

# **Mount Polley Mining Corporation**

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November 7, 2014

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

# WEEKLY POST-TSF BREACH REPORT – WEEK OF OCTOBER 29 – NOVEMBER 4, 2014

#### Water Management and TSF Works

Polley Lake Dewatering	Polley Lake water elevation = 921.82 m Because the lake water level was within its natural range, pumping from Polley Lake to Hazeltine Creek was stopped on October 20, 2014 at 8:00am. Temporary stoppage of pumping helped to accommodate downstream restoration works. Pumping was temporarily started again on November 3, 2014 at 8:00am to return the lake water elevation to maintenance levels.
Breaches	No breaches of the water management system containing water flow from the Tailings Storage Facility (TSF) occurred this week.
TSF and Water Management Structures	<ul> <li>Construction of the following structures is complete:</li> <li>The Polley Lake plug access road</li> <li>The Breach Pond</li> <li>Upstream 1 and 2 sumps, including installation of the Slurry 1 pump</li> <li>The Perimeter Access Road (labelled as "Breach Haul Road" in Figure 1) which will provide access for buttress work along the Perimeter Embankment and allow restoration materials to be hauled to Hazeltine Creek</li> <li>Updates on additional projects are as follows:</li> <li>The ditch from the Breach Pond to the Till Borrow Pit is approximately 90% complete</li> <li>Work to adjust the overflow culverts and increase the capacity of the Central Collection Sump is scheduled</li> </ul>
	<ul> <li>All water from TSF water collection systems is currently transferred to Springer Pit via the Central Collection Sump. Water from the Breach Pump is transferred to the Till Borrow Pit to allow settling of suspended solids prior to being transferred to the Central Collection Sump.</li> <li>All structures referenced are shown in Figure 1. This figure also shows areas of the current buttress lift (50% complete) and foundation preparation for additional buttress (50% complete) along the Perimeter Embankment.</li> </ul>

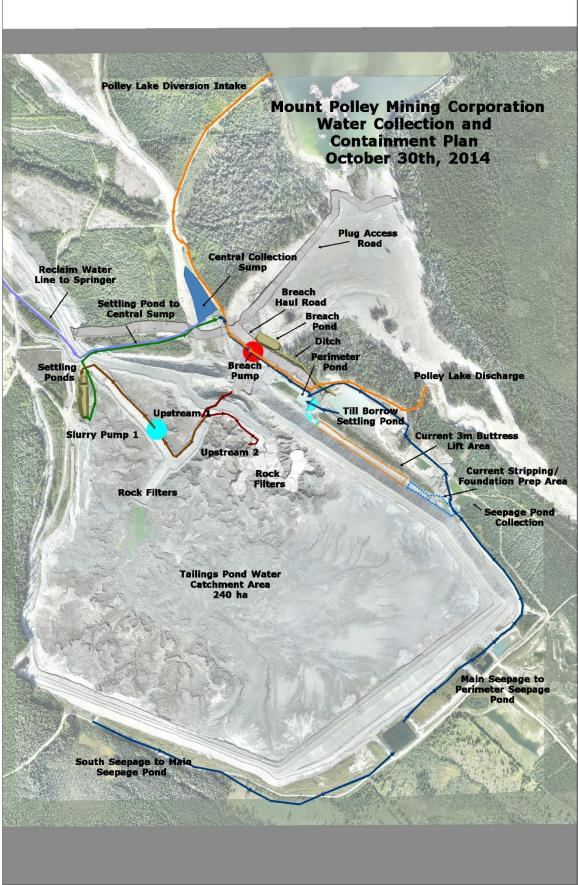


Figure 1. Tailings Storage Facility construction works

## **Sediment and Erosion Control Measures**

Silt Curtain	The silt curtain attached to the log boom at the mouth of Hazeltine Creek continues to remove sediment from the water column. The curtain is in good condition.		
Sediment Control Works	<ul> <li>Current sediment and erosion control works underway on lower Hazeltine Creek (below the Ditch Road) include:</li> <li>Construction of the Upper and Lower Sedimentation Ponds.</li> <li>Upgrading of access roads.</li> <li>Re-grading and landscaping of select areas.</li> <li>Installation and maintenance of silt control measures including silt fences and straw bales.</li> </ul>		
	Environmental construction monitoring is occurring continuously during all activities. No change in turbidity in the water in Hazeltine Creek has been detected as a result of the construction. Design work on the sediment and erosion control plan for upper Hazeltine Creek near completion.		

## Routine Water Quality Monitoring Program

The maps on pages 1 - 8 of Figure 5 (attached) show locations that have been sampled as part of the water quality monitoring program. The following table is a summary of the current water quality monitoring program. The more exposed easterly locations (QUL-112/QUL-112a, QUL-120/QUL-120a, and QUL-zoo-8/QUL-zoo-8a) were not sampled this week due to unsafe lake conditions caused by wind.

Frequency	Area	Sample Locations		
Daily	Quesnel River	QUR-1		
Dally	Hazeltine Creek	HAC-01a		
	Quesnel Lake QUL-2a, QUL-18, QUL-21a, QUL-40a, QUL-66, QUL-66a, QUL- 112/QUL-112a, QUL-120/QUL-120a, QUL-zoo-8/QUL-zoo-8a			
Weekly	Hazeltine Creek	HAD-1 (when pumping), HAC-05		
	Polley Lake	P1, P2 Field parameter profiles only: POL-5, POL-6		
2x/week	Quesnel Lake	QUL-79		
Time/weather permitting	Quesnel Lake	QUL-2, QUL-20, QUL-21, QUL-22, QUL-31a, QUL-87, QUL-119		

Note that raw data has not been appended to this report, but Mount Polley will continue to present interpreted sampling results on the <u>Mount Polley Updates</u>, <u>Water Quality & Sampling</u> page of the Imperial Metals website.

