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December 17, 2015

Ministry of Environment
Mining Operations Environmental Protection
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Nanaimo, BC
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WEEKLY UPDATE REPORT –DECEMBER 9 TO DECEMBER 15, 2015

NOTE the web link for the Mount Polley Mine TSF Breach Updates has changed. This is the new link: http://www.imperialmetals.com/our-operations-and-projects/operations/mount-polley-mine/mount-polley-updates/tsf-breach-information-resources

Water Management

Springer Pit	The total volume of tailings deposited in the Springer Pit as of December 15th is 1,466,362 tonnes (1,062,581 m^3 including water retained in tailings). Water Elevations (December 15th): • Springer Pit = 1024.85m (+0.12m from last week) • Groundwater well GW12-2a = 1014.99m (+0.02m from last week) • Groundwater well GW12-2b = 1015.36m (+0.04m from last week) • Groundwater well GW15-1a = 1025.23m (+0.10m from last week) • Groundwater well GW15-1b = 1025.19m (+0.11m from last week) • Groundwater well GW15-2a = 1024.96m (+0.04m from last week) • Groundwater well GW15-2b = 1025.67m (+0.04m from last week) Monthly water quality results for parameters of interest from the Springer Pit supernatant and adjacent groundwater wells will continue to be presented, as available. The last reported water quality was in the November 26th report. Purging of the Springer Pit groundwater wells in preparation for sampling commenced this week.

Water Discharge	The spillway from the head pond (previously the upper sedimentation pond) to the lower sedimentation pond in lower Hazeltine Creek was raised to provide additional capacity in the head pond, in order to optimize capacity of the discharge outfall pipes into Quesnel Lake. Water discharge continued this week, with discharge rates increased to 0.23 m^3/s following completion of the spillway work.

Rehabilitation Work

Hazeltine Creek Rehabilitation	There were no activities in the creek this week due to weather and equipment restrictions.

Environmental Monitoring Program

Water Quality Monitoring	All water quality monitoring as required by Permit 11678 is current. Water discharge sampling included collection at stations QUL-57, 58, and 59 (Quesnel Lake discharge near-field sites) all permitted depths. Samples were also collected at end of pipe at the water treatment plant (station HAD-03) and throughout Hazeltine Creek. An updated map of monitoring stations is available on the Imperial Metals website. http://www.imperialmetals.com/assets/docs/mt-polley/12.03.15.weekly-update.pdf In late November a greenish colour and reduced clarity were observed in Quesnel Lake and Quesnel River. Though turbidity (cloudiness) had increased slightly at the river it remained below 1 NTU (turbidity unit) and below water quality guideline levels for drinking water and for aquatic life. Mount Polley followed up on the with additional sampling which included samples at Quesnel River for chlorophyll a and phaeophyton (to see if it is related to algal growth), colour analysis at Quesnel River, Cariboo River, and Big Lake, and additional review of the lake turnover model developed by EBA-Tetratech in 2014. The green colour has since lessened somewhat and Mount Polley will continue to investigate potential sources and report on the findings.
Results	Table 1 shows a selection of the laboratory analysis results for grab samples collected at the water treatment plant end of pipe (HAD-03) on December 3rd and December 7th compared to the permit requirements. Though not all parameters are shown here, all were below the permit guidelines. Table 2 shows a selection of the laboratory analysis results for grab samples collected at the edge of the initial dilution zone in Quesnel Lake (QUL-58) on December 2nd. Though not all parameters are shown here, all were below the aquatic guidelines or at background levels. Figure 1 shows field parameter profile results for turbidity and temperature at station QUL-58 in Quesnel Lake (station 100m from the Hazeltine Creek outflow diffusers, at the edge of the initial dilution zone). Figure 2 shows field turbidity readings for upper, middle and lower Hazeltine Creek. Figure 3 shows a time series graph of turbidity readings at site QUR-1 in the upper Quesnel River. No new results are available for the river at this time they will be reported when results are returned from the lab. .

Table 1. Sample analysis results for HAD-03 (end of pipe from the water treatment plant).

