exceedance in total copper experienced in April and a decreasing trend in the copper values in the last 6 weeks or so.



- The WTP is treating dissolved copper but by and large, dissolved copper is not the issue.



- Golder was onsite to conduct a TMT trial from May 29-June 2, 2020
 - Key findings: The TMT was effective at precipitating copper but the WTP was not effective at removing the precipitate even though TSS permit limits were met.
 - The main objective was to evaluate the performance of TMT as an add on to the existing WTP. We started with a low influent flow rate and increased it throughout the study. High copper levels in the influent gave a good opportunity to do this trial. The main findings of the study were that TMT as an add on was effective at precipitating dissolved copper and the percentage removal was high for dissolved copper (up to 80-90%) but what we did find was that the total copper was not being reduced as much due to the effectiveness of the plant at reducing the TSS. Further work is needed to optimize the WTP so that the copper precipitate can be removed from the system.

Water Management Update

- MPMC is actively moving water around the site utilizing the TSF, and Cariboo and Springer Pits for onsite water storage. The Wight Pit flooded during the spring as a result of diverting water away from the PETBP. We are continuing to monitor water levels closely.
- MPMC is working to pursue a WTP bypass with ENV. By implementing the bypass, we can increase our throughput significantly.
- Polley Lake control structure
 - Water has been continuously discharging over the structure since the beginning of May. The structure is designed for this to occur but there has been a lot of water on site. Water did inundate the floodplain allowing fish passage for approx. 10 days. We actively manage this water and make sure there is flow during even the driest months of the year.
- Research projects are ongoing and include the SRF, CWTS, etc. Closure strategies are being developed based on this research.
- ENV TM Request from June 23 for the unauthorized discharges.
- NEZ Seeps are monitored regularly.
- TSF status
 - The TSF volume pre-freshet was 1.43 Mm³ which met our objective in dewatering the TSF. We were communicating with our Engineer of Record prior to freshet and notifications were provided to ENV and EMPR weekly. Additional information was requested from EMPR and MPMC has provided all of that information. Water is still accumulating on site. Last week the volume of the TSF was 2.51 Mm³ and this week it was 2.33 Mm³. The goal is to bring the dam back down to operating levels by pumping water from the TSF to the Cariboo and Springer Pits. The rain has slowed down the process. Water is being pumped from the PETBP to the TSF as needed.
- Lime addition to Sulphur pile/leach pad leachate was already discussed.

Remediation Update

- Commenced 2020 remediation work on July 6. There was a late start due to the wet and rainy conditions.
- A comprehensive fish salvage is starting on Monday.
- The majority of the work being done this year will be in Lower Hazeltine Creek.
- Fish exclusion fences are to be moved to accommodate the fish in Reach 3.
- The HWRG met and discussed the upcoming work and some changes to the designs were recommended. Minor changes to the alignments, movement of the confluence of Hazeltine and Edney Creeks downstream and configuration of the outfalls leaving the system were requested. Those changes have been incorporated and the designs are being finalized at this time. Planting and seeding is ongoing.

Exploration Update

- Notice of Work applications for the new Mineral Claims have been filed.
- A Deemed Authorization Permit on Mine Permit Area has been submitted for expansion around the Cariboo and Springer Pits.
- Geological mapping of “New” areas, ground truthing of the exploration drill targets, planning of the easiest, non-invasive access to diamond drill sites and diamond drilling will be conducted.
 - Diamond drill prioritized targets, MMI and Geophysical targets.
- Complete 3-D-IP over the mine site known mineralization for new exploration and create fingerprint of known mineralized bodies.
- White shows the survey area done last year, yellow are surveys completed this spring. Drilling is planned in ~20 holes.

ENV/EMPR Discussion

- Opened up the meeting to ENV and EMPR representatives to discuss any concerns.
- EMPR has been radio silent on the PLC recently. In the last meeting attended, the EMPR promised an amalgamated M-200 permit draft. EMPR has been stretched on capacity and the amalgamated permit draft will be sent out by the end of next week. The amalgamated permit draft will take all existing amendments and bring them into one permit.
- One of the opportunities that we (ENV) take as a result of overflows/spills and the required reporting from Mount Polley is to look at the permit requirements and see if they are effective or if they need to be revised. ENV will evaluate whether or not the permit requirements need to be revised in the coming weeks and if we need more specific water management on the site. In terms of a compliance update, ENV is in the process of completing a review of the 2019 annual report. The assessment should be completed in the next 2-3 weeks so Mount Polley can expect to see an assessment in the next month or so. The compliance team has been modifying and prioritizing their onsite inspections. It can be expected that an onsite assessment will be conducted at Mount Polley later this year though there is no schedule set yet. The release of a report about the water quality in Quesnel Lake by UNBC-ENV representatives, UNBC and DFO have had a meeting to discuss collaborative research on Quesnel Lake. More time will need to be spent looking at the results of the report and what we do with monitoring and permit conditions at the mine going forward.



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AGENDA

Mount Polley Mine Public Liaison Committee (PLC)

Conference Call Meeting – General Meeting

July 8, 2020

9:00 am to 1:00 pm

Meeting called by: MPMC Designated Representation

Meeting Chaired by: MPMC Designated Representation

Roll Call

Additions to Agenda

Approval of Agenda

MPMC Discussion Items

- Care and maintenance update
- COVID-19 Update
- Environmental Monitoring Update
 - o Unauthorized discharges
- Discharge/WTP Update
 - o Exceedances
- Water Management Update
- Remediation Update
- Exploration Update
- ENV/EMPR Discussion

Standing Agenda Items

- Roundtable Discussion
- PLC Questions/Comments

Next Meeting

- Public meeting?



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9:00 am to 1:00 pm

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Meeting Chaired by: MPMC Designated Representation

Roll Call

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- Care and maintenance update
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- PLC Membership Review
- Environmental Monitoring Update
 - o CEMP sample site changes
- Discharge/WTP Update
- Water Management Update
- Remediation Update
- Exploration Update
- ENV/EMPR Discussion
 - o Review EMA Permit 11678 Inspection Warning Letter

Standing Agenda Items

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Next Meeting



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Standing Agenda Items

- Roundtable Discussion
- PLC Questions/Comments

Next Meeting



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

Meeting Details

Date: September 17, 2015
Time: 10:00am
Location: Mount Polley Mine, 2nd Floor Boardroom

Participants

Name	Affiliation
Luke Moger (LM)	MPMC (Stand-in Chair and Presenter, Project Engineer)
Katie McMahan (KM)	MPMC (Presenter, Environmental Technologist)
Art Frye (AF)	MPMC (Management Representative, Mine Operations Manager)
Bonnie Rolston (BR)	MPMC (Note taker, Administrative Assistant)
Lisa Kraus (LK)	Likely (Community Representative)
Douglas Watt (DW)	Likely (Chamber of Commerce Representative)
Steve Hoquard (SH)	Horsefly (Community Representative)
Jack Darney (JD)	Big Lake (Community Representative)
Bee Hooker (BH)	Big Lake (Business Representative)
Claudia Blair (CB)	Williams Lake (Business Representative)
Walter Cobb (WC)	Williams Lake (City Representative)
Joan Sorley (JS)	Cariboo Regional District (CRD) (Area F Director)
Rob Birtles (RB)	Interior Health Authority
Hubert Bunce (HB)	Ministry of Environment (MoE) (A/Director, Mount Polley, Environmental Protection)
Brian Yamelst (BY)	MoE (Senior Environmental Protection Officer)
Jason Kerley (JK)	Ministry of Forests, Lands and Natural Resources Operations (MFLNRO) (Senior Advisor, First Nations Relations, Cariboo Region)
Margaret Henley (MH)	Ministry of Transport and Infrastructure (MoTI) (Area Roads Manager)

Note: Stu Cartwright (Fisheries and Oceans Canada) attempted to call in, but experienced technical difficulties with the call in line.



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Minutes

Welcome and Roundtable Introduction

Presentation (2015 09 17 – PLC Meeting [Final].pptx)

- **Draft Terms of Reference (ToR) – LM**

DW – Section 2.9 of MPMC's Permit 11678 requires a Communication Plan with the WLIB, SCIB, CRD, and the Community of Likely. Raised concern that the PLC ToR can't be developed without this plan in place.

LM – The Communication Plan with the WLIB and SCIB already exists; this was part of a prior permit condition. The latest permit amendment requires that the PLC, although previously active, operates under a formalized ToR acceptable to the MoE Director. The only change to the Communication Plan under the latest permit amendment is that the Communication Plan must be updated to include the CRD and Community of Likely. MPMC is in the process of drafting the updated plan, which is to be submitted to the MoE Director for review, as per the requirements of the latest permit amendment. The draft PLC ToR, as provided, can be adjusted at future meetings as the Communication Plan is developed, and will remain a standing agenda item for future PLC meetings.

JS – Consultation on the Communication Plan development is also a component of the permit amendment condition. How this will be carried, as the plan had not yet been distributed?

LM – Updates to the Communication Plan are in progress. The draft plan will be sent to MoE for screening comments and then distributed to the relevant parties for consultation.

HB – Indicated that LM's response was consistent with MoE's perspective on how the process should be carried out.

LM – Were the questions about the Communication Plan sufficiently answered? Indicated there will be time for more questions and discussion at the end of the meeting.

DW – Still had concerns about the consultation process, but will bring them up at the end of the meeting.

JS – Are the Designated Representatives able to share info from the FTP site if they want to take it back to the groups they represent?

LM – Yes, it is anticipated that information shared has entered the public domain and can be shared. Designated Representatives will have unique passwords for accessing the FTP site, which are expected to be kept private.

LM – Requested any comments on the draft ToR be provided to MPMC and Hubert Bunce **[Action Item]**

JS – Recommended differentiating First Nations and stakeholders as separate entities in the Terms of Reference (ToR).

LM – Noted comment and committed to reviewing references in the draft ToR. **[Action Item]**



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DW – Didn't think that the PLC membership should be limited if there are members of the public who are interested. Past members of the PLC were upset at not being invited to this meeting, and would like to ensure they are able to participate in the future. The language in the ToR should reflect that a unique person, not just a unique group, should be eligible to participate.

LM – Clarified that the intent of the PLC (and ToR) was not to be excluding potential members, but to be creating a more formalized and structured approach for information transfer. PLC Designated Representatives are envisioned to be able to represent any unique interest, not being limited to groups. A mechanism has been put in place with the standing agenda item at each meeting for PLC Designated Representatives to suggest other PLC members to represent unique interests.

WC – Are First Nations are having separate meetings? Raised the concern that consistent information is not always being presented to all parties

LM – Agreed that presentation of consistent information is a valid concern. It can be challenging, as the mine site changes quickly and updates are typically prepared based on the most recent site activities for each meeting. Separate meetings are held as part of MPMC's Participation Agreements with each of the WLIB and SCIB. Both WLIB and SCIB are members of the PLC and were invited, but did attend today's meeting. MPMC will follow up on their attendance **[Action Item]**.

JD – Commented that in his understanding the PLC is not to replace required consultation on MoE items, but to provide a formalized setting for discussion and mechanisms for information sharing.

LM – agreed that this was also his understanding.

• Review of Last Meeting's Minutes – LM

LK – Requested a copy of the last meeting minutes (December 2014) be made available.

LM – Previous meeting minutes will be posted on the FTP site once operational. **[Action Item]**

• Site Update – LM, KM

DW – From Quesnel Lake, the clean up work along the beach is looking good; recognized that a lot of work still remains, but told MPMC to keep up the good work.

JK – Is MPMC planning on doing any fertilization when planting the Hazeltine Creek reclamation areas?

KM – MPMC may use fertilizer. The current approach involves using available organic forest floor material and planting early successional species that can grow in low nutrient environments, particularly nitrogen fixing species like alder. Slow release fertilizer and/or use of commercial microbial inoculums are being considered. Use will depend on the results of preliminary revegetation monitoring.

CB – What the typical success rate of tree planting is in the area?

JK – Typically 90% or greater in forestry.

KM – MPMC has not done any formal survival surveys to date. Observations indicate good survival, although the high density at which MPMC is planting trees and shrubs to help control erosion is unconventional in the forest industry.



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CB – What species MPMC is planting in Hazeltine Creek and are they local?

KM – Primarily early successional species, such as black cottonwood, black twinberry, red osier dogwood, willows (live staking and wattles), and similar. Nitrogen fixing species, such as alder, are also being planted. So far, all native species have been used. Conifer species will be planted in the future, if they do not naturally ingress.

BY – Is MPMC doing any grass seeding?

KM – MPMC is doing some seeding. It is not our preferred reclamation approach, because grasses are not the typical primary successional species in the region and can out-compete tree and shrub grown and ingress. Some light seeding with a native fescue mix is done in areas where the erosion risk is higher.

DW – Have fish barriers been removed from Edney Creek?

KM – The fish barriers have not been removed from Edney Creek yet, because Hazeltine Creek will temporarily be diverted into Edney Creek to allow cleaning of the sedimentation ponds and installation of the intake structure for the Quesnel Lake discharge pipelines.

DW – What is the time frame for removing the fish barriers from Edney Creek?

KM – They will be removed this fall, as soon as the previously mentioned work is completed.

WC – Is planting occurring on the Tailings Storage Facility (TSF)?

LM – Only some seeding of grasses as a dust control measure.

BH – What happens to the boreholes around the TSF after they are drilled?

LM – Some boreholes are lined with casing and used to house monitoring instrumentation. Other holes are backfilled.

WC – What does the referenced instrumentation measure and is there any risk of weakening the dam by drilling test boreholes?

LM – The instrumentation measure physical displacement and water pressure. On the scale of the volume of buttress material being placed for stability, the impact of the small drill holes is negligible.

JD – Is the buttress as completed for the elevation of the breach repair, or the elevation of the rest of the TSF?

LM – The focus of the current buttress work is for the stability to contain materials to the level of the breach repair.

JD – What will the life of mine be with if the breach repair is built up to the same elevation as the rest of the dam?

LM – This will be discussed more later in the meeting, but it is projected to be between four (4) and five (5) years.

HB – Is the pump in place for the water treatment plant?

LM – The feed pumps for the water treatment plant are on site, but not currently installed.

JD – What is the current water level in the Springer Pit? Is MPMC maintaining this elevation or is it still increasing up towards the 1030m elevation?

KM – The current elevation is approximately 1019.5m.



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LM – The water level is increasing because it is the only water storage location until we have a water discharge permit, and because tailings deposition in the pit is occurring as per MPMC's restricted operations permit.

JD – Are you able to use the TSF for temporary water storage?

LM – Yes, it is geotechnically capable. The TSF is only permitted for contingency use; water can only be stored until pump capacity is available to pump the water to the Springer Pit.

JS – Is the expected water elevation in the Springer Pit at which exfiltration to Bootjack Lake via groundwater will occur 1030m or 1020m? She recalled that Lorax [MoE and MEM consultant] had raised some concerns that it may be 1020m, not 1030m as predicted by Golder Associates Ltd. (Golder).

LM – New information from drilling and monitoring of the new and previously existing groundwater monitoring wells adjacent to the Springer Pit has allowed Golder to verify their predictions, and suggest that 1030m will be the elevation at which Springer Pit water will exfiltrate to groundwater.

DW – Noted that he could see in the weekly reports if the Mill is running by the water levels in the Springer Pit. How does this impact the water balance?

KM – The water balance model incorporates tailings solids and water in tailings void space, so this does not have a major impact on future predictions.

LM – With or without tailings deposition, the Springer Pit water level is projected to reach the 1030m critical elevation next year without discharge from site.

DW – How does is the Springer Pit water accumulation matching up with water balance predictions?

KM – It has been a dry summer, which has likely meant runoff coefficients are different from those used in the model, resulting in some minor discrepancies, but model verification results to date have generally matched well and model verification is ongoing.

BH – What is water consumption for operation?

KM – When tailings are deposited and are saturated, the volume is approximately 48% water, resulting in some water consumption. Some water is lost to evaporation. Can't recall processing water volume requirements off-hand.

BH – No matter whether the mine is operating or not, there will still be a water surplus.

JS – Will lime be used for pH control in the Veolia plant? This was discussed as a potential option during Mine Development Review Committee (MDRC) meetings and in the permit amendment application.

LM – No, some lime will be used in the mill for certain types of ore, but it is not planned to be used in the Veolia water treatment plant.

KM – The option to use lime in the Veolia plant will still remain, if it is necessary to further optimize the treatment process.

LK – When you start all of the discharge pipe installation work, will you monitor at the release point, as well as further down the lake?

KM – Yes, there will be two (2) parts the monitoring program. Under MPMC's Environmental Management Plans for Hazelton Creek and this discharge pipe installation project, full-time environmental monitoring will be carried out during pipeline installation. After installation, when the discharge system is operational, MPMC will carry out the environmental monitoring program



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(currently under review by the MoE and the MDRC), which will include near and far field water quality monitoring.

DW – Raised concern about the discharged water staying at the bottom of the lake when it is stratified and potential for it to migrate upstream towards Cariboo Island.

KM – Following the TSF dam failure, MPMC retained Tetra Tech EBA to develop a hydrodynamic model of Quesnel Lake, which predicts movement of water through Quesnel Lake based on inputs such as wind and temperature. Although originally developed to project the movement of turbid water, this model can also be used to predict dispersion of discharged water. Monitoring of the turbidity plume movement also allowed for verification and calibration of the model. The depths of the discharge pipes were selected because the model indicated that this is where the best water dispersion occurred. The model takes into account seiche events (water moving upstream towards Cariboo Island). The model was run for a three (3) year time series (longer than the discharge is projected to occur), and results showed that no applicable BC water quality guidelines were exceeded anywhere in the lake. The monitoring program will serve to verify the model predictions.

JS – Appreciated answer to DW's question; found it provided more clarity than responses provided in public meetings.

DW – In the weekly report the total suspended solids (TSS) in the Springer Pit increased with milling and tailings deposition starting up. What is the highest TSS that the Veolia water treatment plant can handle?

KM – The preliminary bench test we did with the Veolia technology used water with high TSS (155 mg/L) as a "worst case" test. Test results showed TSS reduced to below the lab method detection limit of 3 mg/L. MPMC is planning to do further bench testing to verify treatment results and optimize the treatment process, prior to discharging water.

LM – Real-time monitoring will be installed at the treatment plant outflow to verify turbidity levels. Results from Veolia operations at other mine sites show the plants can handle spikes in TSS. Noted that 155 mg/L is an order of magnitude higher than projected TSS levels in Springer Pit water, even when the mill is running.

DW – Do the pipes into Quesnel Lake go underground or are they on the surface?

LM – The pipes will be buried along a pipe grade up to the lake shoreline, and then will be laid along the lake bottom (not buried). Concrete collars will act as weights to hold the pipes down.

JD – What are the pipes made from?

LM – High density polyethylene (HDPE).

AF - Very durable plastic.

LK – Comment that this information was seemingly an update from last meeting, with no major changes noted.

• Monitoring Update – KM

DW – In the schematic summarizing MPMC's monitoring plan, what does the blue arrow from Bootjack Lake to Quesnel River represent?

KM – Indicates direction of water flow. All arrows on diagram indicate direction of water flow. The darker arrow of discharge to Hazelton Creek indicates this is proposed and not active.



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DW – Mentioned that people found STWD application difficult to find. The link to the Environmental Projection Notice published in the Williams Lake Tribune was “buried” in the weekly reports. Suggested that all permit and permit amendment applications MPMC submits should be made public.

LM – Noted the comment and suggested that MPMC work with the regulator’s on this for future permits; postings were made in the BC Gazette and the Williams Lake Tribune, and also physically in Horsefly, Big Lake, Likely, and at the Mine Site. Public meetings were also held to discuss the application, along with MDRC meetings.

KM – MoE also noted the link to the EPN could be more visibly posted. MPMC will work with regulators for future applications.

DW – Requested a copy of MPMC’s 2014 Annual Environmental and Reclamation Report be put on the FTP site.

KM – Yes, MPMC can do that. **[Action Item]**

• Future Plans/Timelines – LM

JS – Will MPMC start consulting before the draft Technical Assessment Report (TAR) is due in June 2016?

KM – Yes. The TAR will detail the proposed discharge strategy and model/predict environmental impacts, such that it can be shown that pollution will not be caused as a result of the discharge. The public consultation and input on selection of the discharge strategy will have to be carried out to select the option(s) that will be modelled and analysed in the TAR.

LK – Will PLC members be given a copy of consultation schedule for the long-term water discharge strategy development?

KM – Yes. **[Action Item]**

PLC General Questions and Comments

LK – Indicated that she understood that the Designated Representatives were supposed to report back to the groups that they represent. Does MPMC want them to share/post the information, etc.?

LM – MPMC is looking for feedback on how the transfer of information should occur.

LK – For example, LK and DW can provide an update in the Likely newsletter and direct any questions from the public to them as Designated Representatives.

LM – That would be great. That aligns with MPMC’s vision for the role of the PLC.

LK – Suggested that a summary of what has been discussed be provided to PLC members who were not in attendance.

LM – Yes, the conversation will be presented in the meeting minutes, and MPMC will try and catch up with groups that were not in attendance. **[Action Item]**

LK – Will there be a call in option in the future?

LM – Yes, MPMC will set that up for future meetings. Calling in will classify as “attending” the meeting, although MPMC hopes to pair the meetings with site tours occasionally.

MH – How are the sedimentation ponds cleaned up, and where does the material go?



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LM – The ponds are drained and heavy equipment (excavators and articulated dump trucks) are used to transfer the material into designated areas.

MH – Noted that equipment and traffic had damaged the Ditch Road between Horsefly and Hazeltine Creek in the spring, and that that section of road does not stand up well to traffic in spring conditions.

LM – Noted comment will be considered for mobilization and demobilization for project work at lower Hazeltine Creek. **[Action Item]**

MH – Will the ACP650 Veolia unit be an oversized load? Will it be transported via the Ditch Road or the mine access road? Indicated that oversized loads can be coordinated with her.

LM – It will be an oversized load and will be transported via the mine road. MPMC will follow up with transport information when available. **[Action Item]**

WC – Where will Designated Representatives get their passwords and how do they access the FTP site?

LM – MPMC still has to set up the FTP site and will send out the information. **[Action Item]**

JS – Indicated that she liked the format of this meeting, and that it was more thorough with more information presented than at the public meetings. Asked if meeting minutes could be shared with the public? For example, she would like to submit them with CRD Board meeting minutes.

LM – Defining the information process is new to MPMC, but this should not be a problem.

HB – Indicated that this was consistent with MoE's view of how information sharing should occur.

JD – Indicated that Big Lake Community Association has a good mechanism in place through monthly meetings, and information can be transferred from the Directors to the local community. Confirmed his view that the role of the Designated Representatives is to disseminate updates, such as upcoming consultation and where to find the associated information, but that the role of the PLC is not to replace consultation (just to improve information sharing). Suggested that the PLC can also communicate back to MPMC, for example, on how to guide next steps for permitting based on feedback from the groups that they represent.

KM – Agreed that it is helpful to have questions from the public brought back to PLC meetings so that MPMC can answer them accurately, and so that other Designated Representatives hear the response, because they are potentially questions that other members of the public have.

AF – Emphasized the benefits of having a small, well defined committee because the Designated Representatives will build site knowledge and meetings will be more productive.

LM – Mentioned that MPMC can use the PLC as a way of disseminating consultation information via email, outside of the quarterly meetings.

BY – Was unable to participate in the remainder of the meeting (had another commitment) and thanked everyone for their participation, and said that he looked forward to receiving comments on the draft ToR. Reiterated that the PLC is not intended to replace consultation activities.

PLC Membership

DW – Raised concerns regarding the committee make-up:

- Thought MPMC had too much control in this meeting, as he had to have other representative lobby for his own participation.
- Thought that this was a good, collaborative meeting.
- Stressed the importance that collaboration continue and public input happen.
- A mechanism for others (not necessarily representing defined groups) to join and provide input.

MPMC Public Liaison Committee
Meeting Minutes: September 17, 2015
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- Morehead was invited, but nobody representing tourism in Likely.
- Thought make up could be similar to some Health and Safety Committees at mine sites. Ex. meetings are co-chaired by mine staff and union reps, and the groups select who their representative is (although not necessarily suggesting co-chairing for PLC meetings).
- Indicated that he would put these concerns into writing when providing comments on the ToR.

JS – Suggested considering capping the number of PLC Designated Representatives, and that there could be a limit, but an invite could be put out for other interested groups to join. Groups can't participate unless they know the PLC exists.

HB – MoE will work with MPMC to figure out a system for committee membership and will encourage people who were historically involved or other interested parties to contact MoE and MPMC.

