BRITISH COLUMBIA

FACTSHEET

For Immediate Release
2014ENV0063-001175
August 12, 2014

Ministry of Environment
Ministry of Energy and Mines
Cariboo Regional District

Mount Polley tailings pond situation update

WILLIAMS LAKE – Government and Cariboo Regional District (CRD) officials continue to work together to address the breach at the Mount Polley tailings pond, to test the local drinking water to determine if it is safe for locals to drink or bathe in, and to help ensure the safety and well-being of local residents.

This factsheet will be updated daily with the latest information available.

New today:

1. The Ministry of Environment received water samples from Polley Lake late last night and have shared them with Interior Health (IH). The health authority is reviewing them closely and is expected to provide an update on water quality and the water advisory in place later today.

2. The Cariboo Chilcotin Coast Tourism Association will highlight the tourism stories of the region in meetings with international travel media next week at the GoMedia Marketplace in Winnipeg. Hosted by the Canadian Tourism Commission, this is the largest annual travel media event in Canada where over 100 Canadian tourism marketers and businesses meet with over 300 international media who focus on travel.

Current situation:

- The flow out of the breach has decreased dramatically, but has not completely stopped. Imperial Metals has begun building a temporary dike to stop flow out of the pond.

- Imperial Metals is also now pumping water out of Polley Lake both down Hazeltine Creek into Quesnel Lake and back into Wight and Springer Pits, two open pits on the mine. By controlling this water release as soon as possible, it will significantly lower the potential risk of another breach. An uncontrolled release of the stored water in Polley Lake could cause additional risks to human health and a further delay in possible rescinding of the drinking water advisory currently in place.

- Until further notice, the water quality advisory remains in place for communities that get their water from Polley Lake, Hazeltine Creek, Cariboo Creek and all parts of Quesnel Lake, as well as the Quesnel River south of 6236 Cedar Creek Road. This includes the communities of Winkley Creek, Abbott Creek, Mitchell Bay and the East Arm of Quesnel Lake. IH will continue to evaluate water samples as they arrive and will update the communities as more information becomes available. ****Note: boiling will not help****

- The state of local emergency (SOLE) remains in place, giving the CRD exceptional powers in the interest of ensuring public safety. Under the SOLE, the CRD has issued an Order to Restrict Access to the Mt. Polley mine area to help ensure public safety. Authorized mine employees and government officials are exempt. Mt. Polley staff have said they will use their personnel to secure and control entry into the area. The CRD is having signage made that will be posted to mark the area on the ground.

- Points that help define this area are located at the north end of Polley Lake, on the Bootjack Forest Service Road, on Gavin Lake Road and two points on the Horsefly Likely Road (Ditch Road). In addition, an area on Quesnel Lake near the mouth of the Hazeltine Creek is also restricted.

- There have been no reports of injuries or people getting sick from drinking water. There have been no reports of property damage.

- Portable showers have been installed at the old forestry site at 5989 Cedar Creek Road and are now open for residents and visitors to use.

- The cause of the breach is still unknown at this time. Ministry of Environment conservation officers are investigating the breach. Ministry of Energy and Mines mine inspectors also are investigating.

- The Province has established regular briefings with First Nations to ensure they are getting as much real-time information as possible.

- The Conservation Officer Service (COS) will continue to deliver and post information packages in Likely to update residents on the current situation as new information becomes available.

- Emergency Management BC (EMBC) and the CRD Emergency Operations Centre (EOC) are working together on response to and recovery of this event, including human impacts. Government resource specialists are in the Likely area to support the EOC in Williams Lake. This team will co-ordinate site-level Provincial response and recovery activities in cooperation with Imperial Metals, the party responsible for site management.

- The CRD EOC has offered that Imperial Metals position a liaison in the EOC in Williams Lake to help improve a co-ordinated response.

- Mt. Polley Mine staff are assisting waterfront property owners with debris clean up.

- A support team is available to offer local residents emotional support for their unique impacts and coping needs. These trained volunteers provide services to communities affected by emergencies and disasters. The CRD, EMBC and Provincial Health Services Authority are coordinating this effort and will be making more information available to all impacted communities. All potable water provided to residents affected has been donated and/or provided by Mt. Polley/Imperial Metals.

- All costs associated with the cleanup of the breach are the responsibility of Imperial Metals, and will not be borne by B.C. taxpayers.

Polley Lake water stabilization plan:

Sediments and debris have created an unstable blockage at Polley Lake that has resulted in a build-up of water that could result in a sudden uncontrolled breach. It's necessary to reduce the excess water in Polley Lake in order to stabilize the situation and to avoid a potential breach and further release of sediments and debris into the surrounding waterways.

The potential for rain could further increase water levels in Polley Lake and outflows from Hazeltine Creek. A controlled release of excess water with a discharge pipe will help to stabilize the area and reduce the risk of a breach and further sediments reaching Quesnel Lake.

Imperial Metals has completed constructing a discharge pipe to Hazeltine Creek downstream from the tailings blockage and is now pumping water from Polley Lake. The pumps are operating at their capacity, pumping approximately 8,000 gallons per minute.

The water will then flow downstream into Quesnel Lake where it will be tested daily. Once the water level is reduced to a safe level, technicians will commence water and sediment sampling in Hazeltine Creek. The map of the discharge pipe route is available at: http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm

Currently, water is also being pumped out of Polley Lake by a second, smaller system, into Wight and Springer Pits, two open pits on the mine, at a rate of approximately 800 gallons per minute.

Water sampling:

The Ministry of Environment received water samples from Polley Lake late last night and have shared them with Interior Health (IH). The health authority is reviewing them closely and is expected to provide an update on water quality and the water advisory in place later today.

To date, environmental testing has shown that the vast majority of water samples have come back at safe levels, according to Canadian Drinking Water Guidelines. Water samples taken by Imperial Metals from the shore of Polley Lake on Aug. 7, 2014, have been tested and are very close to historical levels prior to the breach of the tailings pond.

Additionally, Ministry of Environment water samples taken on Aug. 6, 2014, from six locations in Quesnel River and Quesnel Lake have been tested and confirm all samples from these two water sources meet provincial and federal drinking water guidelines.

The Ministry of Environment will continue to provide water sampling results to First Nations, the First Nations Health Authority (FNHA), IH officials and the CRD EOC as they become available. The ministry will continue to conduct water sampling tests daily to determine the impacts on water quality and is also working with Imperial Metals to develop both short- and long-term plans for further water quality testing

IH will continue to evaluate water samples as they arrive and will update the communities as more information becomes available. There are approximately 100-200 residents within the affected area.

The ministry is posting results on its website, including a map of sampling locations: http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm

Drinking water advisory:

Despite the encouraging results from the Imperial Metals' tests of Polley Lake that were released on Friday, the **DO NOT USE** Order by IH's Regional Medical Health Officer remains in place until corroborating independent Ministry of Environment sample results from Polley Lake are reviewed by all parties involved. These were received late yesterday and IH is currently reviewing them.

On Aug. 8, 2014, IH lifted the do not use water advisory for communities that get their water from Quesnel River. The water quality advisory remains in place for communities that get their water from Polley Lake, Hazeltine Creek, Cariboo Creek and Quesnel Lake, as well as the Quesnel River south of 6236 Cedar Creek Road. This includes the communities of Winkley Creek, Abbott Creek, Mitchell Bay and Quesnel Lake. It is important to note, in the event of an unplanned large flow of water from Polley Lake, the **DO NOT USE** order will be reinstated on the larger area.

The advisory does not apply to people in Williams Lake, Quesnel or other towns along the Fraser River. Fishing by First Nations along the Fraser is also not affected.

On Aug. 7, 2014, Save-On-Foods, in conjunction with the Canadian Red Cross donated 18,000 500ml bottles of water and 1,440 four-litre bottles of water. These bottles have been distributed to Likely and area residents in need. This donation supplements the work of the CRD, which has organized delivery of water to Likely because the main supplier of bottled water in the area, a small grocery store, could not keep up with the demand.

Wildlife:

Freshwater fish have been collected daily for tissue analysis. The only reported dead fish is a rainbow trout. It was brought to the attention of government on Aug. 6, 2014, following the public meeting in Likely. It was collected by researchers with the University of Northern BC. Ministry of Environment boat crews have been on the water since Aug. 4, 2014, and they have not found nor received any other dead fish.

