



# Mount Polley Mining Corporation

an Imperial Metals company

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

**August 27<sup>th</sup>, 2015**

Ministry of Environment  
 Mining Operations Environmental Protection  
 2080 Labieux Rd.  
 Nanaimo, BC  
 V9T 6J9

## WEEKLY POST-TSF BREACH REPORT – AUGUST 19<sup>TH</sup> – 25<sup>TH</sup>, 2015

### Government, First Nations and Stakeholder Engagement

<p><b>Publications and Website Updates</b></p>	<p>Mount Polley will continue to present interpreted environmental monitoring results and updates on remediation work on the <a href="#">Mount Polley Updates</a> page of the Imperial Metals website (<a href="http://www.imperialmetals.com">www.imperialmetals.com</a>). No updates were posted this week.</p>
<p><b>Engagement Activities and Communications with Regulators</b></p>	<p>Activities relating to government, First Nations, and stakeholder communication and engagement this week included:</p> <ul style="list-style-type: none"> <li>• The weekly Ministry of Environment (MoE) update call on August 19<sup>th</sup>.</li> <li>• Participation in the MoE Environmental Working Group meeting on August 21<sup>st</sup>.</li> <li>• A DFO and Environment Canada site visit on August 19<sup>th</sup>.</li> <li>• A site tour and inspection by MoE on August 19<sup>th</sup>.</li> <li>• A site tour for a class of mine engineering students from the University of British Columbia on August 24<sup>th</sup>.</li> <li>• Community meetings: Likely on August 24<sup>th</sup>; and with the Soda Creek and Williams Lake Indian Bands on August 25<sup>th</sup>.</li> </ul> <p>On July 16<sup>th</sup> Mount Polley Mining Corporation (MPMC) submitted a permit amendment application to MoE to allow short-term water discharge to Quesnel Lake. The Environmental Protection Notice can be viewed in the <a href="#">Williams Lake Tribune</a> (July 22<sup>nd</sup>, page A23). The remaining community meetings are:</p> <ul style="list-style-type: none"> <li>• August 26<sup>th</sup> – Williams Lake, Gibraltar Room, 7 – 9pm</li> <li>• August 27<sup>th</sup> – Quesnel, Royal Canadian Legion, 7 – 9pm</li> </ul>

## Water Management

<p><b>Polley Lake</b></p>	<p>Polley Lake water elevation = 922.19m (August 25<sup>th</sup>) The Polley Lake weir valve remained open this week to allow approximately 0.15 m<sup>3</sup>/s of outflow from Polley Lake into Hazeltine Creek.</p>
<p><b>Water Management</b></p>	<p>All water from the Tailings Storage Facility (TSF) water collection system continues to be transferred to the Springer Pit via the Central Collection Sump (CCS). No releases of water to the environment occurred this week. Dewatering from the Springer Pit to the CCS via the West Ditch is ongoing to supply water for: the turbomisters at the Main Seepage Pond; dust suppression sprinklers on the TSF; and, process water to the Mill.</p> <p>Please refer to the <a href="#">May 28<sup>th</sup>, 2015 weekly report</a> for an overview map of the TSF water management system.</p>
<p><b>Springer Pit</b></p>	<p>Total volume of tailings deposited in the Springer Pit as of August 25<sup>th</sup> = 287,513 tonnes (208,343 m<sup>3</sup> including water retained in tailings)</p> <p>Water Elevations (August 25<sup>th</sup>):</p> <ul style="list-style-type: none"> <li>• Springer Pit = 1018.77m (+0.67m from last week)</li> <li>• Groundwater well GW12-2a = 1013.20m (-0.03m from last week)</li> <li>• Groundwater well GW12-2b = 1013.32m (+0.02m from last week)</li> <li>• Groundwater well GW15-1a = 1019.09m (+0.18m from last week)</li> <li>• Groundwater well GW15-1b = 1019.04m (+0.23m from last week)</li> <li>• Groundwater well GW15-2a = 1021.78m (-0.06m from last week)</li> <li>• Groundwater well GW15-2b = 1022.07m (-0.05m from last week)</li> </ul> <p>A map of the groundwater well locations is included as Figure 1 of the <a href="#">July 23<sup>rd</sup> weekly report</a>. Note that the suffix “a” indicates the deep well in the pair, and the suffix “b” indicates the shallow well in the pair.</p> <p>Monthly water quality results for parameters of interest from the Springer Pit supernatant and adjacent groundwater wells will be included in this report as they become available.</p>
<p><b>Discharge System</b></p>	<p>Work related to installation of infrastructure for the proposed short-term water discharge plan was carried out this week including:</p> <ul style="list-style-type: none"> <li>• Construction of a pad and access road for the water treatment plant commenced.</li> <li>• Construction of access roads and pipe grade pads for the Quesnel Lake pipeline right-of-way is underway.</li> </ul>