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

Table 2. Sample analysis results from the Quesnel Lake initial dilution zone (QUL-58)

Parameter	QUL-58-S	QUL-58-Mid	QUL-58-B
Date	12/2/2015 11:35	12/2/2015 12:09	12/2/2015 12:25
Total Suspended Solids (mg/L)	<3.0	<3.0	<3.0
Nitrate (as N) (mg/L)	0.105	0.106	0.105
Copper (Cu)-Total (mg/L) (mg/L)	0.00163	0.00149	0.00136
Molybdenum (Mo)-Total (mg/L)	0.000452	0.000414	0.000404
Selenium (Se)-Total (mg/L)	0.000113	0.000096	0.000089
Sulphate (mg/L)	6.66	6.60	6.60
Cadmium (Cd)-Total (mg/L) (mg/L)	<0.0000050	<0.0000050	<0.0000050

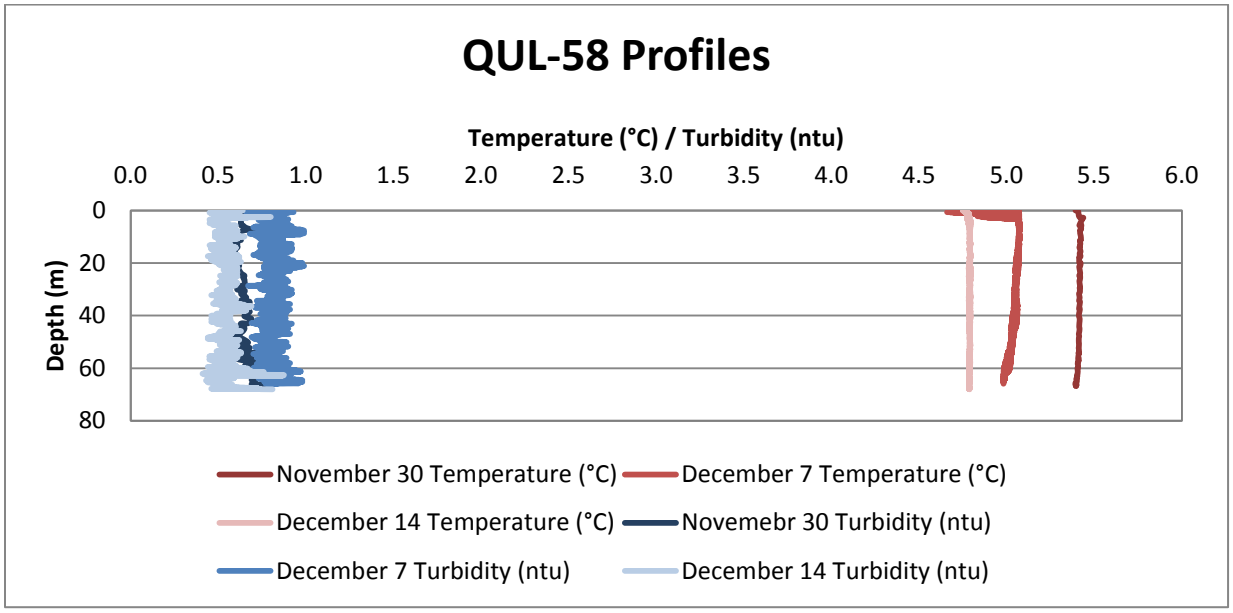

Figure 1. Turbidity and temperature profiles at QUL-58 on November 30th, December 7th, and December 14th

