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WEEKLY UPDATE REPORT – OCTOBER 28TH TO NOVEMBER 3RD, 2015

Government, First Nations and Stakeholder Engagement

Publications and Website Updates	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). Last week's update report to the BC Ministry of Environment (MoE) was posted this week. A reminder that the Likely-Horsefly Forest Service Road (Ditch Road) will be closed from October 31st – November 14th. This information was previously sent out to Mount Polley's email list of community contacts and to the MoE Environmental Working Group.
Engagement Activities and Communications with Regulators	Activities relating to government, First Nations, and stakeholder communication and engagement this week included: • Tour of the water treatment plant and the rehabilitation work on Hazeltine Creek was held for First Nations, Likely Residents, and Ministry of Environment Representatives on November 3rd. • The MoE weekly update call on October 28th. • First Nations Implementation Committee Meeting held October 28th • Habitat Objectives meeting with MOE, FLNRO, DFO, and First Nations held October 28th.

Rehabilitation Work

Silt Curtain	The turbidity barrier (silt curtain) installed in Quesnel Lake near the outlet of the constructed Edney Creek channel is scheduled to be removed next week.
Monitoring	MPMC staff members conduct environmental monitoring when work in the Hazeltine Creek riparian zone is occurring.
Hazeltine Creek Rehabilitation	Hazeltine Creek rehabilitation work carried out this week included: • Removal of tailings adjacent to Hazeltine Creek on the east side of the creek floodplain in Reach 1 (the depositional area downstream of Polley Lake) continued. • Removal of dead trees in areas adjacent to Hazeltine Creek has been discontinued until freeze up occurs. • Upgrades to (widening of) the new fish fences upstream of the Polley Lake weir was completed. • Lowering the Polley Lake weir inlet channel was completed,. • Tree falling along the alignment for the new Horsefly-Likely Forest Service Road (Ditch Road) bridge was carried out. Stripping and sloping along the alignment continued. • Hazeltine Creek was allowed to flow through the upper pond and into the outfall pipes. • A crew from a Xatśūll (Soda Creek Indian Band) continued planting live willow wattles and stakes along the lower flood plan of Hazeltine Creek. Approximately 70,000 seedlings have been planted on the Hazeltine Creek floodplain in Reach 3 (between the Gavin Lake Forest Service Road bridge and the canyon area), on the Edney Creek floodplain, and along the Quesnel Lake shoreline. Approximately 2,000 metres of willow wattles have been installed to date in Reach 3, in addition to staking and wattle installation at an erosional bank upstream of the Likely-Horsefly Forest Service Road (Ditch Road) bridge.
Polley Lake	Polley Lake water elevation = 919.94 m (November 2nd) The Polley Lake weir valve was closed until November 2nd. The weir is now open 17 turns.

Water Management

Water Management	**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.**
Springer Pit	The total volume of tailings deposited in the Springer Pit as of November 3rd is 986,588 tonnes (714,918 m^3 including water retained in tailings). Water Elevations (November 2nd): • Springer Pit = 1022.02m (+0.62m from last week) • Groundwater well GW12-2a = 1014.11m (+0.12m from last week) • Groundwater well GW12-2b = 1014.34m (+0.16m from last week) • Groundwater well GW15-1a = 1022.95m (+0.6m from last week) • Groundwater well GW15-1b = 1022.825m (+0.52m from last week) • Groundwater well GW15-2a = 1023.07m (+0.26m from last week) • Groundwater well GW15-2b = 1023.62m (+0.33m from last week) 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. 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.

Discharge System	Work related to installation of infrastructure for the proposed short-term water discharge plan was carried out this week including: • Armouring of the West Ditch to reduce entrainment of suspended solids in water that will be routed to the water treatment plant (WTP) is complete. Areas requiring further armouring identified in the third party engineering inspection were addressed this week and upgrades to culverts at a road crossing were completed. • Armouring of the ditch from the Central Collection Sump to the Perimeter Embankment Till Borrow Pit (where the WTP is located) is complete. • The commissioning of the WTP is complete, and the process is now being refined. • Work installing WTP supporting structures and equipment continued. • Installation of the discharge pipelines in Quesnel Lake was completed. • Backfilling of the on-land portion of the Quesnel Lake discharge pipelines was completed. • A finer mesh screen was installed on the intake structures in Hazeltine.