LM – Stated that this was his first involvement in this meeting (wasn't involved through all of the organization period), and apologized if anything seemed exclusionary or controlling leading up to or during the meeting. Emphasized using this meeting and format as a springboard for moving forward.

DW – Likely tourism representative is missing. The Likely Chamber of Commerce isn't a typical Chamber of Commerce, and might not be the best representative for businesses in Likely.

LK – DW is designated representative for the Likely Chamber of Commerce at Mount Polley-related meetings. Indicated that her role with the Likely Chamber of Commerce is the "keeper of information".

DW – DW and LK to discuss potential Designated Representative with the Likely business community. **[Action Item]**

CB – Noted that the PLC will likely lose members if the meetings are too long and uncontrolled.

WC – Stressed the need for Designated Representatives to keep up on the material being discussed, even when they miss meetings, and for Designated Representatives to provide relevant information to delegates who will attend if they are absent.

LK – Suggested that Likely was the only community that had a "line up" to participate in the PLC. Should a call out for more members from other communities be done?

JS – If Designated Representatives don't attend meetings, how long should be PLC wait to remove them from the membership?

LM – This could be incorporated into the ToR.

JD – The ToR already states a suggested attendance commitment of 75%.

LM – Agreed that this could be used for the time being, and amended over time, as needed.

KM – Mentioned that normally PLC meetings will be much shorter. This one was longer due to the need to discuss the ToR and PLC membership.

LK – Suggested sending out ToR to members not attending.

LM – Yes, will be sent out with the meeting minutes.

SH – Horsefly River Roundtable can't afford to participate in 3h of meetings (basically a whole work day with the drive). Due to time constraints, could consider a potential alternate (tourism representative?). Recommended ToR be bulletproof and meetings short and concise.



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LM – Asked if phone meetings were more efficient for Designated Representatives?
KM – Suggested alternating phone and face-to-face meetings.

JS – Suggested a member of the Board of Trade from Horsefly be invited.
LM – MPMC can provide a formal invite. **[Action Item]**

JD – Indicated that the Big Lake representation was adequate. The Big Lake Community Association is the umbrella for all community happenings.
BH – Agreed with JD.

CB – Normally she would invite a business owner to participate as the Williams Lake business representative, but they are generally too busy.

JS – Indicated that she should follow up with the other CRD Directors and discuss whether one, both, or neither should participate. Updates will be shared with all Directors regardless, and it may be most efficient to have only one CRD Designated Representative. **[Action Item]**

WC – Indicated that he would follow up on who his be his delegate when he is unable to attend. **[Action Item]**

SH – The Williams Lake Field Naturalists may be another special interest group.
SC – Suggested there may be significant overlap with them and the Cariboo Conservation Society who already has representation.
KM – MPMC can invite the Field Naturalists. **[Action Item]**

LM – Suggested having representation from the mine and the union. **[Action Item]**

JS – Suggested inviting the Quesnel River Research Centre. **[Action Item]**

HB – Government list of representatives looks good. MoE is committed to attending.
KM – Noted that Stu Cartwright from DFO was not able to get through onto the call in line, but is committed to participating.

LM – MPMC will send off a kick off email with meeting minutes and information on the PLC and the ToR that can be forwarded to potentially interested groups. **[Action Item]** A separate email will be sent with FTP login information to existing members.

HB – Indicted that he thought this was a good kick off meeting and looked forward to receiving comments on the ToR by the end of September.

KM – Suggested the next meeting (December 17, 2015 at 10:00am) be a call in meeting. MPMC will send out the agenda and call in information prior to the meeting. **[Action Item]** MPMC will send out an event reminder with the minutes from this meeting. **[Action Item]**

-----MEETING ADJOURNED-----



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Action Items

Action Item	Responsible Party / Parties
Provide feedback on draft PLC ToR to MPMC Designated Representative	PLC Designated Representatives
Review ToR to confirm First Nations and other stakeholders are represented as separate entities	Colleen Hughes, MPMC
Follow up on First Nation participation in the PLC	Luke Moger, MPMC
Post minutes from last PLC meeting (December 9, 2015) on FTP site	Colleen Hughes, MPMC
Post 2014 Annual Environmental and Reclamation Report on FTP site	Colleen Hughes, MPMC
Provide PLC members with a copy of the long-term water discharge strategy consultation schedule	Colleen Hughes, MPMC
Update and follow up with PLC members who did not attend the September 17, 2015 meeting	Colleen Hughes, MPMC
Follow up with contractors to avoid traffic on the Ditch Road between Horsefly and Hazeltine Creek in spring or wet conditions	Luke Moger, MPMC
Provide MoT details of Veolia treatment plant transport	Luke Moger, MPMC
Set up FTP site and provide login information to PLC members	Colleen Hughes, MPMC
Ask Likely business community for suggestions of a Designated Representative join the PLC	Doug Watt, Lisa Kraus
Send out draft ToR and invite for next meeting with meeting minutes	Colleen Hughes, MPMC
Invite the following groups to participate in the PLC: <ul style="list-style-type: none"> - Horsefly Board of Trade - Williams Lake Field Naturalists - Mine union representative - Mine employee representative - Quesnel River Research Centre 	Colleen Hughes, MPMC
Follow up with Williams Lake CRD Directors (Steve Forseth, Brian Kemp) to confirm if they will be Designated Representatives	Joan Sorley
Follow up on delegate when unable to attend	Walter Cobb
Send off a kick off email with information on the PLC and the ToR that can be forwarded to potentially interested groups	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

NEXT SCHEDULED MEETING:
DECEMBER 17, 2015, 10:00AM (PHONE-IN/GOToMEETING)



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

Meeting Details

Date: December 17, 2015
Time: 10:00am
Location: Conference Call

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>	<u>Organization</u>
Lisa Kraus (LK)	X		Community of Likely
Doug Watt (DW)	X		Likely Chamber of Commerce
Claudine Kadonaga (CK)	X		Likely Business
Steve Hocquard (SH)	X		Community of Horsefly
Joan Sorely (JS)	X		Regional District
Steve Forseth (SF)	X		Regional District
Richard Holmes (RH)	X		Morehead, Little Lake Business ?
Matt McCracken (MM)			Morehead Business
Christine McLean (CM)	X		Mitchell Bay Community
Bee Hooker (BH)	X		Big Lake Business
Jack Darney (JD)	X		Big Lake Community
Aaron Higgenbottom (AH)			Williams Lake Indian Band
Julia Banks (JB)			Soda Creek Indian Band
Walt Cobb (WC)	X		City of Williams Lake
Claudia Blair (CB)	X		Williams Lake Chamber of Commerce
Bill Caruthers (BC)			Williams Lake Community
Bill Lloyd (BL)	X		Cariboo Conservation Society
Stu Cartwright (SC)			Department of Fisheries and Oceans
Lee Williston (LW)			Forests, Lands, Natural Resource Operations
Jason Kerley (JK)	X		Forests, Lands, Natural Resource Operations
Chris Swan (CS)	X	Hubert Bunce	Ministry of Environment
Brian Yamelst (BY)			Ministry of Environment
Tania Demchuk (TD)	X		Ministry of Mines
Rob Birtles (RB)			Interior Health
Margie Henley (MH)			Ministry of Transportation
Ken Awmack (KA)			Ministry of Agriculture
Colleen Hughes (CH)	X		Mount Polley
Kevin Marks (KM)	X		Mount Polley
'Lyn Anglin (LA)	X		Imperial Metals
Luke Moger (LM)	X		Mount Polley Mine
Dale Reimer	X		Mount Polley Mine



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Removed from participant list by request: Environment Canada, MEM (include in emails,)



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Minutes

Welcome and Roll Call Introduction

Review and Accept Agenda

- TD requested to add additional information at the end of the scheduled meeting.

Presentation (2015 12 17 – PLC Meeting Presentation [Final].pptx)

- **Review of Last Meeting's Minutes – CH**
 - Outstanding action items
 - Provide consultation schedule for long-term water management strategy development.
 - Provide formal invitation to Horsefly Board of Trade and Williams Lake Field Naturalists to join the PLC
- **Draft Terms of Reference (ToR) – CH**
 - Request response from group by January 31, 2016.
- **Site Update – LM**
- **Monitoring Update – CM**

PLC General Questions and Comments

LA: Communications: noted that fewer people are attending meetings in Likely. People that are attending are not interested in the answers that we are offering. Is there a value in having the meetings if we are not getting a good representation from community members?

JS: Yes there is less attendance. The people that were confrontational at the last meeting we re-traumatized by the colour of the lake. It is important to keep having the meetings. You should have workshops to help people be part of the process. If you don't have meeting people will be disappointed.

CH: Perhaps the Community to help make the meetings more positive?

CB: Chamber meetings (in Williams Lake) are always well attended when MPMC presents. I agree you can't stop having the meetings. Conflict isn't a reason to stop. Meetings are part of a good process.



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RH: Regarding social media, both sides are equally guilty. Regarding meetings I recommend a mediator at the meetings. People are also absent because many are away for the winter.

CK: Agree that there were a few people that were out of line at the meeting. There were several people there to get information. I think it would be good to continue the meetings.

DW: Important to keep meetings going. MPMC should keep up their presence in the community.

LA: Would the community of Likely consider a "Code of Conduct" for the meetings?

JD: Good suggestion but for general public this could be contentious. A good facilitator, agreed upon by MPMC and Community of Likely, would help.

LK: Agree to having a facilitator.

LA: Clarifying communications from the PLC. PLC representatives should endeavor to commit to share information with their groups of interest.

TD: MEM is currently screening MPMC's application for full restart. The Chief Inspectors report will be released today.

CM: I have three pages of questions I did not get answered today. Concerned about the distance to the community meetings in Likely.

LA: We have met with Horsefly and will try to do this again in the near future.

CH: Hopefully our presentations answered some of the questions. Anyone with unanswered questions, please send them to us and we will endeavor to answer them and provide a response to the group.

CK: It would be best if we could have information ahead of time for these meetings. Perhaps in report form.

-----MEETING ADJOURNED-----



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Action Items

Action Item	Responsible Party / Parties
Provide feedback on draft PLC ToR to MPMC Designated Representative	PLC Designated Representatives
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Provide PLC members with a copy of the long-term water discharge strategy consultation schedule	Colleen Hughes, MPMC
Invite the following groups to participate in the PLC: <ul style="list-style-type: none"> - Horsefly Board of Trade - Williams Lake Field Naturalists 	Colleen Hughes, MPMC
Follow up on delegate when unable to attend	Walter Cobb
Send out agenda prior to next meeting	Colleen Hughes, MPMC
Provide any outstanding questions to MPMC Designated Representative	PLC Designated Representatives
Follow up on suggestions for mediator for meetings	PLC Designated Representatives

NEXT SCHEDULED MEETING:
FEBRUARY 18, 2016, 10:00AM (PHONE-IN/GoToMEETING)



Mount Polley – Public Liaison Committee Meeting

December 17, 2015



- **Introductions/Roll Call**
- **Approval of Agenda**
- **Review of Last (September 17, 2015) Meeting Minutes**
- **Approval of Terms of Reference**
- **Mount Polley Presentations**
 - **Site Update**
 - **Monitoring Update**
 - **Future Plans/Timelines**
- **Discussion Regarding Communication Plan**
- **MPMC Questions to PLC**
- **PLC Questions/Comments**
- **PLC Identification**
- **Next Meeting**



Introductions/Roll Call



Approval of Agenda



Review of Last PLC Minutes



Attendees:

- MPMC
- Likely – Community/Chamber of Commerce
- Horsefly - Community
- Big Lake – Community/Business
- Williams Lake – Business/City (Mayor)
- Cariboo Regional District
- Interior Health Authority
- Ministry of Environment
- First Nations Relations (Ministry of Forestry, Lands and Natural Resources)
- Ministry of Transportation



Discussion Topics:

- Review of draft terms of reference
 - Discussion of review of Communication Plan
- Review of previous meeting minutes
- Site Update
 - Remediation/ (Polley Lake/Hazeltine Creek/Quesnel Lake)
 - 2015 Freshet Embankment/TSF
 - Site Water Management
 - Short-Term Water Discharge
- Monitoring Update
- Future Plans/Timeline
- PLC Questions/Comments
- PLC Identification

PLC Meeting – Previous Minutes



Action Items:

- MPMC requested any comments on the draft TOR be provided to MPMC and to Hubert Bunce (**ongoing**)
- MPMC to differentiate between First Nations and stakeholders in draft TOR (**complete**)
- MPMC to follow up with First Nations regarding their attendance at the PLC meetings (**complete**)
- MPMC to provide last meeting minutes on the SharePoint site (**complete**)
- MPMC to provide 2014 Annual Reclamation Report on SharePoint Site (**complete**)
- MPMC to provide consultation schedule for long-term water management strategy development (**outstanding**)
- MPMC to provide meeting minutes for members that are unable to attend (**complete**)
- MPMC to follow up with contractors on use of Ditch Road for damage consideration (**complete**)
- MPMC to follow up with MOT regarding mobilization/demobilization of equipment for construction of Veolia plant (**complete**)
- MPMC to set up access to SharePoint site for PLC members and provide login information (**complete**)
- Likely PLC members to discuss potential Likely Business representation on PLC (**complete**)
- MPMC to send out draft PLC TOR and invite for next meeting with meeting minutes (**complete**)
- MPMC to provide formal invitation to PLC for:
 - Horsefly Board of Trade (**outstanding**)
 - Williams Lake Field Naturalists (**outstanding**)
 - Mine Union (**complete**)
 - Mine Staff Employee (**complete**)
 - Quesnel River Research Centre (**ongoing, waiting for new manager to be hired**)
- CRD to follow up on whether there should be more than one CRD director on the PLC (**update required**)
- Williams Lake Mayor to confirm who alternate delegate (**update required**)
- MPMC to send out kick-off e-mail with PLC information and ToR (**complete**)
- MPMC to send out agenda prior to next meeting (**complete**)



Terms of Reference



Terms of Reference

- Reviewed at each meeting, formal revisions to follow as required
- Available for comment/review at any time



Vision

“to provide an opportunity for Mount Polley Mining Corporation (MPMC) to share information about mine activities and the results of monitoring programs with its members and for members to share such information with their respective membership. The PLC is seen as a medium to add value to stakeholders in the Mount Polley Mine, including, but not limited to: MPMC and its personnel, public interest groups, local communities, First Nations and regulators.”



Mission Statement

“The PLC is a venue to provide **structured**, **meaningful** and **effective communication** between MPMC, public interest groups, local communities, First Nations and regulators.”



Goals

- To recognize unique groups sharing interests in the Mount Polley Mine
- To engage in open and transparent communication
- To provide structure for sharing and distributing information

Permit 11678 under the *Environmental Management Act*:

“...share and receive information about mine activities and the results of monitoring programs with interested members of the public.”



Formation

- Active since 1999
- Historically met minimum once per year, often more frequently
- Transitioned into Ministry of Environment (MoE) permit requirement (Permit 11678) under the *Environmental Management Act*
 - Required to have annual meetings (2013)
 - Required to have quarterly meetings (2015)



Members and Composition

- “Designated Representative” for each unique user group
 - Focal resource for distribution of information by MPMC
 - Focal resource for user group
 - Continuity/consistency in reporting
- Unique user groups:
 - Community, Business, Local Government (respective for each area)
 - First Nations
 - Provincial and Federal Regulators/Government
 - Special Interest
- MPMC Designated Representative to organize and chair PLC meetings.



Terms of Membership

- Designated Representative
 - No fixed term
 - Request to have 75% attendance for continuity
 - Can assign alternate if absent
 - Can be replaced, resign, or group chooses to no longer attend
 - Responsible for conveyance of information to and from membership
- Expectation to abide by Terms of Reference
- Mechanism to identify any additional unique interests (standing agenda item) for consideration by MPMC and MoE



Meetings Details

- Meetings to be regularly scheduled as per standing item on PLC agenda (initially set as quarterly)
- Meetings to provide update on mine activities and *Environmental Management Act* Permit 11678 monitoring results
- General Format
 - Terms of Reference Review
 - Review of Last Meeting's Minutes
 - MPMC Site Update, Monitoring Update
 - Future Plans/Timelines
 - PLC Questions/Comments
 - PLC Identification of new Unique Groups
 - Meeting Frequency/Next Meeting
- MPMC Designated Representative to schedule meetings and send out invitations (minimum 1 month's notice)



Resources and Budget

- No formal contract between PLC and MPMC; just ToR
- MPMC Designated Representative to organize and host meetings and support transfer of PLC information to Designated Representatives at MPMC cost
- PLC Representation attendance at own cost
- FTP site to be hosted and maintained by MPMC
 - PLC material will be uploaded (agendas, presentations, minutes)
 - Unique access granted to PLC Designated Representatives
 - Transferable (ease for changing representative)
 - Members responsible for control of own credentials



Reporting and Deliverables

- PLC material will be uploaded to FTP site for reference
- Respect of provided materials

Communications

- Primary mode of communication is meetings, support by e-mail
- Interviews of membership as representative of the PLC requires coordination with and approval by MPMC



Site Update



Remediation Work Update



Upper Hazeltine Creek

- Ongoing reclamation of tailings in Plug Area
- Timber falling complete

Lower Hazeltine Creek

- Bridge replacement work complete (Gavin Lake Road/Ditch Road)
 - Some 'landscaping' work required at Ditch Road Bridge
- Timber falling complete

Quesnel Lake Beach

- Beach cleanup ongoing
- Timber falling complete



Short-Term Water Discharge Update

Short-Term Water Discharge Update

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Mill Operation

copyright



Short-Term Effluent Discharge Strategy

- Springer Pit → Perimeter Embankment Till Borrow Pond (PETBP)
- Treatment at PETBP for Total Suspended Solids
- Discharge to Hazeltine Creek
- Diffuser/Pipe into Quesnel Lake from Upper Sediment Pond

Short-Term Water Discharge Update

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Site Water Management

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Short-Term Water Discharge Update



- Springer Pit used for short-term storage of water and tailings
 - Water to be drawn down and discharged to receiving environment
 - No tailings to be discharged to environment

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Short-Term Water Discharge Update

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Ditch Armouring Project Priorities

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Short-Term Water Discharge Update



- Veolia Actiflo Water Treatment System
 - Commissioning completed October, 2015
 - Fully operating as of December 1, 2015



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- Hazeltine Creek temporary conveyance of treated discharge to Quesnel Lake



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Short-Term Water Discharge Update



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Short-Term Water Discharge Update

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Short-Term Water Discharge Update

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Short-Term Water Discharge Update



- Dual pipelines with two diffusers each, at 45 and 50 m depths installed in Quesnel Lake





Polley Lake Weir

- Operational goal of managing Polley Lake level (particularly over freshet)
- Managed as required for downstream works
- Managed to meet downstream operational requirements



Return to Full Operations



- Permit M-200 Amendment Application submitted November 6, 2015
- Submission Documents
 - Permit Amendment Application: Mount Polley Mine Return to Full Operations
 - Mount Polley Mine Tailings Storage Facility Detailed Design to Elevation 970 m
 - Mount Polley Mining Corporation Cariboo-Springer Phase 4 Water Management Plan (TSF 970 m Design)
 - Mine Reclamation and Closure Plan Update November 2015
 - Mount Polley Mine Tailings Storage Facility Life of Mine Feasibility Design



Existing Operating Permit

- One(1) year; expiry July 8, 2016
- Up to 4,000,000t of ore processed
- Deposition of tailings in Springer Pit
- Requirement for short-term discharge strategy
 - Permit received November 30, 2015
 - Discharge started December 1, 2015



Permit Application

- Transition from Restricted Operations to Full Operations
- Mine Plan milling tonnages match the 970m TSF Design capacity (~four years)
- Mining of the Cariboo-Springer Phase 4
- Re-handle of PAG into Springer Pit for subaqueous disposal at closure
- Post-970m TSF Design/Cariboo-Springer Pit Phase 5 based on economic conditions

Return to Full Operations Update



Ore Sources

1. Cariboo/Springer Pit (Open Pit)
2. Wight Pit (Underground)
3. Boundary Pit (Open Pit)
4. Ore Stockpiles

Mining Phases

1. Restricted Operations
2. Full Operations
3. Pre-Closure Period

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Waste Management

1. Tailings (including those in Springer Pit) → TSF
 - 33,900,000t capacity in repaired TSF
2. NAG Rock → TSF/SERDS
 - 44,000,000t during plan
3. PAG Rock → Temporary Northwest PAG Stockpile
 - 24,250,000t at closure
 - Final backfill elevation of 1028masl in Springer Pit

Very little additional disturbance (31.59 hectares); all previously established areas with mine water management infrastructure.

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Return to Full Operations Update



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1) Restricted Operations

- Tailings deposition in Springer Pit
- August 2015 through November 2015
 - Week-on/week-off; 20,000tonnes per day (tpd) when operating
- December 2015 through April 2016
 - 24/7; 18,000tpd
 - Driven by winter conditions and substantially weakened copper prices
 - 4,000,000t realized in April 2016
- NAG produced for TSF Buttressing
 - Primarily stockpiled ore mined January 2016 through April 2016
 - Mining fleet utilized for NAG hauling



2) Full Operations

- Tailings deposition in TSF
- May 2016 through 2019Q1
 - 24/7; 22,000tpd
- Requires access to ore in Springer Pit
 - Removal of water prior to 2018Q1
 - Pumping/mining of tailings

3) Pre-Closure Period

- Tailings deposition in TSF
- Mining of ore stockpiles
- Re-handle of PAG into Springer Pit

Return to Full Operations Update



MEM screening ongoing

Provided for 'viewing' to MDRC November 20, 2015

Public Meetings

Round 1 (MPMC/Golder/MoE)

- December 7, 2015: Likely
- December 8, 2015: Soda Creek Indian Band (SCIB)/Williams Lake Indian Band (WLIB)
- December 9, 2015: Williams Lake

Round 2 (MPMC/Golder/MoE/MEM)

- January 18 – 22, 2016: Likely, Williams Lake, Quesnel, WLIB/SCIB



TSF Update



970m TSF Buttressing

- Two (2) satellite buttresses required along Perimeter Embankment
- Buttress required along the Main Embankment
- No buttress required along the South Embankment
- Permit received October 22, 2015
- Stripping (ground preparation) commenced
- Bulk rock placement January, 2016 to March, 2016
 - Staged placement approach based on critical areas



Main Embankment Buttress Design: 967m elevation, FoS = 1.5: ~1,000,000m³

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REVISION	MAIN EMBANKMENT BUTTRESS
1	SONIC DRILLING AND INSTRUMENTATION INSTALLATION (GOLDER 2018)
2	CONDENSATION HOLES / PIEZOMETER INSTALLATION (KP, 1996)
3	SOLID AUGER, SPT, PIEZOMETER INSTALLATION (KP / R.E. GRAHAM ENG., 1996)
4	CPT (KP / CONTEC 1996)
5	SOLID STEM AUGER AND CPT, PRESSURE RELIEF WELL (SPT, 1996)
6	AIR ROTARY, SPT, MONITORING WELL INSTALLATION (KP, 1996)
7	CODEX, SPT, PIEZOMETER INSTALLATION (KP, 2002)
8	BORROW PROGRAM (KP, 2001)
9	SONIC DRILLING, SPT, BORROW PROGRAM (KP, 2008)
10	SLOPE INCLINOMETER INSTALLATION (2001, 2008, 2011 AND 2012)
11	SONIC DRILLING, VW PIEZOMETER INSTALLATION (MISC, 2011)
12	SETOUT LINE - S.O.L. - ORIGINAL ALIGNMENT (SEE REFERENCE 3)
13	STABILITY SECTION LOCATIONS
NOTES	
ALL UNITS IN METRES UNLESS OTHERWISE NOTED. ELEVATIONS ARE IN METRES RELATIVE TO TALINGS GRID DATUM.	
COORDINATES ARE SHOWN IN TALINGS GRID.	
CONTOUR INTERVAL 1 m MINOR AND 5 m MAJOR. CONTOURS OF THE MOUNT POLLEY MINE SITE (SEE REFERENCE 1) WERE COMBINED WITH THE UPDATED TALINGS STORAGE FACILITY SURVEY (SEE REFERENCE 2).	
REFERENCES	
1. BASE TOPOGRAPHY FROM MPAC, FILE NAME: 'MPAC_20140301_1m_LGAR_contour.dwg', RECEIVED: SEPTEMBER 3, 2014.	
2. TOPOGRAPHY PROVIDED BY MPAC, FILE NAME: '201402-15_LGAR_Bank_Conours - 1m.dwg', RECEIVED: MARCH 6, 2015.	
3. S.O.L. - ORIGINAL ALIGNMENT PROVIDED BY BGC ENGINEERING INC., DRAWING NO. 31, DRAWING TITLE: 'B PLANNING PLAN MAP', PROJECT NO. 1413803, FILE NAME: 'ACAD-01.DWG', DATED: SEPTEMBER 2014.	



