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Ministry of Environment
 Mining Operations Environmental Protection
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WEEKLY UPDATE REPORT – SEPTEMBER 16TH – 22ND, 2015

Government, First Nations and Stakeholder Engagement

<p>Publications and Website Updates</p>	<p>Mount Polley will continue to present interpreted environmental monitoring results and updates on remediation work on the Mount Polley Updates page of the Imperial Metals website (www.imperialmetals.com).</p> <ul style="list-style-type: none"> • Last week’s update report to the BC Ministry of Environment (MoE) was posted this week. • Mount Polley Mining Corporation’s (MPMC’s) 2015 second quarter data report to MoE with results of water quality monitoring conducted as part of the Post-TSF Breach Monitoring Plan was posted on September 15th.
<p>Engagement Activities and Communications with Regulators</p>	<p>Activities relating to government, First Nations, and stakeholder communication and engagement this week included:</p> <ul style="list-style-type: none"> • The weekly MoE update call on September 16th. • A Public Liaison Committee meeting on September 17th. • A presentation at the Association of Professional Engineers and Geoscientists of BC Northern Branch Presentations and Workshop Event in Smithers, BC on September 17th. • Participation in the MoE Environmental Working Group meeting on September 18th.

Rehabilitation Work

<p>Silt Curtain</p>	<p>The turbidity barrier (silt curtain) installed in Quesnel Lake near the outlet of the constructed Edney Creek channel is in good condition. MPMC is making arrangements with a contractor to have the turbidity barrier removed for winter, now that the fish habit rehabilitation work in lower Edney Creek has been carried out.</p>
<p>Monitoring</p>	<p>MPMC staff members conduct environmental monitoring when work in the Hazeltine Creek riparian zone is occurring.</p>
<p>Hazeltine Creek Rehabilitation</p>	<p>Hazeltine Creek rehabilitation work carried out this week included:</p> <ul style="list-style-type: none"> • Ripping of the flood plain in Reach 3 (downstream of the Gavin Lake Forest Service Road bridge) to reduce compaction and create better microsites for re-vegetation. Excavation of a shallow trench adjacent to Hazeltine Creek for the fall willow wattle planting program was also completed in Reach 3. • Removal of tailings adjacent to Hazeltine Creek on the east side of the floodplain in Reaches 1 and 2 (between Polley Lake and the Gavin Lake Forest Service Road bridge) continued. <p>Planning carried out this week included:</p> <ul style="list-style-type: none"> • Engineering preparations for replacing the Gavin Lake and Horsefly-Likely Forest Service Road bridges. • Preparations for the fall re-vegetation program in Hazeltine Creek reclamation areas. • Bids on a contract for the first phase of dead tree removal in areas adjacent to Hazeltine Creek are currently being accepted.

Water Management

<p>Polley Lake</p>	<p>Polley Lake water elevation = 922.20m (September 22nd) The Polley Lake weir valve remained open this week to allow approximately 0.1 m³/s of outflow from Polley Lake into Hazeltine Creek.</p>
<p>Water Management</p>	<p>No changes to the site water management system occurred this week. No releases of water to the environment occurred this week. Please refer to the May 28th, 2015 weekly report for an overview map of the TSF water management system.</p>
<p>Springer Pit</p>	<p>The total volume of tailings deposited in the Springer Pit as of September 22nd is 566,630 tonnes (410,601m³ including water retained in tailings).</p> <p>Water Elevations (September 22nd):</p> <ul style="list-style-type: none"> • Springer Pit = 1020.19m (+0.70m from last week) • Groundwater well GW12-2a = 1013.46m (+0.02m from last week) • Groundwater well GW12-2b = 1012.87m (-0.66m from last week) • Groundwater well GW15-1a = 1020.50m (+0.35m from last week) • Groundwater well GW15-1b = 1020.35m (-0.03m from last week) • Groundwater well GW15-2a = 1021.98m (+0.04m from last week) • Groundwater well GW15-2b = 1022.33m (+0.07m from last week) <p>A map of the groundwater well locations is included as Figure 1 of the July 23rd weekly report. 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. The Springer Pit groundwater wells were not monitored as scheduled in August due to equipment issues; a new pump system was ordered and arrived on site September 1st. Purging and sampling of wells was carried out from September 2nd to 9th. Results from groundwater wells GW12-2a and GW12-2b are presented in Table 1, along with results from previous samples to provide context. Results from the other wells will be provided when they become available.</p>
<p>Discharge System</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"> • Ongoing work on the pad for the water treatment plant (WTP) and associated infrastructure, including starting construction of electrical access and infrastructure, selection of a pre-engineered cover building for the WTP, and commencing work on the slurry pipe grade. • Fusing of the discharge pipelines continued at the Quesnel Lake shoreline. • Concrete weights for the discharge pipelines arrived on site. • Armouring of the West Ditch to reduce entrainment of suspended solids in water that will be routed to the WTP continued.