## Rehabilitation Work

<b>Silt Curtain</b>	<p>The turbidity barrier (silt curtain) installed in Quesnel Lake near the outlet of the constructed Edney Creek channel is in good condition.</p>
<b>Monitoring</b>	<p>MPMC staff members conduct daily environmental inspections of the rehabilitation works.</p>
<b>Hazeltine Creek Rehabilitation</b>	<p>Phase one of re-contouring in Hazeltine Creek in Reach 3 was completed this week, including spreading of woody debris, with the exception of the canyon “blow-out” zone.</p> <p>This week, preparations for cleaning out the lower Hazeltine Creek sedimentation ponds began. Setting of minnow traps and netting of any fish that have managed to navigate around the installed fish barriers continued.</p>
<b>Edney Creek and Adjacent Quesnel Lake Shoreline</b>	<p>This week rehabilitation work continued in lower Edney Creek and along the adjacent Quesnel Lake shoreline. Work included:</p> <ul style="list-style-type: none"> <li>• Hauling of rip rap and gravel materials to the work area for use in construction.</li> <li>• Removal of dead trees near Edney Creek.</li> <li>• Construction of the Edney Creek secondary outflow channel and placement of rip rap and gravel was completed.</li> <li>• Placing of rock and woody debris habitat features as well as spawning gravels in Edney Creek was completed. Anchoring in of the woody debris is close to completion.</li> <li>• Cleanup of brush piles near the shoreline.</li> <li>• Grading and cleanup of the Edney Creek floodplain.</li> <li>• Removal of Edney Creek crossings that allowed equipment access for construction purposes.</li> <li>• Removal of the culverts through which Edney Creek was diverted into Hazeltine Creek upstream of the work area.</li> </ul> <p>Edney Creek was diverted back into the creek channel following fish habitat feature installation on August 24<sup>th</sup> and was monitored by environmental monitors. Hazeltine Creek continues to flow into Quesnel Lake via the temporary diversion channel out of the lower sedimentation pond.</p>

## Environmental Monitoring Program

### Water Quality Monitoring Program

The current water quality monitoring program is outlined in the table below. All sampling was completed as scheduled this week. Due to equipment malfunction, some data from the P2 profiles was lost. Because of the temporary flow pattern changes associated with the Edney Creek and adjacent Quesnel Lake shoreline habitat rehabilitation work, sampling at some stations has been temporarily adjusted as follows:

- Station EDC-01 was not monitored because there was no flow in this section of the creek on the scheduled sampling day (lower Edney Creek was diverted into Hazeltine Creek upstream of the upper sedimentation pond).
- Station EDC-02 was not monitored because there was no outflow into the lake from the Hazeltine/Edney outflow channel on the scheduled sampling day (water was diverted out of a temporary channel from the lower sedimentation pond).
- Stations QUL-54, QUL-55, and QUL-56 have been shifted from the mouth of the combined Edney/Hazeltine outflow channel to the mouth of the temporary outflow channel from the lower sedimentation pond into Quesnel Lake. These temporary stations are named QUL-54a, QUL-55a, and QUL-56a.
- Station HAC-01b at the outflow of the lower sedimentation pond has been moved to station HAC-01c at the temporary diversion channel outflow from the lower sedimentation pond.
- The continuous monitoring sonde at HAC-01b has been temporarily removed.