Generally, tissue analysis takes 40 days to complete however all efforts are being made to expedite the testing. There have been no adverse effects on fish or wildlife observed to date.

FNHA staff, including those from Environmental Health, are developing a sampling program to address the concerns of immediate consumption of fish, and will focus on salmon tissue sampling in the confluence areas of the Quesnel and Fraser River.

Collection of salmon will be co-ordinated with First Nation fisheries departments with analysis co-ordinated through the FNHA Environmental Health Services contracted laboratory. A two-to-three day turnaround time is anticipated following the arrival to the lab.

The Ministry of Forests, Lands and Natural Resource Operations (FLNRO) has also made its wildlife team available to investigate reported wildlife concerns.

On-the-ground provincial support:

Currently, there are more than 50 provincial government staff on the ground in Williams Lake, Likely and in the surrounding areas. They are all supporting with the investigation of the

incident and recovery of the area.

They include biologists, conservation officers, mine inspectors, emergency management specialists, health protection officers, debris disposal workers, communications officers, and community support and job assistance workers.

Environment Canada has an additional five staff on site in the area. As well, EMBC has activated both its northeast Provincial Regional Emergency Operations Centre (PREOC) and the Provincial Emergency Operations Centre (PECC) in support of this incident. There are three staff at the PREOC in Prince George and another seven staff activated at the PECC in Victoria to support all the work being done in the Cariboo.

Pollution abatement order:

On Aug. 6, 2014, the Ministry of Environment issued a Pollution Abatement Order (PAO) to Mt. Polley Mining Corp. This order required immediate action to stop the further release of mine tailings into nearby waterways and to submit environmental impact assessments and clean-up action plans to the ministry.

It also required the company to submit a written summary of actions taken to stop the release of mine tailings and to undertake preliminary environmental impact assessment and submit an action plan.

Imperial Metals met the Aug. 6, 2014 deadline requirements of the order to submit an Action Plan for the Preliminary Environmental Impact Assessment (EIA) and initiate environmental monitoring. The Ministry of Environment conditionally approved the submission on Aug. 10, 2014. Imperial Metals has provided, and will be initiating a plan to stop the flow from the tailings impoundment breach as required by item 1 of the PAO.

The company must also submit a detailed action plan by Aug. 15, 2014, and it is required to report weekly on the implementation of action plan measures.

Investigation:

Ministry of Energy and Mines inspectors continue their investigation and are continuing with interviews of mine staff and a review of all applicable documentation on the mine site.

Ministry of Environment conservation officers are independently investigating the breach. Conservation officers are Special Provincial Constables under the Police Act with a wide suite of powers associated with that designation. Although part of government, the COS is unfettered in its investigations as it has the power to investigate and forward recommendations for charges when warranted directly to provincial crown counsel.

If the public has any information, they are asked to call the Report all Poachers and Polluters (RAPP) line at 1 877 952-7277 or online at: www.env.gov.bc.ca/cos/rapp/form.htm

The inspectors of mines and other agencies will undertake a comprehensive investigation to determine causes for the breach. This will take several months. Lessons learned will be applied to other mines in the province as appropriate.

Dike construction at the tailings pond and other infrastructure:

Work continues on dike construction at the tailings pond breach. The dike is being built in a horseshoe shape just on the inside of the breach to stabilize the tailings material and keep it inside the impoundment when it rains. The company estimates that it will take about three weeks to complete.

Three hundred Imperial Metals employees are working on the dike construction and clean up.

In addition, good progress continues to be made by West Fraser to boom the debris in Quesnel Lake and prevent it from reaching the bridge. The Likely Bridge is not at risk. Most of the large woody debris is now contained within booms and Imperial Metals is working with West Fraser and FLNRO on a disposal plan.

Worker supports:

Staff from the Ministry of Jobs, Tourism and Skills Training (JTST) are in contact with the company to understand current job impacts and to communicate provincial support services. Initial information from the company suggests that, at this time, most of the mine employees remain working.

The JTST Community Transition Manager is on the ground, co-locating with the United Steelworkers at their local office in Williams Lake, to co-ordinate support and gather intelligence on worker and community impacts and services.

WorkBC Employment Services Centre (ESC) supports help connect people with employment opportunities and skills training. These will be mobilized in the area this week and work is being done to determine the best way to connect with impacted workers. The WorkBC ESC will be available to join in any on the ground services and support in Likely as needed, and will be available to visit Likely early this week.

Workers who need help connecting with skills training or employment opportunities can contact the local WorkBC Employment Services Centre in Williams Lake at 250 398-5133 to request support.

Tourism information:

All tourism operations in the Cariboo Chilcotin region remain open, operational and ready to welcome guests.

The Cariboo Chilcotin Coast Tourism Association will highlight the tourism stories of the region in meetings with international travel media next week at the GoMedia Marketplace in Winnipeg. Hosted by the Canadian Tourism Commission, this is the largest annual travel media event in Canada where over 100 Canadian tourism marketers and businesses meet with over 300 international media who focus on travel.

In the lead-up to the GoMedia Marketplace, several international tourism media will see the Cariboo Chilcotin Coast as part of a familiarization tour through British Columbia.

People with vacation plans that include travelling to, or through, this area of the Cariboo Chilcotin Coast, the most up-to-date information on the affected area can be can be found on the CRD EOC Facebook page at www.facebook.com/CRDemergencyoperations, the CRD website www.cariboord.ca, or by calling 250 398-5581.

Previous site inspections:

The Mount Polley mine has a valid Mines Act permit and the company has been generally compliant with the Health, Safety and Reclamation Code and their Mines Act permit conditions.

Following reports of a previous breach at the mine, Ministry of Energy and Mines officials investigated an incident on May 24, 2014, and determined this was not a breach. Rather, the height of the tailings pond was above regulation. This occurred in a different area of the tailings pond than the Aug. 4, 2014, dam failure.

At the time of the advisory, the distance between the water elevation and the crest of the dam (freeboard) was less than one meter. The tailings pond level returned to authorized levels and freeboard was approximately 2.4 meters when last measured. Mine records show that the operation was carrying out visual dam inspections and measuring freeboard at an acceptable frequency, including daily measurements following the incident.

The Ministry of Energy and Mines conducted a geotechnical inspection at the mine in September 2013, which resulted in no inspection orders related to the tailings facility.

Here is a list of recent advisories to Mount Polley from the Ministry of Environment, only one of which was related to height of the tailings pond. The Ministry of Environment is responsible to ensure no unauthorized effluent discharge from the tailings pond structure:

- May 24, 2014: The ministry issued an advisory to Mount Polley Mining Corporation for exceedance of the height of effluent within the tailings impoundment. The effluent level returned to authorized levels commencing June 30, 2014.
- April 18, 2014: The ministry issued an advisory to Mount Polley Mining Corporation for bypass of authorized treatment works. The site experienced high flows due to spring freshet which caused the pump system to become blocked and resulted in an overflow of effluent to the long ditch. Flow did not reach the creek and was directed into Till Borrow Pit.
- January and April 2012: The ministry issued an advisory to Mount Polley Mining Corporation for not submitting monitoring data for one of the groundwater monitoring wells.
- Aug. 30, 2012: The ministry issued a warning to Mount Polley Mining Corporation for failure to report exceedance of the height of effluent for the perimeter pond. This perimeter pond overflowed, releasing approximately 150 cubic metres of effluent over 13 hours to ground.

As required by the Health, Safety and Reclamation Code for Mines in British Columbia, companies must submit Annual Dam Safety Inspection reports to the Chief Inspector on an annual basis. Inspections of dams by ministry geotechnical inspectors are conducted at a frequency informed by the dam consequence classification that is designated by the dam design engineers in accordance with the Canadian Dam Association Dam Safety Guidelines.

Since the Mount Polley mine was permitted in 1995, there have been 16 geotechnical inspections conducted by ministry geotechnical inspectors. One inspection was conducted each year from 1995-2001 and in 2006, 2008 and 2013. Two inspections were conducted in each of

2005, 2007 and 2012.