#### QA/QC

A flow chart has been provided as Appendix A which shows how data is being managed and processed to maintain quality control.

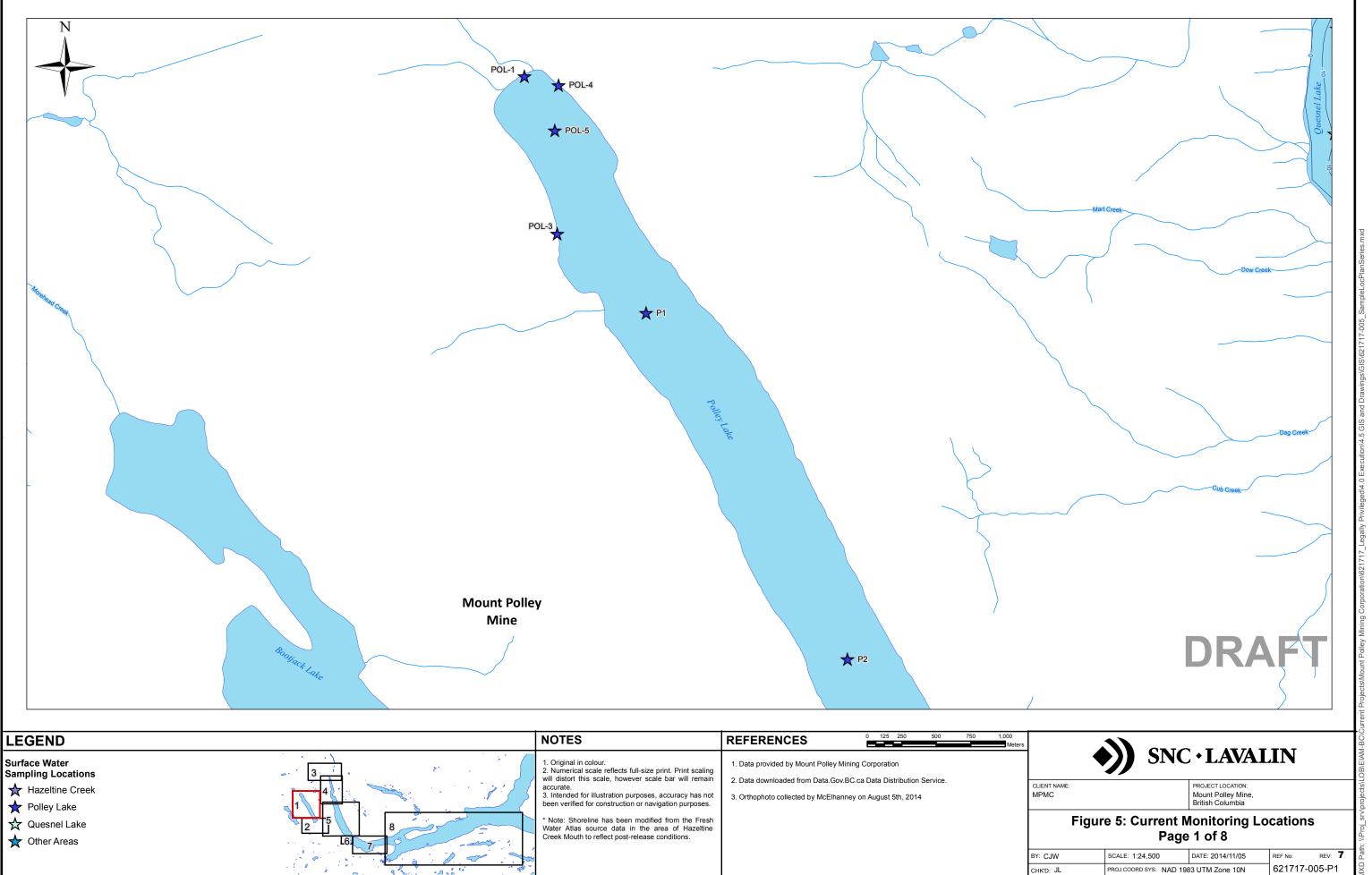
# ATTACHMENTS

Drawings:

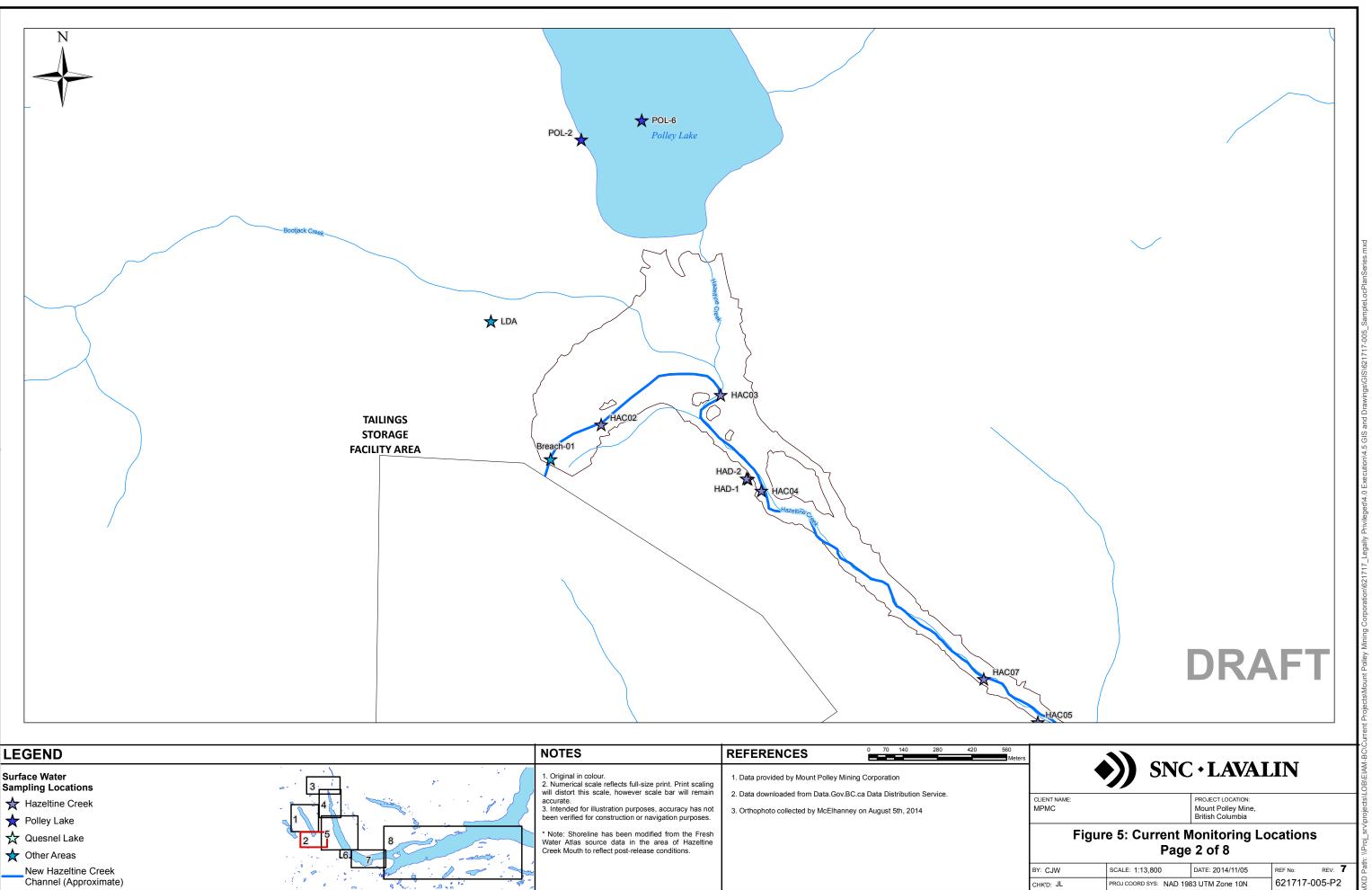
612717-005-P1 through 612717-005-P8: Current Monitoring Locations (Figure 5)

Appendices:

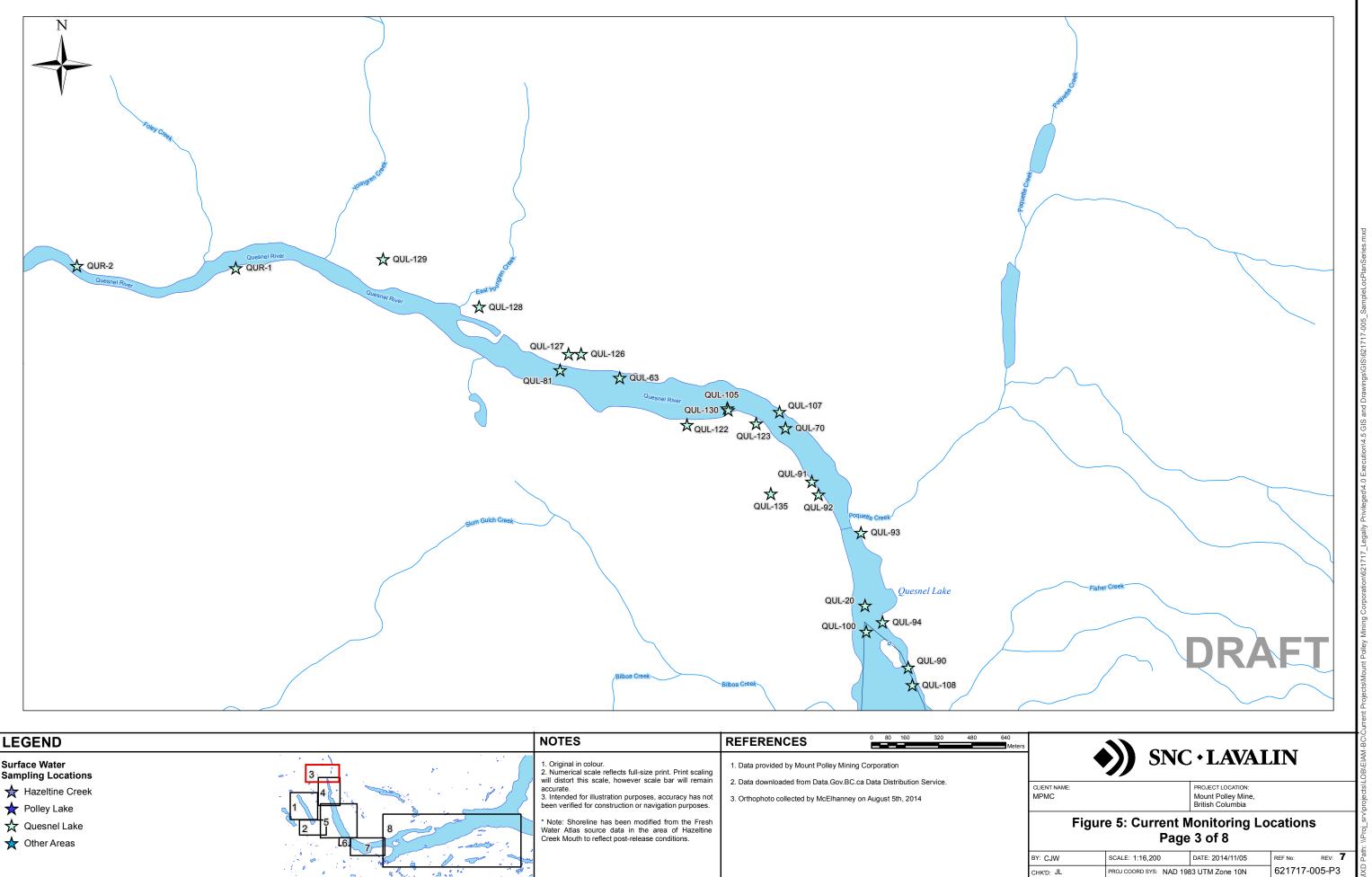
Appendix A: QA/QC Data Management Flow Chart



