Mount Polley Mining Corporation
an Imperial Metals company
Box 12 • Likely, BC V0L 1N0 • T 250.790.2215 • F 250.790.2613

October 20, 2016

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

WEEKLY UPDATE REPORT – OCTOBER 14 TO OCTOBER 20, 2016

Water Management

Springer Pit

Water elevations are recorded daily at the Springer Pit. Surrounding groundwater elevations are recorded daily with a few exceptions. The summarized weekly data are presented here in Table 1. The groundwater elevation measured at and reported for GW15-2b on October 12, 2016 is a data outlier when compared to daily measurements made before and after that day. This is therefore most likely due to a measurement error.

Water quality monitoring is conducted at the Springer Pit (sample point E11a) weekly and the surrounding groundwater wells monthly. All results are reported to the Ministry of Environment (MoE) each quarter, and results are included here as they become available. Results for the Springer Pit from the last six sampling events are shown in Table 2.

Water Treatment and Discharge

Discharge of treated water continued this week; the total amount of treated water discharged between October 12th and October 17th was 136,381 m^3 with an average discharging rate of 0.265 m^3/s throughout this same period.

Rehabilitation Work

Hazeltine Creek Rehabilitation

Placement of till material and coarse woody debris on the east side of the Polley Flats has been completed. Construction of fish habitat features within upper Hazeltine Creek has been completed. Seasonal planting of shrubs at lower Hazeltine near Quesnel Lake, and in the lower flood plain at upper Hazeltine has been completed. Terrestrial restoration in the upper reaches is ongoing, including the installation of wildlife habitat features.

Environmental Monitoring Program

Water Quality Monitoring

Samples were collected at end of pipe at the water treatment plant (station HAD-03) and throughout Hazeltine Creek on October 18th. Results for HAD-03 from the October 11th sampling event are shown in Table 3.

QUL-58 was profiled and sampled on October 5th. The most recent profile data for QUL-58 is provided in Figure 1. Results from the October 5th sampling event compared to the BC Water Quality Guidelines (WQG) for aquatic life are reported in Table 4.

For previous results see the October 13, 2016 report available on the Imperial Metals website:
https://www.imperialmetals.com/assets/docs/mt-polley/10.13.16.weekly-update-SEC.pdf

A 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

The update for the Post-Event Environmental Impact Assessment Report is available on the Imperial Metals website:
https://www.imperialmetals.com/assets/docs/mt-polley/2016-06-03_1411734-124-R-Rev0-10000.pdf

Figure 1
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. Increases in turbidity along the creek between June and October 2016 were generally a result of the construction in the upper reaches of the creek and quickly dropped out in the sedimentation pond at lower Hazeltine.

Figure 3 shows a time series graph of turbidity readings at site QUR-1/QUR-11 in the upper Quesnel River.

Table 1. Water elevations for Springer Pit and groundwater wells

	Last Week	This Week		Change
	12-Oct-16	19-Oct-16		(m)
Springer	1024.95	1023.62		-1.33
GW12-2a	1016.59	1016.54		-0.05
GW12-2b	1017.55	1017.41		-0.14
GW15-1a	1027.41	1026.96		-0.45
GW15-1b	1027.43	1027.00		-0.43
GW15-2a	1025.88	1025.69		-0.19
GW15-2b	1027.01	1027.17		0.16

Table 2. Springer Pit supernatant water chemistry results

		Springer Pit Supernatant					
Date Sampled		**30-Aug-16**	**06-Sep-16**	**13-Sep-16**	**19-Sep-16**	**27-Sep-16**	**03-Oct-16**
Physical Tests							
Conductivity	µS/cm	1200	1190	1190	1170	1150	1200
Hardness (as CaCO3)	mg/L	480	496	492	500	509	505
pH	pH	7.86	7.85	7.84	7.77	7.86	7.77
Total Suspended Solids	mg/L	<1.0	<1.0	<1.0	<1.0	1.10	<1.0
Turbidity	NTU	0.28	0.29	0.28	0.50	0.39	0.41
Anions and Nutrients							
Nitrate (as N)	mg/L	9.13	9.10	9.01	9.28	8.97	8.85
Sulfate (SO4)	mg/L	565	563	556	572	549	547
Total Metals							
Aluminum (Al)-Total	mg/L	0.03	0.03	0.03	0.05	0.04	0.04
Arsenic (As)-Total	mg/L	0.00085	0.00092	0.00086	0.00098	0.00098	0.00098
Cadmium (Cd)-Total	mg/L	0.0000092	<0.000015	0.0000114	<0.000015	<0.000020	0.0000188
Copper (Cu)-Total	mg/L	0.00275	0.00303	0.00315	0.00389	0.00384	0.00344
Iron (Fe)-Total	mg/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (Pb)-Total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Molybdenum (Mo)-Total	mg/L	0.178	0.176	0.176	0.188	0.180	0.182
Selenium (Se)-Total	mg/L	0.0349	0.0366	0.0374	0.037	0.0362	0.0362
Dissolved Metals							
Aluminum (Al)-Dissolved	mg/L	0.0238	0.0280	0.0238	0.0241	0.0220	0.0226
Arsenic (As)-Dissolved	mg/L	0.00083	0.00089	0.00089	0.00091	0.00092	0.00095
Cadmium (Cd)-Dissolved	mg/L	0.0000099	<0.000015	0.0000152	<0.000015	<0.000020	0.0000136
Copper (Cu)-Dissolved	mg/L	0.00216	0.00239	0.00236	0.00245	0.00264	0.00236
Iron (Fe)-Dissolved	mg/L	<0.030	<0.030	<0.030	<0.03	<0.030	<0.030
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	0.000053	<0.000050	<0.000050	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.166	0.164	0.168	0.182	0.174	0.171
Selenium (Se)-Dissolved	mg/L	0.0348	0.0369	0.0389	0.0374	0.0337	0.0365