CLIENT  MOUNT POLLEY MINING CORPORATION

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 970 m EMBANKMENT DESIGN

CONSULTANT  GOLDER ASSOCIATES

YYYYMMDD	2018-07-29
PREPARED	TAK
DESIGN	GU
REVIEW	NAV
APPROVED	TLE

TITLE
MAIN EMBANKMENT BUTTRESS PLAN
CPT, BOREHOLE AND STABILITY ANALYSIS
SECTION LOCATIONS

PROJECT NO. 1413803
PROJECT NAME: 3000/3400/059
DATE: 2018-07-29



Perimeter Embankment Buttress Design: 967m elevation, FoS = 1.5

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4+430

PERIMETER EMBANKMENT BUTTRESS EXTENSION

SETOUT LINE - S.O.L. - ORIGINAL ALIGNMENT (SEE REFERENCE 3)

STABILITY SECTION LOCATIONS

SONIC DRILLING AND INSTRUMENTATION INSTALLATION (GOLDER 2014)

NOTES

1. ALL UNITS IN METRES UNLESS OTHERWISE NOTED. ELEVATIONS ARE IN METRES RELATIVE TO TAILINGS GRID DATUM.

2. COORDINATES ARE SHOWN IN TAILINGS GRID.

3. CONTOUR INTERVAL: 1 m MINOR AND 5 m MAJOR. CONTOURS OF THE MOUNT POLLEY MINE SITE (SEE REFERENCE 1) WERE COMBINED WITH THE UPDATED TAILINGS STORAGE FACILITY SURVEY (SEE REFERENCE 2).

REFERENCES

1. BASE TOPOGRAPHY FROM MPAC.
FILE NAME: "MPAC_20140305_1m_LIDAR_Contour.dwg".
RECEIVED: SEPTEMBER 3, 2014.

2. TOPOGRAPHY PROVIDED BY MPAC.
FILE NAME: "2015-02-18_Drone Survey_Contours - 1m.dwg".
RECEIVED: MARCH 5, 2015.

3. S.O.L. - ORIGINAL ALIGNMENT PROVIDED BY BOC ENGINEERING INC.,
DRAWING NO. 21, DRAWING TITLE "S1 PLANNING PLAN MAP",
PROJECT NO. P14178, FILE NAME "ACAD-S1.DWG", DATED: SEPTEMBER 2014.

LEGEND

SHAPE ACCEL ARRAY

EXISTING VIBRATING WIRE PIEZOMETER


EXISTING SLOPE INCLINOMETER

BORHOLE LOCATIONS

0 100 200

1:3,000 METRES

CLIENT



MOUNT POLLEY MINING CORPORATION

CONSULTANT



GOLDER ASSOCIATES

YYYY-MM-DD

2015-07-09

PREPARED

TAK

DESIGN

GJ

REVIEW

MVS

APPROVED

TLE

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 970 m EMBANKMENT DESIGN

TITLE

PERIMETER EMBANKMENT BUTTRESS EXTENSION PLAN
STABILITY ANALYSIS SECTION LOCATIONS

PROJECT No.

1413903

PRIVATE PROJECT #

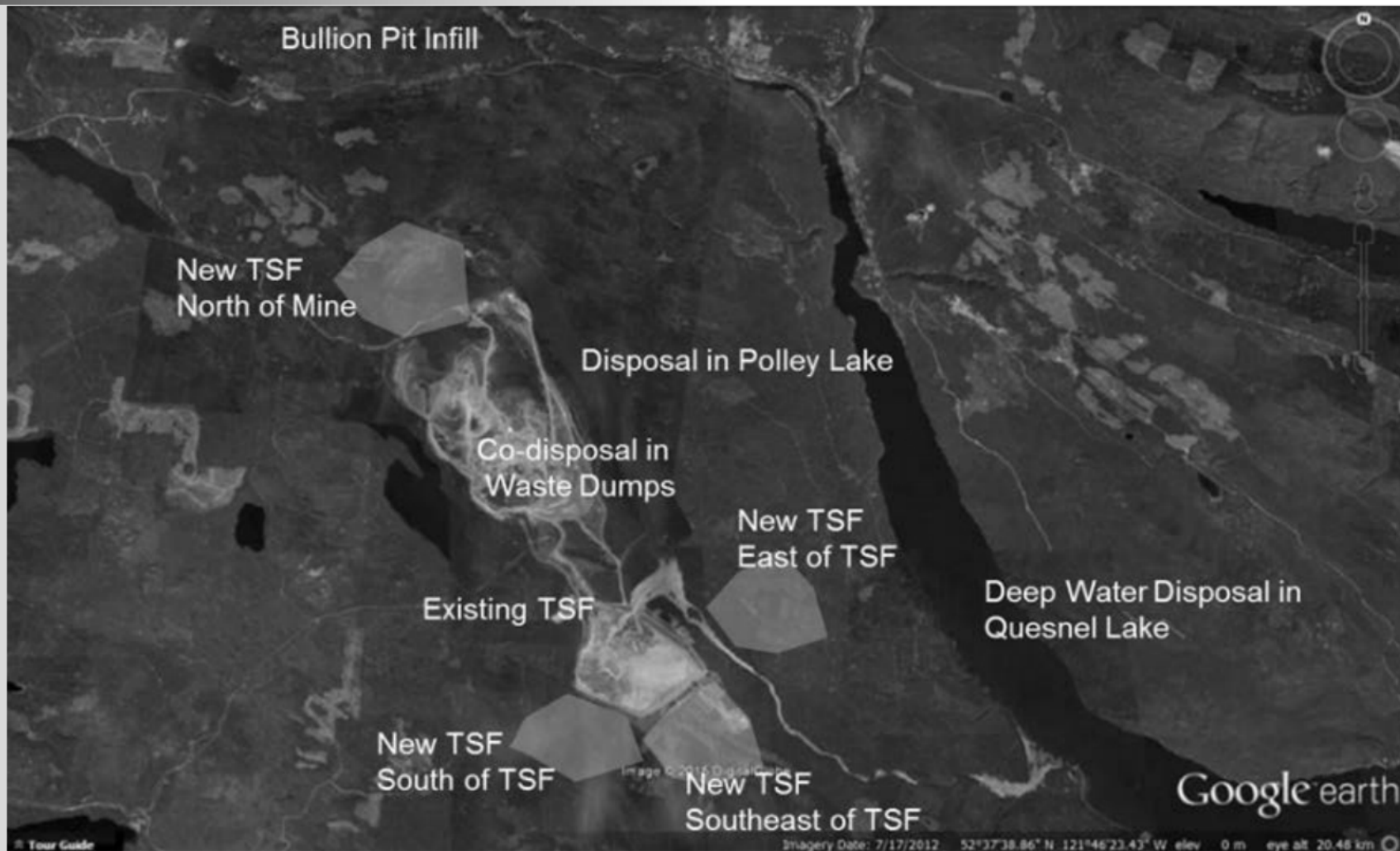
3001413903

FIGURE

81 of 186



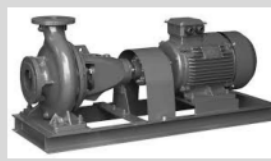




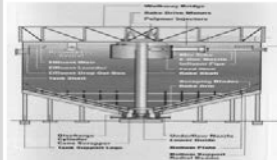







TSF Update

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TSF Update



Tailings Consistency		Dewatering Technology		Conveyance Technology	
Slurry – 30 to 58% solids		Conventional Thickener		Low Pressure Pipeline, Launder, Centrifugal pumps	
High Density Slurry – 55 to 65% solids		High Rate Thickener		Centrifugal pumps or piston diaphragm pumps	
Low Density Paste – 60 to 70%		Deep Bed Thickener, Deep Cone Thickener		Piston diaphragm pumps (high pressure)	
High Density Paste – 65 to 75%		Filter		Dual positive displacement pumps with high pressure steel pipelines	
Cake > 80%		Filter		Truck or Conveyor	



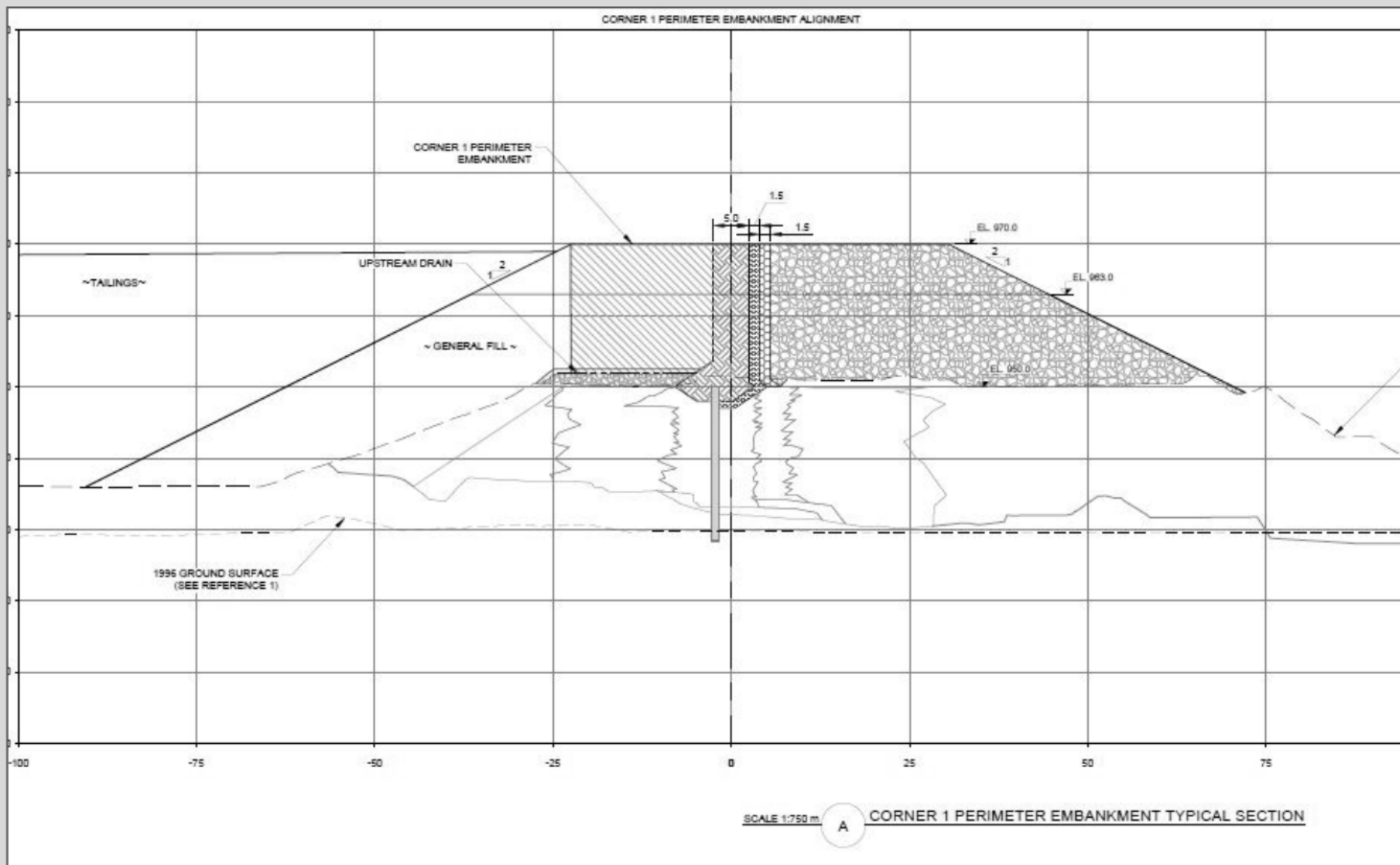
- Design basis is for 4 to 5 year mine life
 - Facility must be expandable to the 10 year mine life
- The existing TSF site is recommended based on the environmental consideration of reducing the amount of land that will be disturbed and must be reclaimed during closure of the mine.
- Thickened tailings offers no advantages over conventional tailings in this case
 - Site wide positive water balance requires ongoing release of treated water



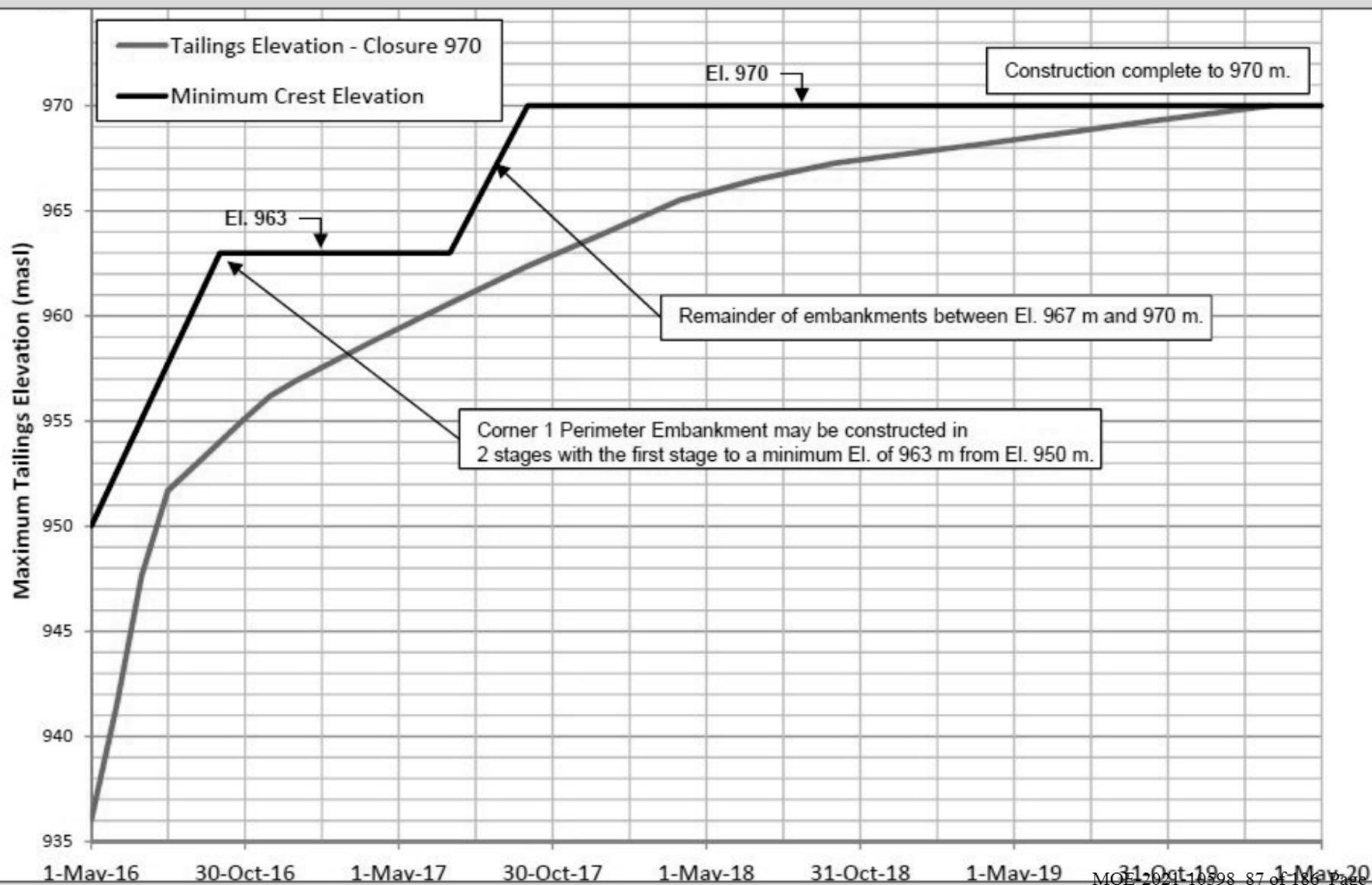
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TSF Update

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TSF Update





Monitoring Update

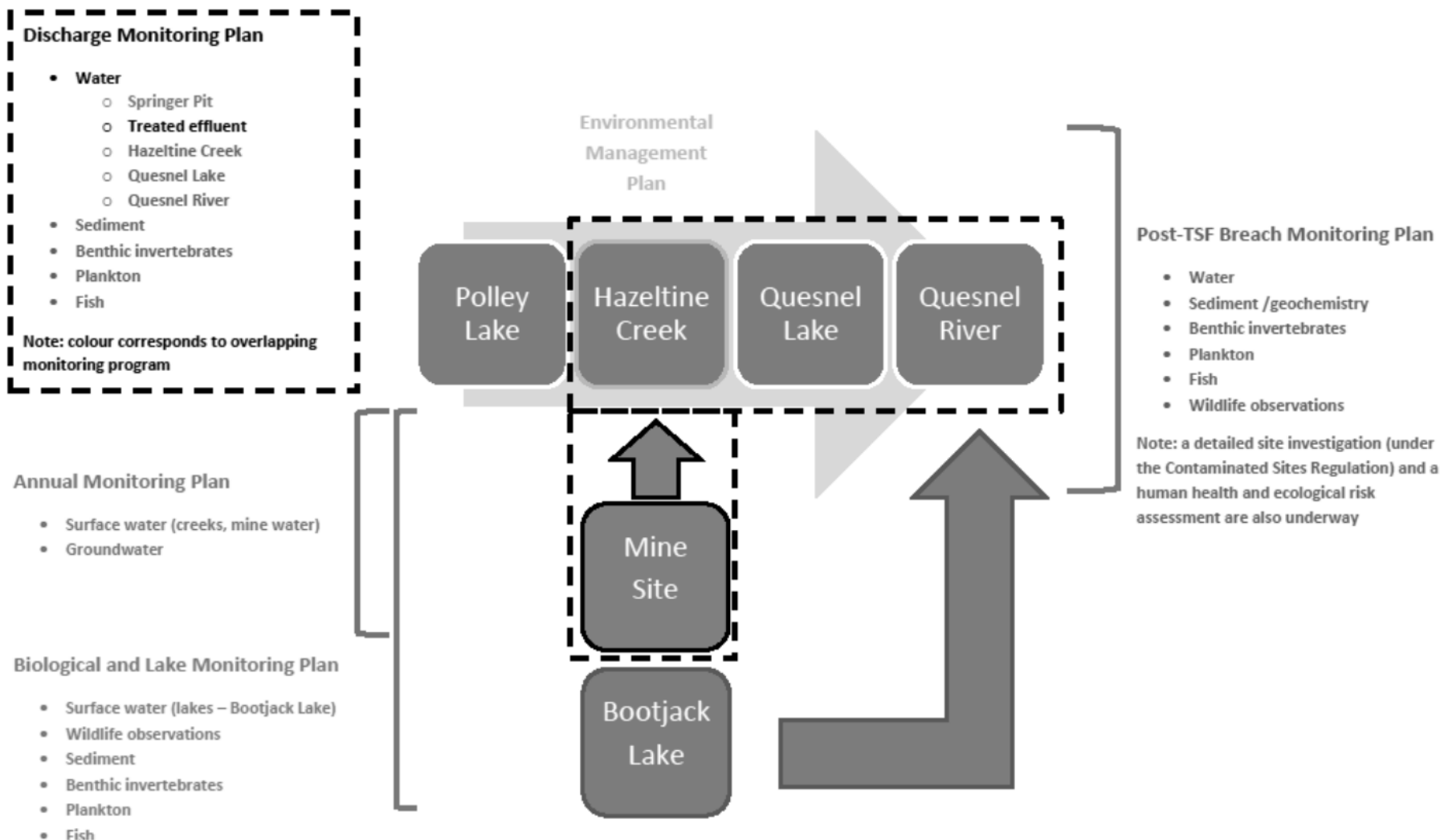


Permit Amendment

- November 29, 2015 Short-term water discharge approved
- Included approved monitoring plan

2016 Comprehensive Monitoring Plan

Monitoring Update - Overview



2015 Discharge Monitoring Plan

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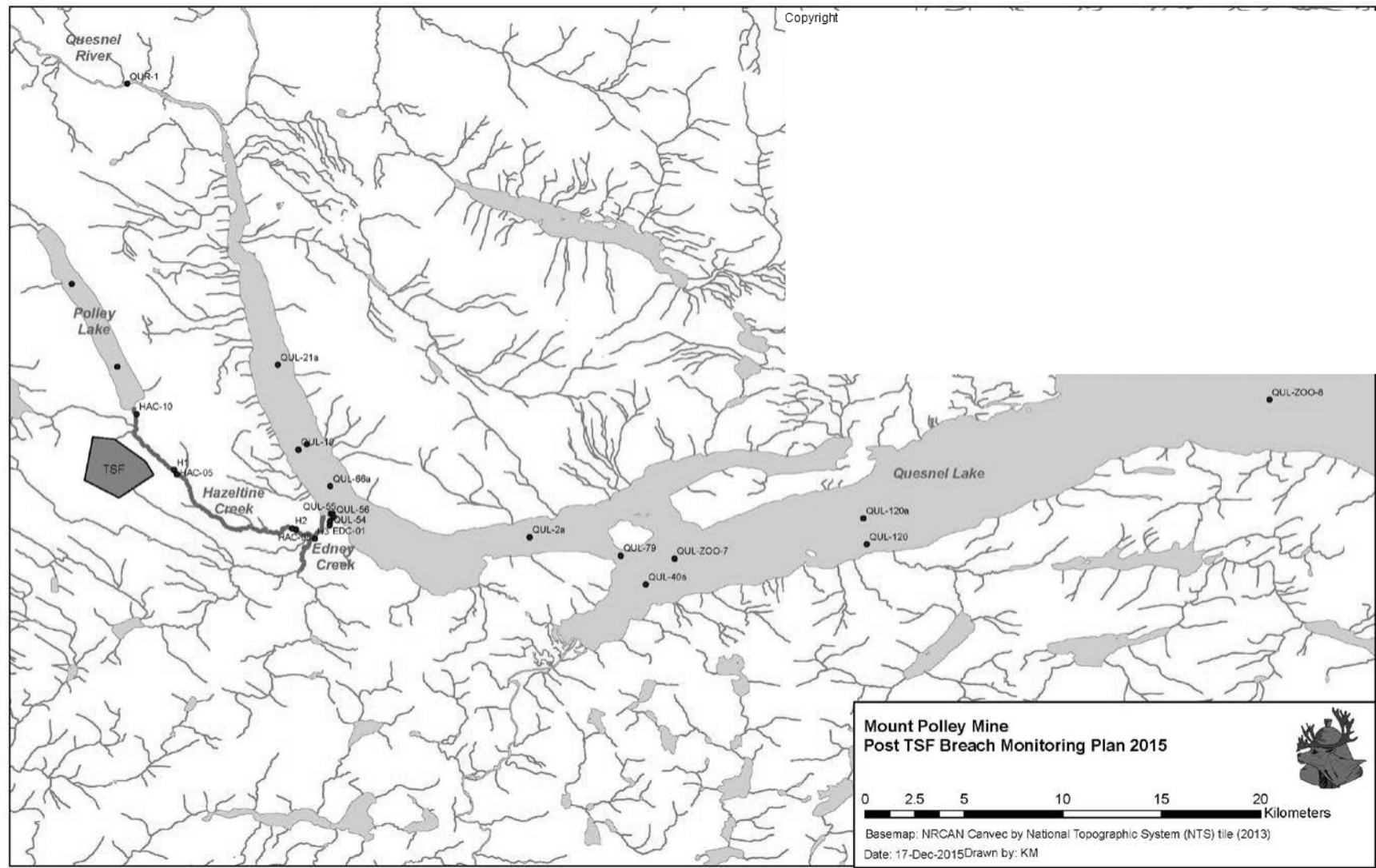
2015 Discharge Monitoring Plan

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2015 Post TSF-Breach Monitoring Plan



2015 Monitoring Plan

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Monitoring Results



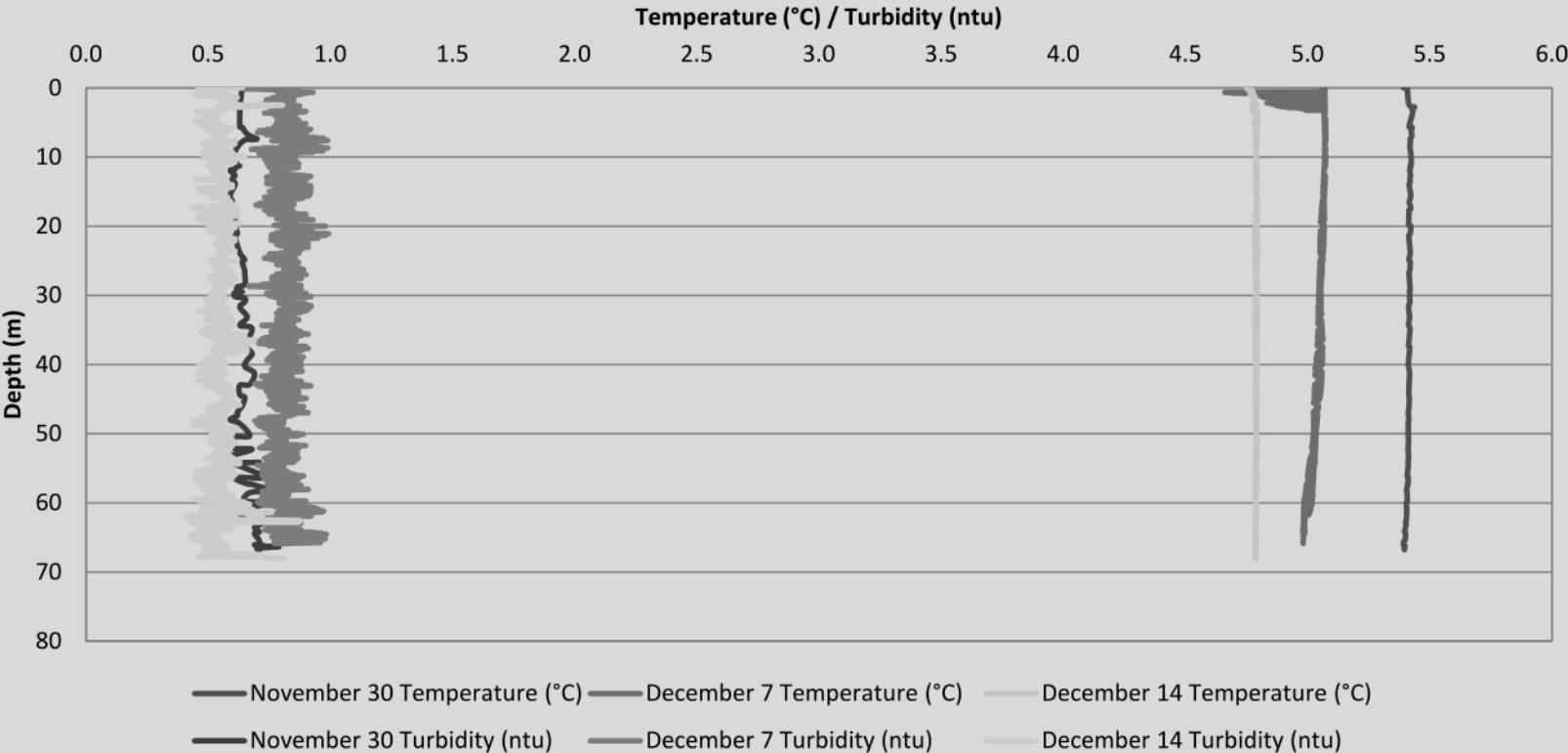
- Monitoring data are reported quarterly to Ministry of Environment.
- Interpretive reports are provided annually to MOE.
- Results for the discharge are starting to come in. This table shows initial results at end of pipe from the treatment plant.