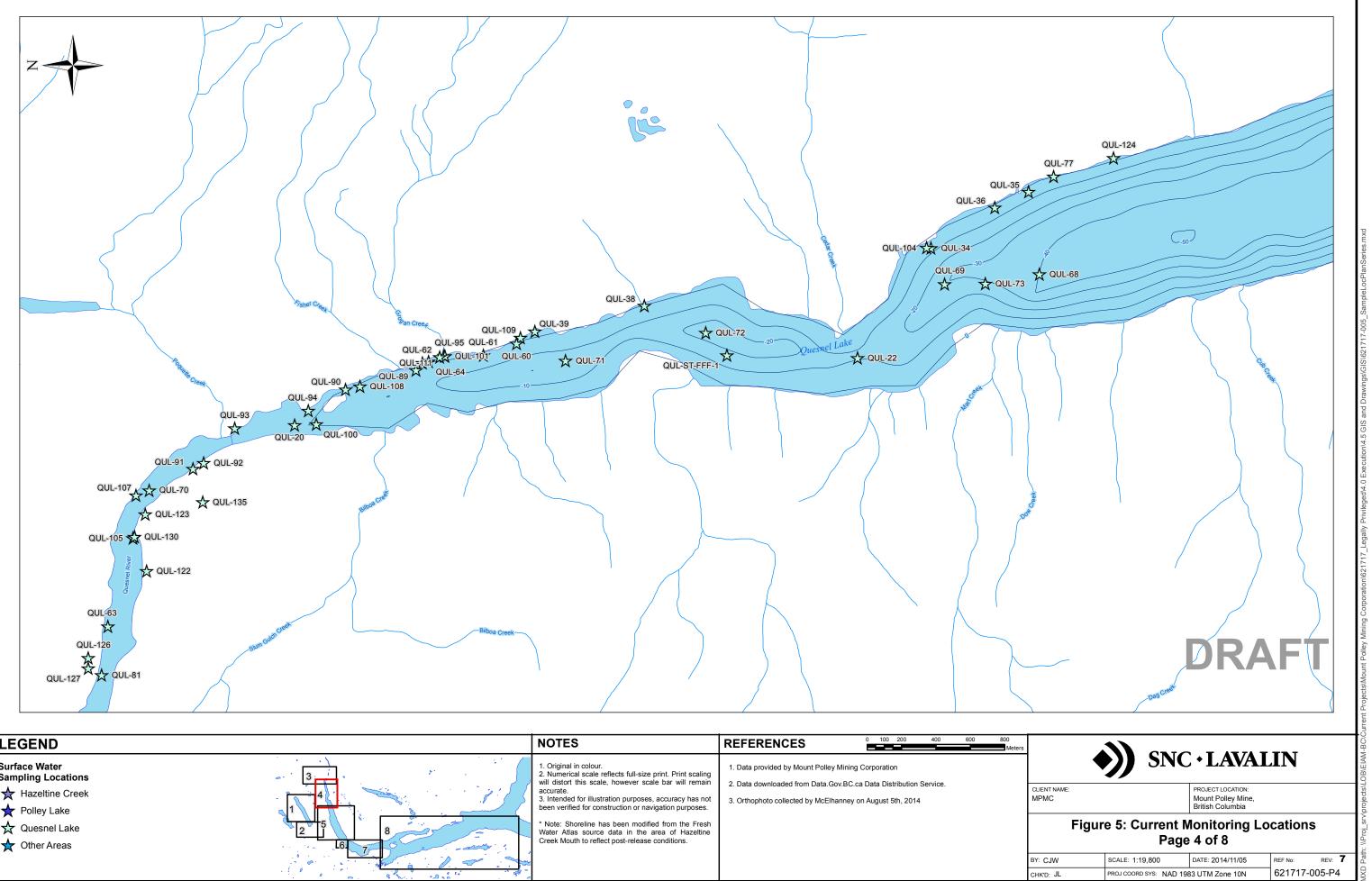
ر ۱	<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.</li> <li>Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.</li> </ol>	<ol> <li>Data provided by Mount Poll</li> <li>Data downloaded from Data.</li> <li>Orthophoto collected by McE</li> </ol>
-	* Note: Shoreline has been modified from the Fresh	