Area	Monitoring Type	Frequency	Stations
Polley Lake	Samples	Monthly	P1, P2
	Profiles	Bi-monthly	P1, P2
Hazeltine Creek	Samples	Weekly	HAC-01b
		Monthly	HAC-05, HAC-08, HAC-10
	Field Parameters	Continuous	HAC-01b
Edney Creek	Samples	Weekly	EDC-02
		Monthly	EDC-01
Quesnel Lake	Profiles	Weekly	QUL-54, QUL-55, QUL-56
	Profiles	Bi-monthly	QUL-21a, QUL-18, QUL-66a, QUL-2a, QUL-79
	Profiles	Monthly	QUL-40a, QUL-120a
	Samples	Weekly	QUL-55
	Samples	Monthly	QUL-2a, QUL-18, QUL-40a, QUL-120a
Quesnel River	Samples	Bi-monthly	QUR-1
	Field Parameters	Continuous	QUR-1

Please refer to previous weekly reports, such as the [May 7<sup>th</sup>, 2015](#) report, for a map of these sampling locations.

### Water Quality Monitoring Results

Figure 1 shows a time series graph for this week of daily field turbidity readings in lower Hazeltine Creek upstream and downstream of the sedimentation ponds (stations HAC-09 and HAC-01c, respectively). Figure 2 shows turbidity levels at these sites over a longer time period to provide context for this week's data.

Figure 3 shows a turbidity and temperature profile from this week at site QUL-55a, near the mouth of the temporary diversion channel from the lower Hazeltine Creek sedimentation pond to Quesnel Lake.

Figure 4 shows a time series graph of turbidity at site QUR-1. Turbidity data are from laboratory analysis completed by ALS Environmental. This chart will be updated every second week, as per the monitoring frequency of this station in the sampling program.

**Other  
Monitoring  
Programs**

Following completion of the [Post-Event Impact Assessment Report](#), MPMC has moved on to the next phase of monitoring following the tailings dam failure, which includes carrying out recommendations made in the Post-Event Impact Assessment Report. Minnow Environmental continued a sediment and benthic invertebrate monitoring program on site this week in areas including Polley Lake, Hazeltine Creek, and Quesnel Lake.

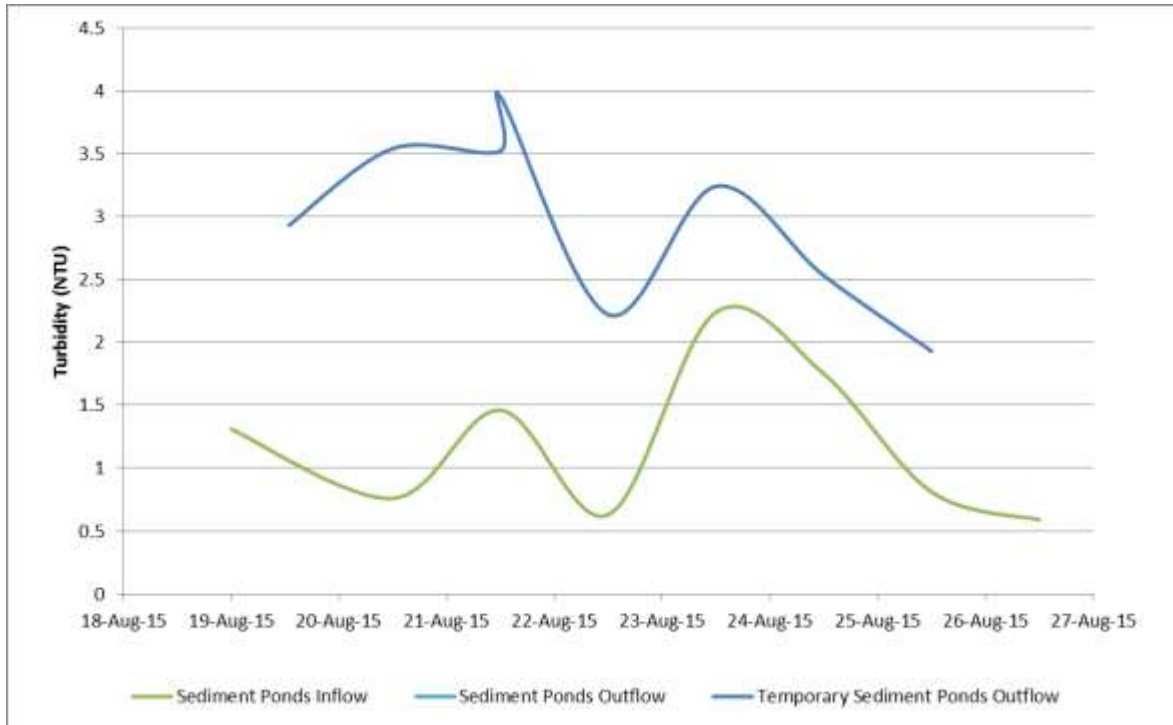


Figure 1. Time series graph for August 19<sup>th</sup> – August 25<sup>th</sup> showing turbidity levels at monitoring locations in Hazeltine Creek

Note: Edney Creek has temporarily been diverted into Hazeltine Creek (upstream of the sedimentation ponds) and outflow from the lower sedimentation pond diverted to Quesnel Lake via a temporary channel to allow Edney Creek channel and adjacent shoreline rehabilitation for fish habitat.