Permit 11678 - Section 2.6.1					
Results for Sample Location HAD-03					
				Permit 11678	MMER
	12/3/2015 11:33	12/7/2015 10:18	12/15/2015 10:34	mg/L	mg/L
Total Suspended Solids (mg/L)	13.9	8.2		15	30
Nitrate (as N) (mg/L)	7.13	7.33		9.7	N/A
Copper (Cu)-Total (mg/L) (mg/L)	0.00461	0.00412		0.012	0.6
Molybdenum (Mo)-Total (mg/L)	0.155	0.147		0.41	N/A
Selenium (Se)-Total (mg/L)	0.0274	0.029		0.06	N/A
Sulphate (mg/L)	535	526		720	N/A



- Data from the initial dilution zone (IDZ) in Quesnel Lake have not been compiled yet. The figure below shows the profile data recorded when samples are collected.

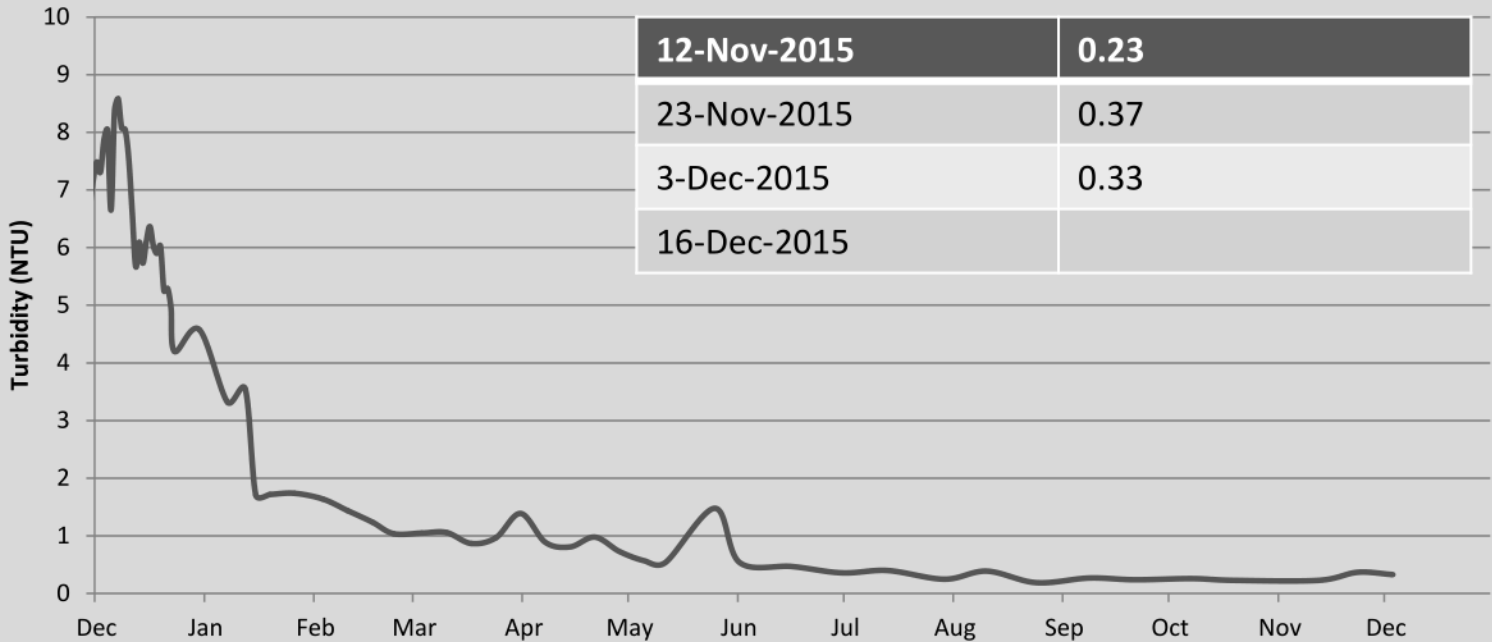
QUL-58 Profiles



Monitoring Results



- Early in December Likely Residents reported a slight green tinge to Quesnel Lake and Quesnel River.
- MPMC and MOE collected extra samples at Quesnel River site
- MPMC having lab run chlorophyl a and phaeophyton samples to determine if green is from plant material in the lake.
- Samples are also being analyzed for colour comparison to Cariboo River and Big Lake.
- Slight increase in turbidity was observed.
 - Figure shows turbidity at QUR-1 (lab results).





- Weekly updates posted on Imperial Metals website
 - Water levels and Springer Pit lake/groundwater sample results
 - Rehabilitation work
 - Key field readings
- Post-Event Environmental Impact Assessment Report
 - Available on Imperial Metals website
 - Update report to be submitted to MoE in 2016
- Annual Environmental and Reclamation Report
 - Due March 31 following each reporting year
 - Copies provided to Likely and WL libraries, SCIB, WLIB



Future Plans/Timeline

PLC Meeting – Future Plans/Timeline



- Hazeltine Creek Rehabilitation - Ongoing
- Short-Term Water Discharge – Operational
 - Alternatives assessment required by January 31, 2016
- Restricted Operations – Ongoing
 - Continued hiring
- Main Embankment Buttressing – Ongoing
- Return to Full Production With Use of TSF – 2016Q2
 - Application submitted
 - TSF Breach Repair construction – 2016Q1?
- Long-Term Water Discharge Permit – Ongoing
 - Draft Technical Assessment Report due to MoE by June 30, 2016



Communication Plan Discussion



MPMC Discussion Points



PLC Questions/Comments



PLC Identification



Meeting Frequency/Next Meeting

Appendix B

Public Liaison Committee Meeting Minutes





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Box 12 • Likely, BC V0L 1N0 • T 250.790.2215 • F
250.790.2613

AGENDA

Mount Polley Public Liaison Committee

Conference Call
February 18, 2016
10:00am

Meeting called by: MPMC Designated Representative

Roundtable Introductions – Roll Call Format	'Lyn Anglin
Approval of Agenda	All
Review and Acceptance of the Minutes of the December meeting	Colleen Hughes
PLC Updates	Colleen Hughes
Review of the Terms of Reference – Responses from PLC Members	Colleen Hughes
Mount Polley Presentations	
- Site Update	Luke Moger
- Monitoring Update	Colleen Hughes
- Future Plans/Timelines	Luke Moger/Janice Drozdiak/Allan Bronsro

Discussion of the Communication Plan

All

Standing Agenda Items

All

- PLC Questions/Comments
 - PLC Identification
 - Meeting Frequency/Next Meeting
-



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

Meeting Details

Date: February 18, 2016
Time: 10:00am
Location: Conference Call

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)				Big Lake Community
Jack Darney (JD)	X			Big Lake Business
Joan Sorley (JS)	X			Cariboo Regional District
Steve Hocquard (SH)	X			Horsefly Community
Linda Bartsch	X			Horsefly Business
Lisa Kraus (LK)	X			Community of Likely
Doug Watt (DW)				Likely Chamber of Commerce
Claudine Kadonaga (CK)	X			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes (RH)				Morehead Community
Matt McCracken (MM)				Morehead Business
Claudia Blair (CB)	X			Williams Lake Chamber of Commerce
Bill Caruthers (BC)	X			Williams Lake Community
Walt Cobb (WC)	X			City of Williams Lake
Steve Forseth (SF)	X			Cariboo Regional District
Julia Banks (JB)				Soda Creek Indian Band
Aaron Higginbottom (AH)				Williams Lake Indian Band
Stu Cartwright (SC)				Department of Fisheries and Oceans
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Ken Awmack (KA)				Ministry of Agriculture
Tania Demchuk (TD)		Jennifer McConnachie	X	Ministry of Mines
Chris Swan (CS)	X	Hubert Bunce		Ministry of Environment
Brian Yamelst (BY)	X			Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Jason Kerley (JK)	X			Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)	X			MPMC Employee Representative
Phil Haseldine (PH)				Williams Lake Field Naturalists
Colleen Hughes (CH)	X			MPMC Designated Representative
Dale Reimer (DR)	X			MPMC General Manager
Lyn Anglin (LA)	X			Imperial Metals/PLC Chair
Luke Moger (LM)	X			MPMC

Removed from participant list by request: Interior Health, Cariboo Conservation Society, Environment Canada, MEM (include in emails).



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Minutes

Welcome and Roll Call Introduction

Review and Accept Agenda

- Special welcome to Elizabeth Anderson joining us on the call. Elizabeth has been invited to be the facilitator for the upcoming Water Workshop in Likely.
- Special welcome to Janice Drozdiak and Allan Bronsro of Golder to review the pipeline option to Quesnel Lake.
- JS requested that the Water Workshop be added to this agenda. LA noted it would be added at the end if time allowed.

Presentation 2016 02 18 – PLC Meeting Presentation.pptx)

- **Review of Last Meeting's Minutes – CH**
 - Outstanding action items
 - Walt Cobb to identify designate. (it was decided that there would not be a regular designate)
- **Draft Terms of Reference (ToR) – CH**
- **Communication Plan – CH**
- **Site Update – LM**
- **Review of short-term discharge options – Janice Drozdiak/Allan Bronsro**
- **Monitoring Update – CM**

PLC General Questions and Comments

CH: PLC Updates

- Welcome to Linda Bartsh, representing the Horsefly Board of Trade, and Phil Haseldine, representing the Williams Lake Field Naturalists
- The Cariboo Conservation Society, and Interior Health have left the PLC.

JS: Regarding the TSS exceedance, did the water treatment plant continue to discharge when the TSS increase occurred?

CH: Yes, the equipment in the plant did not record this increase. It was not until we received the lab results that we knew of the exceedance.

LM: We continue to investigate what is causing these anomalies. Samples collected before and after had low TSS.



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CH: The plant removes the turbidity effectively and we are working on improving the TSS component. Currently the TSS going into the plant is very low.

JD: What was the flow rate when this occurred? Was that the issue?

LM: This occurred at a flow rate of 700 m³/h.

WC: What is the process of the extension of the permit?

LM: There is currently a time gap between when the MEM is projecting that a decision on permitting the proposed Return to Full Operations will be made, and the date on which ore processing as authorized under the existing permit for the Restricted Operations will be completed. In discussion with regulators, it was suggested that a 'bridging' solution (i.e., allowance for additional processing of ore with continued deposition in the Springer Pit) would be an acceptable alternative, pending provision of supporting technical information by MPMC, until such time that a decision is made on the proposed Return to Full Operations.

LA: Clarified that this is the bridging option. This is uncharted territory for MEM so they are contemplating what the options might be.

WC: Confirm what the water source is? Site water or tailings pond water?

LM: This is the same system we currently have.

JD: Of the two options in front of us what are pros and cons of options from MPMC? At the Water Workshop are you going to collect input and feedback from the stakeholders?

LA: MoE is keen for us to have this workshop on the 27th. It is possible they are holding off on a decision until after the workshop.

LM: Our timelines are tight based on conditions of *Environmental Management Act* Permit 11678, and we understand public feedback regarding expediency of the review process, but reiterated that MPMC have to work within their permit conditions.

JS: Neither option was presented to the community until they were in the Alternative Discharge Design and Construction Plan. Neither represents an option or choice from the community. No one from the community is available to attend the workshop. No one wants this to happen.

LA: Important to note that this is an interim plan not a long-term plan. The long-term plan has yet to be determined. Hubert Bunce (MoE Director) will be at the Water Workshop. I encourage people to follow up with Elizabeth as soon as they can.

SH: The options presented do not include detailed pros and cons. What led to the decision to weigh all the alternatives equally.



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LM: A qualitative assessment was completed to see if there were any non-starters. All but three were excluded based on that. The third was eliminated because it was not deemed by MPMC to fit within the requirements of the permit. We did not proceed with analysis of options that did not meet the criteria.

SH: Did you include stakeholder feedback. Also it is understood that there was no salmon habitat on Hazeltine only on Edney.

CH: Correct, for now but this is not the final plan.

LM: Back to Jack's comment, about what MPMC sees as pros and cons; it is difficult to say. With the extension of the pipeline in Hazeltine Creek we would have the opportunity to construct fish habitat a year earlier but completion of the pipeline to the lake has more certainty around site discharge as you know exactly what is going to Quesnel Lake, and don't have to manage site discharge based on additional flows in Hazeltine Creek.

LK: Please provide us with a copy of this presentation. I know that option 1 and 2 are sore spots within the community.

JS: Regarding the TOR – I don't think a person should be kicked off the committee if they miss a meeting.

CK: We understand that we are an information receiving and disseminating group and do not have any say in voting.

JS: Regarding the communication plan – needs to be more inclusive. Having the communication plan restricted to environmental matters doesn't make any sense.

CH: Reiterated that this plan is only developed to address requirement of *EMA* Permit 11678.

JS: The community of Likely and the CRD need to be consulted at the same level as the First Nations. Consultation needs to be more holistic. There needs to be emergency contacts for the CRD.

CH: The CRD is on the Emergency Response Plan as a contact.

SH: I have some questions regarding the material that was moved from the West Fraser Reload.

CH: Please email them to me and I will send the answers. (These were subsequently posted on the Sharepoint Site.



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LA: We had some feedback since that last meeting that some people would prefer not to be copied on all e-mail response. If you have questions, please email 'Lyn and Colleen and we will respond and post on the SharePoint site if required.

BY: The MoE Director approval is supposed to be satisfied by March 31, 2016. We should discuss this at the next meeting.

JS: Why is the Water Workshop not open to the public? I am concerned that people have been shut out and think that there should be a public notice.

LA: We are hoping to have a facilitated meeting in limited space. If you have more people that would like to attend please send me a note. We have minimized the attendees so that attendees can have meaningful input during the workshop. I will send you a list of people who have been invited.

JS: Note that there are three events that day: the workshop, a wedding, and a wake.

CH: Reminder, the SharePoint Site is <https://www.redchrismine.ca>. Don't forget to enter the "s" on the https.

-----MEETING ADJOURNED-----



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Action Items

Action Item	Responsible Party / Parties
Provide feedback on draft PLC ToR to MPMC Designated Representative	PLC Designated Representatives
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

**NEXT SCHEDULED MEETING:
MAY 12 2016, 10:00AM TO 2:00 PM (LUNCH PROVIDED)**

Note: The next PLC meeting will be held at Mount Polley Mine and will include a tour. Please wear sturdy boots with ankle protection. We will provide hardhats and hi-vis vests. If you want to carpool I am happy to help coordinate or you can email others on the PLC.



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Box 12 • Likely, BC V0L 1N0 • T 250.790.2215 • F 250.790.2613

Public Liaison Committee - Terms of Reference

Official Name

The Mount Polley Mine Public Liaison Committee (PLC).

Vision

The PLC is intended to provide an opportunity for Mount Polley Mining Corporation (MPMC) to share information about mine activities and the results of monitoring programs with its members and for members to share such information with their respective membership. The PLC does not replace or diminish the use of other communication procedures that MPMC will use regularly to ensure an informed public, including but not limited to: public meetings, newsletters, emails and internet websites. The PLC is seen as a medium to add value to parties with interest in the Mount Polley Mine, including, but not limited to: MPMC and its personnel, the public and public interest groups, local communities, First Nations and regulators.

Mission Statement

The PLC is a venue to provide additional structured, meaningful and effective communication between MPMC, the public and public interest groups, local communities, First Nations and government regulators.

Goals

1. To recognize unique entities sharing interests in the Mount Polley Mine
2. To engage in open and transparent communication
3. To provide structure for sharing and distributing information

Specifically, as included as clause 2.10 of Permit 11678 granted to MPMC by the British Columbia Ministry of Environment (MoE) under the provisions of the *Environmental Management Act (EMA)*, the overarching goal for the PLC is to:

“...share and receive information about mine activities and the results of monitoring programs with interested members of the public.”

Formation Details

The PLC for the Mount Polley Mine was formed in 1999, and meetings have been maintained through the operating years of the Mine. Meetings have historically been scheduled in correspondence with updates on proposed developments and/or projects, with a minimum frequency of one (1) meeting per calendar year.

Specific requirements for the PLC were first added to *EMA* Permit 11678 under clause 2.7 of the November 7, 2012 amendment, formalizing the requirement for MPMC to hold annual PLC meetings. This clause (renumbered 2.9) was updated in the July 9, 2015 amendment to *EMA* Permit 11678, revising the meeting frequency to quarterly and requiring development of formal Terms of Reference for the PLC. This clause (renumbered 2.10) was again (and most recently) updated in the November 29, 2015 amendment to *EMA* Permit 11678, and the portion relating to the PLC is included below:

“The Permittee [MPMC] must actively participate in and support a Public Liaison Committee which meets at least quarterly to share and receive information about mine activities and the results of monitoring programs with interested members of the public. The final Terms of Reference for this committee must be submitted by March 31, 2016 and be to the satisfaction of the Director.”

Previously, requirements for the PLC were included under clause 2.9 of the July 9, 2015 amendment to *EMA* Permit 11678, and the portion relating to the PLC is included below:

“The Permittee [MPMC] must participate in and support a Public Liaison Committee which meets at least quarterly to share and receive information about mine activities and the results of monitoring programs with interested members of the public. The Permittee must develop a draft Terms of Reference for this committee by September 30, 2015. The final Terms of Reference for this committee must be suitable to the Director.”

Initially, requirements for the PLC were included under clause 2.7 of the June 7, 2013 amendment to *EMA* Permit 11678, and the portion relating to the PLC is included below:

“The Permit holder [MPMC] must participate in and support a Public Liaison Committee which meets at least annually to share information about mine activities and the results of monitoring programs with interested members of the public.”

Members and Composition

The PLC is established by MPMC and is made up of representatives of MPMC, the public and public interest groups, local communities, First Nations and regulators.

The PLC shall consider membership from interested public or groups (herein defined as an “entity”), whereas each entity shall represent a unique interest (i.e., is deemed distinct to the respective interests of existing PLC membership). In consultation with MPMC and the MoE, the PLC shall grant membership to a single appropriate Designated Representative for each entity.

The MPMC Designated Representative will facilitate the convening of the PLC, chair (or assign a chair for) meetings, and support the provision of information to and from the PLC via each Designated Representative. Additional MPMC personnel beyond the Designated Representative will attend meetings, as required, to provide information updates. A PLC Designated Representative may, with approval from the PLC, request the attendance of a guest on a meeting-by-meeting basis.

Term of Membership

There is no term of membership imposed upon members of the PLC; PLC members shall continue to serve until they are replaced by another representative of their entity, they resign, or their entity elects to no longer participate in the PLC. It is anticipated that the composition of the PLC will change to meet the evolving nature of the Mount Polley Mine; however, it is expected that each Designated Representatives will attend, at a minimum, greater than 75% of scheduled meetings to provide continuity to the PLC. Attendance by teleconference is accepted in meeting this minimum attendance requirement. In the case that they are unable to attend a convening of the PLC, Designated Representatives shall assign an alternate to attend in their stead.

When a member of the PLC is vacating their position, it shall be ensured that the remaining membership maintains sufficient continuity to provide knowledge transfer between exiting and entering members.

A standing agenda item will be included such that the PLC will have the opportunity to identify any additional, unique entities that may benefit from representation at the PLC, with potential candidates submitted to the PLC membership, MPMC and the MoE for consideration for approval.

Each Designated Representative participating in the PLC shall be responsible for representing the interest of their respective entity, and is expected to attend PLC meetings and convey information to and from the PLC and their entity. Designated Representatives shall at all times be respectful of the time commitments of fellow PLC members and MPMC personnel. Each Designated Representative will be expected to prepare appropriately in advance of meetings and to manage their communications efficiently within meetings. Individual Designated Representatives may be required to prepare their communications outside of the meeting setting if necessary to adhere to the time limits of typical business meetings.

Breach of the PLC Terms of Reference by any Designated Representative will result in termination of that member from the PLC.

Breach of the PLC Terms of Reference by a member of a represented entity will result in discussion by the PLC on whether termination of that entity from the PLC is warranted.

Frequency of Meetings, Meeting Format and Manner of Call

The PLC meetings shall be scheduled at regular intervals deemed appropriate by the PLC to share updates on Mine activities and results of monitoring programs at Mount Polley Mine. Currently, there is a requirement that such meetings shall occur at a minimum quarterly, as set out in clause 2.10 of *EMA Permit 11678* (November 29, 2015 amendment). A standing agenda item will be included such that the PLC will assess the frequency of scheduled meetings.

Meetings shall include presentations by MPMC, and, as appropriate, tours of the Mount Polley Mine.

Meetings will generally consist of the following agenda items:

- Review of the PLC Terms of Reference (MPMC Designated Representative);
- Review of the minutes of the previous PLC meeting and any outstanding action items (MPMC Designated Representative);
- An overview presentation briefly summarizing mine activities and current operating conditions (MPMC personnel);
- An update on the results of the monitoring programs under *EMA* Permit 11678 (MPMC personnel);
- An overview outlining planned activities, as appropriate (MPMC personnel);
- An opportunity for PLC Designated Representatives to bring forward items;
- An opportunity for the PLC to identify potential additional, unique entities;
- Review of meeting frequency and date of next scheduled meeting (MPMC Designated Representative);
- A site tour, if scheduled (MPMC personnel).

PLC meetings will be called by the MPMC Designated Representative by e-mail, with members of the respective parties as outlined in the Active Membership List which will be kept on file and updated by the MPMC Designated Representative (available to any members on request). E-mail notice for meetings shall be provided, at a minimum, one (1) month in advance of scheduled meetings. As much as possible, future meeting schedules shall be discussed with the PLC and planned as far forward as possible.