Table 1. Springer Pit Supernatant water chemistry results (July – October, 2015)

Sample Location		Springer Pit Supernatant						
Date Sampled		**9-Jul-15**	**29-Jul-15**	**12-Aug-15**	**27-Aug-15**	**15-Sep-15**	**30-Sep-15**	**13-Oct-15**
Physical Tests								
Conductivity	uS/cm	1070	1090	1070	1110	1110	1120	1100
Hardness (as CaCO3)	mg/L	526	579	547	554	562	537	537
pH	pH	8.09	8.15	8.79	8.54	8.50	8.07	8.05
Total Suspended Solids	mg/L	<3.0	<3.0	20.40	14.30	6.20	<3.0	3.30
Turbidity	NTU	0.60	1.47	10.30	11.20	2.04	0.61	0.45
Anions and Nutrients								
Nitrate (as N)	mg/L	7.46	7.58	7.45	7.98	8.31	8.26	8.13
Sulfate (SO4)	mg/L	457	472	459	483	502	497	490.00
Total Metals								
Aluminum (Al)-Total	mg/L	0.438	0.0791	0.195	0.183	0.0725	0.0373	0.03
Arsenic (As)-Total	mg/L	0.00132	0.00138	0.00576	0.00952	0.00155	0.00117	0.00091
Cadmium (Cd)-Total	mg/L	0.0000358	<0.000060	0.0000565	<0.000020	0.0000075	<0.00002	0.0000108
Copper (Cu)-Total	mg/L	0.0211	0.0804	0.138	0.0542	0.0112	0.00845	0.00702
Iron (Fe)-Total	mg/L	0.039	0.124	0.235	0.188	0.047	<0.030	<0.03
Lead (Pb)-Total	mg/L	<0.000050	0.000185	0.000198	0.00015	0.000056	<0.00005	<0.000050
Molybdenum (Mo)-Total	mg/L	0.122	0.128	0.139	0.14	0.147	0.153	0.148
Selenium (Se)-Total	mg/L	0.0365	0.0383	0.0375	0.0335	0.0332	0.0354	0.0336
Dissolved Metals								
Aluminum (Al)-Dissolved	mg/L	0.0059	0.0048	0.0062	0.0106	0.0171	0.0123	0.0145
Arsenic (As)-Dissolved	mg/L	0.00117	0.00117	0.00112	0.00100	0.00084	0.00100	0.00087
Cadmium (Cd)-Dissolved	mg/L	0.000026	<0.000050	0.0000478	<0.000020	0.0000084	<0.00002	0.0000083
Copper (Cu)-Dissolved	mg/L	0.0166	0.0286	0.0240	0.0082	0.0052	0.0054	0.00498
Iron (Fe)-Dissolved	mg/L	<0.030	<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	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.122	0.124	0.127	0.144	0.147	0.137	0.149
Selenium (Se)-Dissolved	mg/L	0.0357	0.0389	0.0361	0.0338	0.0335	0.0363	0.0321