In summary, seven geotechnical inspections took place before the mine went into care and maintenance in 2001 and nine geotechnical inspections have taken place since it re-opened in March 2005. The last geotechnical inspection was conducted in September 2013 and resulted in no inspection orders related to the tailings facility.

Here is a historical record of the number of all types of inspections (including geotechnical) each year from 1999 to 2014:

- 1999 - 1
- 2000 - 4
- 2001 – 22 (care and maintenance started September 2001)
- 2002 – 4
- 2003 – 2
- 2004 – 5
- 2005 – 15 (mine re-opened March 2005)
- 2006 – 10
- 2007 – 10
- 2008 – 8
- 2009 – 9
- 2010 – 7
- 2011 – 4
- 2012 – 6
- 2013 – 15
- 2014 (to-date) – 8

Monitoring devices, called piezometers, designed to measure the pressure of water in the dam, did not show any changes in the water pressure before the dam breach. The last piezometer readings were taken on Aug. 2, 2014. The investigation will determine if the piezometers were located correctly.

Incident summary:

Early in the morning of Aug. 4, 2014, the tailings pond dam at the Mount Polley Mine site breached and released an estimated 10 million cubic metres of water and 4.5 million cubic metres of fine sand into Polley Lake. Hazeltine Creek flows out of Polley Lake and the flow of contaminated water continued into Quesnel Lake.

During the initial breach of the tailings dam the bulk of the original flow created an unstable plug at the base of Polley Lake. The balance of the tailings and water went down Hazeltine Creek and deposited at the confluence of the creek and river. Hazeltine Creek was originally about 1.2 metres wide and is now up to 150 metres wide.

Waterways affected by this event include Quesnel Lake, Polley Lake, Hazeltine Creek and Cariboo Creek. Additionally the Horsefly Likely Forest Service (Ditch Road) was washed out at Hazeltine Creek and the Gavin Lake Forest Service Road was washed out closer to the dam breach area.

Other facts:

- The Mount Polley Mine is owned by Imperial Metals and is approximately 30 kilometres from the community of Likely.
- The tailings pond at Mount Polley Mine is four kilometres by four kilometres.
- This is a large breach and extremely rare. Officials with the Ministry of Energy and Mines do not recall anything of this magnitude in at least the last 40 years.

Fishery impacts:

Fisheries and Oceans Canada has issued a precautionary closure on a portion of the Chinook salmon fishery until sample results have come in. See the notice here: http://www-ops2.pac.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=161980&ID=all

For more information:

A public information line has been set up by the CRD: 250 398-5581

If the public has any information that would be helpful to the investigation into the cause of the tailings pond breach, they are asked to call the Report all Poachers and Polluters (RAPP) line at 1 877 952-7277 or online at: www.env.gov.bc.ca/cos/rapp/form.htm

Updates will be posted to the CRD's emergency operations Facebook page, here: http://www.facebook.com/CRDemergencyoperations or on the CRD website at: http://www.cariboord.ca/

For a collection of documents from government and partners surrounding the Mount Polley breach, visit: http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm

Media Contacts:

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250 953-3834

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Ministry of Energy and Mines and Responsible for Core Review
250 952-0617

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Cariboo Regional District
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250 305-8151
sburich@cariboord.ca

ALS Metallurgy

Certificate of Analysis

Mount Polley - KM4354

Date: August 20, 2014

Sample	Elements									
	S	C								
MPMC 1A	0.07	0.11								
MPMC 2A	0.13	0.16								
MPMC 3A	0.08	0.08								
MPMC 4A	0.05	0.09								
MPMC 5A	0.07	0.50								
MPMC 6A	0.08	0.33								
Gavin Lk Rd	0.13	0.34								
	%	%								

Norman Monteith, Certified Assayer

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Mount Polley Mines

ANALYSIS CERTIFICATE - MOUNT POLLEY

Job Number: **8000-AUG14**
Reference:
Client: **Geology**

Received Date: **21 August 2014**
Report Date: **21 August 2014**

SAMPLE#	NP:AP Ratio	NP	Carbon %	AP %	Sulfur %
1 MPMC 1A	4.19	9.167	0.110	2.188	0.070
2 MPMC 2A	3.28	13.334	0.160	4.062	0.130
3 MPMC 3A	2.67	6.667	0.080	2.500	0.080
4 MPMC 4A	4.80	7.500	0.090	1.562	0.050
5 MPMC 5A	19.05	41.669	0.500	2.188	0.070
6 MPMC 6A	11.00	27.502	0.330	2.500	0.080
7 Gavin Lk Rd	6.97	28.335	0.340	4.062	0.130

Bill Smith
Laboratory Manager

Online LIMS

21 August 2014

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Photo 5: Mouth of Hawthorn Creek with Esso in foreground

Recommendations:

The following recommendations are steps in planning for the design of the ramp works.

1. Provide a report and prescriptions for emergency works.
2. Plans for immediate construction of ramp including environmental monitoring and supervision.
3. Complete hydrotechnical study of lake levels and effects on design.
4. Complete ramp works design based on site information collected.
5. Provide a design summary report for construction.
6. Complete a removal plan for short term installation of ramp.
7. Liason with agencies to achieve all permits and approvals required to complete works.
8. Construction and completion of works including supervision.

It is expected that the installation of the ramp will be completed within the next week and will remain in place until fall of 2015. This will allow for additional removal of material in the spring and summer of 2015 after freshet.

Emily Cheung, MASC, PEng, FEC
For
DWB Consulting Services Ltd.

Historical Information: Works are planned to begin with the ramp down to the high water mark and then to the present water levels for construction of the causeway ramp. The location was used previously as a log sort and load out and evidence of these operations are still clearly visible.

Photo 2: Load out up lake from present water level

Field Visit: The site visit was conducted to determine feasibility of a ramp into Quesnel Lake in order to remove the boomed logs and additional logs waiting to be towed/barged to the load out location. A boat tour was conducted down the lake along the shores to examine the logs and debris that has not been collected yet as well as the material already piled and the material boomed at the mouth of Hazeltine Creek.

Location of Works: Along Quesnel Lake, BC, with load out location at 52° 29' 56" Lat and 121° 12' 4". Hazeltine Creek is located west of the load out location approximately 20 km along Quesnel Lake. The ramp location from the current shoreline to the end of the ramp is estimated at 25m long by 12m wide for use by an excavator and trucks.

DWB Consulting Services Ltd.

SITE INSPECTION REPORT

DATE OF SITE VISIT: August 19, 2014 DATE OF REPORT: August 20, 2014

OWNER: Imperial Metals Coporation
CONTRACTOR: Eaglecrest
Project: Quesnel Lake Log Salvage

Purpose of Site Visit: Inspection of the log load out location and condition of log salvage operations for the design of the causeway ramp for load out of barged and towed log booms on Quesnel Lake as a result of material brought down Hazeltine Creek to Quesnel Lake. Scope includes determining suitability of location for ramp including design for ramp. Photo 1 shows the proposed location and existing logs ready for load out.

Due to the nature of the works and requirements for quick removal of the material from the lake, emergency prescriptions including design requirements for the ramp are to be prepared for use in construction.