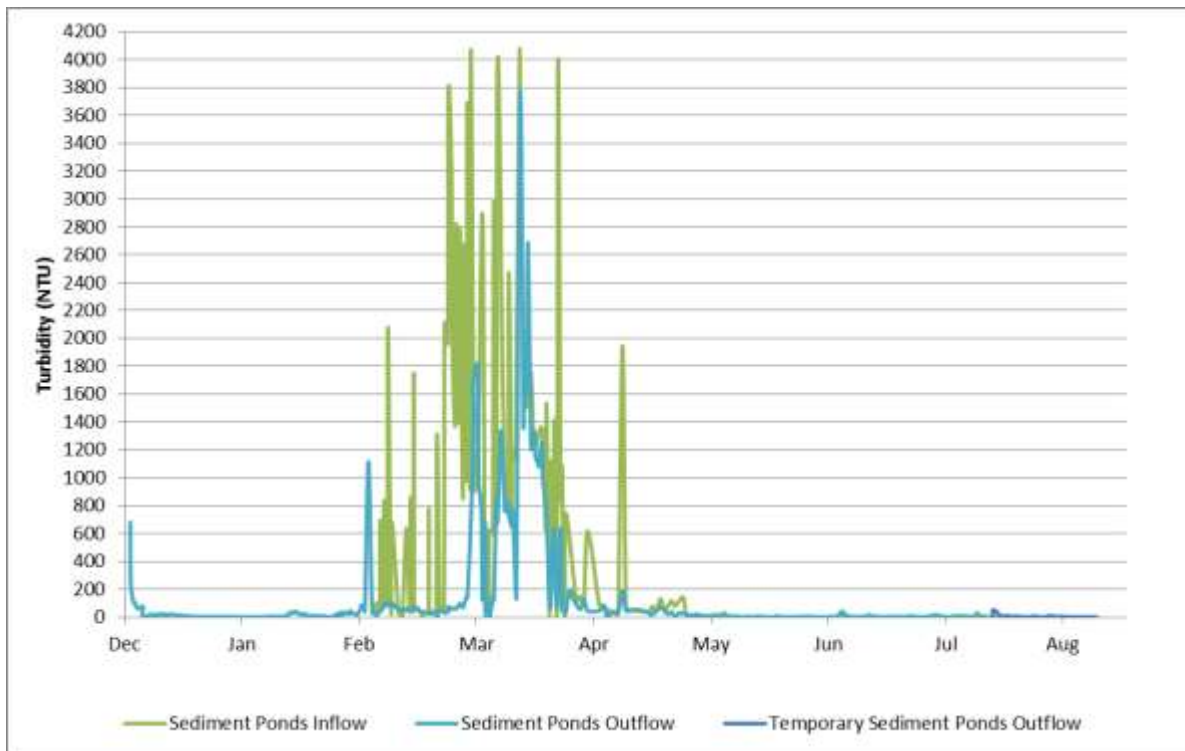


Figure 2. Time series graph for December 12<sup>th</sup>, 2014 – August 25<sup>th</sup>, 2015 showing turbidity levels at monitoring locations in Hazeltine Creek