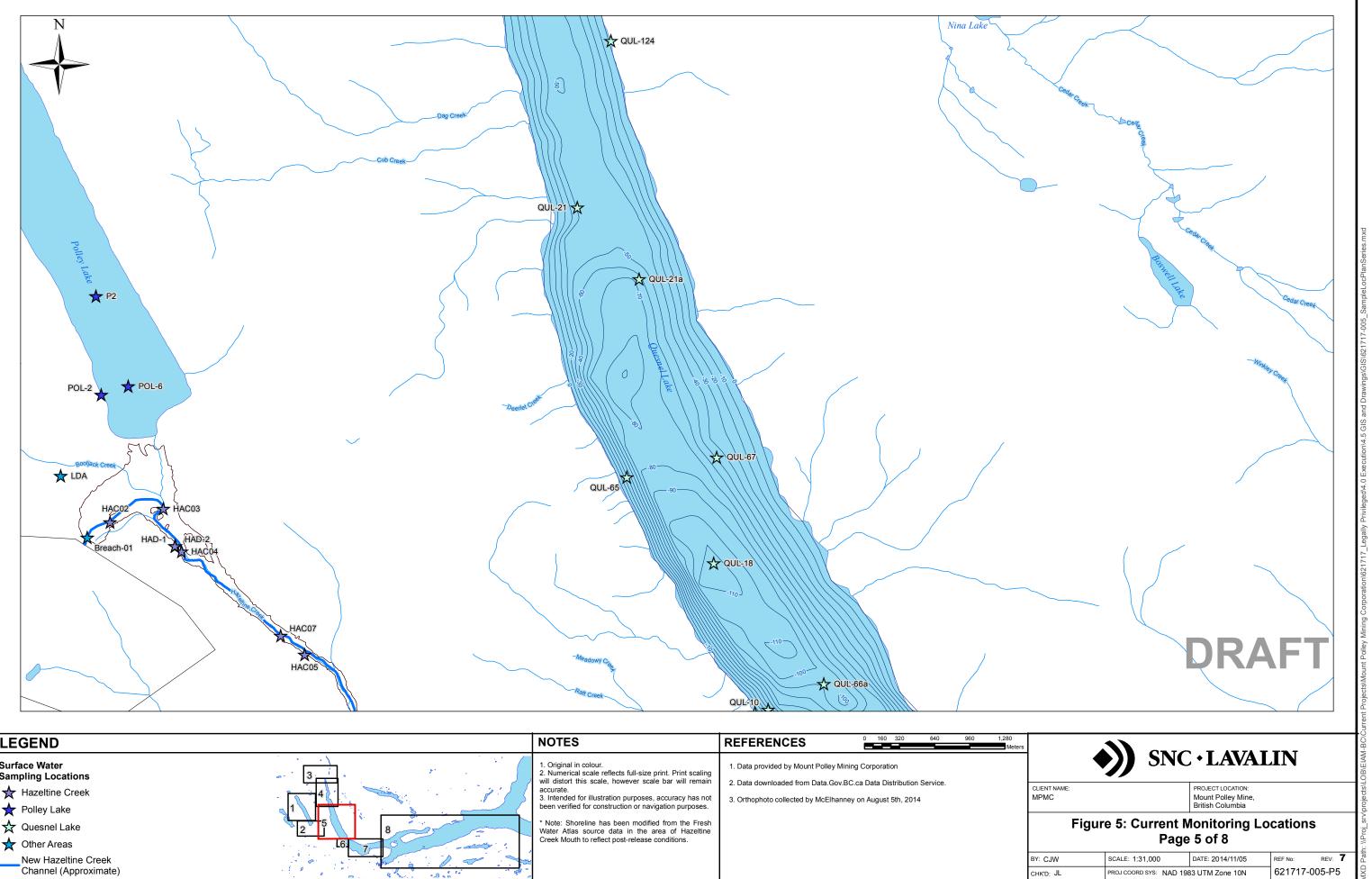
LEGEND	NOTES	REFERENCES 0 70 140 280 420 560 Mete	ns
Surface Water         Sampling Locations         ☆         Hazeltine Creek         ☆         Polley Lake         ☆         Quesnel Lake         ☆         Other Areas         New Hazeltine Creek         Channel (Approximate)	<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.</li> <li>Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.</li> <li>* Note: Shoreline has been modified from the Fresh Water Atlas source data in the area of Hazeltine Creek Mouth to reflect post-release conditions.</li> </ol>	<ol> <li>Data provided by Mount Polley Mining Corporation</li> <li>Data downloaded from Data.Gov.BC.ca Data Distribution Service.</li> <li>Orthophoto collected by McElhanney on August 5th, 2014</li> </ol>	