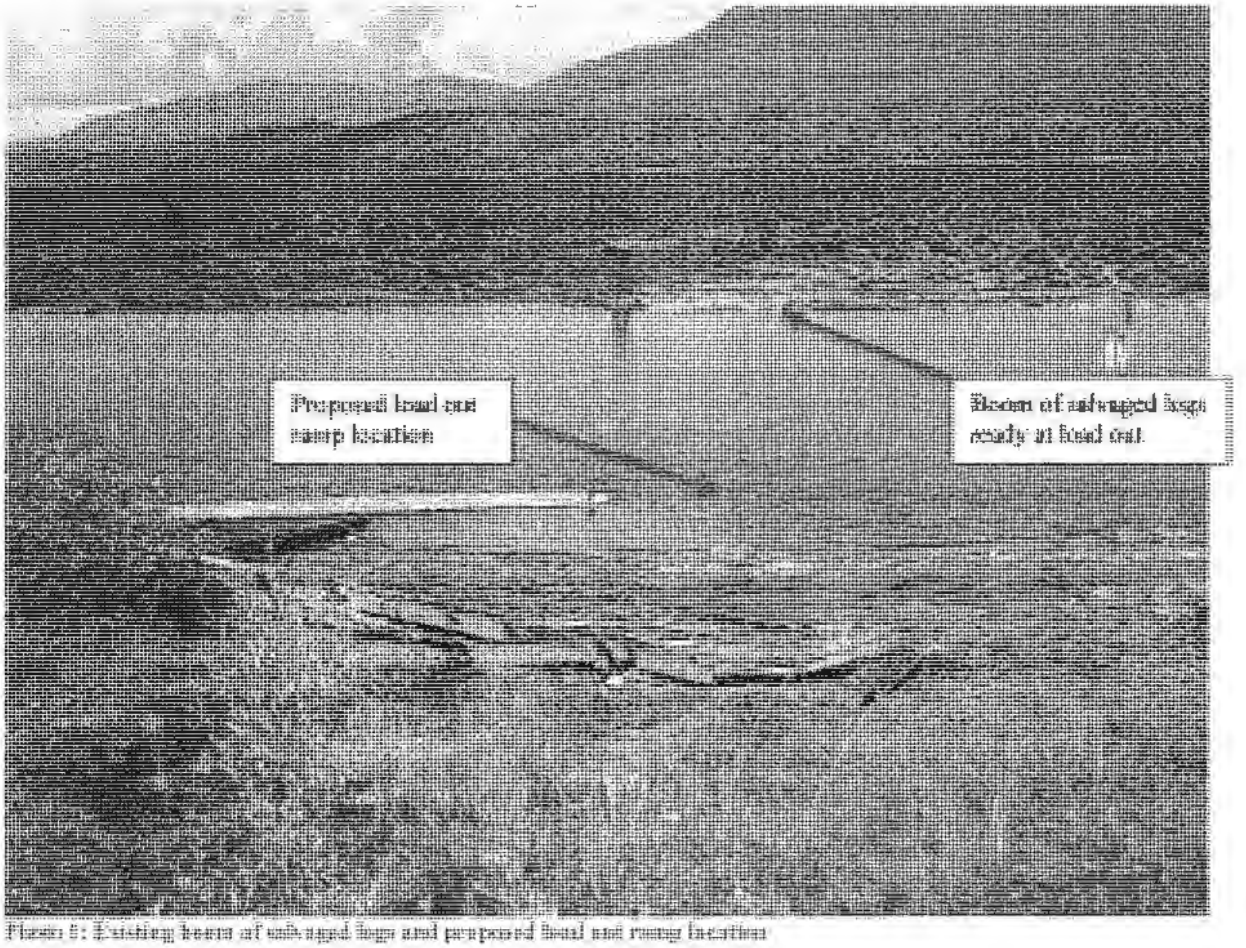
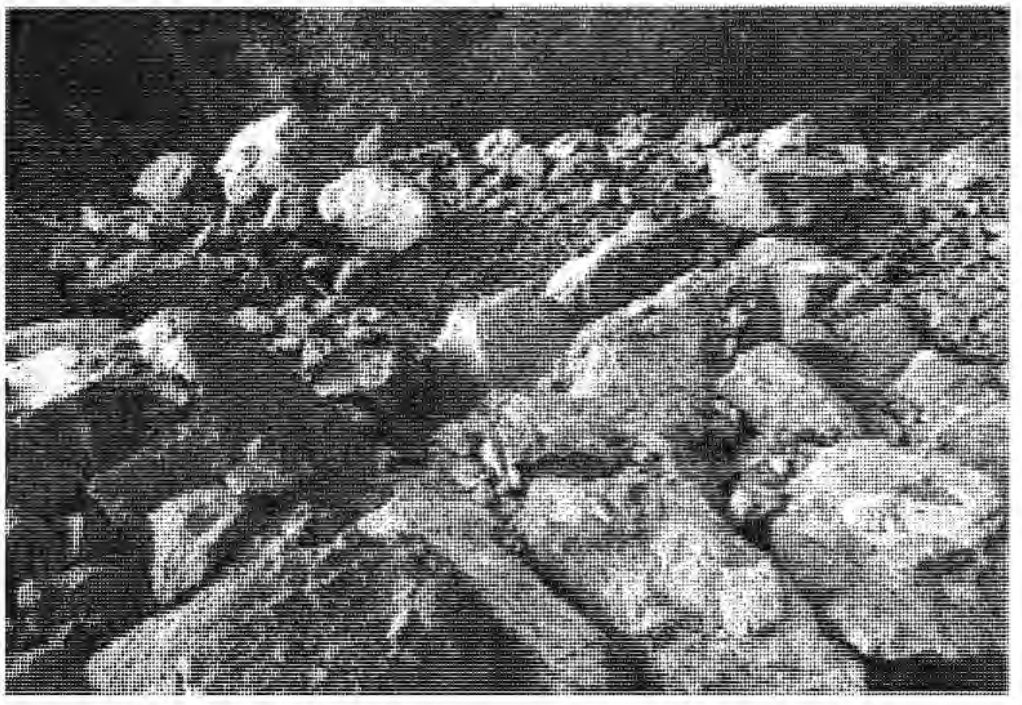


Photo 1: Existing boom of salvaged logs and proposed load out ramp location

Imperial Metals Corporation Quesnel Lake, BC

Emergency Works Prescriptions Priority: Immediate

Site : Quesnel Lake Load out Z Road 20-Aug-14
Construction Details



Acceptable well graded rock available at local quarry (pending testing).

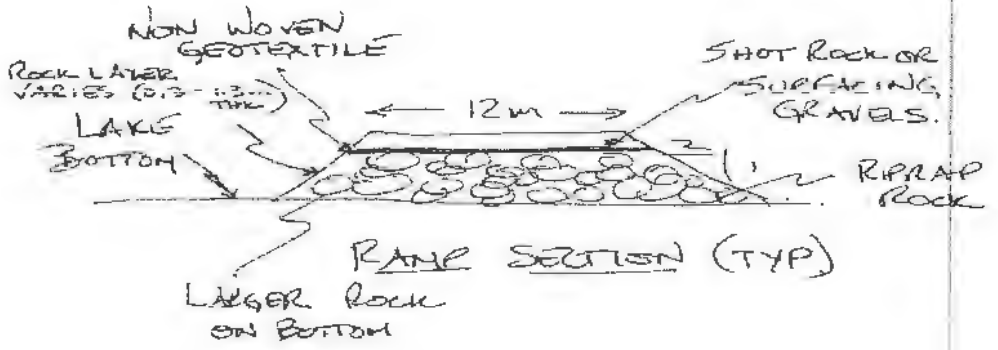
Works to be completed:

1 Upland ramp access along load out access
2 Ramp in lake water from present water to approx. 25m
3 For detail section of ramp see sketch below
4 Side slopes to be constructed at 2:1 (H:V)
5 Provide smooth transition from upslope to in lake ramp construction
6 Smaller material must be sloped gradually to prevent erosion

Specifications:

1 Riprap rock Class 50kg

85% avg dimension >	155mm
50% avg dimension >	330mm
15% avg dimension >	475mm

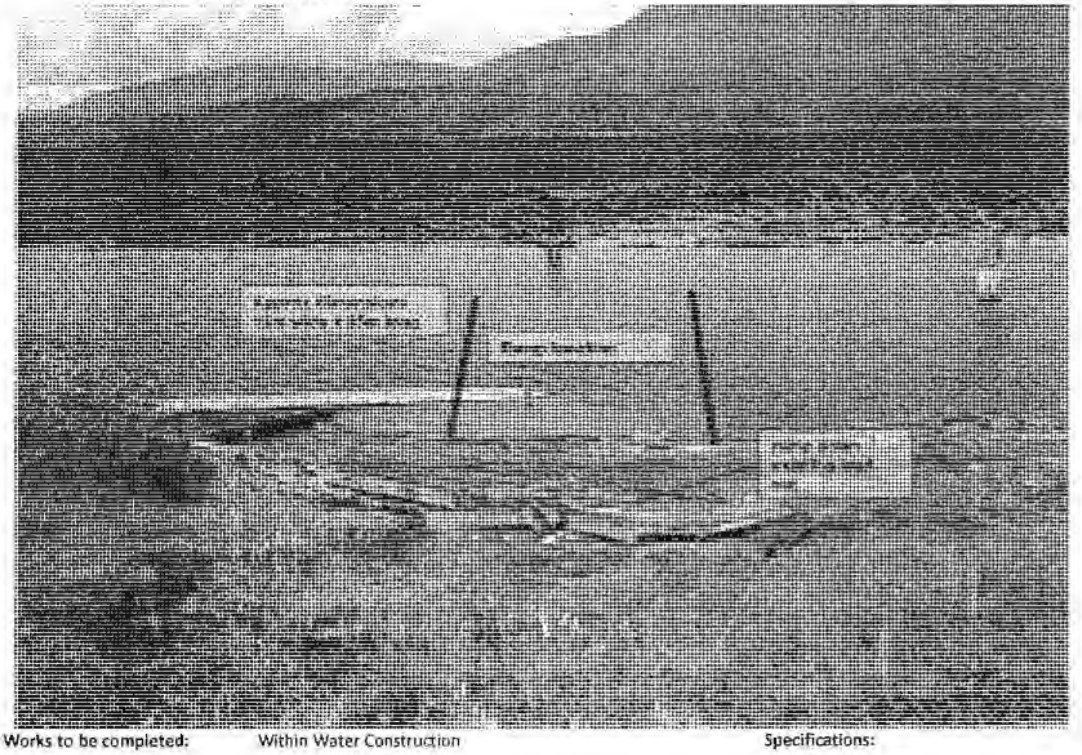


Imperial Metals Corporation Quesnel Lake, BC

Emergency Works Prescriptions Priority: Immediate

Site : Quesnel Lake Load out Z Road 20-Aug-14

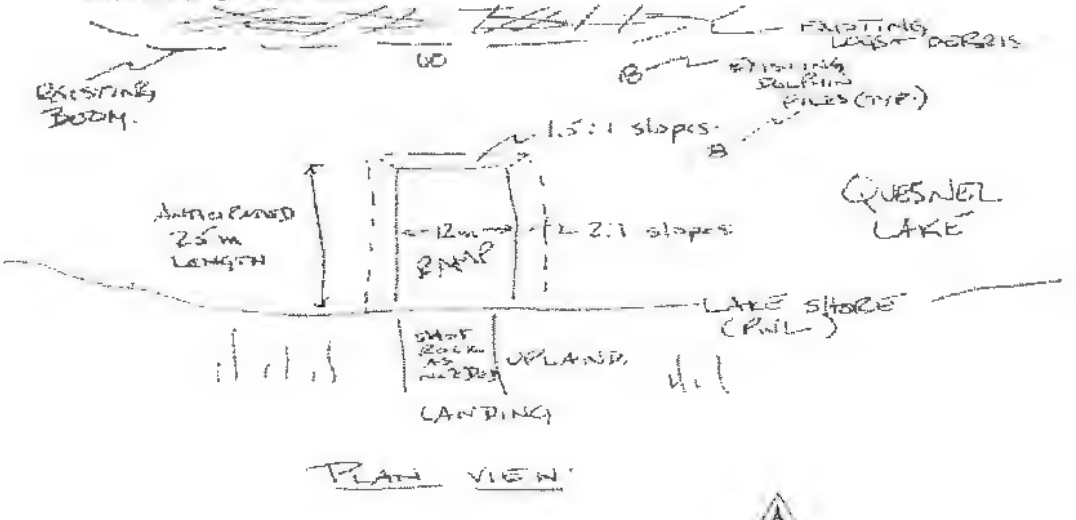
Construction within Lake Water Prescription



Works to be completed: Within Water Construction **Specifications:**

1 Rock to be placed from shore side and built up into the lake
2 Continue to place rock at minimum 300mm thickness at shoreline
3 Gradually build out rock to desired approximate 25m off shore
4 Side slopes to be constructed at 2:1 (H:V)I outer toe 1.5:1
5 Place non-woven geotextile over rock layer
6 Cap ramp with clean gravel or shot rock to a minimum 150mm
7 Ensure ramp is tracked and packed sufficient to support truck loads and prevent spillage into lake waters

1 Clean shot rock for foundation
2 Expected max 1.3m deep at toe
3 Class 50kg approved riprap rock
4 Final ramp top width =12m
5 Larger rock on bottom of ramp
6 Armtec 200/Mirafi 160N/Geotex 601 or approved equivalent non woven geotextile



Imperial Metals Corporation Quesnel Lake, BC

Emergency Works Prescriptions Priority: Immediate

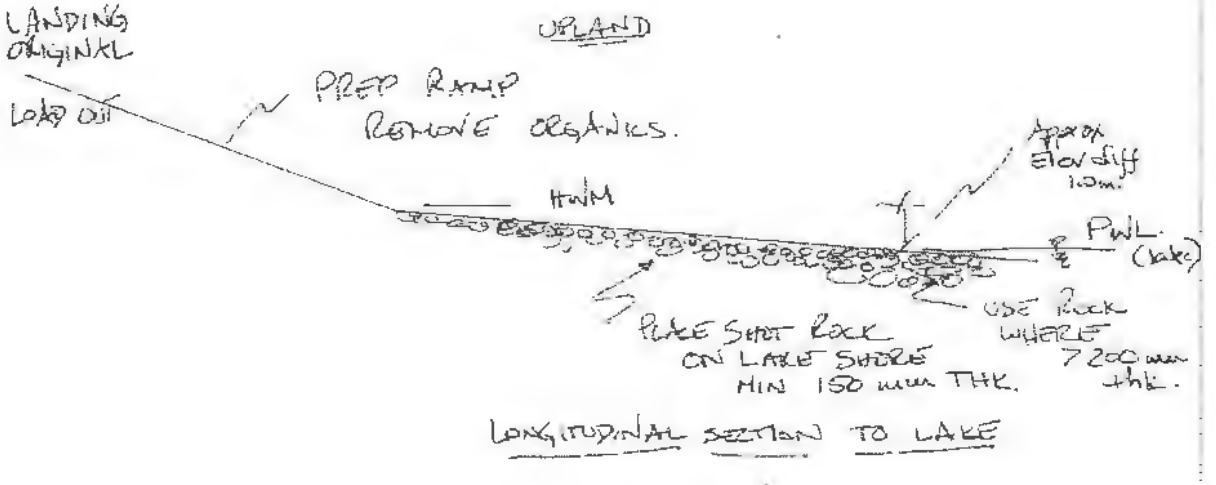
Site : Quesnel Lake Load out Z Road 20-Aug-14
Preparation Prescription

Works to be completed: Upland

1 Prepare ramp down to lake level including stripping
2 Place shot rock to firm up foundation for access
3 Prepare site in accordance with environmental plan for isolation
4 Build up land ramp with shot rock and rock to the present water level
5 Use of riprap rock and shot rock required where thickness exceeds 200mm

Specifications:

1 Clean shot rock for foundation
2 Removed organics placed in an appoved location
3 Minimum 150mm thick shot rock to provide stabilisation
4 Class 50kg riprap



 By: EAC

DWB Consulting Services Ltd.

Should you have any questions regarding this report, please do not hesitate to contact either of the undersigned at your convenience.

Sincerely,

Brian Aitken, RPBio, PAg, CPESC
Corporate Environmental Manager

Emily Cheung, MASc, PEng, FEC
Corporate Engineering Manager

Cc Penny Carpenter (Eaglecrest), Russel Parsons (Imperial Metals), Robin Hoffos (MFLNRO) and Lee Williston (MFLNRO)

project. Following construction, the EM will prepare a short post construction report with photo documentation of the measures implemented. A component of this report will be an asbuilt with estimated footprint and rock volumes used in construction.

Operation Phase

Once constructed, it is expected that the ramp will immediately be utilized to start removing debris from the water. As with construction, all equipment must be inspected for leaks/drips before being allowed to be used near the water and on the ramp. Should a spill occur, follow the Spill Plan (refer to bullet 12) and report as required. All employees working near the water need to be trained in spill response. An aquatic spill drum with floating spill boom must be present near the ramp location where it can be quickly deployed in the case of a spill. During woody debris removal with the button top, be careful not to lose small wood pieces into the lake. Should this occur, they will need to be collected and removed. All wood removed from the water will be transported and stored in the upland sort area where it will be sorted/graded for future yet to be determined use.