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

	GW12-2A				GW12-2B			
Date Sampled	4-Jun-15	27-Jul-15	2-Sep-15	29-Sep-15	4-Jun-15	27-Jul-15	2-Sep-15	29-Sep-15
Physical Tests								
Conductivity (µS/cm)	213	226	219	224	461	484	510	557
Hardness (as CaCO3) (mg/L)	45.7	47.1	47.4	47.8	244	243	264	283
pH - in situ (pH)	7.92	8.21	8.24	8.1	7.48	7.64	7.63	7.85
Anions and Nutrients								
Nitrate (as N) (mg/L)	<0.0050	0.01	<0.0050	<0.0050	2.49	2.94	3.5	3.86
Sulfate (SO4) (mg/L)	49.7	53.2	54.1	56.1	39.5	63.3	93.7	119
Dissolved Metals								
Aluminum (Al)-Dissolved (mg/L)	0.0073	0.0085	0.0066	0.0072	<0.0030	<0.0030	0.0031	<0.0030
Arsenic (As)-Dissolved (mg/L)	0.00234	0.00233	0.00224	0.00231	0.00064	0.00051	0.00051	0.00051
Cadmium (Cd)-Dissolved (mg/L)	0.0000064	0.0000083	0.0000076	<0.0000050	0.0000114	0.0000113	0.0000076	<0.000005
Copper (Cu)-Dissolved (mg/L)	<0.00050	<0.00050	0.00066	<0.00050	0.00052	<0.00050	0.00118	0.00066
Iron (Fe)-Dissolved (mg/L)	<0.030	<0.030	<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	<0.000050	<0.000050
Molybdenum (Mo)-Dissolved (mg/L)	0.0395	0.0402	0.0397	0.0394	0.0238	0.0247	0.0244	0.0235
Selenium (Se)-Dissolved (mg/L)	0.000203	0.00008	0.000075	<0.000050	0.00415	0.00816	0.0122	0.0151

Table 3. GW15-1a and GW15-1b water chemistry results (July – September, 2015)

	GW15-1A			GW15-1B		
Date Sampled	**23-Jul-2015**	**9-Sep-2015**	**29-Sep-2015**	**23-Jul-2015**	**9-Sep-2015**	**29-Sep-2015**
Physical Tests						
Conductivity (µS/cm)	299	322	303	520	559	543
Hardness (as CaCO3) (mg/L)	24.8		93	231		249
pH - in situ (pH)	9.95	8.17	8.06	7.75	7.72	7.94
Anions and Nutrients						
Nitrate (as N) (mg/L)	<0.0050	<0.0050	<0.005	1.19	1.09	1.14
Sulfate (SO4) (mg/L)	64.8	71.4	67.8	114	118	118
Dissolved Metals						
Aluminum (Al)-Dissolved (mg/L)	0.0062	0.0037	0.0054	<0.0030	<0.0030	<0.003
Arsenic (As)-Dissolved (mg/L)	0.00485	0.00586	0.00649	0.00131	0.00164	0.00159
Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.0000061	0.0000084	0.0000054	<0.0000050	0.000005
Copper (Cu)-Dissolved (mg/L)	0.00109	0.00085	<0.00050	0.00063	<0.00050	<0.00050
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)	0.0281	0.0221	0.0259	0.00535	0.00548	0.00528
Selenium (Se)-Dissolved (mg/L)	0.000997	0.000400	0.000162	0.0172	0.0150	0.0132

Table 4. GW15-2a and GW15-2b water chemistry results (July – September, 2015)

	GW15-2A			GW15-2B		
Date Sampled	27-Jul-2015	9-Sep-2015	29-Sep-2105	27-Jul-2015	9-Sep-2015	29-Sep-2105
Physical Tests (Water)						
Conductivity	261	214	209	344	333	340
Hardness (as CaCO3)	71.8		61.3	134		127
pH	8.95	8.09	8.04	8.05	8.15	7.98
Anions and Nutrients (Water)						
Nitrate (as N)	<0.0050	<0.0050	<0.0050	0.02	0.14	0.10
Sulfate (SO4)	48.9	39.7	38.8	73	68	69.3
Dissolved Metals (Water)						
Aluminum (Al)-Dissolved	0.0047	0.0035	0.0034	0.0038	0.0035	0.0032
Arsenic (As)-Dissolved	0.00299	0.00325	0.00355	0.00269	0.00261	0.00285
Cadmium (Cd)-Dissolved	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Copper (Cu)-Dissolved	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00013
Iron (Fe)-Dissolved	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (Pb)-Dissolved	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Molybdenum (Mo)-Dissolved	0.0359	0.0402	0.0415	0.04090	0.04240	0.0432
Selenium (Se)-Dissolved	0.000171	0.000088	0.000056	0.0001	0.0001	0.000084

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., Changes made to the monitoring program last week continued because Hazeltine Creek continued to be temporarily diverted into Edney Creek:

- Weekly sampling at station HAC-01c (Hazeltine Creek outflow from the lower sedimentation pond into Quesnel Lake) was replaced with weekly sampling at station EDC-01 (Edney Creek before Quesnel Lake) until October 29th when the water was allowed to flow through the outfall pipes to Quesnel Lake.
- EDC01 sample was delayed to the end of the week of November 6th. This will still meet the requirement of the monitoring plan.
- Weekly sampling at stations QUL-54a, 55a and 56a, near field stations in Quesnel Lake in front of the Hazeltine Creek outflow, was replaced with weekly sampling at stations QUL-54, 55 and 56 in front of the Edney Creek mouth. Until October 29th. These stations will no longer be sampled.

Area	Monitoring Type	Frequency	Stations
Polley Lake	Samples	Monthly	P1, P2
	Profiles	Bi-monthly	P1, P2
Hazeltine Creek	Samples	-	HAC-01c
		Monthly	HAC-05, HAC-08, HAC-10
Edney Creek	Samples	Weekly	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 and downstream of the sedimentation ponds and at the outflow into Quesnel Lake, as well as for lower Edney Creek for the period when Hazeltine Creek is diverted into Edney Creek. The graph shows field turbidity data (previously daily, now weekly) since construction and armouring of the new Hazeltine Creek channel was completed in mid-May. There were no updates to the figure this week.

Figure 2 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.

Other Monitoring

Ministry of Environment was on site November 2nd to collect samples in Hazeltine Creek.