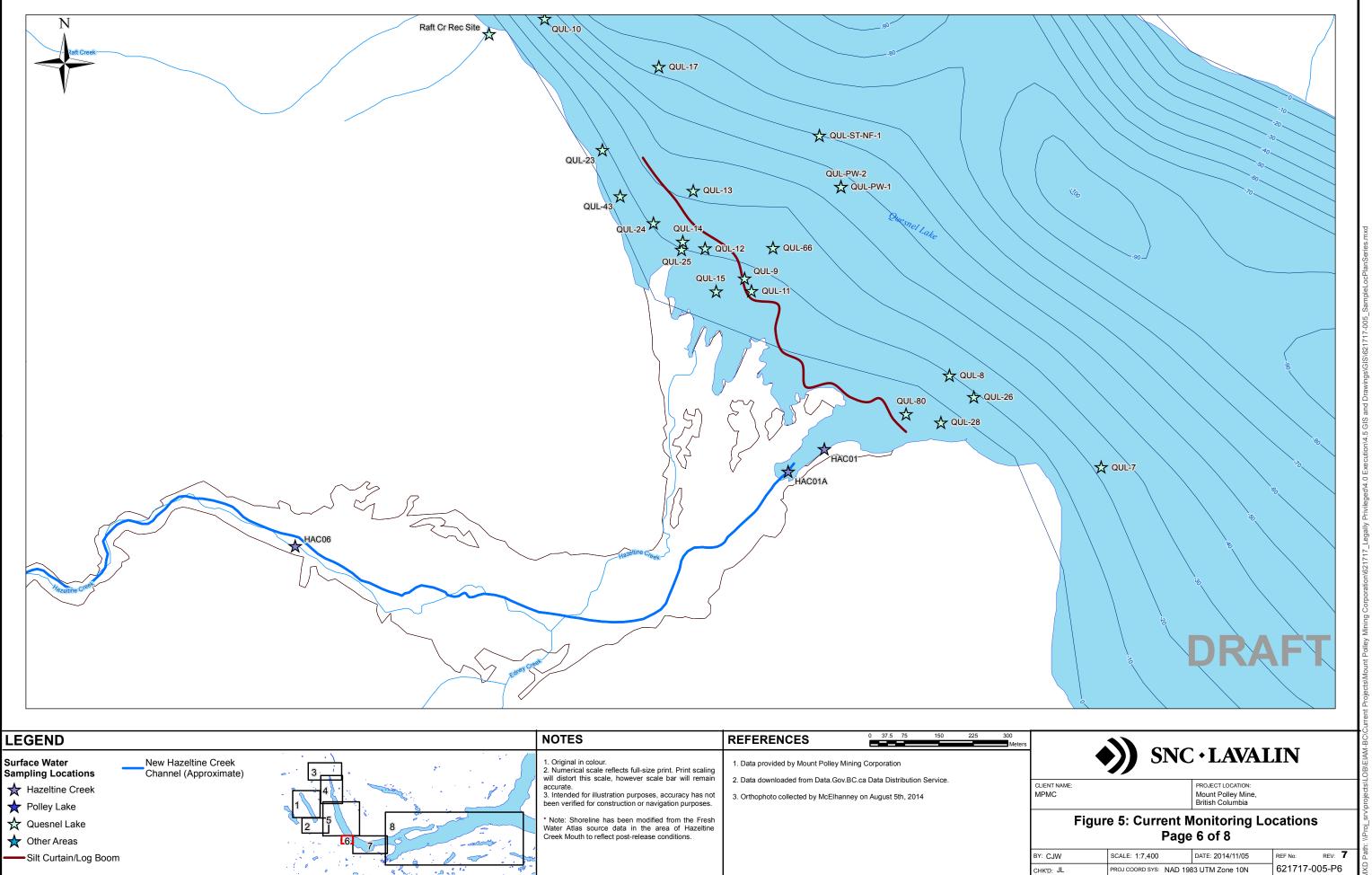
LEGEND	NOTES	REFERENCES 0 80 160 320 480 640 Meters
Surface Water Sampling Locations ★ Hazeltine Creek ★ Polley Lake ★ Quesnel Lake ★ Other Areas	<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.</li> <li>Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.</li> <li>* Note: Shoreline has been modified from the Fresh Water Atlas source data in the area of Hazeltine Creek Mouth to reflect post-release conditions.</li> </ol>	<ol> <li>Data provided by Mount Polley Mining Corporation</li> <li>Data downloaded from Data.Gov.BC.ca Data Distribution Service.</li> <li>Orthophoto collected by McElhanney on August 5th, 2014</li> </ol>



LEGEND	NOTES	REFERENCES         0         100         200         400         600         800           Meters         Mete
Surface Water         Sampling Locations         ☆         Hazeltine Creek         ☆         Polley Lake         ☆         Quesnel Lake         ☆         Other Areas	<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.</li> <li>Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.</li> <li>* Note: Shoreline has been modified from the Fresh Water Atlas source data in the area of Hazeltine Creek Mouth to reflect post-release conditions.</li> </ol>	<ol> <li>Data provided by Mount Polley Mining Corporation</li> <li>Data downloaded from Data.Gov.BC.ca Data Distribution Service.</li> <li>Orthophoto collected by McElhanney on August 5th, 2014</li> </ol>