Resources and Budget

There shall be no contract between members of the PLC and MPMC, though members are subject to adherence to these Terms of Reference.

The MPMC Designated Representative shall manage resources and provide support to the PLC in the convening of the PLC and distribution of information to Designated Representatives, with costs to be borne by MPMC.

In general, costs associated with the attendance of meetings and distribution of information within membership by PLC Designated Representatives, once provided by the MPMC Designated Representative, is to be borne by respective PLC entities, unless specific agreement is made between MPMC and the Designated Representative or their entity.

An FTP site will be maintained by the MPMC Designated Representative, with access provided to the PLC Designated Representatives, containing copies of agendas, minutes and presentations. This will be a secure access FTP site, and information will be maintained for the benefit of the Designated Representatives of the PLC, but shall be controlled to limit access to only Designated Representatives, and not their entity – it will be the responsibility of each Designated Representative to control access under their credentials to information contained.

Reporting and Deliverables

The MPMC Designated Representative shall be responsible for provision of an agenda for each PLC meeting. The MPMC Designated Representative shall be responsible for providing a copy of meeting minutes, including copies of presentations made as part of the PLC meeting and responses to questions put forward by PLC members, to Designated Representatives within one (1) month of each meeting.

Information provided by MPMC to the PLC may be forward-looking in nature. Information provided is not to be used by PLC members for interests not related to the stated goals of the PLC.

Communications

The PLC does not replace or diminish the use of other communication procedures that MPMC will use regularly to ensure an informed public, including but not limited to public meetings, newsletters, e-mails and internet websites.

The primary medium of communication for the PLC will be through attendance of scheduled meetings. Correspondence is also accepted by means of e-mail, with members as outlined in the Active Membership List herein. PLC Designated Representatives will coordinate activities pertaining to the PLC with, and deliver any associated material to, the MPMC Designated Representative, who will be responsible for further distribution of any such material within and outside of the PLC.

Coordination with, and approval by, MPMC is required prior to any interviews, public statements, internet postings, or any written or verbal communication made by or on behalf of the PLC that are outside the scope of communications between PLC Representatives and their respective entities as described in this terms of reference.

Reviewing Terms of Reference

These Terms of Reference shall be reviewed at the start of each PLC meeting, but may be requested to be reviewed by the group or individuals at any time.

Date of Last Review

March 20, 2016 *[final version for submission to the MoE]*

May 11, 2016

Authorization: 11678

VIA E-mail and Mail Delivery
dreamer@mountpolley.com

Dale Reimer, Mine Manager
Mount Polley Mining Corporation
PO Box 12
Likely BC V0L 1N0

Dear Mr. Reimer:

Re: Permit Section 2.10 – Communication Plan – Authorization 11678 – Suitable

Amended Permit 11678 issued under the provisions of the *Environmental Management Act*, section 2.10, Communication Plan, requires:

The Permittee must implement a Communication Plan that addresses the sharing of environmental data with the Soda Creek Indian Band, the Williams Lake Indian Band, the Cariboo Regional District, and the Community of Likely to the satisfaction of the Director.

The Permittee must actively participate in and support a Public Liaison Committee which meets at least quarterly to share and receive information about mine activities and the results of monitoring programs with interested members of the public. The final Terms of Reference for this committee must be suitable to the Director.

On March 20, 2016, Mount Polley Mining Corporation (MPMC) submitted the following documents to meet the noted Permit requirement.

- *Communication Plan*
- *Public Liaison Committee – Terms of Reference*

In addition, I am aware that MPMC has consulted with Public Liaison Committee members and the required First Nations, Cariboo Regional District, and Community of Likely.

I have reviewed the *Communication Plan* and *Public Liaison Committee – Terms of Reference* and I am satisfied that they meet the intent of Permit section 2.10.

I encourage the MPMC to liaise with all interested members of the public and to only limit participation when the requested number of attendees can be shown to result in unwarranted resource requirements for the MPMC.

I also recommend that the MPMC should reference the noted Permit Section 2.10 and evaluate the level of compliance to that requirement in forthcoming annual report submissions.

I further advise the MPMC that the Director may require revision of either of the submitted documents based on information and concerns received in relation to Permit section 2.10.

If you have any questions, please contact Brian Yamelst at Brian.Yamelst@gov.bc.ca or at 250-371-6323.

Yours truly

A handwritten signature in black ink, appearing to read 'Hubert Bunce', with a long horizontal flourish extending to the right.

Hubert Bunce,
A/Director, Mount Polley
Environmental Protection, Regional Operations



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AGENDA - MODIFIED

Mount Polley Public Liaison Committee

Mount Polley Mine

May 12, 2016

10:00am

Meeting called by: Colleen Hughes

Roundtable Introductions	'Lyn Anglin
Approval of Agenda	All
Review and Acceptance of the Minutes of the February meeting	Colleen Hughes
Mount Polley Presentations <ul style="list-style-type: none">- Site Update- Monitoring Update- Future Plans/Timelines	Luke Moger Colleen Hughes Luke Moger
Review of Long term Water Management Options Analysis	Jerry Vandenberg
Standing Agenda Items <ul style="list-style-type: none">- PLC Questions/Comments- PLC Identification- Meeting Frequency/Next Meeting	All

United Way Days of Sharing Campaign

Luke Moger

Tour of Lower Hazeltine and Edney Creek

All



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

Meeting Details

Date: May 12, 2016
Time: 10:00am
Location: Mount Polley Mine

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)	X			Big Lake Community
Jack Darney (JD)				Big Lake Business
Joan Sorley (JS)	X			Cariboo Regional District
Steve Hocquard (SH)				Horsefly Community
Linda Bartsch				Horsefly Business
Lisa Kraus (LK)				Community of Likely
Doug Watt (DW)	P			Likely Chamber of Commerce
Claudine Kadonaga (CK)	X			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes (RH)	X			Morehead Community
Claudia Blair (CB)	P			Williams Lake Chamber of Commerce
Bill Caruthers (BC)	X			Williams Lake Community
Walt Cobb (WC)	P			City of Williams Lake
Steve Forseth (SF)	X			Cariboo Regional District
Georgia Bock	X			Soda Creek Indian Band
Stu Cartwright (SC)				Department of Fisheries and Oceans
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Ken Awmack (KA)				Ministry of Agriculture
Tania Demchuk (TD)	P	Jennifer McConnachie		Ministry of Mines
Chris Swan (CS)		Hubert Bunce	P	Ministry of Environment
Brian Yamelst (BY)	X			Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Jason Kerley (JK)				Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)	P			MPMC Employee Representative
Phil Haseldine (PH)	X			Williams Lake Field Naturalists
Colleen Hughes (CH)	X			MPMC Designated Representative
Dale Reimer (DR)	X			MPMC General Manager
'Lyn Anglin (LA)	X			Imperial Metals/PLC Chair
Luke Moger (LM)	X			MPMC

Removed from participant list by request: Interior Health, Cariboo Conservation Society, Environment Canada, MEM (include in emails), Matt McCracken, Aaron Higginbottom



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Minutes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

United Way Days of Caring – Luke Moger

- Review of program and invitation for input from the PLC

Review of Last Meeting's Action Items

- Provide feedback on draft ToR and Communications Plan – Complete
- Post minutes and presentation to the SharePoint Site – Complete

Site Update Presentation

- Operations
- Site Water Management
- Permitting/future plans
- Monitoring

Presentation by Jerry Vandenberg (Golder Associates)

- *2016 05 12 – Options Analysis*

PLC General Questions and Comments

Q: How long is the extension of the mining permit?

A: Based on current tonnage it would be mid-June.

Q: It was reported that the WTP was under-performing, has this been corrected?

A: We are trying to establish max flow rate that can be treated using Springer Pit water. We are hoping to prove this in the next few weeks.

Q: What effect does the water flowing from Polley Lake have on the amount you can discharge?

A: It does have an effect. Currently we are installing breathers on the discharge pipes to allow for more constant outflow.

Q: You don't have any control of water quality in Hazeltine Creek.

A: Remediation is the most important control and we are working on this.



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Q: Quesnel Lake is green.

A: We have monitored all aspects of this lake and are unable to find a source that would indicate a green colour. The discharge of effluent began after the lake was reported as being green in November. Secchi depth readings are similar to historic readings for clarity.

Discussion and comments during options analysis presentation:

- Would prefer to go away and work through this
- Disappointed that we are doing this here. This was what the workshops were for.
- This is an opportunity for the PLC to learn how the options analysis process works, this is not a workshop.
- Feedback from the workshops was focussed, no new options, no other criteria.
- MPMC will be providing a plan to MoE by the date required in the current permit.
- MPMC is providing this information on the options analysis as part of informing the community of the mine's water management planning activities and also to provide opportunities for the community to ask questions.
- The formal public consultation period on water management options starts after a permit application is submitted by the mine to MOE.

Tour to lower Edney and Hazeltine with five PLC members and two company representatives.

-----MEETING ADJOURNED-----

Action Items

Action Item	Responsible Party / Parties
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

NEXT SCHEDULED MEETING:

AUGUST 18 2016, 10:00AM TO 2:00 PM (LUNCH PROVIDED)

Note: The next PLC meeting will be held at Mount Polley Mine and will include a tour. Please wear sturdy boots with ankle protection. We will provide hardhats and hi-vis vests. If you want to carpool I am happy to help coordinate or you can email others on the PLC.



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AGENDA - MODIFIED

Mount Polley Public Liaison Committee

Mount Polley Mine

August 18, 2016

10:00am

Meeting called by: Colleen Hughes

Roundtable Introductions	'Lyn Anglin
Approval of Agenda	All
Review and Acceptance of the Minutes of the May meeting	Colleen Hughes
Review of the Terms of Reference	Colleen Hughes
Mount Polley Presentations	
- Site, Permitting, Remediation Update	Luke Moger
- Monitoring Update	Luke Moger
- Mine Emergency Response Plan Review	Sal Bafaro
Hazeltine Creek Fish Habitat Rehabilitation Update	Steve Hocquard

Standing Agenda Items

All

- PLC Questions/Comments
- PLC Identification
- Meeting Frequency/Next Meeting

Lunch

Tour of TSF Dam construction

All

Tour of Hazeltine Fish Habitat Construction

All



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

Meeting Details

Date: August 18, 2016
Time: 10:00am
Location: Mount Polley Mine

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)				Big Lake Community
Jack Darney (JD)	P			Big Lake Business
Joan Sorley (JS)	X			Cariboo Regional District
Steve Hocquard (SH)	X			Horsefly Community
Linda Bartsch	X			Horsefly Business
Lisa Kraus (LK)	X			Community of Likely
Doug Watt (DW)	X			Likely Chamber of Commerce
Claudine Kadonaga (CK)				Likely Business
Christine McLean (CM)				Community of Mitchell Bay
Richard Holmes (RH)				Morehead Community
Claudia Blair (CB)	X			Williams Lake Chamber of Commerce
Bill Caruthers (BC)				Williams Lake Community
Walt Cobb (WC)				City of Williams Lake
Steve Forseth (SF)				Cariboo Regional District
Georgia Bock				Soda Creek Indian Band
Stu Cartwright (SC)				Department of Fisheries and Oceans
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Ken Awmack (KA)				Ministry of Agriculture
Tania Demchuk (TD)	P	Jennifer McConnachie		Ministry of Mines
Stephanie Huska	X	Hubert Bunce		Ministry of Environment
Brian Yamelst (BY)	X			Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Jason Kerley (JK)		Emily Watson	X	Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)	P			MPMC Employee Representative
Phil Haseldine (PH)				Williams Lake Field Naturalists
Colleen Hughes (CH)	X			MPMC Designated Representative
Dale Reimer (DR)	X			MPMC General Manager
'Lyn Anglin (LA)	P			Imperial Metals/PLC Chair
Luke Moger (LM)	X			MPMC



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

Review of Last Meeting's Action Items - Colleen

- Post minutes and presentation to the SharePoint Site – Complete

Review of Terms of Reference - Colleen

Review of Mine Emergency Response Plan Framework –

- Introduction by Luke Moger, confirmation by Tania Demchuk of the purpose of the review.
- Review presented by - Sal Bafaro, Senior Safety Coordinator, Mount Polley

Site Update Presentation

- Operations
- Site Water Management
- Permitting/future plans
- Monitoring

Fish Habitat Construction Presentation – Steve Hocquard

PLC General Questions and Comments

Q: Please confirm that you have an emergency contact for First Nations

A: Confirmed

Q: Do you have a mutual agreement with the Likely first responders.

A: We do not, we would contact BC Ambulance and they would dispatch according to their plan.

Q: MPMC would be interested to know the feedback that the CRD provides to this plan.

Q: What are you going to do with the dead forest?

A: The majority of the dead trees were removed this past Spring.

Q: What is the timeline for emptying the Springer Pit?

A: This information is provided in the presentation.



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Q: Regarding the request to increase the permit requirements for iron, zinc, and molybdenum, why are you asking for this and were these metals already there or are they increasing?

A: Original model has now been validated against testing and some parameters are higher than modelled. We are asking for these to ensure we remain in compliance with the permit. The details will be provided in the permit amendment application.

Q: I thought QUL-18 had elevated copper levels? As per Elaine's presentation in Likely.

A: Elaine's presentation was based on post breach monitoring. Current monitoring results do not show elevated copper at QUL-18.

Discussion and comments;

- Concerned that it is taking too long for us (Likely residents) to receive a copy of the long term water management technical assessment.
- Request for clarification that it was the clay that caused the lake to go green. We confirmed we had been sharing that message since shortly after the breach. See IM website. <https://www.imperialmetals.com/assets/docs/mt-polley/10-14-14-mount-polley-quesnel-lake-cloudines-at-lake-ov.pdf>
- Comment – the fish habitat work is quite impressive.

Tour to TSF construction site. Review of construction process with Luke Moger.

Tour of upper Hazeltine Creek and over view of fish habitat features that are being constructed.





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-----MEETING ADJOURNED-----

Action Items

Action Item	Responsible Party / Parties
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC
MPMC requests CRD provide feedback to MPMC on the ERP	Joan Sorely, CRD Director

NEXT SCHEDULED MEETING:

NOVEMBER 17, 2016 10:00 TO NOON. CONFERENCE CALL



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250.790.2613

AGENDA

Mount Polley Public Liaison Committee

Conference Call

November 17, 2016

10:00am

Meeting called by: Colleen Hughes

Roundtable Introductions	'Lyn Anglin
Approval of Agenda	All
Review and Acceptance of the Minutes of the August meeting	Colleen Hughes
Review of the Terms of Reference	Colleen Hughes
Mount Polley Presentations	
- Site and permitting update	Luke Moger
- Remediation Update	Luke Moger
- Monitoring Update	Colleen Hughes
Standing Agenda Items	All
- PLC Questions/Comments	
- PLC Identification	
- Meeting Frequency/Next Meeting	



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

Meeting Details

Date: November 17, 2016
Time: 10:00 am
Location: Conference Call

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)	P			Big Lake Community
Jack Darney (JD)	P			Big Lake Business
Joan Sorley (JS)				Cariboo Regional District
Steve Hocquard (SH)	P			Horsefly Community
Linda Bartsch	P			Horsefly Business
Lisa Kraus (LK)	P			Community of Likely
Doug Watt (DW)	P			Likely Chamber of Commerce
Claudine Kadonaga (CK)	P			Likely Business
Christine McLean (CM)				Community of Mitchell Bay
Richard Holmes (RH)				Morehead Community
Claudia Blair (CB)	P			Williams Lake Chamber of Commerce
Bill Caruthers (BC)	P			Williams Lake Community
Walt Cobb (WC)				City of Williams Lake
Steve Forseth (SF)				Cariboo Regional District
Georgia Bock				Soda Creek Indian Band
Stu Cartwright (SC)				Department of Fisheries and Oceans
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Ken Awmack (KA)				Ministry of Agriculture
Diane Howe	P	Jennifer McConnachie		Ministry of Mines
Stephanie Huska		Hubert Bunce		Ministry of Environment
Brian Yamelst (BY)	P			Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Jason Kerley (JK)		Emily Watson	P	Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)				MPMC Employee Representative
Phil Haseldine (PH)				Williams Lake Field Naturalists
Colleen Hughes (CH)	P			MPMC Designated Representative
Dale Reimer (DR)	P			MPMC General Manager
'Lyn Anglin (LA)	P			Imperial Metals/PLC Chair
Luke Moger (LM)	P			MPMC



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

Review of Last Meeting's Action Items - Colleen

- Post minutes and presentation to the SharePoint Site – Complete

Review of Terms of Reference - Colleen

Site Update Presentation

- **Operations** – Luke
- **Site Water Management** – Luke
- **Rehabilitation** – Luke
- **Permitting/future plans** – Luke
- **Monitoring** – Colleen

PLC General Questions and Comments

Q: Curious about why the public comment period for the Long-Term Water Management Plan permit amendment application was extended, was there not a good turn out at public meetings? The Williams Lake Chamber members felt there was adequate time given.

A: The attendance was good; however, the Ministry of Environment (MoE) received feedback that it was an extensive amount of information to go through in a short amount of time. In addition, the MoE felt that the application should be discussed at a Cariboo Mine Development Review Committee (CMDRC) meeting.

Q: The south end of Polley Lake used to be a swamp. Is there a plan to return it a swamp type area?

A: This is among the considerations, but planning for this area is ongoing.

Q: Currently, in the TSF you have 5.7 meters of extra freeboard. If you had to hold excess water (in an emergency) how much could you hold?

A: We are limited by our *Mines Act* Permit to a maximum operating volume of 3.5 million cubic metres (m³) and need to meet this condition and others (i.e., freeboard) as laid out in the permit. We are only expected by the MoE under our permit to be able to withstand a 1:200 year event within the site collection systems. The volume of water in the TSF changes day by day.

Q: The Environmental Assessment Certificate (EAC) did not include that MPMC could discharge to Quesnel Lake, only to the local watershed. What is being applied for in the new EAC?

A: The EAC can only modernize what is on site, not future or potential works. For the short-term water management plan, the material alteration was authorized by the MoE and the Ministry of



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Energy and Mines. Also, the EA Office is now a member of the CMDRC, so that will be their venue for review of applications.

Q: You mentioned that the third Quarter report had been submitted to the MoE. This has not been posted. Where does other report go? Looks like QUL-58 is increasing in turbidity (in graph on weekly report).

A: There is no evidence of increasing turbidity in the lake. We have spoken about green colour. Nothing in our data, or any data that we have reviewed, correlates with the perceived green colour. *Post-meeting note: Water must be greater than 5 ntu before it can be seen by humans.*

A: NTU is not included as it is not a permitted parameter (TSS is).

Q: Are you hiding your data? Your TSS varies and you don't report it. Could you add trending charts to your quarterly reports? The public would like to see trends over time.

A: We report all the trends, if identified, on an annual basis. All data is included in the Annual Environmental and Reclamation Report. *Post-meeting note: this report is made available to the public.*

Q: (to D. Watt, Likely District Chamber of Commerce Mount Polley Liaison) What was the process by which the Chamber determined what the messages would be that he as Liaison was sharing with the media, including the letter sent to the Williams Lake Tribune and the interview with the CBC??

A: We have regular monthly meetings. We discussed the Mount Polley process and as the appointed LDCC Liaison, I do not need approval. The letter was sent to certain Executive members for review.

Discussion and comments

- You guys have done a heck of a good and thorough job. Thank you!
- Thank you very much for the presentation. If you are in need of a venue for future meetings you are welcome to use the tourism facility in Williams Lake.



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Proposed meeting dates for 2017

- February 16, 2017: conference call
- May 11, 2017: site tour and meeting
- August 17, 2017: site tour and meeting
- November 16, 2017: conference call

-----MEETING ADJOURNED-----

Action Items

Action Item	Responsible Party / Parties
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

NEXT SCHEDULED MEETING:

FEBRUARY 16, 2017 10:00 TO 12:00 – CONFERENCE CALL

Appendix C

PLC Meeting Minutes



Mount Polley Mining Corporation

an Imperial Metals company



Project:	1662612 – Mount Polley Mine Project
Purpose:	Quarterly Public Liaison Committee (PLC) Meeting
Ownership:	Colleen Hughes / Farrukh Naveed
Issue Date:	28 February 2017
Time:	10:00 to 12:00 PST
Meeting Location:	Teleconference
Reference No.:	1662612-112-MM-Rev1-11113

Removed from participants list by request: Interior Health, Cariboo Conservation Society, Environment Canada, MEM (include in emails).

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)				Big Lake Community
Jack Darney (JD)	P			Big Lake Business
Joan Sorley (JS)	P			Cariboo Regional District
Steve Hocquard (SH)				Horsefly Community
Linda Bartsch (LB)				Horsefly Business
Lisa Kraus (LK)				Community of Likely
Doug Watt (DW)	P			Likely Chamber of Commerce
Claudine Kadonaga (CK)	P			Likely Business
Christine McLean (CM)	P			Community of Mitchell Bay
Richard Holmes (RH)	P			Morehead Community
Claudia Blair (CB)	P			Williams Lake Chamber of Commerce
Bill Caruthers (BC)	P			Williams Lake Community
Walt Cobb (WC)	P			City of Williams Lake
Steve Forseth (SF)				Cariboo Regional District
Georgia Bock (GB)		Kate Hewitt (KH)	P	Soda Creek Indian Band
Stu Cartwright (SC)				Department of Fisheries and Oceans
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Ken Awmack (KA)				Ministry of Agriculture
Diane Howe (DH)	P	Jennifer McConnachie		Ministry of Mines
Mike Reiner (MR)	P	Luc Lachance	P	Ministry of Environment
Brian Yamelst (BY)	P	Sam Barnes	P	Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Jason Kerley (JK)		Emily Watson	P	Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)	P			MPMC Employee Representative
Phil Haseldine (PH)				Williams Lake Field Naturalists

MPMC Public Liaison Committee
Meeting Notes: February 16, 2017
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<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Colleen Hughes (CH)	P			MPMC Designated Representative
Dale Reimer (DR)	P			MPMC General Manager
'Lyn Anglin (LA)	P			Imperial Metals/PLC Chair
Don Parsons (DP)	P			Imperial Metals
Luke Moger (LM)	P			MPMC
Farrukh Naveed (FN)	P			MPMC/Golder
Jerry Vandenberg (JV)	P			MPMC/Golder

<u>Item</u>	<u>Points Discussed</u>
1	<p>Round Table Introductions – Colleen Hughes</p> <ul style="list-style-type: none"> Special welcome to Sam Barnes, Luc Lachance, and Mike Reiner of MoE as they have replaced Chris Swan and Brian Yamelst. Special welcome to Jerry Vandenberg (Environmental Chemist) and Farrukh Naveed (Project Manager) of Golder to help answer questions.

2	Approval of Agenda – All <ul style="list-style-type: none"> ■ Approved.
3	Review and Acceptance of the Minutes of the November 2016 PLC Meeting – Colleen Hughes <ul style="list-style-type: none"> ■ No comments; accepted. ■ All actions from previous meeting were accepted.
4	Review of the Terms of Reference – Colleen Hughes <ul style="list-style-type: none"> ■ Reviewed.
5	Mount Polley Presentations <ul style="list-style-type: none"> ■ Site & Permitting Update – Luke Moger <ul style="list-style-type: none"> ■ No comments. ■ Remediation Update – Luke Moger <ul style="list-style-type: none"> ■ No comments. ■ Monitoring Update – Colleen Hughes <ul style="list-style-type: none"> ■ No comments. ■ Edney Creek WQ – ‘Lyn Anglin (table 1)

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Item	Points Discussed
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- [RH] the community of Likely has expressed a clear preference that water quality of the Mine discharge should be the same as Hazeltine Creek pre-breach.
- [DW] we have been expressing a preference for meeting the water quality of Quesnel Lake.
- [‘LA] what we’ve presented today looked at the currently authorized treated effluent vs Quesnel Lake baseline, and natural contributions to the lake using Edney Creek as a natural source.
- [RH] are you saying that the Mine is content putting water back into Quesnel Lake that doesn’t meet previous Hazeltine Creek water quality?
- [‘LA] no, we are saying that the water being put into Quesnel Lake will meet permit limits; and we are pointing out that probably many, if not all, of the natural water sources being discharged into Quesnel Lake wouldn’t meet the unrealistic request that we have heard from many for effluent having the same or better water quality than that in Quesnel Lake. The point we are making is that the lake provides natural attenuation and particulate settling processes. This leads to a ‘better’ water quality as compared to the influent chemistry from contributing streams etc.
- [DW] with respect to the amount of nutrients discharged, what are the volume difference when comparing between natural flows of Edney creek and Hazeltine Creek and what the Mine will be discharging (let’s call this the annual flow)?
- [‘LA] don’t know what these would be off-hand. I agree that to do this assessment properly would require information on flow rates, but we should also do this for all the sources of water into Quesnel Lake to determine the sources of all the constituents that are introduced into the lake. The point we are making is that asking for a standard for water quality for discharge that reflects what is background in Quesnel Lake isn’t reasonable, as Mother Nature wouldn’t be able to meet this standard for its own influent sources to the lake. Also, the data we have seen for the current discharge and what is proposed for the long-term water management plan would meet current guidelines for being protective of the receiving environment. There have been no indications of any degradation of Quesnel Lake water quality related to MP treated water discharge.