Table 1. GW12-2a and GW12-2b water chemistry results (June – September, 2015)

Date Sampled	GW12-2a			GW12-2b		
	04-Jun-15	27-Jul-15	02-Sep-15	04-Jun-15	27-Jul-15	02-Sep-15
Physical Tests						
Conductivity (µS/cm)	213	226	219	461	484	510
Hardness (as CaCO ₃) (mg/L)	45.7	47.1	47.4	244	243	264
pH - in situ (pH)	7.92	8.21	8.24	7.48	7.64	7.63
Anions and Nutrients						
Nitrate (as N) (mg/L)	<0.0050	0.01	<0.0050	2.49	2.94	3.5
Sulfate (SO ₄) (mg/L)	49.7	53.2	54.1	39.5	63.3	93.7
Dissolved Metals						
Aluminum (Al)-Dissolved (mg/L)	0.0073	0.0085	0.0066	<0.0030	<0.0030	0.0031
Arsenic (As)-Dissolved (mg/L)	0.00234	0.00233	0.00224	0.00064	0.00051	0.00051
Cadmium (Cd)-Dissolved (mg/L)	0.0000064	0.0000083	0.0000076	0.0000114	0.0000113	0.0000076
Copper (Cu)-Dissolved (mg/L)	<0.00050	<0.00050	0.00066	0.00052	<0.00050	0.00118
Iron (Fe)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Molybdenum (Mo)-Dissolved (mg/L)	0.0395	0.0402	0.0397	0.0238	0.0247	0.0244
Selenium (Se)-Dissolved (mg/L)	0.000203	0.00008	0.000075	0.00415	0.00816	0.0122

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. Supplemental sampling at a Quesnel Lake station in Mitchell Bay was also conducted.			
	Area	Monitoring Type	Frequency	Stations
	Polley Lake	Samples	Monthly	P1, P2
		Profiles	Bi-monthly	P1, P2
	Hazeltine Creek	Samples	Weekly	HAC-01c
			Monthly	HAC-05, HAC-08, HAC-10
	Edney Creek	Samples	Monthly	EDC-01
	Quesnel Lake	Profiles	Weekly	QUL-54a, QUL-55a, QUL-56a
		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 7th, 2015 report, for a map of these sampling locations.			
Water Quality Monitoring Results	Figure 1 is a time series graph of field turbidity readings in lower Hazeltine Creek upstream of the sedimentation ponds and downstream of the ponds, at the outflow into Quesnel Lake. The graph shows data since construction and armouring of the new Hazeltine Creek channel was completed in mid-May.			
	Figure 2 shows a turbidity and temperature profile from this week at site QUL-55a, a shallow site near the mouth of the new outflow channel from the lower Hazeltine Creek sedimentation pond to Quesnel Lake.			
	Figure 3 shows a time series graph of turbidity readings at site QUR-1 in the upper Quesnel River. 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.			
	Figure 4 compares MPMC turbidity data from QUR-1 in the upper Quesnel River with turbidity data collected by the MoE from the Quesnel River downstream at Gravelle Ferry and farther downstream in the Fraser River at Hope.			