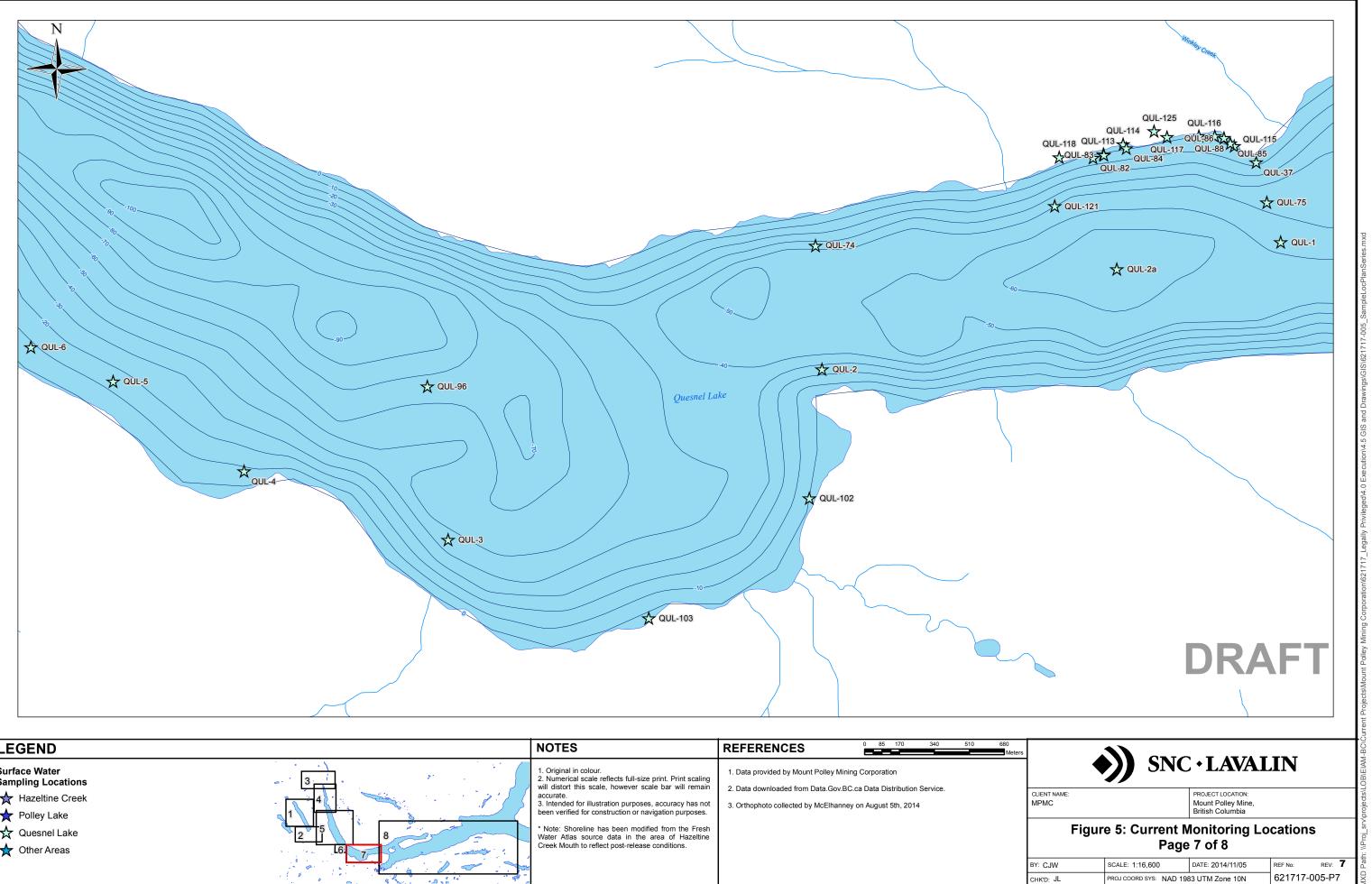


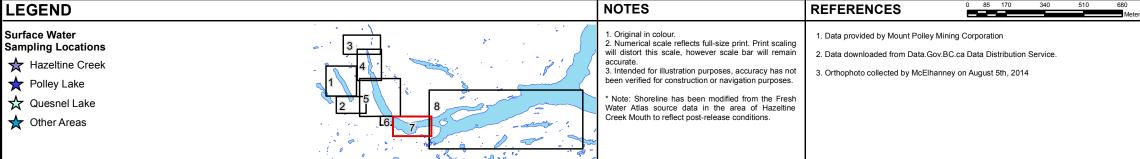
LEGEND	NOTES		160 320 640	960	1,280 Meters
Surface Water Sampling Locations ★ Hazeltine Creek ★ Polley Lake ★ Quesnel Lake ★ Other Areas New Hazeltine Creek Channel (Approximate)	<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.</li> <li>Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.</li> <li>* Note: Shoreline has been modified from the Fresh Water Atlas source data in the area of Hazeltine Creek Mouth to reflect post-release conditions.</li> </ol>	<ol> <li>Data provided by Mount Polley Mining Col</li> <li>Data downloaded from Data.Gov.BC.ca D</li> <li>Orthophoto collected by McElhanney on A</li> </ol>	Data Distribution Service.		