Table 3. Sample analysis results for HAD-03 (end of pipe from the water treatment plant)

		Lab Analysis Results for HAD-03	Permit 11678
		11-Oct-16	mg/L
Total Suspended Solids (mg/L)		<1.0	15
Nitrate (as N)- Total (mg/L)		8.83	9.7
Ammonia (as N) - Total (mg/L)		0.0275	0.41
Phosphorus (P) - Total (mg/L)		0.0064	0.09
Sulphate (mg/L)		553	720
Arsenic (As) - Total (mg/L)		0.00104	0.0034
Copper (Cu)-Total (mg/L)		0.00395	0.012
Cadmium (Cd)-Total (mg/L)		<0.000020	N/A
Chromium (Cr) - Total (mg/L)		<0.00050	0.0011
Iron (Fe) - Total (mg/L)		<0.030	0.11
Molybdenum (Mo)-Total (mg/L)		0.172	0.2
Selenium (Se)-Total (mg/L)		0.0348	0.06
Vanadium (V) - Total (mg/L)		0.00120	0.0081
Zinc (Zn) - Total (mg/L)		<0.0030	0.0083

Table 4. Sample analysis from the Quesnel Lake initial dilution zone (QUL-58)

		05-Oct-16				BC WQG for Aquatic Life	
		QUL-58-S	QUL-58-AT	QUL-58-BT	QUL-58-B	Maximum	30-Day Average Max
Hardness (as CaCO3) (mg/L)		51.2	52.8	59.2	55.6	-	-
Total Suspended Solids (mg/L)		<1.0	<1.0	<1.0	<1.0	+25 from background	+5 from background
Nitrate (as N) (mg/L)		0.054	0.055	0.240	0.181	32.8	3
Copper (Cu)-Total (mg/L)		0.00120	0.00183	0.00152	0.00194	see note[1]	see note[1]
Molybdenum (Mo)-Total (mg/L)		0.000386	0.000453	0.002650	0.001220	2	1
Selenium (Se)-Total (mg/L)		0.000097	0.000112	0.000476	0.000237	no max guideline	0.002
Sulphate (mg/L)		6.30	6.37	12.90	8.75	no max guideline	see note[2]
Cadmium (Cd)-Total (mg/L)		<0.0000050	<0.0000050	<0.0000050	<0.0000050	see note[3,4]	see note[3]

[1] Hardness dependent Cu guideline: BC max WQG (mg/L) = (0.094(hardness)+2)/1000;
BC 30-d WQG(mg/L) = 0.002 at hardness ≤50mg/L, at hardness >50mg/L = 0.04*hardness/1000.

[2] Hardness dependent sulphate guideline: BC-30d WQG (mg/L)=128 at hardness <30mg/L, at hardness 31-75mg/L =218, at hardness 76-180mg/L=309, at hardness 181-250mg/L=429, at hardness >250mg/L determine base on site water

[3] Hardness dependent dissolved Cd guideline: max BC WQG(mg/L)=(exp(1.03*hardness)-5.274))/1000;
BC 30-d WQG(mg/L) =(exp(0.736*ln(hardness)-4.943))/1000