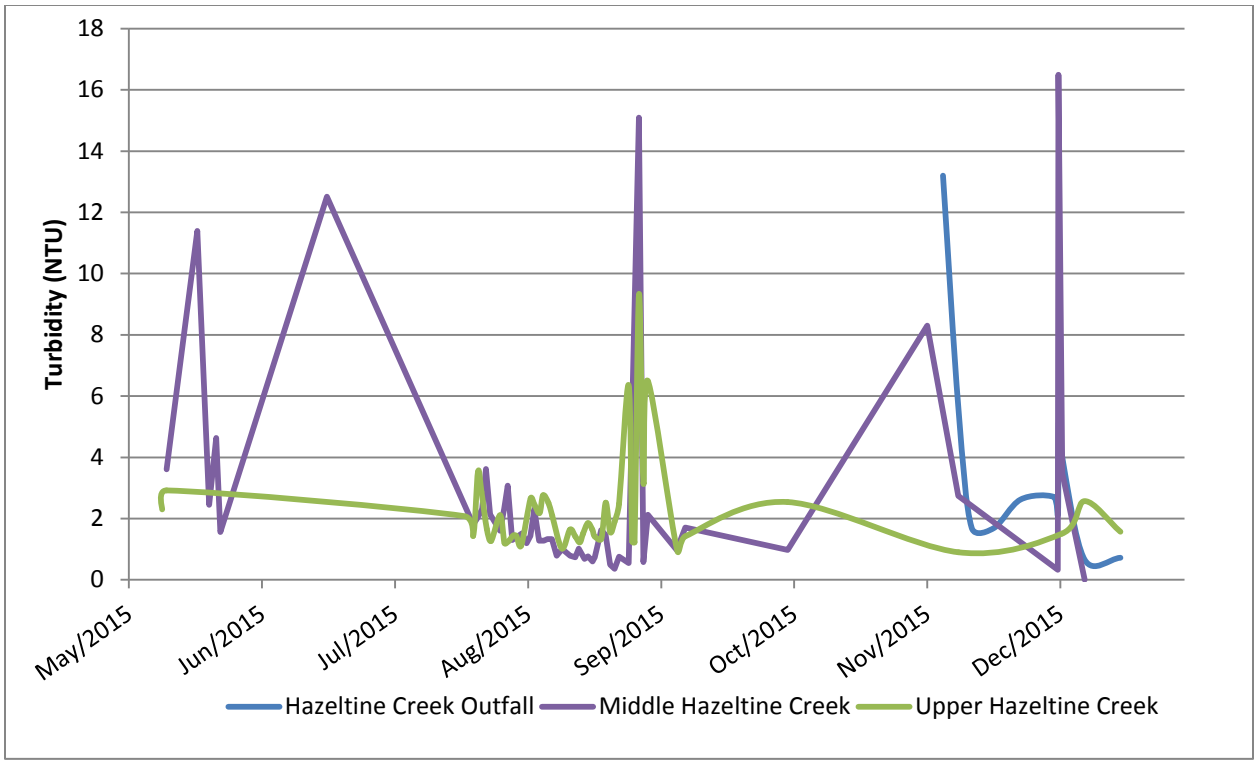

Figure 2. Time series graph for May 15th – December 15th showing turbidity levels at monitoring locations in upper and lower Hazeltine Creek (note: discharge commenced on December 1st causing a short-lived increase in turbidity in the middle reaches of Hazeltine Creek)

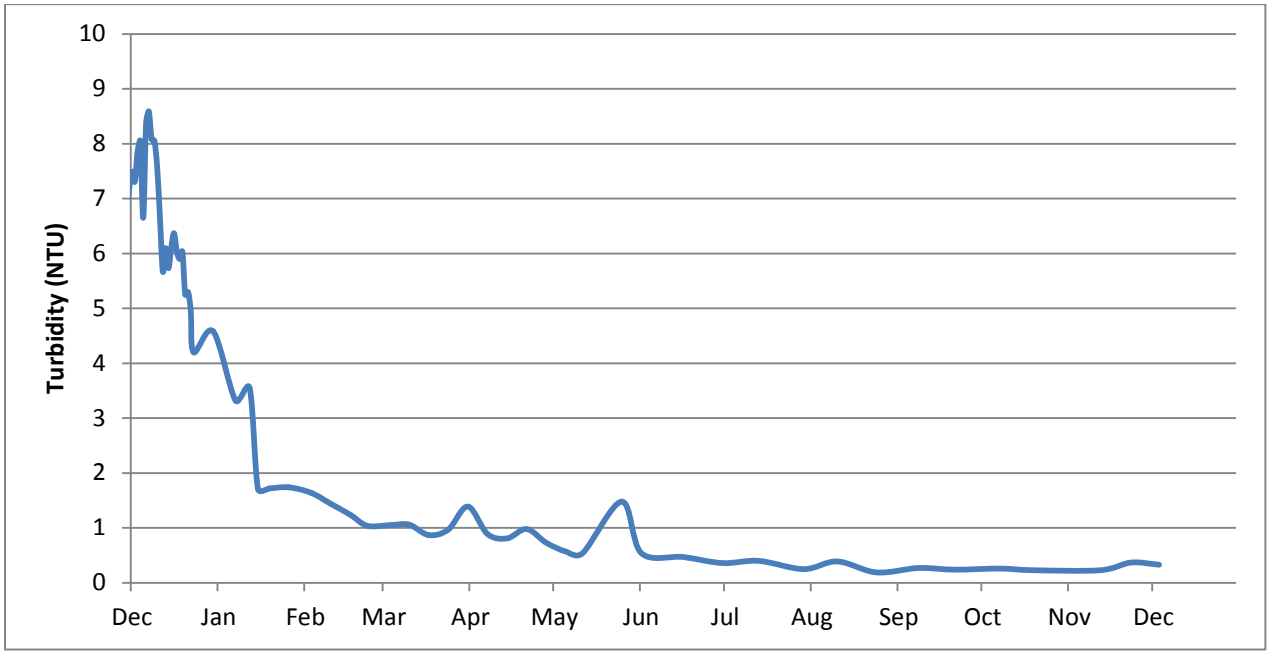

Figure 3. Turbidity time series at station QUR-1 (December 1st, 2014 – December 3rd, 2015)