Decommissioning Phase

The ramp will be left in place until the summer of 2015. As previously described, it is expected that additional woody debris will be deposited from Hazeltine Creek into Quesnel Lake during the spring runoff in 2015. This woody debris will also need to be removed next year. Once Imperial is confident that all woody debris has been captured and removed, the load out will be fully decommissioned and returned to its predisturbance condition. This should coincide with low water levels in the lake and appropriate fisheries timing windows to minimize environmental impacts. As with the construction phase, an EM will be present and will aid in deploying the floating silt curtain during the rock removal. Turbidity monitoring will also be conducted. Once all the rock has been removed from the lake, a diversion ditch will be installed at the top of the grade to divert surface runoff from the freshly deactivated foreshore. Also, all exposed soils will be seeded. A final bottom survey will be conducted where the woody debris was stored to ensure that no additional wood has sunken. Once complete, an environmental close-out report will be completed, with photos and estimated total volume of wood removed.

Decommissioning Plan

Upon determination through the agencies and Imperial Metals Corp., once the required debris removal operations are completed, the ramp shall be removed. The ramp is to be dismantled by removing the far toe of the ramp furthest in the lake first. If salvage of the rock is required, removal of the capping material should be completed first and then followed by the removal of the geotextile and finally the rock. All materials shall be removed, stored, stockpiled, or disposed of in accordance with Imperial Metals policy and the environmental requirements discussed in this report.

(C) Environmental considerations for the design, construction, operation and decommissioning of the load out ramp

The following environmental mitigation will be implemented during the engineered design, construction, operation and decommissioning of the load out.

Design Phase

During the design, the location was chosen at an historic existing load out location. The footprint of the new structure will be minimized, along with the rock volume so that it can be used until Oct-Nov, but will likely be partially submerged during spring conditions. This design limits the amount of rock required, but also will reduce the decommissioning at the end of its use. All rock used in the ramp construction planned for placement in or near the lake has been tested for ARD (test results appended). The design also incorporates larger rock on the bottom/base of the ramp separated with geofabric and smaller rock/fines on the running surface. The smaller material on the surface will act as a filter to soak any minor leaks or drips that may occur during operation, rather than using purely coarse material where spills would directly enter the lake if they should occur.

Construction Phase

Construction will proceed under appropriate weather conditions and will occur under a compressed timeline of 3-4 days. As machinery will be working around water, all equipment will be inspected for leaks/drips prior to be allowed to work on the project. For the construction phase of the project, an environmental monitor (EM) will be present to conduct these inspections and carry out the balance of the environmental duties described below. Firstly, a construction prework will be held by all parties involved with the construction at which time the EM will go over the conditions of the MFLNRO Order and the mitigation that has been proposed. Then before the ramp is constructed within the lake, a floating silt curtain will be installed around the ramp location. This will prevent any fines from negatively affecting local water quality. The EM will conduct turbidity monitoring inside and outside the floating silt curtain to record its effectiveness. In addition, the EM will conduct fish salvage as required during construction. There will be no stop nets, but the site will be enclosed by the floating silt curtain. An attempt will be made to set minnow traps each night in the isolated area. If fish are caught, they will be recorded and released outside of the enclosed area. The EM will be responsible for implementing/following the Spill Plan (refer to bullet 12) and reporting as required. *It should be noted that some heavy leachate was noted to the right of the proposed ramp which appeared to be draining from an adjacent wet draw seeping from an historic log sort area covered with bark. This was not a result of any activities associated with this*

Design Specifications

Specifications for construction consist of the following:

Material	Specification	Approx. Quantity
Riprap rock for ramp base material	Class 50 kg rock	600 m3
Maximum rock side slopes at toe	1.5:1 (H:V)	-
Maximum rock side slopes along ramp	2:1 (H:V)	-
Ramp footprint on lake	-	380 m2
Non Woven geotextile	Armtec 200 or approved equivalent	360 m2
Surfacing material or shot rock capping	3" minus clean gravel or pit shot rock	54 m3

Riprap rock shall be clean angular rock that is consistent with the following gradation requirements:

Class 50kg rock - Approx. Average dimension

85% of rock to have average dimension >155mm
50% of rock to have average dimension >330mm
15% of rock to have average dimension >475mm

The rock must be well graded meaning that all dimensions must be represented in the material supplied. This will provide a more stable ramp consisting of smaller and larger rocks that will fit together.

The rock shall be laid on the lake bottom and not keyed in. Due to the nature of the short term usage of the ramp, the rock is expected to withstand normal wave action and not intended for permanent installation or protection. If unusual events are to occur within the period of time that the ramp is in place, repair work may be required.

All quantities provided are for works within the lake and have allowed for waste for supply quantities. These quantities are supplied for the purpose of procurement and are not an indication of maximum or required quantities. Final requirements will be determined by the design engineer or her representative on site. Any variations from the materials specified, must be approved by the design engineer. Material quantities for preparation of upland slope area have not been provided. Quantities are based on the area agreed upon during the site visit to a maximum of 25m extension into the lake; however, this may be altered at the discretion of the Imperial Metals representative. If further length of ramp is required to meet the required depth of 1.0m above the lake bottom, additional volume of these materials will be required.

Conformance

All materials shall meet or exceed the specifications as listed in the table. A site supervisor representative from DWB shall determine suitability of materials should there be any variations or substitutions. Documentation by the site supervisor will be provided to the design engineer along with a constructed volume survey for purpose of reporting. Tracking of volumes shall be completed including truck loads delivered for shot rock, capping material, and riprap rock delivered to site.

General Design

Design considerations for the causeway ramp have been formulated from the site visit conducted August 19, 2014. No site survey information was available at the time of this report; however, due to the nature of the emergency conditions and the requirement to remove the debris as quickly as possible from the lake, the design has been formulated with the use of prescriptions (3 pages inclusive) that include photographs and diagrams outlining the location, size and specifications for the causeway ramp. A site inspection report is also included for reference. The intention of the ramp is to facilitate the removal of the logs and debris with the use of machinery out of the water. It is expected that the ramp will require 1.3m of height to remain out of the water during activities.

Currently the lake level is estimated to be at 1.0-1.3m below the high water mark and historically has an average yearly maximum daily fluctuation of 2.23m with a historical minimum fluctuation of 1.576m and historical maximum of 3.008m. Lake levels historically continue to fluctuate through August and September but the trend shows levels will continue to drop from August through until spring when levels are expected to rise again typically in April (Water Survey of Canada gauged water level station 08KH011 1956-2012). Due to the short term use and unknown water levels in the upcoming seasons, the ramp is not designed to meet a specific control lake level or return period elevation, but simply to provide clearance from lake elevations for the emergency works operations in the next weeks. Spring removal of logs and debris that may be required in 2015 may not be able to commence until lake levels reach below the constructed ramp surface. Lake depths from the present water level measured during the site visit past the toe of the ramp near the boom was 4m or 13ft. Although this was measured beyond the toe of the ramp, it may indicate that additional rock may be required to achieve operating levels if water surface elevations do not continue to drop.

The access causeway ramp design consists of a rock ramp from the existing load out to approximately 25m into Quesnel Lake. The ramp will be wide enough (12m) to accommodate an excavator and trucks for hauling rock in or debris out of the lake. The ramp is to extend from the existing load out access straight out into the lake. The ramp profile will be constructed from a rock base overlain with non-woven geotextile and capped with surfacing material that will seal preventing spills into the rock base below. Additional details are provided in the design specifications and depicted in the prescriptions attached.

Construction Procedure

The upslope existing load out access is to be stripped of organics and sufficient base material preferably shot rock, shall be placed to stabilize the access to the present lake water level. Rock thickness shall taper from a minimum 300mm to required thickness estimated at 1000mm at the toe of the ramp. If additional length is required or depths vary from the assumed depths, additional thickness of rock will be required as depths at this location were not confirmed. Once rock has been placed, a non-woven geotextile shall be overlaid on the rock and a cap of granular or shot rock material placed on top to provide a running surface and prevent any spills from entering into the lake from on top of the ramp.

A rock source has been located approximately 1 km from the load out site and samples have been sent to Imperial Metals laboratory to test for acid leaching potential. This rock has been deemed suitable due to its size and angularity but results from the tests were not available at the time of the report.