Standing Agenda Items

6

- PLC Questions/Comments – (Attached to these minutes below)

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Item	Points Discussed
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- [CH] reviewed the questions submitted by [RH], [DW] and [CM] in advance of today's meeting, indicating that a document summarizing the responses would be provided with the minutes from the meeting.
- [JV] The TetraTech model indicates that sediment will not be re-mobilized. We have seen no data that would suggest otherwise. We have heard comments that there is some discrepancy between UNBC and MoE/MPMC data, but no quantitative data have been provided that would allow us to make any sort of comparison.
- [DH] we will be reviewing the Mine's reclamation liability costing with the updated closure plan, as this is a key part of our process.
- ['LA] a report from Contango will be provided next month updating on their work regarding possible options for passive treatment. We are looking at options, and currently we are seeing that there are potential suitable plant species on site that may be used for passive treatment. More information will be provided once the report is finalized and reviewed.
- [JV] in regard to the image with ice (submitted by [DW]); the effluent discharge is more dense than the overlaying water, which means it would sink rather than rise to the surface; we've looked at the temperature of the water at HAC-12 just before it enters Quesnel Lake. It was very close to 0°C, there is no latent heat that could heat the ice cover. The image provided is interesting but coincidental.
 - [DW] could this could be caused by denser water forcing warmer water up to the surface?
 - [JV] MPMC's slides show that there is a reverse or inverse thermal stratification, 0°C at top, 3°C at depth. The physics of density-driven water currents and ice formation are well understood and we don't see this breaking up; whatever the image is showing has nothing to do with the discharge
- [DW] it's not reasonable for MPMC to use the lowest level of treatment to discharge into Quesnel Lake as the water at one time was pristine.
 - [JV] there is no adverse impact on Quesnel Lake, as impact is defined by end use; there is no pollution and impairment of end use, by *Environmental Management Act* definition.
 - ['LA] we also need to consider the definition of pristine as there has been community users of Quesnel Lake pre-breach, and the lake was also dammed previously.

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Item	Points Discussed
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- [MR] we've heard both sides, and the MoE will take this into consideration in the context of the proposed long-term water management plan in making its final decision.
- [RH] Were there any formal letters of support for the application?
- ['LA] We haven't received any that I am aware of; the public comment period wasn't geared toward providing formal letters of support – it is more a process for the MoE (and through them MPMC) to receive and respond to/consider concerns. We can request this from the public if that would be helpful?
- [MR] the public comment period is over; we don't ask for support letters and understand that the public comment period is biased towards concerns. This isn't a vote, it's a scientific process that is used by the MoE to decide based on the merit of the technical work completed.
- [DW] There was a report about Polley Flats geochemistry and elevated levels of copper, how will this be considered for rehabilitation for the Mine?
- ['LA] as per SRK's report, all of the predictions are showing copper levels will continue to improve, most copper is complexed and is not bioavailable.
- [DW] has the RCP update been made available to the public?
- [LM] it was submitted to MEM.
- [DH] it will be dovetailed into the MDRC and Rick Adams (MDRC Chair) will determine how this will be completed.
- [DW] mobilization of tailings; UNBC showed there was a layer of mobilization from the surface of Quesnel Lake and community members see cloudy water along the shores during high winds or storms – is the tailings being mobilized?
- [CH] all of the models show it won't be mobilized, however, we haven't seen the UNBC data, and there isn't any new data that we can compare to.
- [CH] if community members can take pictures and provide to MPMC that will be helpful.
- [JV] we've heard comments about discrepancies amongst data between the MoE, MPMC and UNBC. We do need to therefore see actual data from UNBC, not just summarized concerns. Please provide the actual data so we can compare and respond quantitatively.

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Item	Points Discussed
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	<ul style="list-style-type: none"> - [LA] we've reached out to UNBC, they might provide data some time later in May, but thus far have not provided anything. ■ [RH] UNBC has an ongoing grant, are their findings given to the MoE on an ongoing basis or only upon completion? - [LL] we can find out, I don't know; Deb Epps and Chris Swan are involved with the Science Panel, and we will follow-up. - [SB] I also cannot comment on if the data was received but we do meet with the Science Panel as already noted. ■ PLC Identification <ul style="list-style-type: none"> ■ No comments ■ Meeting Frequency/Next Meeting <ul style="list-style-type: none"> ■ May 18, 2017 (include site tour) ■ August 17, 2017 (include site tour) ■ November 16, 2017
7	Meeting Adjourned

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Table 1: Action Items

No.	Item	Responsible	Due Dates
1	Provide the table of WQ data for Edney Creek on SharePoint site, due to size	MPMC	TBC
2	Provide annual mine water discharge from MPMC into Quesnel Lake as compared to Edney Creek and Hazeltine Creek	MPMC	TBC
3	MPMC to follow up with UNBC regarding sharing NTU data (turbidity data)	UNBC	May 2017
4	Luc Lachance to follow-up if the MoE has received any data from UNBC	Luc Lachance	16 Feb 17

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Analyte	Units	Water	Water	Water	Water	Water
Conductivity	uS/cm	120	117	115	199	1160
Hardness (as CaCO3)	mg/L	58.8	57.4	57.1	109	481
pH	pH	7.9	7.92	7.92	8.13	7.38
Total Suspended Solids	mg/L	<1.0	<1.0	1.6	<1.0	7.8
Total Dissolved Solids	mg/L	87	84	83	156	860
Turbidity	NTU	0.26	0.66	0.5	1.14	1.23
Alkalinity, Total (as CaCO3)	mg/L	53.6	50.7	49.6	106	45.5
Ammonia, Total (as N)		IP	IP	IP	IP	0.0215
Chloride (Cl)	mg/L	<0.50	<0.50	<0.50	<0.50	18.2
Fluoride (F)	mg/L	0.036	0.038	0.034	0.05	0.52
Nitrate and Nitrite (as N)	mg/L	0.158	0.184	0.17	0.131	8.75
Nitrate (as N)	mg/L	0.158	0.184	0.17	0.131	8.72
Nitrite (as N)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	0.0281
Total Nitrogen	mg/L	0.216	0.231	0.219	0.577	8.71
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	<0.0010	<0.0010	0.0058	<0.0010
Phosphorus (P)-Total Dissolved	mg/L	0.0021	<0.0020	<0.0020	0.0125	0.0029
Phosphorus (P)-Total	mg/L	<0.0020	<0.0020	<0.0020	0.0151	0.0039
Sulfate (SO4)	mg/L	7.67	10.8	9.88	4.56	540
Dissolved Organic Carbon	mg/L	1.94	1.88	1.75	15.6	1.82
Aluminum (Al)-Total	mg/L	0.0132	0.0317	0.0408	0.0765	1.07
Antimony (Sb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00193
Arsenic (As)-Total	mg/L	0.00021	0.00022	0.00021	0.00112	0.0007
Barium (Ba)-Total	mg/L	0.00566	0.00598	0.00617	0.0141	0.0613
Beryllium (Be)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	0.011	0.167
Cadmium (Cd)-Total	mg/L	<0.000050	<0.000050	<0.000050	0.000056	<0.000030 *
Calcium (Ca)-Total	mg/L	18.5	18.6	18	27.8	164
Chromium (Cr)-Total	mg/L	<0.00050	<0.00050	<0.00050	0.00064	<0.00050
Cobalt (Co)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	0.00105	0.00178	0.00149	0.00219	0.0046
Iron (Fe)-Total	mg/L	<0.030	<0.030	<0.030	0.323	<0.030
Lead (Pb)-Total	mg/L	<0.000050	0.000255	0.000177	<0.000050	0.000092
Lithium (Li)-Total	mg/L	0.0012	0.0011	0.0011	0.0015	0.0182
Magnesium (Mg)-Total	mg/L	2.37	2.4	2.35	8.57	29.2
Manganese (Mn)-Total	mg/L	0.00098	0.00192	0.00182	0.00585	0.00768
Molybdenum (Mo)-Total	mg/L	0.000583	0.00166	0.0014	0.000661	0.19
Nickel (Ni)-Total	mg/L	<0.00050	<0.00050	<0.00050	0.00109	<0.00050
Potassium (K)-Total	mg/L	0.564	0.617	0.602	0.766	16
Selenium (Se)-Total	mg/L	0.000139	0.000354	0.00027	0.000141	0.0369
Silicon (Si)-Total	mg/L	1.89	1.82	1.78	6.16	4.34
Silver (Ag)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	1.19	1.54	1.45	4.98	60.1
Strontium (Sr)-Total	mg/L	0.15	0.157	0.151	0.18	2.58
Thallium (Tl)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Tin (Sn)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Total	mg/L	0.000204	0.000196	0.000188	0.000179	0.001
Vanadium (V)-Total	mg/L	<0.00050	0.00051	<0.00050	0.00086	0.00112
Zinc (Zn)-Total	mg/L	0.0053	<0.0030	0.003	<0.0030	<0.0030
Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	LAB	LAB
Aluminum (Al)-Dissolved	mg/L	0.0056	0.0049	0.0061	0.0497	0.0406
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.0017
Arsenic (As)-Dissolved	mg/L	<0.00010	<0.00010	0.00012	0.0011	0.00041
Barium (Ba)-Dissolved	mg/L	0.000573	0.00553	0.00581	0.0141	0.0598
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	0.151
Cadmium (Cd)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	0.000051	<0.000040 *
Calcium (Ca)-Dissolved	mg/L	19.9	19.4	19.2	28.8	150
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	0.00054	<0.00050
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper (Cu)-Dissolved	mg/L	0.00066	0.00076	0.00081	0.00202	0.00205
Iron (Fe)-Dissolved	mg/L	<0.030	<0.030	<0.030	0.25	<0.030
Lead (Pb)-Dissolved	mg/L	<0.000050	0.000205	0.000197	<0.000050	0.000089
Lithium (Li)-Dissolved	mg/L	0.001	0.0011	<0.0010	<0.0010	0.0156
Magnesium (Mg)-Dissolved	mg/L	2.22	2.14	2.21	9.02	25.5
Manganese (Mn)-Dissolved	mg/L	0.00042	0.00067	0.00047	0.00377	0.00571
Molybdenum (Mo)-Dissolved	mg/L	0.000568	0.00157	0.00135	0.000661	0.167
Nickel (Ni)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	0.00113	<0.00050
Potassium (K)-Dissolved	mg/L	0.582	0.597	0.604	0.702	15.8
Selenium (Se)-Dissolved	mg/L	0.000122	0.000306	0.000272	0.000203	0.0343
Silicon (Si)-Dissolved	mg/L	1.74	1.63	1.64	6.13	3.94
Silver (Ag)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved	mg/L	1.12	1.36	1.35	5.04	55.7
Strontium (Sr)-Dissolved	mg/L	0.151	0.156	0.153	0.179	2.32
Thallium (Tl)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Dissolved	mg/L	0.000165	0.000158	0.000155	0.000179	0.000613
Vanadium (V)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	0.00055	0.00082
Zinc (Zn)-Dissolved	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
IP = In Progress		Mouse-over the cell to see the current status.				

PLC Conference Call Feb, 16, 2017

PLC Member Questions – Richard Holmes

Q: The discrepancy in data between UNBC and MPMC that was presented at a public meeting in Likely on the delivery of sediment to the Quesnel River remains a concern. Has this been resolved between both parties and the Province and what is the outcome?

A: There was apparently a discrepancy in NTU data. MPMC submitted a memo to the Ministry of Environment (MoE) explaining how we collected and managed the data. Note: whenever data sets are compared, it is important to examine the

instrument location, instrument calibration standards and the Quality Assurance/Quality Control (QA/QC) results. We have offered to compare our data with UNBC, but have not yet received any data from them. The MoE is expected to provide a memo on this as well.

Q: How is the recolonization by invertebrates of the tailings deposited in Quesnel and Polley lakes progressing?

A: Data will be provided in the Ecological Risk Assessment, as discussed during the PLC meeting.

Q: What is the nature or form/consistency of the tailings in the bottom of both lakes and is it continually mobile and increasing in area? If it is increasing in area due to mobilization, what is the rate of increase and how large is it currently?

A: Pierre Stecko (Minnow Environmental) provided a presentation about this to the Community of Likely in July 2016 and at the same meeting Daniel Potts (Tetra Tech EBA) explained to the community that the material is not expected to remobilize. Measured turbidity confirms a lack of resuspension. At the lake surface, turbidity has remained below 1 NTU since May 2015. While we have heard some non-specific references to differences between MPMC and UNBC data, we have not seen any actual data that contradicts the model.

Q: What is the age class analysis of the rainbow trout population of Polley Lake.....what percentage of total per year class?

A: This information will be presented in the Ecological Risk Assessment.

Q: What is the actual and anticipated recruitment of rainbow trout fry by year since 2014 for Polley Lake?

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A: This information will be presented in the Ecological Risk Assessment.

Q: What are the estimated recruitment losses to Quesnel Lake by fish species as a result of the continued loss of Hazeltine Creek as a fish bearing stream?

A: Good question, we have not calculated this number yet. It will be discussed within our Habitat Objectives Working Group.

Q: Has the Human Health and Environmental Risk Assessment study been completed and if so has it been released for public review?

A: As discussed in the presentation, there are two Risk Assessment documents. The Human Health Risk Assessment, due to the MoE by the end of April 2017, and the Ecological Risk Assessment, which is due to the MoE following the HHRA.

Q: A recently released Auditor General's report showed a \$1.2 billion shortfall in reclamation bonds for the mining industry in BC and included an approximately \$10.5 million shortfall for the MPMC operation. Is this still outstanding and currently a responsibility of BC taxpayers and if so what are MPMC's plans to fulfill their obligation to the Province of BC?

A: MPMC follows the guidance of the Ministry of Energy and Mines for reclamation bonding (also known as liability costing). A copy of the liability cost and payment schedule is included in the Mines Act Permit M-200, last amended in this respect in June 23, 2016. MPMC submits updated liability costing as part of its Annual Environmental and Reclamation Report, which is next due to the MEM prior to March 31, 2017.

Q: Has a monitoring program to determine success been designed for the offsets required and implemented at Patenaude Creek as a result of the destruction of Mine Drainage Creek that flowed into Bootjack Lake and was a rainbow trout spawning stream (pre disaster).

A: A monitoring plan is required by Fisheries and Oceans Canada (DFO) before the offset can proceed. This plan was submitted to the DFO and approved in 2015 (it was scheduled to be submitted in 2014; however, the DFO chose to delay this offset).

Q: Has there been any new successful developments to announce on the bioremediation of site water at Mt Polley that has been underway for years and is still discussed as a future passive treatment for water released from the site into local waterways.

A: MPMC is working to develop a Work Plan for continuing passive water treatment research, specifically highlighting the completed and ongoing work with Golder

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and Contango. This work was advanced (relative to the information contained in the Annual Environmental and Reclamation Reports and the Long-term Water Management Plan) in the January 25, 2017 update to the Reclamation and Closure Plan. There is currently lots of interesting research underway and we are planning additional work; the Work Plan is anticipated to be submitted to the MoE following a decision on the LTWMP amendment application.

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PLC Member Questions – Doug Watt

Q: In December 2016 the Weekly Report to MoE that included Water Treatment Plant (WTP) operation was discontinued, and the “Monthly” report that replaces it is basically a blank page. This means no recent or continuing data is available on the water discharge into QL or the Quesnel River. Why did MPMC abruptly stop providing this information when you know that local residents have an interest in it?

A: The weekly report noted in this comment was a Pollution Abatement Order requirement. It was an update required by the MoE regarding the remediation works to ensure “no further pollution (TSS) to the environment”. The reporting requirement was amended (by the MoE Director) to reflect the stability of conditions and monitoring results.

The data for the water discharge monitoring is reported separately and is available within 45 days from the end of the month on the Government EDT Site. <https://catalogue.data.gov.bc.ca/dataset/bc-environmental-monitoring-system-results>

Q: On a monthly basis, please provide an update on WTP operation, water volume treated, water passed through untreated (passive mode) and water chemistry summaries, including plotted trend lines, for both QL & QR.

A: The monthly report will be provided as required by the MoE in a recent letter amending reporting requirements under EMA Permit 11678 (i.e., available on the PLC SharePoint Site).

Q: Past and continuing nutrient (i.e. Fertilizer compounds) additions from Mount Polley Mine to nutrient poor Quesnel Lake are a concern. In 2016, how many tonnes of nutrients (nitrates, phosphorous, etc.) were discharged into QL from MPMC

A: Reviewed in the PLC meeting presentation.

Q: What does MPMC plan to do to reduce nutrient flow to the natural background levels in QL?

A: Reviewed in the PLC meeting presentation.

Q: Attached is a Land Sat image (from UNBC QRRRC) that appears to indicate significant effects from the WTP plume on the ice (water temperature, currents?) on QL at the Hazeltine Creek outfall. Please discuss possible effects this could have on the lake, and the river, and what MPMC is doing to identify and mitigate effects on the environment.

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Q & A: February 16, 2017
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A: Please note that the effluent is discharged to Quesnel Lake via diffusers installed at 45 and 50 meters below the average surface water elevation. The discharge was designed and modelled to mix with the lake at depth. The effluent discharge is more dense than the overlaying water, which means it would sink rather than rise to the surface; we've looked at the temperature of the water at HAC-12 just before it enters Quesnel Lake. It was very close to 0°C and there is no latent heat that could heat the ice cover. Without images from previous years and an in-depth analysis of climate conditions associated with each image one image does not tell us very much. The image provided is interesting, but coincidental.

MPMC Public Liaison Committee
Q & A: February 16, 2017
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PLC Member Questions – Christine McLean

Q: We reiterate Doug Watts concern about the lack of reporting to the stake holders, local communities and the general public. These communications must be made available to all interested parties and include the weekly testing and reporting of Mine activity on Quesnel Lake, Polley Lake, Bootjack Lake and surrounding water sheds, including the effluent being discharged into Quesnel

Lake.

A: Thank you for your comment. We have heard this from you, Doug and Rick. Note that our monthly and quarterly reports are posted to our website. MPMC and the MoE have determined that the conditions on and off the Mount Polley Mine site have stabilized and are not changing on a weekly basis and therefore monthly reporting is more than sufficient. If you have any questions about a particular mine activity, please feel free to bring it up at the PLC meeting and we can discuss it.

Q: Has MPMC changed their proposal for mining effluent discharge into Quesnel Lake after receiving all of the comments from local residents, as well as regional and national organizations? Which other alternate, less sensitive water bodies could be considered instead of Quesnel Lake in the region?

A: MPMC has accepted our consultants' recommendation that Quesnel Lake is the best receiving environment for treated effluent. At the same time, we are initiating a number of research projects, including designing pilot systems to test alternative discharge sites and treatment strategies. We are very optimistic that we will be able to significantly reduce the amount of treated water that requires discharge into Quesnel Lake during the operating phase of the mine. Also, please note that Quesnel Lake is considered to be, environmentally, the least sensitive water body in the area, and therefore the best receiving environment for water discharge, due in part to its size, depths and water residence time, etc.

Q: Does MPMC consider having the 'formal,' written support from local groups and First Nations for this mining effluent discharge plan into Quesnel Lake? If so, which one(s), because we do not know any?

A: We interpret this as asking if any groups have written support letters for the Mount Polley Mine. This is probably not the case in respect to the formal water discharge public consultation, as the wording of the MoE call for comments was focused on asking if people had concerns. We note that there are thousands of members of the local communities in Likely, Horsefly, Big Lake and Williams Lake that did not write letters of concern to the MoE about our discharge permit application. We could certainly ask some of the Likely, Big Lake and Horsefly residents and businesses who support us, as well as the Williams Lake Chamber

MPMC Public Liaison Committee
Q & A: February 16, 2017
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of Commerce, and the Mayor and Council of Williams Lake, to write letters of support to us, which we could then share with the public. Thank you for the suggestion. Mike Reiner (MoE) also noted that the public comment period has now passed.

Q: How much financial security has MPMC set aside for long-term closure, clean-up, and maintenance for the site? If Imperial Metals is faced with another spill at Mount Polley or another of its operation, or another unforeseen accident, how much would its current insurance provider cover for damages? And after: What about current damages from the 2014 spill?

A: See previous answer to Richard Holmes question.

Q: How much has MPMC received in subsidies (ie BC Hydro) and tax credits on an annual basis since 2014?

A: We believe you misunderstand the terms and intent of the BC Hydro payment deferral arrangement. MPMC is participating in the BC Hydro payment deferral, which is NOT a subsidy, this deferral is costing MPMC 8.5% interest on every dollar we defer. We will follow up on the tax credits, but don't believe that MPMC presently qualifies for tax credits as you may have to have net profit against which to claim the credits, and believe that we are still in a net loss situation as we have a significant debt load we are in the process of trying to pay off. We will check into this.

Q: Does MPMC have a formal grievance mechanism? If not, will it establish one?

A: The PLC is a recognized body for formally voicing a grievance. If you would like to share a grievance with us, you are welcome to table it with the PLC and we can discuss it.

Q: Under the UN Guiding Principles on Business and Human Rights, all companies have a responsibility to respect human rights and provide effective remedy when rights are harmed. As a member of the UN Human Rights Council, Canada has endorsed the UNGPs. What is MPMC doing to ensure that it is following the guidance of the UNGPs by providing effective remedy on an on-going basis to Indigenous and non- Indigenous communities harmed by the tailings pond breach?

A: Thank you very much for providing us with a briefing on the UN Guiding Principles. MPMC ensures that it follows all Provincial and Federal regulations relevant to running a mine, and MPMC works closely with our First Nations partners through our Implementation Committee. We work to provide transparency and dialogue with our community through groups such as our PLC.

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Additional Question from Richard Holmes

Q: Much has been discussed regarding the cleanup cost of the disaster.....could you provide a breakdown of the dispersal of the approx. \$130 million spent provided by Murray Edwards and his companies on the disaster....I.e. How much went to Red Chris, how much went to the restructure of the TSF, and how much was spent on the clean up of the surrounding environment? And related to this, does Mr. Edwards receive his funds returned with interest before the reclamation bond is topped up with \$11 million if this is still outstanding?

A: Please refer to the Imperial Metals website for all annual and quarterly financial reports.

MPMC Public Liaison Committee
Q & A: February 16, 2017
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MOUNT POLLEY MINING CORPORATION (MPMC) PUBLIC LIAISON COMMITTEE (PLC) MEETING NOTES



Meeting Details

Date: October 5, 2017

Time: 10:00am Location: Mount
Polley mine

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)				Big Lake Community
Jack Darney (JD)				Big Lake Business
Joan Sorley (JS)	X			Cariboo Regional District
Steve Hocquard (SH)				Horsefly Community
Linda Bartsch (LB)				Horsefly Business
Lisa Kraus (LK)	X			Community of Likely
Doug Watt (DW)	X			Likely Chamber of Commerce
Claudine Kadonaga (CK)	P			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes (RH)				Morehead Community
Claudia Blair (CB)	X			Williams Lake Chamber of Commerce
Bill Caruthers (BC)				Williams Lake Community
Walt Cobb (WC)				City of Williams Lake
Steve Forseth (SF)				Cariboo Regional District
Georgia Bock (GB)		Kate Hewitt (KH)	X	Soda Creek Indian Band
Andrew Dunbrack	X			Williams Lake Indian Band/Soda Creek Indian Band
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Diane Howe (DH)		Jennifer McConnachie		Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk	X	Gabriel Matscha	X	Ministry of Environment
		Sam Barnes	P	Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Conrad Cofre				Forests, Lands, Natural Resource Operations
Margie Henley (MH)	X			Ministry of Transportation
Kevin Marks (KM)				MPMC Employee Representative
Stephen Monninger	X			MPMC Designated Representative
Colleen Hughes (CH)	X			MPMC Meeting Chair
Dale Reimer (DR)	X			MPMC General Manager
'Lyn Anglin (LA)	P			Imperial Metals
Don Parsons (DP)				Imperial Metals

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Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

Review of Last Meeting's Action Items - Colleen

- Post minutes and presentation to the SharePoint Site – Complete

Review of Terms of Reference – Colleen

- Discussion on the updating of the Terms of Reference as required by *EMA* Permit 11678.
- All in attendance agreed that the Terms of Reference does not require updating.