[4] Water quality guidelines are for dissolved cadmium

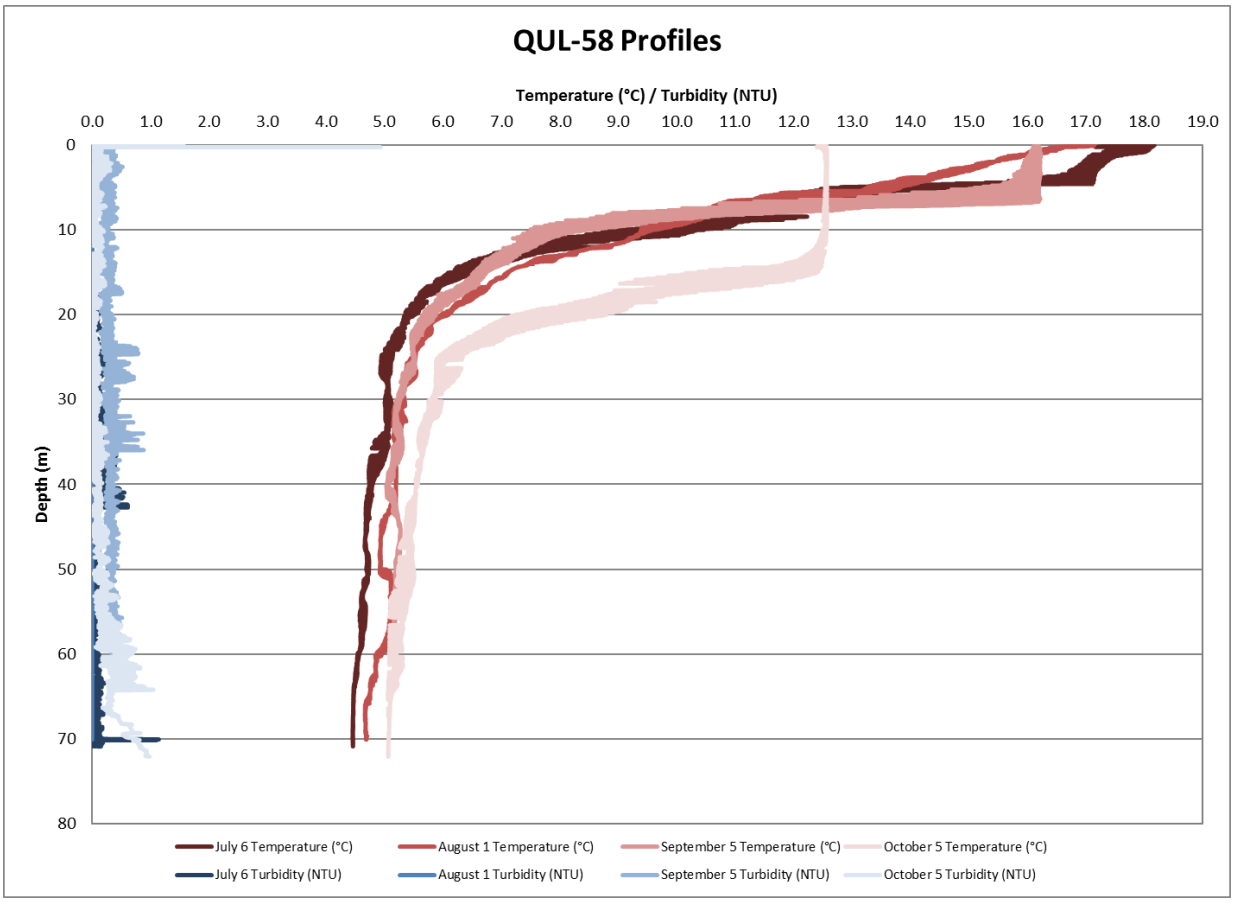

Figure 1. Turbidity and temperature profiles at QUL-58 on July 6, August 1, September 5, and October 5, 2016.