10) The debris removal around the mouth of Hazeltine Creek will require extensive works; however no works can proceed until the safety concerns at the upslope tailings dam at Mount Polley are addressed. It is hoped that this area will be cleared for work by safety within the next month. If the area around the mouth of Hazeltine Creek cannot be accessed due to safety concerns prior to winter freeze up, it must be secured so that no wood can escape into the lake in the spring. It is fully expected that more woody debris will be deposited into Quesnel Lake from Hazeltine Creek during any flood or heavy rain events due to the instability of the scoured channel. Currently the entire mouth of Hazeltine Creek is contained with a log boom. It is recommended that a second log boom be constructed and left in place until at least next summer for added security during heavy rain events and spring runoff. **It has been requested that all works at the mouth of Hazeltine Creek have a first nation monitor present.**

11) Debris storage at the West Fraser load out will be contained fully within a secured boomed area and anchored to the existing dolphin piles until such time as it can be removed from the water. It is important to conduct a bottom survey before additional debris is stored at this location so that the pre-use condition is known. This area has been previously used for many years as a load out and so it is expected that there is woody accumulations already present to some degree. All small woody debris and any sunken debris as a result of the temporary storage at this location must be removed. Once all debris has been removed and the project complete, a comparison bottom survey must also be completed to provide evidence of this.

12) Throughout the debris collection, transport and removal process it is very important that all involved in the clean-up follow general spill prevention and response procedures should a spill be encountered. This is especially important around aquatic environments. All equipment must carry stocked spill kits and crews must be trained in their use and the reporting requirements. In addition, several large drum aquatic spill kits should be present in key locations (i.e., on the barge and at the load out at a minimum). If Imperial has a standard spill plan that can be used, then it should be adopted for this project, otherwise it is recommended that a detailed spill plan be prepared for the project.

(B) <u>Engineering considerations for the design and construction of a load out ramp</u>

Once the wood debris has been transported to the West Fraser load out site, it will be temporarily stored in booms secured to the existing dolphin piles. From this storage area it will be pushed to the shallow with a tug where it will be lifted out of the water by a button top log loader. The log loader will deck this material behind the machine where it will be grasped with a front end loader and transported to the upland sort area for sorting and storage until an appropriate use can be determined. As the lake bottom is very soft/shallow and reeeding at this location, a causeway ramp has been proposed to be constructed in order to be able to reach the wood without having to drive a machine into the water. The temporary ramp will be constructed of rock and will be designed to allow a minimum depth of water at the end during the lowest expected flow so that the wood can be floated to this location for removal.

significant ruts or beach disturbances have been fully recontoured to natural grade before re-boarding the barge.

Where the beach has been determined to be too soft for machinery, the barge will nose into the shore and the ramp will be lowered to the foreshore. The excavator will be allowed to drive down and sit on the ramp, but will not leave the ramp (i.e., no tracks on beach). All material will be reached from the barge. Once all debris is removed or the barge is full, the excavator will move back up the ramp and leave with the barge.

7) Mitchell Bay has been identified by MFLNRO as an area of special concern due to the presence of shore spawning kokanee. Shore spawning kokanee are present in Quesnel Lake in critical convergence zones near the mouth of creeks and where upwelling or significant subsurface flows are present. They prefer gravel to moderate sized cobble bottom substrate which is present in Mitchell Bay. Hazeltine Creek area has also been identified as one of these shore spawning locations; however, due to the amount of sediments deposited at the mouth of this creek the habitat has been affected and is less of a concern at this time. MFLNRO has identified a critical spawning period for kokanee starting mid-September in this area. A detailed report by the Province of BC in 2003 entitled, 'Summary of Quesnel Lake Kokanee and Rainbow Trout Biology Stock Management Report No 17' identifies a later period for Quesnel Lake shore spawning kokanee between October and November. In any case, all boating/barging activities along the near shore area in Mitchell Bay need to be completed before this time period to ensure that spawning kokanee populations are not affected. This area should be the highest priority for removing the debris piles before any other area.

8) While barging woody debris down the lake, all debris will secured so that it does not fall back into the water. The onboard excavator and toe tug will have spill kits in them as per bullet 12. It will be transported to the West Fraser load out and preferably off loaded directly onto the load out ramp when it arrives as described later in this document. If this is not possible, then the debris will be offloaded into a contained boom area secured to the existing dolphin piles for later removal. Care must be taken to avoid loss of small woody debris into the lake during this process.

9) All floating woody debris that is temporarily contained in booms will be barged down the lake in a large boom (ie rather than on a barge). Care must be taken in removing any floating debris that is embedded in the bottom substrate. If it can be removed easily without significant bottom disturbance and/or is a boat hazard it should be removed, otherwise leave the wood embedded and do not remove. Only remove new debris from the recent event (i.e., do not remove older greyed woody debris that was clearly present before the dam failure which provides important aquatic habitat). Once all the floating debris has been corralled, it will be pushed together and enclosed in a large towing boom which will be transported down the lake. It is important that no small woody debris escape during this transport and a follow up boat may be required to pick up straggler pieces that have broken off. Once the boom arrives at the West Fraser off load site, the boom will be secured to the existing dolphin piles for later removal.

shoreline. At this time the difference between wood that recently came down due to the failure and the older natural occurring wood is very evident.

2) All debris possible, both floating and rafted needs to be removed from Quesnel Lake by the end of October.

3) All debris accumulation areas along the foreshore which are flat enough to allow access by light tracked equipment via barge and have been mapped and **categorized as heavy or medium** will be re-visited to determine beach conditions. Any area of beach that is soft and will lead to significant rutting by machinery will be flagged as 'Machine Free Zones'. Any area of these beaches which provide enough ground support that significant rutting will not occur may be accessed by light tracked equipment and debris piled as close to the existing shoreline as possible to allow efficient collection of debris by a barge. Some beaches may not be suitable for tracked machinery at all and may require all hand labour. Only remove new debris from the recent event (ie do not remove older greyed woody debris that was clearly present before the dam failure which provides important aquatic habitat). Each beach should have at least one landing location flagged so that the barge knows where to off-load any equipment during drop off or pick up.

4) Any debris accumulation areas along the foreshore that have been mapped and **categorized as light** or that are too steep for machinery will be removed by hand (no equipment permitted on the beach). This debris will be removed from the foreshore and scattered above the high water mark (HWM) of the lake or picked directly from the water via barge. Any debris which is too large to move by hand will be bucked into manageable pieces before it is placed above the HWM. Only remove new debris from the recent event (ie do not remove older greyed woody debris that was clearly present before the dam failure which provides important aquatic habitat).

5) EXCEPTION TO POINTS 3 AND 4 FOR CARIBOO ISLAND. Those affected areas along Cariboo Island will all be hand labour only. No machinery permitted on foreshore. Due to archeological considerations, First Nation monitoring required for any works on the island and all woody debris will be removed even in light density areas as per methodology described in bullet 6, paragraph II.

6) Once material has been piled on the beach, it will be removed via barge and tug boat with an excavator (or in the case of Mitchell Bay may be partially accessed from the land with a dump truck). Where the beach has been determined to be stable, the barge will nose into the shore and ramp lowered to the foreshore. The excavator will disembark from the barge and load the debris onto the deck. The debris will be piled carefully onto the barge ensuring that all pieces are secured so that they do not fall off during transport. If the barge is full, the excavator may be left at the beach until the barge arrives back for final pick up. If this should occur, the excavator must be parked as far back from the water as possible, preferably in an area which does not drain directly back into the lake. All equipment in operation within the HWM of the lake will have fully stocked spill kits in them should a spill arise. Refer to spill plan in bullet 12. Once the beach has been fully cleared of debris, the excavator will prepare to leave the beach, ensuring that any

West Fraser log sort/load out (52° 29' 56" Lat and 121° 12' 4" Long) where it has been contained within log booms. Moving forward, DWB has been asked to provide the following scope of services:

A. Environmental mitigation and monitoring for the debris containment and clean up along the shoreline by both hand/machines and the transport of this material to the West Fraser load out utilizing tugs via barge/boom,

B. Engineering expertise to design and construct a suitable load out ramp at the West Fraser site that will allow wood debris to be removed from the boomed storage area at least until the end of October under the receding water levels in the lake. Once removed from the water, the woody debris will sorted and stored upland for uses yet to be determined,

C. Environmental mitigation and monitoring for the design/construction of the load out ramp deseribed above and also the decommissioning of the ramp in 2015 when it is no longer required.