Review of Communication Plan – All

- Agreed that the communication plan for the *EMA* permit did not require updating. Joan Sorley to speak directly to Dale Reimer about additional communications from the mine that are similar to those with First Nations.
- Doug Watt feels that there is more information that should be provided to the PLC. Doug stated that information is difficult to find. Some is on the Ministry of Environment website, some is on the Imperial Metals website and only some is provided to the PLC.
- Colleen noted that the monthly and quarterly reports to ENV are posted on the PLC SharePoint site. The PLC members are able to access these reports and to share them with their communities.

Presentations

- **Human Health and Ecological Risk Assessment Overview** – Trish Miller
- **Ministry of Environment and Climate Change Strategy Update** – Carol Danyluk and Gabriele Matscha
- **Site Update Operations and Water Management** - Marc-Antoine Richer and Shane Flynn
- **Permitting and Pollution Abatement order Update** – Colleen
- **Remediation Update** - Colleen
- **Monitoring Update** – Colleen

Site tour

- Doug Watt, Lisa Kraus, Joan Sorley, Carol Danyluk, Gabriele Matscha, Claudia Blair, Kate Hewitt, Andrew Dunbrack, Colleen Hughes, Stephen Monninger

PLC General Questions and Comments

Colleen – requested that the PLC be prepared to review the Remediation plan in an extraordinary meeting in late October.

MPMC Public Liaison Committee
Meeting Notes: October 5 2017
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Joan – requested that MPMC have Trish provide the HHERA presentation to the community of Likely. MPMC agreed to arrange this. Also, Joan noted that she and 'Lyn had an action item from last PLC (Which they both forgot) to look at preparing a brief summary report of PLC meetings for public consumption/distribution. MPMC feels that the PLC presentation materials are appropriate for distribution. MPMC also publishes a quarterly newsletter that is shared with the public.

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Meeting Notes: October 5 2017
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Proposed meeting dates for 2018

- February 15, 2018: conference call
- May 10, 2018: site tour and meeting
- August 16, 2018: site tour and meeting
- November 15, 2018: conference call

-----MEETING ADJOURNED-----

Action Items

Action Item	Responsible Party / Parties
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

NEXT SCHEDULED MEETING:

NOVEMBER 16, 2017 10:00 TO 12:00 – CONFERENCE CALL

MPMC Public Liaison Committee
Meeting Notes: October 5 2017
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MOUNT POLLEY MINING CORPORATION (MPMC) PUBLIC LIAISON COMMITTEE (PLC) MEETING NOTES



Meeting Details

Date: November 16, 2017
Time: 10:00am Location:
Conference Call

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)				Big Lake Community
Jack Darney (JD)				Big Lake Business
Joan Sorley (JS)				Cariboo Regional District
Steve Hocquard (SH)	X			Horsefly Community
Linda Bartsch (LB)				Horsefly Business
Lisa Kraus (LK)				Community of Likely
Doug Watt (DW)	X			Likely Chamber of Commerce
Claudine Kadonaga (CK)	X			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes (RH)	X			Morehead Community
Claudia Blair (CB)	X			Williams Lake Chamber of Commerce
Bill Caruthers (BC)	X			Williams Lake Community
Walt Cobb (WC)				City of Williams Lake
Steve Forseth (SF)				Cariboo Regional District
Georgia Bock (GB)		Kate Hewitt (KH)	X	Soda Creek Indian Band
Andrew Dunbrack	X			Williams Lake Indian Band/Soda Creek Indian Band
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Diane Howe (DH)		Jennifer McConnachie	X	Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk		Gabriel Matscha		Ministry of Environment
		Sam Barnes	X	Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Conrad Cofre	X			Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)				MPMC Employee Representative
Stephen Monninger	X			MPMC Designated Representative
Colleen Hughes (CH)	X			MPMC Meeting Chair
Dale Reimer (DR)	X			MPMC General Manager
'Lyn Anglin (LA)	X			Imperial Metals
Don Parsons (DP)				Imperial Metals

MPMC Public Liaison Committee
Meeting Notes: November 16, 2017
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Welcome and Roll Call on Phone and Roundtable Introduction

Review and Accept Agenda - All

Review of Last Meeting's Action Items - Colleen

- Post minutes and presentation to the SharePoint Site – Complete

Review of Terms of Reference – Colleen

Presentations

- **Site and permitting update** – Colleen
- **Remediation update** – Colleen
- **Monitoring update** – Colleen
- **Conceptual Remediation Plan (CRP)** – Lee Nikl

PLC General Questions and Comments

Christine McLean – asked why we were not currently discharging

Answer:

- 1) This summer we constructed the fish habitat in upper Hazeltine (in the area where the discharge pipe was located)
- 2) Pipeline construction required the pipe be disconnected from the WTP in order to connect to the pipeline
- 3) Extraordinarily dry summer resulted in no excess water to be discharged.

Doug Watt – asked about the status of the bench top studies for the bio-chemical reactors (permit requirement)

Answer: The bench studies have been completed however no construction has been done. The fires this summer put us behind on these projects. We intend to proceed with a couple on site wetland projects this coming spring.

PLC Comments and Questions on the Conceptual Remediation Plan (CRP) presentation

Doug Watt -

- What was the species richness (benthic invertebrates) in Quesnel Lake in 2016 and 2017?
- You don't think the recolonization will be impaired?
- UNBC don't think that recolonization will happen very quickly.
- UNBC found that sediments were re-suspending and copper was elevated.

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Meeting Notes: November 16, 2017
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Answer: Research completed to date (such as the transplants done in 2016) indicate that recolonization of the lake bottom was not impaired by the presence of tailings, though research also indicates that recolonization will be slow due to the size of the area impacted.

UNBC is not necessarily seeing the resuspension of tailings material. Bernard Laval's study showed a possible, very slight, increase in turbidity in one location in the deeper waters of the West Arm of the lake, during the winter, but they do not have the data from pre-breach to be able to determine if this is a natural annual phenomenon or not. From the presentation at the Quesnel River Research Centre (QRRC) this fall it, appears that this slight turbidity increase was not observed at surface. Phil Owens' (UNBC) did not have the data at the time of the QRRC presentation on the research to determine if the lake overturn has enough energy to re-suspend tailings off the bottom of the lake. Ellen Pettigrew's (UNBC) data showed that copper in suspended sediments collected in the river near the QRRC was elevated over QRRC background values, but there is a pronounced downward trend in the copper concentrations.

Christine McLean – asked if it was possible to get a copy of the plan.

Answer: The plan will be available once it has been accepted by the Ministry of Environment (ENV). We are also planning another meeting (teleconference) for other residents of Quesnel Lake to have a presentation on the CRP and to give them an opportunity to ask questions and make comments.

Sam Barnes – asked that we describe the direct connection of Hazeltine Creek to Quesnel Lake.

Answer: Currently Hazeltine Creek runs through the sedimentation ponds and out to Quesnel Lake. The final alignment of Hazeltine Creek has not yet been decided. This will be part of the work completed by the Habitat Remediation Working Group (HRWG).

Richard Holmes – what are the plans for re-establishing Rainbow trout to Hazeltine Creek? Can you provide us with any age class assessments done in Polley Lake.

Answer: As discussed at the last PLC meeting we are looking into this and are working with the HRWG on a plan, though at this time there is no date for the return. An age class assessment was completed in 2016. In 2017 we did a spawning assessment in Frypan Creek. This data will be provided as soon as it is available.

Christine McLean – A community teleconference meeting would be good. Keep in mind we lose 50% of the people that have homes on the lake in the winter. (evening or weekend works best)

Answer: We are considering that for early to mid-January, in the meantime we need to move forward on the plan.

MPMC Public Liaison Committee
Meeting Notes: November 16, 2017
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Mount Polley Mining Corporation
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Proposed meeting dates for 2018

- February 15, 2018: conference call
- May 10, 2018: site tour and meeting
- August 16, 2018: site tour and meeting
- November 15, 2018: conference call

-----MEETING ADJOURNED-----

Action Items

Action Item	Responsible Party / Parties
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

NEXT SCHEDULED MEETING:

FEBRUARY 15, 2018 10:00 TO 12:00 – CONFERENCE CALL

MPMC Public Liaison Committee
Meeting Notes: November 16, 2017
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Appendix C

Public Liaison Committee Meeting Notes

Electronic format only





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

Meeting Details

Date: February 15, 2018
Time: 10:00am
Location: Conference Call

PLC Members

<u>Member</u>		<u>Assigned Alternate</u>		<u>Organization</u>
Bee Hooker (BH)	X			Big Lake Community
Joan Sorley (JS)				Cariboo Regional District
Steve Hocquard (SH)	X			Horsefly Community
Linda Bartsch (LB)				Horsefly Business
Lisa Kraus (LK)				Community of Likely
Doug Watt (DW)				Likely Chamber of Commerce
Claudine Kadonaga (CK)	X			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes (RH)	X			Morehead Community
Claudia Blair (CB)				Williams Lake Chamber of Commerce
Bill Caruthers (BC)				Williams Lake Community
Walt Cobb (WC)	X			City of Williams Lake
Steve Forseth (SF)				Cariboo Regional District
Georgia Bock (GB)		Kate Hewitt (KH)		Soda Creek Indian Band
Andrew Dunbrack				Williams Lake Indian Band/Soda Creek Indian Band
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Diane Howe (DH)		Jennifer McConnachie		Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk	X	Gabriel Matscha		Ministry of Environment
		Sam Barnes	X	Ministry of Environment
Lee Williston (LW)				Forests, Lands, Natural Resource Operations
Conrad Cofre				Forests, Lands, Natural Resource Operations
Margie Henley (MH)				Ministry of Transportation
Kevin Marks (KM)	X			MPMC Employee Representative
Stephen Monninger	X			MPMC Meeting co-chair
Colleen Hughes (CH)	X			MPMC Meeting co-chair
Valerie Holweck	X			MPMC Environmental Technologist
Shane Flynn	X			MPMC TSF Manager
Dale Reimer (DR)	X			MPMC General Manager
Lyn Anglin (LA)	X			Imperial Metals
Don Parsons (DP)	X			Imperial Metals



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

Review of Last Meeting's Action Items - Colleen

- Post minutes and presentation to the SharePoint Site – Complete

Review of Terms of Reference – Colleen

Roll of the PLC Members – Dale Reimer

- MPMC put forward a recommendation to remove a PLC member that was presenting false information about MPMC with regard to the breach and the breach response. A resolution was not reached during the meeting. Further discussions between MPMC and ENV will be undertaken to discuss this issue.

Presentations (see 2018 02 15 PLC Meeting Presentation)

- **Site Update Operations** – Dale Reimer
- **Water Management Update** - Shane Flynn
- **Permitting and Pollution Abatement order Update** – Colleen Hughes
- **Remediation Update** - Colleen
- **Monitoring Update** – Colleen
- **Assessment of MP for Potential Passive or Semi-passive Treatment** – Vanessa Friesen (Contango)
- **Information on *Didymosphenia geminata*** – Valerie Holweck

Ministry of Environment and Climate Change Strategy Update – Carol Danyluk and Sam Barnes (discussion on the permit deliverables)

- Document outlining the status of the deliverables is posted on the sharepoint site

PLC General Questions and Comments

Hazeltine Creek Remediation

Richard Holmes: With limited riparian cover on Hazeltine Creek is there modelling for temperature changes from the inlet to the outlet in the available habitat?

Answer: yes, have been monitoring and will continue to monitor. The data we have will be used to model what is expected.

Richard Holmes: Will the fish fence be able to keep rainbow trout fry from going downstream?



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Answer: Yes, the fence is engineered as per the specifications required for rainbow trout exclusion. The same design we have had installed since 2015.

Richard Holmes: will there be a limit on adult trout access for spawning?

Answer: This is being considered however it is our preference that we do not limit it. This will be decided by the habitat remediation working group.

Christine McLean: Why does the ENV allow MPMC to discharge water in the winter when they cannot monitor it. Also, I did not know this table was from the ENV.

General discussion around the presence of periphyton in Quesnel Lake (and all lakes).



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Proposed meeting dates for 2018

- February 15, 2018: conference call
- May 10, 2018: site tour and meeting
- August 16, 2018: site tour and meeting
- November 15, 2018: conference call

-----MEETING ADJOURNED-----

Action Items

Action Item	Responsible Party / Parties
Post minutes and supporting information from last PLC meeting on FTP site	Colleen Hughes, MPMC
Send out agenda prior to next meeting	Colleen Hughes, MPMC

NEXT SCHEDULED MEETING:

MAY 10, 2018 10:00 TO 12:00 – SITE TOUR AND MEETING



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

Meeting Details

Date: June 26, 2018
Time: 10:00am Location:
Likely Community Hall

PLC Members and Guests

Member		Assigned Alternate		Organization
Bee Hooker	X			Big Lake Community
Joan Sorley	X			Cariboo Regional District
Steve Hocquard				Horsefly Community
Linda Bartsch	X			Horsefly Business
Lisa Kraus	X			Community of Likely
Doug Watt	X			Citizen of Likely
Claudine Kadonaga	X			Likely Business
Christine McLean	P			Community of Mitchell Bay
Richard Holmes				Morehead Community
Mark Doratti				Williams Lake Chamber of Commerce
Bill Caruthers	P			Williams Lake Community
Walt Cobb				City of Williams Lake
Steve Forseth	X			Cariboo Regional District
Georgia Bock		Kate Hewitt (KH)		Soda Creek Indian Band
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Diane Howe (DH)		Jennifer McConnachie	P	Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk		Alan Gibson	X	Ministry of Environment
		Sam Barnes		Ministry of Environment
Lee Williston				Forests, Lands, Natural Resource Operations
Conrad Cofre				Forests, Lands, Natural Resource Operations
Margie Henley				Ministry of Transportation
Kevin Marks				MPMC Employee Representative
Stephen Monninger	X			MPMC Meeting co-chair
Colleen Hughes	X			MPMC Meeting co-chair
Dale Reimer	P			MPMC General Manager
'Lyn Anglin	X			Imperial Metals
Scott McLean	P			Golder Associates (Tailings Management)
Melissa Winfield	X			Independent



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

Operations Update – Dale Reimer

- Currently the union employees are on strike. We have reached a bit of an impasse and there are no future meetings scheduled. The Labour Board mediator is currently unavailable until the end of the first week of July.
- We continue to operate with management and staff
- The dredging of the tailings from the Springer Pit is on-going and we anticipate completion of this project in late fall of 2018.

Tailings and Water Management Update – Scott McLean

- Note: Golder is the Engineer of Record for the TSF at Mount Polley. Golder is also currently providing onsite supervision of the TSF and water management while MPMC seeks to fill the vacant position of TSF Manager.
- See slide presentation for update.

Presentations (see 2018 06 26 PLC Meeting Presentation)

- **Site Update – Dale Reimer**
- **Water Management Update – Scott McLean**
- **Permitting and Pollution Abatement order Update – Colleen Hughes**
- **Remediation Update - Colleen**
- **Monitoring Update – Colleen**

Ministry of Environment and Climate Change Strategy Update – No update provided.

PLC General Questions and Comments

Springer Pit Dredging

Christine McLean asked where are the tailings material from the Springer Pit dredging operation going? Answer: to the Tailings Storage Facility.

Stephen Monninger asked Scott to explain why we are bringing water back to Springer Pit. Answer: the dredging operation requires water to make a slurry, it also helps to keep the water level lower in the TSF.



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Reclamation and Remediation Update

Jennifer McConnachie clarified that we are waiting for a permit amendment not comments back on the RCP. Further discussion ensued later including a request from Joan Sorely for clarification on why there was not an MDRC meeting to review the RCP. Jennifer indicated that the EMPR found that there was no need for MDRC meeting and Joan indicated that she expected there should be one.

Passive Water Treatment Update:

Joan Sorely noted that that she was very pleased to see us moving forward with passive water treatment trials. Colleen Hughes reminded the group that MPMC had constructed and operated an Anaerobic Biological Reactor (ABR from 2010 to 2014) and information on this ABR was reported in the Annual Reports.

Christine McLean asked if we would be showing people this constructed passive water treatment trial. Answer: yes, absolutely.

Hazeltine Creek Remediation

Lisa Kraus requested clarification of the location of the fishway (could it be observed at Quesnel Lake). Answer: the fishway is at the Polley Lake weir in upper Hazeltine Creek.

Monitoring Update

Christine McLean requested confirmation that there was no monitoring completed on Quesnel Lake between February and April. Answer: This is correct as it was unsafe due to ice conditions. Christine McLean asked if we continued to discharge effluent during that time period. Answer: yes we did and we continued to sample the end of pipe effluent weekly as per the CEMP and Permit 11678.

Christine McLean asked why we had changed the names of sampling locations. This was in reference to the depth descriptions at QUL-58. Colleen specified that the names of sample locations do not change but the sample labels change based on the state of the lake and the sample depths. The sample name (e.g. QUL-58) still refers to the same location. The letters following (e.g. BT or AT) further describe the depth the sample was taken at.

Explanation of sampling depths at QUL-58

Lakes go through seasonal changes therefore our sampling depths reflect those changes.

QUL-58-S refers to the surface samples at 0m.

QUL-58-AT refers to above the thermocline. This depth changes as the lake turns over in spring and fall.

QUL-58-MID refers to the middle sample. This is sampled at the mid-depth of the water column. At the QUL-58 site, it is usually at 35m.



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QUL-58-AP refers to above the plume. This sample was taken at 5m above the plume as the field crew observed a signature in their instrument while profiling the water column. This depth will also change depending on the time of the year.

QUL-58-BT refers to below the thermocline. Again this depth changes as the lake turns over in spring and fall.

QUL-58-B refers to the bottom sample. This is typically done 2m above the bottom to avoid any sediment in the sample. At the QUL-58 site, it is usually at 68 m depth.

QUL-58-MP refers to the mid-plume. This sample was taken at the middle of the plume as the field crew observed a signature in their instrument while profiling the water column. This depth will also change depending on the time of the year.

Joan and Claudine both asked if there had been any new exceedances other than the ones report here. Answer: No.

Question: What do you do when exceedances occur (at the WTP)? Answer: when we learn of an exceedance at the WTP we shut down the WTP (or put it into recirculation) and we investigate whether there is still an exceedance and what may have caused the exceedance.

Christine McLean asked when was the last time you called for an audit of the WTP system?

Christine also asked if anyone from ENV had been on site since April. Christine pointed out that on the ENV website there is no indication of any monitoring completed in the last four months.

Alan Gibson said that all the data is on the EMS site. Alan offered to assist if anyone needed help accessing the data.

Doug Watt asked where and when would we be moving the Sulphur pile. 'Lyn Anglin indicated we were still investigating and would inform the PLC once we had a plan in place.

Christine McLean asked why we needed a hatchery for Polley Lake when previously we had indicated there were lots of healthy fish in the lake (reminded us of the photo of the hoop net with hundreds of fish). Colleen Hughes explained that as Hazeltine Creek is the main spawning channel for Polley Lake and as it was not accessible to the rainbow trout for three years, there has been a loss of three age cohorts of fish in Polley Lake. The hatchery will help supplement the population in the Lake.

Compliance

Christine McLean asked about MPMC compliance with the permit. Alan Gibson explained that the compliance office of ENV is currently going through MPMC's annual report looking for compliance issues and will report out on that.

Claudine Kadonaga asked how often ENV did compliance inspections at the mine. Colleen Hughes explained that EMPR does reclamation inspections annually and ENV generally does one



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site inspection/audit annually. ENV also does sampling on the Lakes surrounding the mine. Claudine noted that it would be good for MPMC to make it known to the public how often the mine is inspected.

Toward Sustainable Mining

'Lyn provided an update on the TSM program and the request from MAC to meet with the communities of interest. Everyone agreed that having MAC join the regularly scheduled PLC meeting in October for a tour and the meeting would be a good idea.

PLC Improvements

Melissa Winfield was formally introduced to the PLC and ran the 2nd half of the meeting focusing on a few key items that pertained to evaluating feedback from the PLC. Melissa had been asked to serve as an independent third party to provide ideas and guidance to the PLC in order to improve how the functionality of the PLC. Feedback received from the PLC that Melissa passed on to the group included:

- Results of the survey questionnaire that was forwarded to all members of the PLC. Approximately half of the membership responded. Results of the survey are provided in the attached presentation.
- Melissa summarized feedback from informal interviews that she conducted with a handful of the membership.
- Melissa asked the group what the core values of the PLC should be. The group undertook an exercise of selecting, from a long list, what values should be important in order to have a fully functioning PLC.
- A round table discussion, directed by Melissa, about a lot of relevant topics pertaining to the PLC finished off the meeting.
- The PLC agreed that at the end of each meeting, the group should collaboratively draft a summary of key points presented or discussed at the meeting to share with their respective communities. Melissa led this discussion at the end of the meeting and drafted a one-page bullet point summary of key points, which was circulated to the group after the meeting. (the summary bullets are also included here).
- Summary of Key Messages from PLC June 26 Meeting
 - Strike – no meeting scheduled currently but want to get everyone back to work
 - Tailings & Water Management Lead – taken on by Golder
 - Increase of 2m of freeboard (from 966 m to 968m) to allow for tailings deposition over the next 3 years to maintain freeboard requirements (current freeboard 4.2m; min. is 1.1m)
 - Fish fence in Upper Hazeltine Creek removed; ~ 5,000 spawned from Polley Lake; ca. 5,000 YOY to date
 - Rainbow trout hatchery – 13, 600 live eggs hatched to enhance local recruitment
 - Over 3,030 willows planted and 350,000 conifers to be planted in 2018 along Hazeltine Creek corridor



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- Six Discharge / Receiving Environment exceedances
- Two types:
 1. Exceedance of Total Cu Aquatic Life Guidelines in Hazeltine Creek during freshet
 - Revegetation along shoreline will minimize erosion/soil runoff
 2. Exceedance of end-of-pipe WTP discharge limit exceedance
 - Shut down Water Treatment Plant
 - Source investigation underway
 - MOE has been notified
- Active monitoring underway
- Passive Water Treatment – starting this summer, doing research trials on constructed wetland cells
- PLC is working towards refreshing the Terms of Reference, improved collaboration and communication

PLC Value Groups

1. Learning

- curiosity
- learning
- knowledge
- education

2. Reliability

- efficient
- organization
- commitment
- effective
- hard work
- dependable

3. Resolution

- acceptance
- receptive to feedback
- understanding

4. Awareness

- focus
- direct communication
- fresh ideas
- critical thinking

5. Integrity

- trust
- respect
- honesty
- accountability
- ethical / social responsibility
- legal

6. Collaboration

- positive communication
- relationship-building
- sharing
- caring
- engagement
- responsiveness
- empower
- community

Proposed next meeting date

- August 16, 2018: site tour and meeting
- October 2, 2018: site tour and meeting (inc MAC)

MPMC Public Liaison Committee
Meeting Notes: June 26, 2018



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

Meeting Details

Date: August 16, 2018
Time: 13:00
Location: Conference Call

PLC Members and Guests

Member		Assigned Alternate		Organization
Bee Hooker				Big Lake Community
Joan Sorley	X			Cariboo Regional District
Steve Hocquard				Horsefly Community
Linda Bartsch	X			Horsefly Business
Lisa Kraus	X			Community of Likely
Doug Watt	X			Citizen of Likely
Claudine Kadonaga	X			Likely Business
Christine McLean	X			Community of Mitchell Bay
Richard Holmes	X			Morehead Community
Mark Doratti		Jaylyn Byer	X	Williams Lake Chamber of Commerce
Bill Caruthers	X			Williams Lake Community
Walt Cobb	X			City of Williams Lake
Steve Forseth				Cariboo Regional District
Georgia Bock		Kate Hewitt (KH)	X	Soda Creek Indian Band
Jackie Sarginson	X			MLA Cariboo North Coralee Oaks Office
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Diane Howe (DH)		Jennifer McConnachie		Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk	X	Alan Gibson		Ministry of Environment
		Sam Barnes	X	Ministry of Environment
Lee Williston				Forests, Lands, Natural Resource Operations
Conrad Cofre				Forests, Lands, Natural Resource Operations
Nicole Pressey				Ministry of Agriculture
Margie Henley				Ministry of Transportation
Kevin Marks	X			MPMC Employee Representative
Stephen Monninger	X			MPMC Meeting co-chair
Colleen Hughes	X			MPMC Meeting co-chair
Dale Reimer	X			MPMC General Manager
Lyn Anglin	X			Imperial Metals
Melissa Winfield	X			Independent

MPMC Public Liaison Committee
Meeting Notes: August 16, 2018



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Review and Accept Agenda

Presentations (see 2018 08 16 PLC Meeting Presentation)

- **Site Update** – Dale Reimer
- **Water Management and TSF Update** – Colleen Hughes
- **Permitting and Pollution Abatement order Update** – Colleen Hughes
- **Remediation and Monitoring Update** – Colleen Hughes
- **Compliance Update** – Stephen Monninger

Operations Update – Dale Reimer

- Labour dispute is over and all active employees have been called back. This is a slow process as many had taken other jobs. We are bringing them back as quickly as we can.
- We continue to mine as per our mine plan which includes processing stockpiled ore.
- A new mine plan is being drafted which could see us mining in the Cariboo pit into late November or early December. At this time we will be hoping to call back people we have already laid off.
- The dredging of the tailings from the Springer Pit is on-going and we anticipate completion of this project in the winter of 2018.