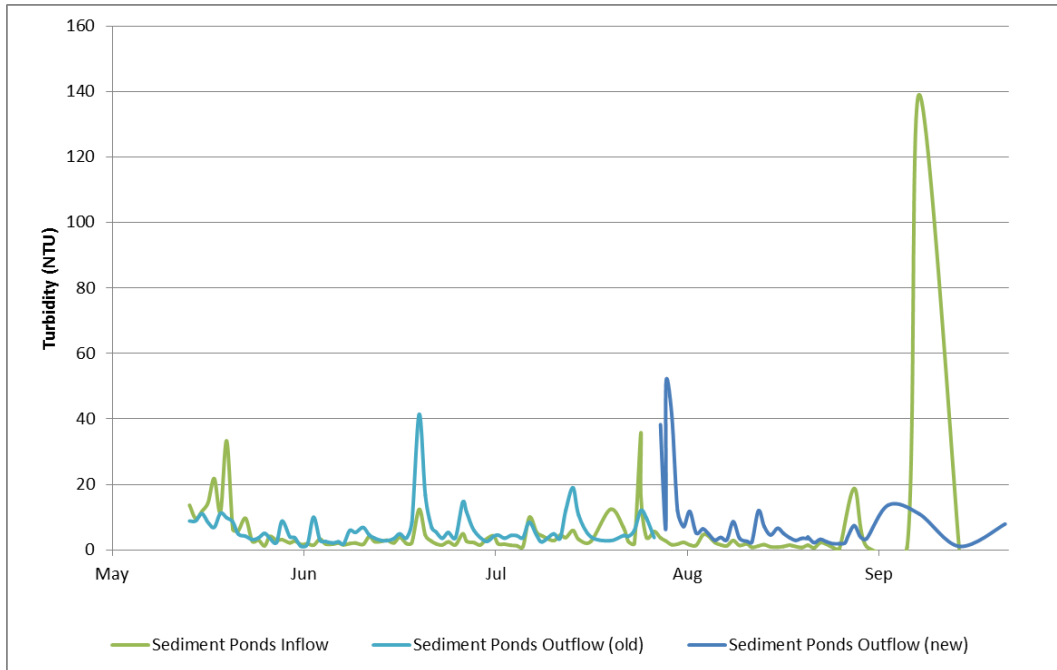


Figure 1. Time series graph for May 13th – September 22nd showing turbidity levels at monitoring locations in lower Hazeltine Creek

Note: Rainfall on September 6th - 8th resulted in elevated turbidity readings. In particular, runoff from the Likely-Horsefly Forest Service Road was observed to be contributing to increased turbidity levels in lower Hazeltine Creek; erosion control measures were implemented.

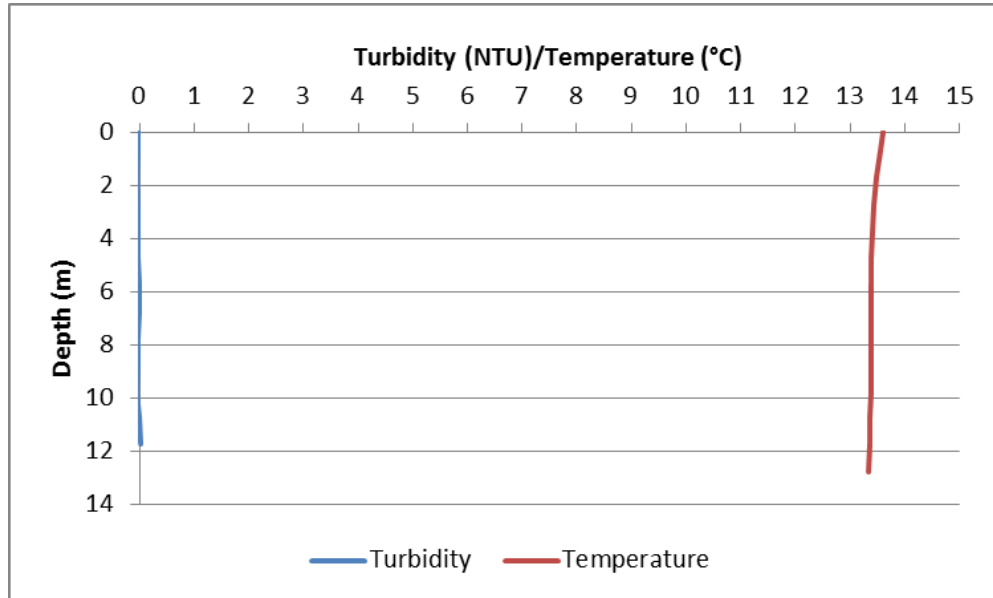


Figure 2. Turbidity and temperature profiles at station QUL-55a (shallow site at the mouth of the new outflow channel from the Hazeltine Creek lower sedimentation pond) on September 14th

Note: Some slightly negative turbidity values were recorded. MPMC staff follow a regular calibration program for field meters; however, when turbidity levels are very low in the water being measured, they are within the range of the instrument and calibration accuracy, which can occasionally result in a negative number being recorded.