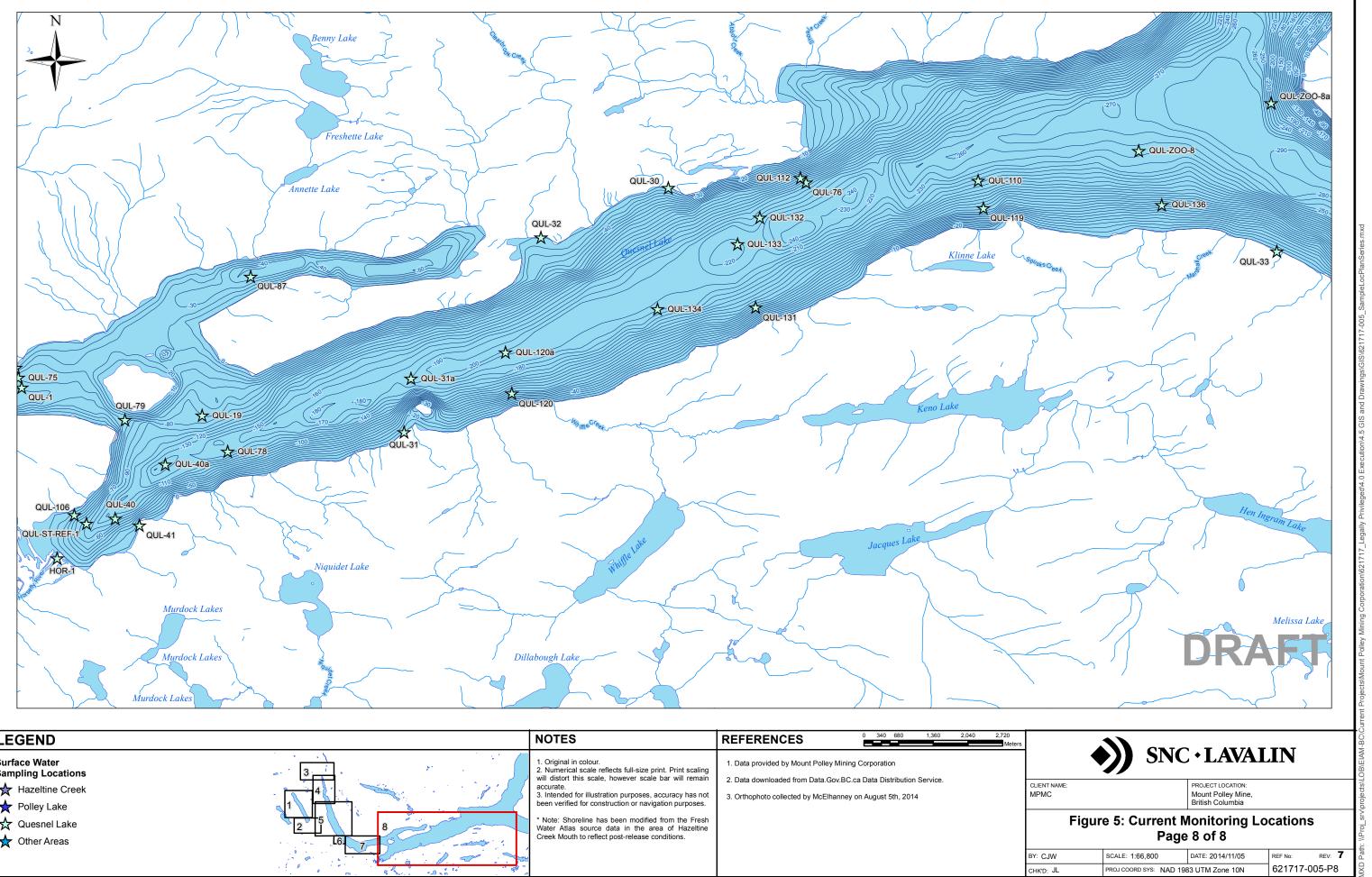


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<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling</li> </ol>	1. Data
will distort this scale, however scale bar will remain accurate.	2. Data
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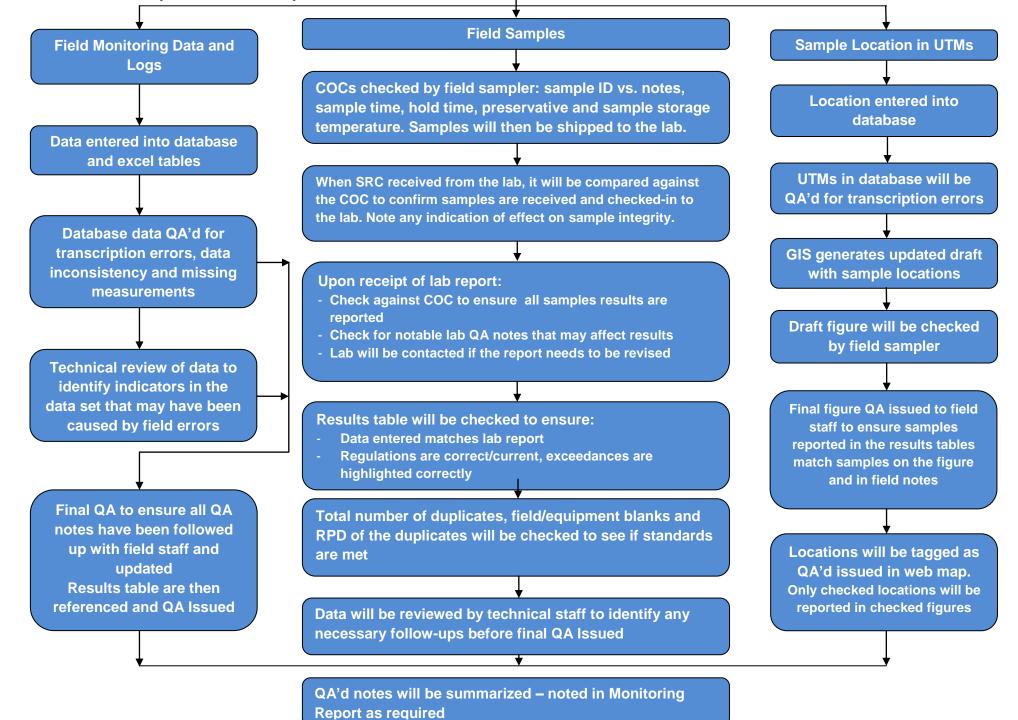


LEGEND	NOTES	REFERENCES 0 340 680 1,360 2,040 2,720 Meters
Surface Water         Sampling Locations         ☆ Hazeltine Creek         ☆ Polley Lake         ☆ Quesnel Lake         ☆ Other Areas	<ol> <li>Original in colour.</li> <li>Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.</li> <li>Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.</li> <li>* Note: Shoreline has been modified from the Fresh Water Atlas source data in the area of Hazeltine Creek Mouth to reflect post-release conditions.</li> </ol>	<ol> <li>Data provided by Mount Polley Mining Corporation</li> <li>Data downloaded from Data.Gov.BC.ca Data Distribution Service.</li> <li>Orthophoto collected by McElhanney on August 5th, 2014</li> </ol>

#### Appendix A

Data Quality Assurance/Quality Control Flow Chart

**Field Notes** 



## Appendix A Data Quality Assurance/Quality Control Flow Chart

Legend COC – Chain of Custody GIS – Geology Information System ID – Identification number QA – quality assured RPD - Relative Percent Difference SRC – Sample Receive Confirmation UTM - Universal Transverse Mercator