Tailings and Water Management Update

- Water Treatment Plant (WTP) continues to operate at 750 m³/hr
- TSF Free water ~ 2.6M m³
- Pond elevation as of August 15, 2018 961.41 m
- Beach length > 100 m
- Springer pit dredging has moved approximately 1.5M m³ to the TSF

Remediation Update

- 58,600 Sitka alder plugs and 192,480 conifer plugs (pine, spruce, fir, and cedar) were planted along the Hazeltine Creek corridor in July 2018.
- Spawning surveys continue weekly (showed video of rainbow trout fry in Hazeltine).
- Hatchery is still running and we expect to release the fry in Polley Lake in early fall.

Monitoring Update

- All monitoring is being completed as per the CEMP
- No exceedances of any permit limits
- Minnow Environmental on site conducting fish and fish habitat surveys
- Golder on site conducting terrestrial assessments including soils, vegetation and insects

Compliance Update

- All reports submitted as required by permit and PAO



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- ADP and CEMP submitted in August
- MPMC Submitted a pre-application to amend Permit 11678.
 - This is to request an amendment for sections 2.8, 2.9, and 2.10. MPMC has indicated previously that more research needs to be completed to determine the treatment type that is best suited to the mine site. MPMC will be proposing restructuring and rewording of these sections of the permit
- CRP is under review
- Working with ENV on next steps for PAO (See linkages diagram in presentation)

Review of the Terms of Reference for the PLC

- On August 3, 2018 a draft of an updated Terms of Reference (ToR) for the PLC was distributed by email to the PLC. This draft was completed by Mellissa Winfield following the discussions that the PLC had on June 26, 2018.
- Mellissa stepped through the ToR with the PLC and noted comments that were made during the call. Mellissa also requested that the PLC submit written comments to her as soon as possible. Mellissa will track the comments and will provide an updated draft ToR to the PLC before the next meeting.

PLC General Questions and Comments

General

Doug Watt asked if the PLC will be receiving an update on the permit amendment application.

Answer; Yes, it is on the agenda.

Joan Sorely noted that she did not receive a summary from the last meeting. Answer; it was sent out the weekend after the meeting.

Richard Holmes asked if Bootjack Lake and Morehead Creek are being monitored and what are the trends showing. Answer; Bootjack Lake is monitored as is Morehead Creek. The results from this monitoring are always included in MPMC's Annual Environmental and Reclamation Report. There are no trends (changes) observed in the lake or in the creek.

Richard Holmes asked about offset projects. MPMC will contact Richard to discuss his ideas.



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Reminder - Toward Sustainable Mining

At the June 26, 2018 meeting 'Lyn provided an update on the TSM program and the request from MAC to meet with the communities of interest. Everyone agreed that having MAC join the regularly scheduled PLC meeting in October for a tour and the meeting would be a good idea.

Proposed next meeting date

- October 2, 2018 site tour and meeting (inc MAC)

Admin (2nd) Floor Registry Sign In Sheet (includes employees)

All visitors meeting with MPMC personnel on the 2nd Floor MUST sign in – upon leaving this floor, please sign out

Date	Name	Company	Who are you Visiting	Time In	Time Out	Initials
Oct 2	Aaron Herry	Beamac		7:00		
Oct 2	Marco Rigoni	Beamac		7:00		
Oct 2	Steven Epp	Mesa Enterprises		7:00	8:40	SE
Oct 2	Ramy Kamel	Enviro		7:00		YK
Oct 2	Stephen Hazel	MAC COI	S. Nonninger	10:30		SA
"	Joy Kennedy	MAC COI	"	7:40		JK
"	Andrew DeVries	MAC	"	10:30		SA
"	MICHAEL VAN AANHOUT	STRATOS - MAC COI	"	10:30		SA
"	Leah Henderson	Stratos - MAC COI	"	"		SA
"	Shirley Neault	Hubbay Minerals	"	"		SA
"	Walter Gault	City of WL	"	"		WG
"	Ben Chalmers	MAE	"	"		BC
"	Nathan Lemphers	MAC-COI	"	"		NL
"	DAN BENOIT	MAC - COI	"	"		DB
"	MAEK WISEMAN	AVIATION ADVANCED MATERIALS INC	"	"		MW
Oct 2	Yasmine Lachance	Yal - COI	"	"		ML
"	Maya Stawo	MAC - COI	"	"		MS
Oct. 2	Theresa Baikie	MAC COI	"	"		TB
"	Carol Danyluk	ENVU (MOE)	"	"		SA
Oct 2	Steve Forsyth	CRO (Area D)	"	"		SF
Oct 2	Michel Julien	Agnico Eagle (COI)	"	"		MJ
"	DAVID WALKER	MAC COI	"	"		DW

All visitors meeting with MPMC personnel on the 2nd Floor MUST sign in – upon leaving this floor, please sign out

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Summary of Key Messages from October 2, 2018 PLC Meeting

- Meeting was held in the Shifter's Shack as we had approximately 30 participants. 25 members of the Mining Association of Canada (MAC) joined the meeting. These folks are part of the Community of Interest Panel who were here to observe the PLC meeting and to take part in the site tour. This is part of the Toward Sustainable Mining program that provides guidelines and standards for mining companies to follow. This group focuses on how companies engage with the public. Primarily because of the weather, only 5 PLC members attended the meeting.
- Dale Reimer provided an update on mine operations and for the benefit of the MAC members, he provided some background on the breach.
- Luke Moger discussed site water management including information on the Water Treatment Plant (at operating capacity), an update on the Tailings Storage Facility (TSF), dredging in the Springer Pit, and TSF construction activities in 2018. Luke also provided additional background on conditions and actions taken to repair the TSF post-breach.
- Freeboard in TSF is at 6.8 meters; total free water within the TSF is at 3.9 M3; minimum beach length is > 100 meters.
- A brief summary was provided on reclamation and remediation projects being conducted as required by the EMA Permit 11678.....update on the Reclamation and Closure Plan that is still under review by EMPR, reclamation cover design trials initiated by Golder, and a couple of water treatment studies that are underway including constructed wetlands and copper optimization studies.
- Further updates were provided on the restoration work that is on-going in Reach 3 of Hazeltine Creek and the trout spawning program.
- Hatchery program has been successfully completed with the release of approximately 11,000 fry into Polley Lake during the week of September 24, 2018.
- Water quality monitoring update was provided indicating the various locations of samples collected and for the benefit of both PLC members and MAC members, a discussion on Quesnel Lake sample locations was provided.
- A graphical depiction of nutrient concentrations in Quesnel Lake was also provided and discussed. Concentrations of nitrate, phosphorous, and ammonia were graphically depicted from several Quesnel Lake sample sites and compared against BC Water Quality Guidelines.

- Additional monitoring updates included work being done by Minnow Environmental including EEM studies on Quesnel Lake, fish studies in both Polley Lake and Quesnel Lake, and sediment sampling in Polley Lake. Golder has conducted field inspections of Hazeltine Creek construction and flow monitoring for Hazeltine Creek.
- Compliance
 - No exceedances of permit limits, although an error was discovered that at first, indicated a permit exceedance, but it was discovered that it was a clerical error and a false lab result.
 - An unauthorized discharge was discovered on September 22 at the toe of the Corner #1 buttress. Due to high rain fall, water stored in a collection pond found a weak spot in a containment berm and flowed into Polley Flats and eventually discharged into Hazeltine Creek. The flow out of the collection area was less than 1 liter/second with discharge into Hazeltine less than 0.5 liters/second. Operations repaired the problem by digging a short ditch from the collection pond to the PETB Pond which feeds the Water Treatment Plant. The repair work was completed on September 22. ENV was notified of the situation.
 - Annual Discharge Plan approved on September 6, 2018.
 - Draft Comprehensive Environmental Monitoring Plan, submitted in August, is still under review.
 - Submitted pre-application for permit amendment related to Sections 2.8, 2.9, and 2.10 of EMA Permit 11678. Still under review.
 - Normal monthly and quarterly reports submitted as required by EMA Permit 11678.
 - Conceptual Remediation Plan still under ENV review.
 - Carol Danyluk (ENV) provided an update and summary of non-compliance issues to EMA Permit inspections and reporting as well as pertaining to the Pollution Abatement Order.
- A scheduled discussion on the Terms of Reference was tabled because Mellissa could not attend the meeting and there were only 5 PLC members able to attend. It was decided that an Extraordinary Meeting, either a teleconference or face-to-face meeting, would be scheduled in the near future to go over the latest Draft.
- Site tour traveled to Corner #1 Buttress area for an overview of the breach area and upper Polley Flats. The unauthorized discharge area mentioned

above was also pointed out. Tour then stopped at the weir on Upper Hazeltine Creek to learn about restoration and remediation/revegetation efforts before traveling down to the Lower Hazeltine area and Quesnel Lake.



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

Meeting Details

Date: November 19, 2018
Time: 10:00
Location: Conference Call/On-site

PLC Members and Guests

Member		Assigned Alternate		Organization
Bee Hooker				Big Lake Community
Joan Sorley (JS)	X			Cariboo Regional District
Steve Hocquard				Horsefly Community
Linda Bartsch				Horsefly Business
Lisa Kraus (LK)	X			Community of Likely
Doug Watt (DW)	X			Citizen of Likely
Claudine Kadonaga (CK)	X			Likely Business
Christine McLean (CM)	X			Community of Mitchell Bay
Richard Holmes				Morehead Community
Mark Doratti				Williams Lake Chamber of Commerce
Bill Caruthers				Williams Lake Community
Walt Cobb				City of Williams Lake
Steve Forseth (SF)	X			Cariboo Regional District
Georgia Bock				Soda Creek Indian Band
Jackie Sarginson				MLA Cariboo North Coralee Oaks Office
Michael Gash (MG)				Ministry of Aboriginal Relations and Reconciliation
Diane Howe (DH)				Ministry of Energy, Mines and Petroleum Resources
Carol Danyluk (CD)	X			Ministry of Environment
		Sam Barnes (SB)	X	Ministry of Environment
Lee Williston				Forests, Lands, Natural Resource Operations
Conrad Cofre				Forests, Lands, Natural Resource Operations
Nicole Pressey				Ministry of Agriculture
Margie Henley (MH)	X			Ministry of Transportation
Kevin Marks				MPMC Employee Representative
Stephen Monninger (SM)	X			MPMC Meeting co-chair
Colleen Hughes (CH)	X			MPMC Meeting co-chair
Valerie Holweck (VH)	X			MPMC
Dale Reimer				MPMC General Manager
Lyn Anglin (LA)	X			Imperial Metals
Melissa Winfield (MW)	X			Independent

MPMC Public Liaison Committee
Meeting Notes: November 19, 2018



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Meeting Notes

Welcome and Roll Call on Phone and Roundtable Introduction Extraordinary Meeting for Terms of Reference (ToR)

PLC Terms of Reference Presentation by Melissa Winfeld

- Key Revisions
 - Discussion from August:
 - Guest attendance allowed; decision making process will become consensus and majority vote; reduce membership attendance to 60%; information sharing will include summarizing key points and distributing to membership.
 - Qualified Professionals (QP) allowed as guests
 - New appendices:
 - Code of ethics provides norms of behavior
 - Communication protocol: being responsive, sharing of information (how & what)
 - Non-adopted comments have been tracked and are available by request
 - Request for public website
 - PLC already has FTP site & MPMC has public website & is strictly controlled for investor shareholders
 - ENV as decision maker for PLC
- ToR Round table discussion with scale 1 (endorse) to 8 (veto)
 - 6 people were at 3
 - 3 people were at 4
 - 2 people were at 7
 - 1 person was at 5

Summary: Majority at a 3, moving in right direction for consensus

- Key issues raised from round table discussions
 - Membership list tabled for next PLC meeting
 - Topics (15 minutes discussion per allotted):
 - 1) PLC as reviewing body for ENV; ENV as ultimate decision maker for PLC
 - 2) Communication protocol sections 7 & 10
 - 3) Alternate communication process for Likely and Quesnel Lake residents

[JS: What about the safety issue? CH: MPMC will move safety to the standing agenda. If anyone would like more information about a specific safety issue or incident they should contact Stephen.



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1) ENV as ultimate decision maker for PLC

Summary:

ENV will not be ultimate decision maker on PLC matters. Any permit conditions require approval by Director. Public consultation is not required by ENV on minor amendments. ENV would notify the PLC of minor permit amendments. Major permit amendments do see public/stakeholder consultation and ENV may choose to use PLC as part of public consultation. CD to send out documents for clarification of minor vs major amendments.

Possible option to refer permitting to sub-committee for future discussion.

2) Communication Protocol sections 7 & 10

Summary:

A clear distinction is to be made between facts and opinions. PLC members are able to share information from the SharePoint (FTP site) with members of the public. PLC members are not authorized to speak on behalf of MPMC and will make it clear when speaking on behalf of PLC and when are expressing own opinion(s) or interpretation(s).

3) Alternate communication process for Likely and Quesnel Lake residents

Summary:

This is not directly related to achieving consensus for the ToR; this is a separate issue that requires greater involvement and will be tabled.

Views that concern some residents in Likely and Quesnel Lake; their opinions are not being heard at public meetings and maybe a sub-committee would be able to bring those concerns forward. Important that all sides are being heard in a respectful way and that the ToR will provide a framework.

MW editing ToR as discussion proceeds for clarity purposes. Final draft to be circulated with edits made from the meeting.

Approval of ToR

- 7 people approve the ToR
- 1 to approve following final draft
- 3 participants away (present at start of call but left to attend other engagements)



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Other business brought forth by MPMC:

- Membership
 - Request by Bill Carruthers to add new group to PLC
 - Kevin Marks has been laid off from MPMC and withdrawn from PLC
 - JS will continue to replace Conrad Turcotte until he returns or an election is held
 - Andrew Rollo has replaced Dianne Howe as the EMPR representative
- Removal of extra ministry members as MDRC meetings are continuing and will be invited if deemed necessary
 - Department of Fisheries and Oceans, Environment Canada and Interior have voluntarily withdrawn
- The 2018 Comprehensive Environmental Monitoring Plan (CEMP) has been approved. MPMC will forward approval letter and plan. Some things still need to be clarified with the G2G.

Proposed next meeting date

- February 25, 2019 – conference call
- May 30, 2019 – tour & meeting
- August 29, 2019 – tour & meeting
- November 18, 2019 – conference call

Mount Polley Mining Corporation Public Liaison Meeting Minutes

13:00, December 9, 2014

Mount Polley Mine

Attendees

Name	Affiliation
Dale Reimer	General Manager, MPMC
Ryan Brown	Senior Mine Engineer, MPMC
Luke Moger	Project Engineer, MPMC
Colleen Hughes	Environmental Coordinator, MPMC
Katie McMahan	Environmental Technologist, MPMC
Jason Kerley	BC FLNRO
Urszula Kucharczyk	Morehead Resort Owner
Matt McCracken	Morehead Resort Owner
Joan Sorley	CRD Director
Marianne Woods	Big Lake Community Association
Douglas Watt	Likely Chamber of Commerce
Wayne Henke	Likely Resident
Jenny Howell	Cariboo Conservation Society
Bill Lloyd	Cariboo Conservation Society
Sam Albers	UNBC Quesnel River Research Centre

Minutes**13:05: Dale Reimer – Welcome**

- Round table introduction to all in attendance

13:10: Colleen Hughes, Environmental Coordinator, MPMC

- **Review of monitoring plan changes approved by MOE**
 - **Sites no longer monitored**
 - HD-1 – Hazeltine Discharge
 - HD-1US – 100 meters up stream of Hazeltine Discharge
 - E7 – Perimeter Pond
 - E1- Tailings Storage Facility Supernatant
 - **Restricted Access**
 - W7 – Hazeltine Creek at the Gavin Lake Bridge
 - W10 and W11 – lower Edney and Hazeltine
 - **Increased monitoring frequency**
 - W1 – Morehead Creek (monthly)
 - **Authorized Discharge**
 - Springer Pit (notification on August 13, 2014)

Q: What will the new monitoring plan look like in 2015?

A: We are unsure as yet if the new plan will include the mine site and the impacted area or if only the mine site and the impact monitoring will be covered by the CEIA (Comprehensive Impact Assessment).

A: It is likely we will install a couple more groundwater monitoring wells around the Springer Pit.

13:20: Katie McMahan, Environmental Technologist, MPMC

Review of MPMC site reclamation planning and implementation

- **Closure Objectives**
 - Removal and proper disposal of roads, structures, and equipment
 - Long-term stability of engineered structures
 - Restoration of natural appearance
 - Establishment of self-sustaining vegetation consistent with end land use objectives
 - Long-term preservation of water quality
- **Reclamation Approach**
 - To achieve our reclamation objectives, a series of adaptable strategies have been developed:
 - Water course protection
 - Sediment and Erosion Control Plan
 - Collection and monitoring of mine-influenced water
 - Surface water, groundwater, lake and biological monitoring plans
 - ARDML procedures and long-term predictions
 - Short- and long-term water management plans
 - Physical stability procedures (TSF, pit walls, waste rock dumps, roads)
 - Soil Management Plan
 - Land reclamation prescriptions
 - Invasive Species Management Plan
- **Research Update**
 - 48 plots created 1998 – 2000 on East Dump (top and slope)
 - Test response of grasses and pine/fir seedlings to various soil thicknesses and soil amendments (biosolids, tailings, fertilizer)
 - 2012 findings:
 - 15 cm soil sufficient, 40 cm soil superior
 - Light biosolids addition (50 – 75 dt/ha)
 - Light seeding (5 – 10 kg/ha)
 - Use non-competing native grass and forbe species
 - 2014 soil and root development assessment
- **Research – NEZ Dump**
 - 5.1 ha divided into three treatment units with different seed, fertilizer, and biosolids application rates, established 2010
 - Trials of individual native grass and forbe species on each unit
 - Findings:
 - Tracking and supervision
 - Seed mix and application rate adjustments
 - Amendment application rate adjustments
 - 40 cm of till sufficient
 - Irrigation
- **Research – Biosolids Trails**
 - Research goals:
 - Test an alternative biosolids application method
 - Monitor biosolids impact on soil ammonia levels
 - Test alternatives to native grass seed and forbes mixture currently used
 - Create environment to promote shrub and tree growth
 - Two 2.0 ha parcels, each with the same 6 treatment units
 - NW aspect established in 2013 (seeded and planted spring 2014)
 - SW aspect completed in 2014

- **Progressive Reclamation**
 - Re-sloping and landform design
 - Overburden application
 - Direct placement when possible
 - Soil amendment, including coarse woody debris
 - Rough and loose application
 - Seeding with native grass and forbes species*
 - Planting of conifer trees and deciduous trees and shrubs
- **Public and First Nations Engagement**
 - SCIB-WLIB Joint Implementation Committee Meeting, January 1, 2014 – presentation of Reclamation and Closure Plan Update and request for feedback
 - Public Liaison Committee Meeting, May 11, 2013 – presentation on re-vegetation approach and techniques
 - WLIB Elders tour and discussion, August 7, 2013
 - Public Liaison Committee Meeting, November 6, 2013 – 2013 reclamation update
 - Williams Lake Field Naturalists and Cariboo Central Interior Agrology Branch tour, June 7, 2014
 - Mine Development Review Committee Meeting, June 18, 2014 – reclamation update
- **Reclamation Reporting**
 - Annual Environmental and Reclamation Report
 - Available at the Williams Lake and Likely public libraries
 - Reclamation and Closure Plan
 - Submitted to MEM every 5 years, or with major mine plan updates
 - Last update was submitted to MEM January 14, 2014
 - Next update would be expected with an application to re-open the mine and would incorporate:
 - New and proposed mine site developments
 - Comments from MEM review of last update
 - Recommendations from MEM reclamation inspection (June 17 – 18, 2013)
 - Key comments and outcomes from public and First Nations engagement activities

Q: What is the total disturbance area at the mine site?

A: Approximately 1000 Ha

Q: Do we do trenching (reclamation technique)?

A: No, we haven't used this technique on site, but we do surface roughening techniques that are similar to mounding/trenching, with the same goal of creating better microsites for plant growth.

Q: Has there been an issue with snow slippage?

A: None observed. We do regular survival and growth surveys of our planted trees.

13:40: Luke Moger, Project Engineer, MPMC

- Post breach priorities
- Site water management pre- and post-breach
- Operations update
 - Short-Term Breach Water Management Systems - Complete
 - Upstream Temporary Rockfill Berm - Complete
 - Upstream Water Management Systems - Complete
 - Polley Lake Water Level Reduction - Complete
 - Polley Lake Access Road - Complete
 - Geotechnical Investigation Field Program - Complete

- Perimeter Embankment Foundation Preparation - Ongoing
- Perimeter Embankment Buttress Placement - Ongoing
- Breach Area Stabilization Work - Ongoing
- Current objectives
 1. Fix the breach in the tailings dam
 - Permit submitted for the 2015 Freshet Management
 - Breach stabilization, buttressing and foundation preparation work has started
 - Target completion before April 1st
 - Ensure site water handling infrastructure is ready for spring
 2. Prepare Hazeltine Creek channel for spring flows
 - Complete sediment ponds and other works in lower Hazeltine
 - Stop erosion of clay layers in middle Hazeltine before freshet
 - Establish a weir at the south end of Polley Lake before freshet
 - Establish a channel path through the tailings plug in upper Hazeltine before freshet
 3. Restart the mill & further buttress the dam
 - Submit restart application to MEM prior to Christmas.
 - The MEM permit would cover one year of milling at half rates.
 - Restart milling in February 2015.
 - Mined rock would reinforce tailings dam.
 - Tailings and water would be temporarily placed in Springer Pit then moved to tailings dam in future when full time operations resume.
 -
 4. Investigate options for handling the site water surplus
 - The annual surplus is estimated at 5 million m³/ year
 - Options being considered

Q: What is the grout material that will be used to construct the panels in the dam?

A: a mixture of cement, bentonite, and water.

Q: Is there a temperature consideration for this construction?

A: No, the construction equipment is self-contained and can work in cold conditions. It is used for winter construction in the Arctic.

Q: Will the Springer Pit hold all the water from Spring Runoff?

A: Yes, however there is a challenge moving the volumes of water to the pit during freshet high flow. Storage of water in the TSF is a contingency measure for runoff or precipitation events, it will then be pumped to the Springer.

Q: Is the dam repair in consideration for future mine operations?

A: Not at this time, it is only to help hold the excess water from the spring runoff. Construction will not preclude any future work from occurring.

Q: Will the rest of the dam require these grout panels?

A: No. However an investigation if the remaining dam area will be conducted in January.

Q: Is the expected core pressure different?

A: Construction will be completed to about 50% of the elevation prior to the breach, at an elevation of 950m.

Q: Has there been consideration of dry stacking the tailings?

A: Not at this time, that is generally used for much smaller projects.

Q: Will the long term mine plan include moving water and tailings out of Springer Pit?

A: Yes

General Conversation

- We will continue to manage excess water using evaporation techniques
- We are continuing to research passive water treatment systems.
- Hazeltine work will focus on three main areas this winter.
 - Installation of the weir to control water in Polley Lake
 - Establishing a channel from the weir

- Covering the exposed clays with riprap
- Concern about the turbidity in Quesnel Lake and that the ultra-fine materials can hold bacteria. Reminder to all that it is important to follow the Health Canada guidelines for consuming surface water.
- The Mine is still delivering water to residents that use the lake water.
- The bulletins that Munt Polley sends out are good, please send more.
- It is expected that most of the turbid water will flush out of the lake by next August.
- The turbid water is visible to Cariboo Island but not much beyond.
- Who is at fault? This will be determined when the investigation findings are released in January.
- Group feels that it is important to continue these meetings as the Mining Review meetings do not cover the environmental side of things as thoroughly.