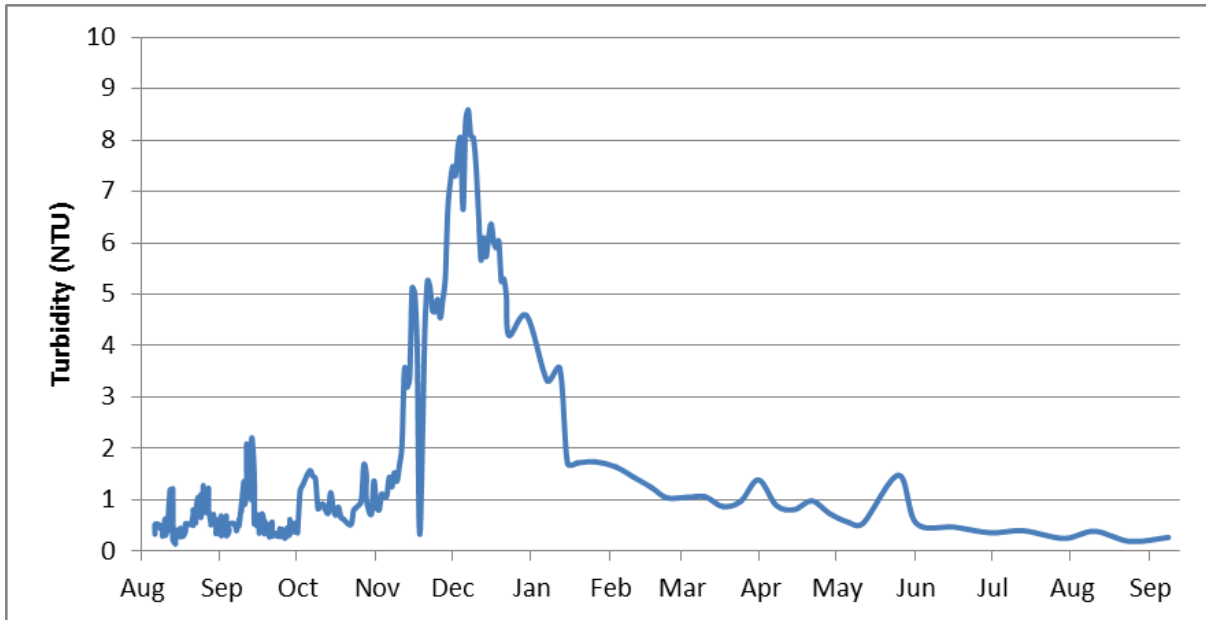


Figure 3. Turbidity time series at station QUR-1 (August 6th, 2014 – September 8th, 2015)

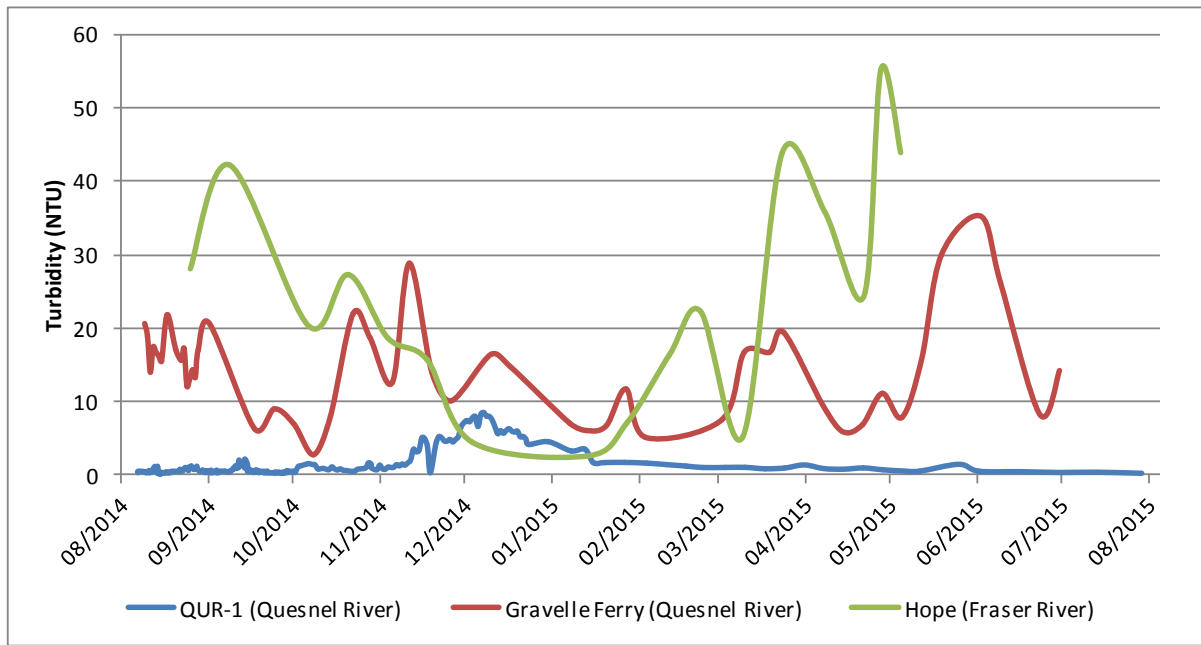


Figure 4. Turbidity time series data for the upper Quesnel River (QUR-1), the Quesnel River farther downstream (Gravelle Ferry), and the Fraser River at Hope (August 2014 – July 2015)