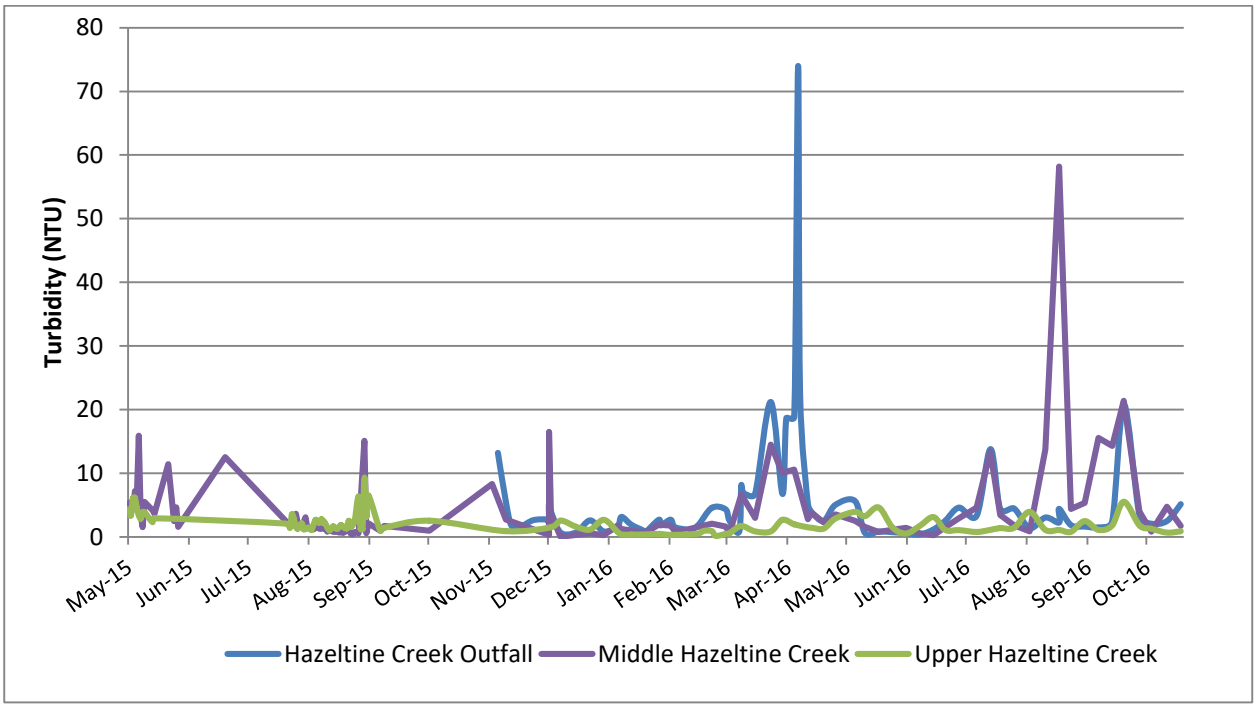

Figure 2. Time series graph for May 15, 2015 – October 18, 2016 showing turbidity levels at monitoring locations in upper and lower Hazeltine Creek

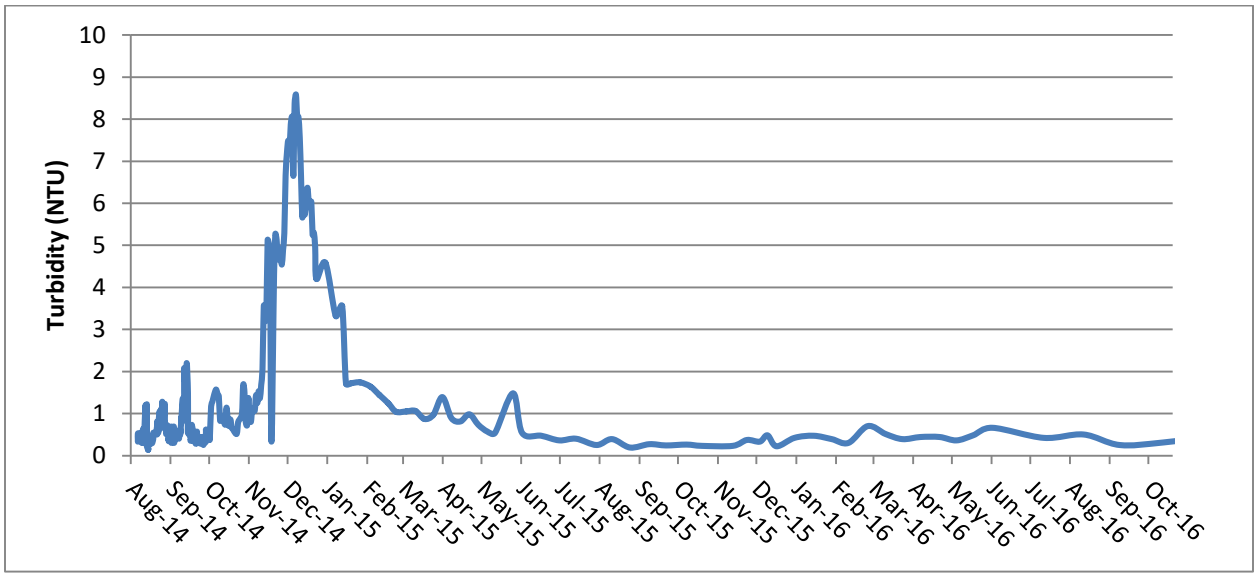

Figure 3. Time series of turbidity readings at site QUR-1/QUR-11 in the upper Quesnel River. Samples are collected monthly from this site.