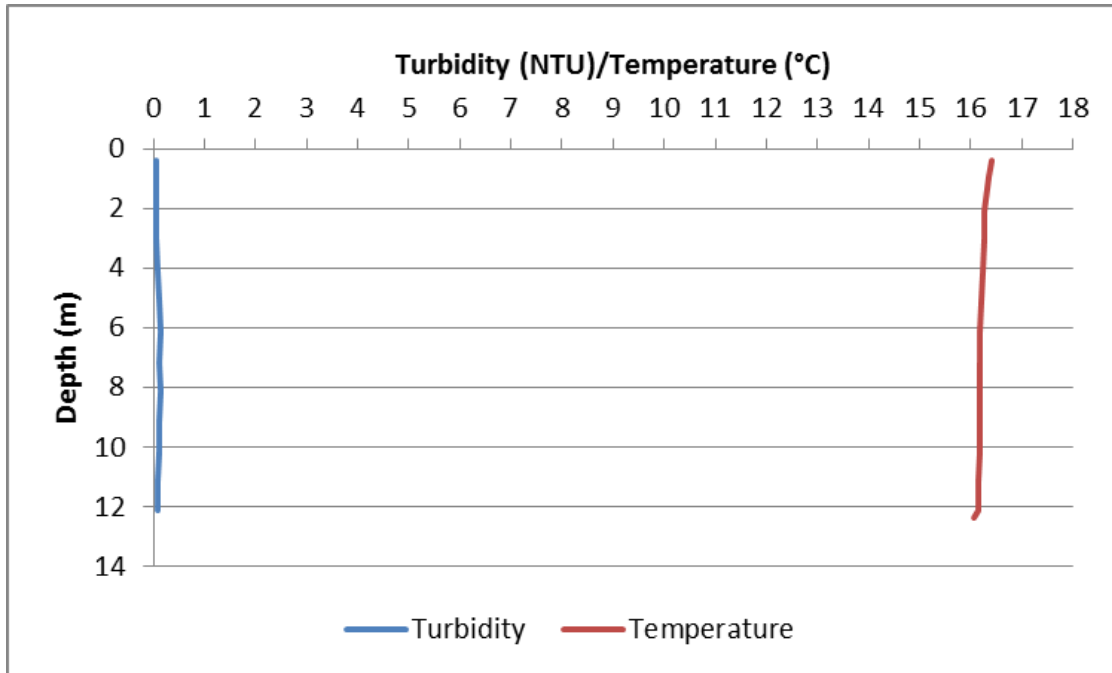


Figure 3. Turbidity and temperature profiles at station QUL-55a on August 25<sup>th</sup>

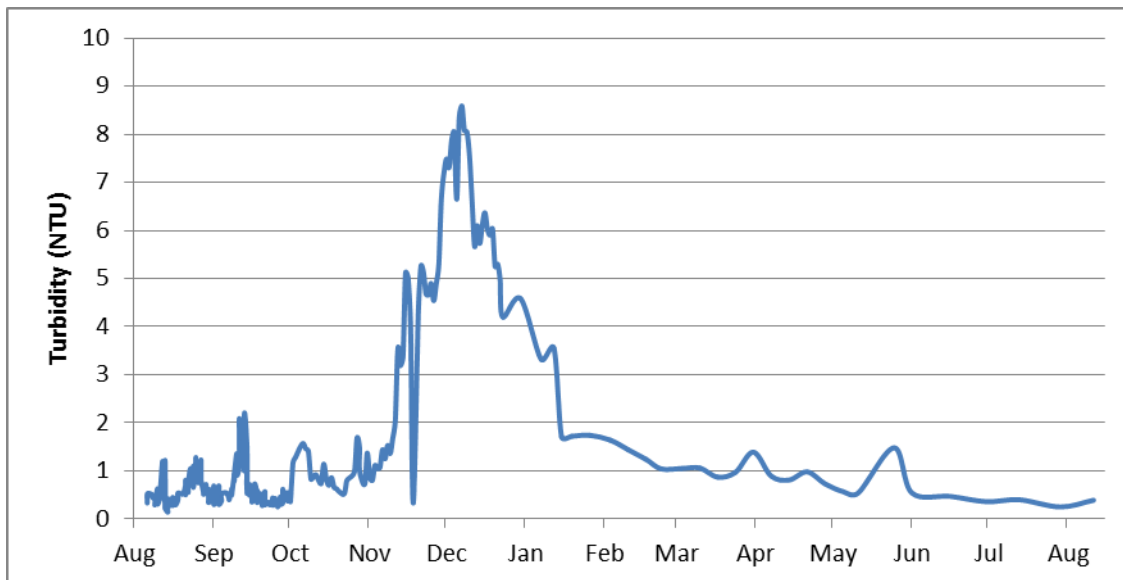


Figure 4. Turbidity time series at station QUR-1 (August 6<sup>th</sup>, 2014 – August 11<sup>th</sup>, 2015)