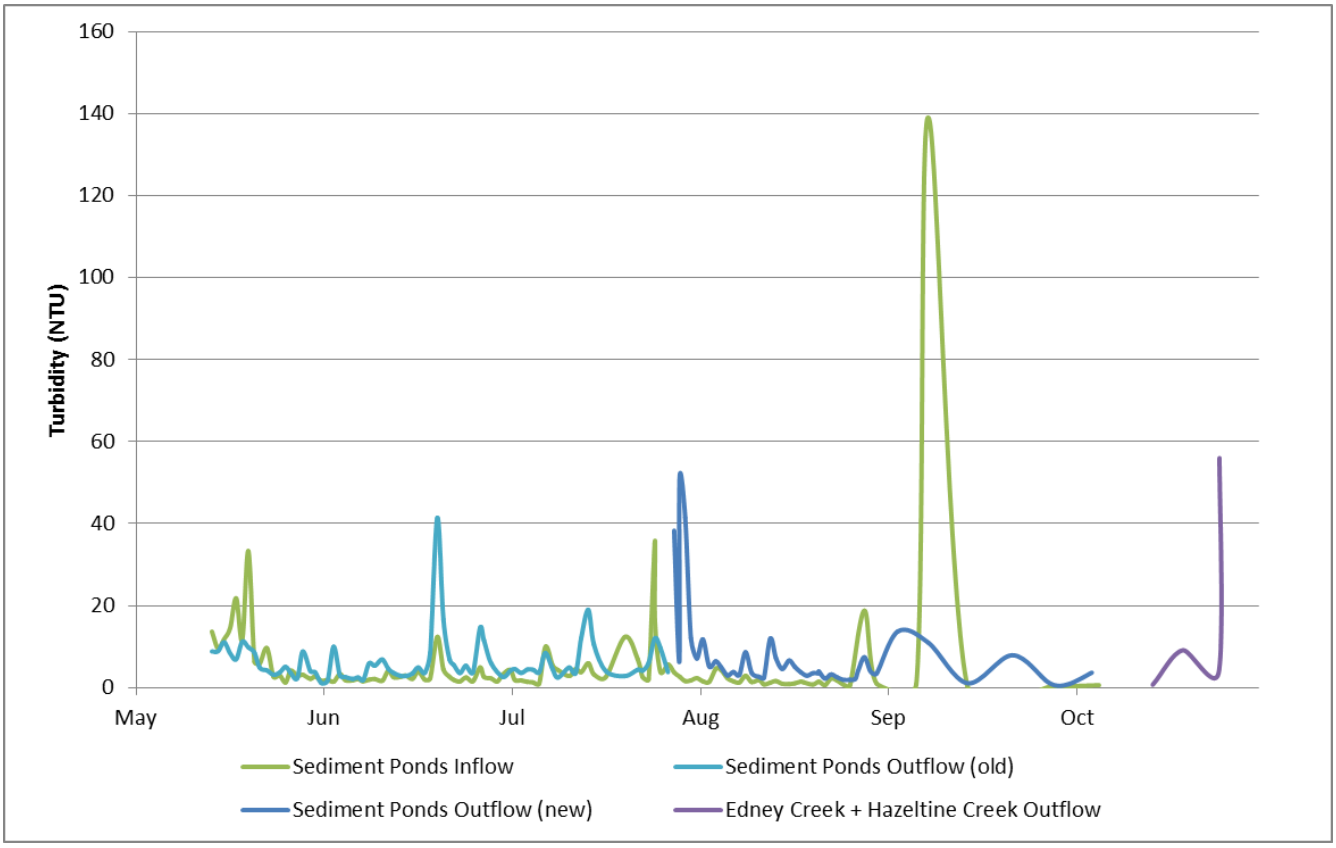

Figure 1. Time series graph for May 13th – October 26th showing turbidity levels at monitoring locations in lower Hazeltine Creek. Note that a new time series has been added to show the turbidity of the combined Hazeltine Creek and Edney Creek outflow for the period when Hazeltine Creek was temporarily diverted into Edney Creek

The turbidity increased on October 26th due to a rain event, however, visual observations show that the turbidity returned to typical levels later that same day.

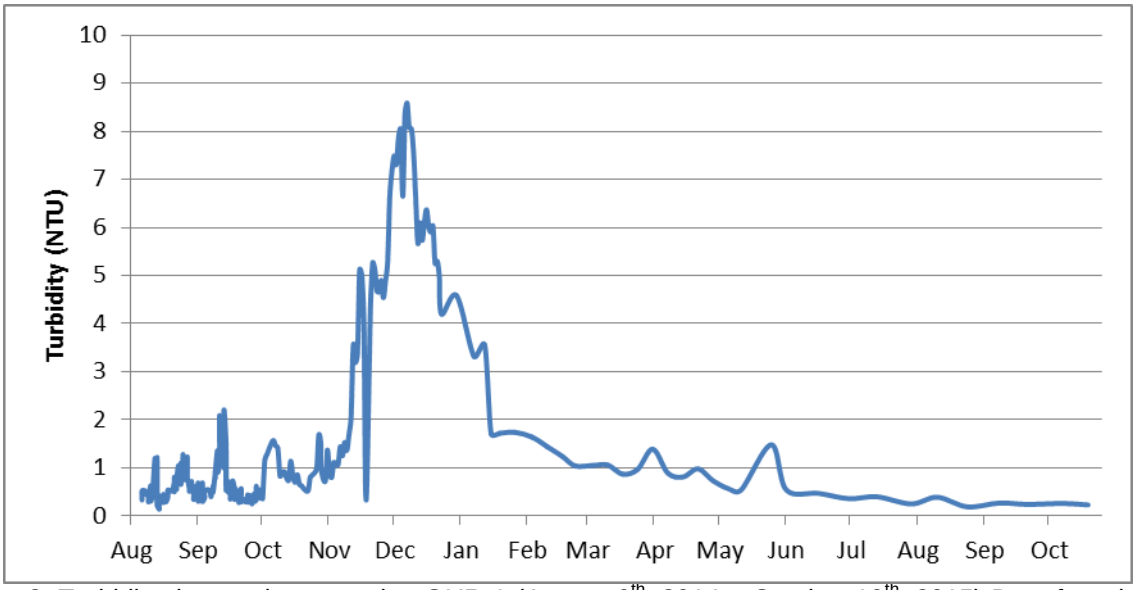

Figure 2. Turbidity time series at station QUR-1 (August 6th, 2014 – October 19th, 2015) Data from logger downloaded November 3rd and will be included in next week's report.