The following report provides the required engineering and environmental information in the order which it is presented above.

(A) Environmental mitigation and monitoring requirements for the debris clean up in Quesnel Lake

Clean up operations are well underway and it appears they have been completed in an environmentally sensitive manner thus far. During the inspection with MFLNRO on August 19th, very little floating debris was observed in the lake between the West Fraser load out and Hazeltine Creek that was not already contained within high density debris areas which were enclosed within booms. The largest floating accumulations are in Mitchel Bay and the bay at Hazeltine Creek whieh is a no work area due to safety constraints concerning the unstable tailings dam at Mount Polley upslope of this location. The majority of the remaining wood debris was rafted along the shoreline due to the receding water levels. A significant portion of this material has been piled along the shoreline via hand labour and small machines. To date, most of the affected shoreline (est 40-50km) has been assessed for debris accumulations and categorized as light, moderate or heavy based on the debris density. Also one load of debris enclosed within a large log boom has been transported to the West Fraser load out location and secured to the existing piles for eventual removal from the lake.

Moving forward, the following Best Management Practices (BMP's) and environmental mitigation will be incorporated into the woody debris clean up and transport to the load out:

1) It is recommended that the entire existing shoreline which was affected by debris accumulations be video recorded before and after the clean-up operations. This will not only provide evidence that the shoreline was adequately cleaned up, but will also provide proof in the spring that there was significant older natural woody debris which was present before the dam failure along the

August 20, 2014

Ministry of Forests, Lands and Natural Resource Operations
Water Stewardship Cariboo Region
400-640 Borland Street
Williams Lake, BC, V2G 4T1

DWB File No 14274-219

Attention: David Weir, PAg – Water Section Head

RE: Mount Polley Tailings Pond Failure Debris Clean-Up in Quesnel Lake

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The Mount Polley mine tailings pond failure occurred on August 4, 2014 when the tailings pond partially breached, releasing water and tailings slurry into downstream waters. The resulting debris torrent caused by the sudden release of water and sediment behind the dam carried felled trees, mud and debris scoured away the banks of Hazeltine Creek which flows out of Polley Lake and continued into the nearby Quesnel Lake. The debris torrent significantly eroded Hazeltine Creek and the associated riparian vegetation causing a large amount of sediment and woody debris to be deposited into Quesnel Lake.

DWB Consulting Services Ltd (DWB) was contacted on August 15th by Penny Carpenter (Eaglecrest) and Russel Gibson (Imperial Metals) and requested to attend the site at Quesnel Lake for a meeting and to provide professional recommendations concerning environmental and engineering aspects of the proposed woody debris clean-up operations. Brian Aitken, RPBio and Emily Cheung, PEng of DWB attended the site August 19th to meet with Imperial and Ministry of Forest, Lands and Natural Resource Operations (MFLNRO) staff to discuss the scope of the services required. MFLNRO staff in attendance included David Weir - Water Section Head, Robin Hoffos -Section Head Habitat Management and Lee Williston. The clean-up of the woody debris within the lake was already well underway with significant progress made in the clean-up effort prior to DWB's site meeting.

The reason why DWB was retained by Imperial Metals was to provide engineering and environmental expertise to the efforts in support of an extension to the Order originally granted to Imperial Metals by MFLNRO to clean up the woody debris in Quesnel Lake under emergency conditions. This original Order expires August 21st and must be extended to allow the clean-up works to continue.

The clean-up of the woody debris in Quesnel Lake is currently being undertaken by a host of local individuals/property owners, machine operators, forests licenses, first nations, consultants and contractors working under the direction of Penny Carpenter (Eaglecrest) and Russel Gibson (Imperial Metals). Clean up of Quesnel Lake to date consisted of: (1) booming the debris along the shoreline in heavy debris areas, (2) using boats to pick up and boom loose floating debris, (3) mapping the shoreline to determine extent and density of the rafted woody debris, (4) piling shoreline woody debris by hand and/or small machinery and (5) using a tug boat and boom sticks to transport some of the woody debris to the exiting

Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Penny Carpenter s.22
Sent: Tuesday, August 5, 2014 12:46 PM
To: Weir, David J FLNR:EX
Subject: RE: Mt Polley

Hi David
The Mines Gentleman Steve Rothman will be contacting you regarding the breach of the tailing pond. He will be able to fill you in and maybe it will help the work load so things are not getting duplicated.
Penny Carpenter

From: Weir, David J FLNR:EX [mailto:David.J.Weir@gov.bc.ca]
Sent: August-05-14 11:41 AM
To: XT:Carpenter, Penny FLNR:IN
Subject: Mt Polley

As per our discussion

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Attachments:

August 5th 3:15pm order that was sent via Penny Carpenter.

Hello, at this time it is our understanding that Stephen Rothman has the authority under the mines act to order the necessary measures to contain and remove the debris in Quesnel Lake and to authorize the management of the water level on Polley lake.

However: to remove any confusion and to address any shortcoming that might exist between the Mines Act, Water Act and the MOU that guides there coordination I order under Section 85 as follows;

Subject to the requirements of the Mines Act and MOU http://iwww.env.gov.bc.ca/wsd/sla_mou/mempr_mou%202009.pdf and as it is in the public interest for the protection of safety and the integrity of Hazeltine Creek, Polley Lake, Quesnel Lake and the Quesnel River, recognizing the Mt Polley Mine's willingness to undergo the required work at their own cost and save the province harmless:

1) Under the direction of suitably qualified professionals licenced in the Province of BC the corporation is ordered to collect and remove such debris from Quesnel Lake, as a result of the Mt Polley tailings pond failure, as would threaten road infrastructure and stream channel stability. The manner and nature to be suitable to impacted parties Federal Agencies and the Province.
2) Under the direction of suitably qualified and experienced professionals licenced in the Province of BC; maintain the Lake level of Polley Lake in a manner that prevents further mass movement of material from Polley lake and Hazeltine Creek.
3) This order does not superseded any other legislation, agency, or government authority nor does it save them harmless.
4) This order is not intended to mitigate or limit the future punitive action of government with respect any non compliance by Mt Polley Mine.
5) This order is a temporary measure and is subject to cancelation or modification under the authority of the Water Act Mines Act or the MOU.
6) This order doe not authorize the entry onto private lands.

If necessary a more formal and document can be provided at a future date and in the absence of any direction to the contrary it should be considered to be expired as of August 22nd 2014 if not renewed. In addition to the general protection of public interest the specific purpose is to protect the bridge at Likely and to prevent secondary mass movements of material from the failure.

If there are any questions or you feel there is error please contact me. Keeping in mind the rushed nature of this document.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations

2. Under the direction of suitably, qualified and experienced professionals, licenced in the Province of British Columbia: maintain the lake level of Polley Lake in a manner that prevents further mass movement of material from Polley Lake and Hazeltine Creek.

By the 31st day of October 2014.

Dated at Williams Lake, British Columbia, this 20th day of August 2014.

David Weir
Engineer under the *Water Act*

ENGINEER'S ORDER

SECTION 88 OF THE *WATER ACT*

WHEREAS **Imperial Metals Corporation** are the registered owners of **Mount Polley Mine**, and

WHEREAS **Imperial Metals Corporation** you have, or permitted to have, allowed debris to block the outlet of Polley Lake, enter Hazeltine Creek and enter into Quesnel Lake, and

WHEREAS a person commits an offence under **Section 93(2) (p) and Section 94(1) (g)** of the *Water Act* who:

(p) fails to do an act or thing required to be done by the person under this Act or under an order of the comptroller, regional water manager, engineer or officer;

(g) places, maintains or makes use of an obstruction in the channel of a stream without authority, and

WHEREAS I, David Weir, Engineer under the *Water Act*, am empowered under Section 88 (1) (j) and (l) of the Water Act to:

(j) order the release of stored or impounded water that the engineer considers a danger to life and property;

(l) order a person to remove from a stream any substance or thing that the person has put or permitted to get into the stream;

I HEREBY ORDER Imperial Metals Corporation to:

1. Under the direction of suitably qualified professionals licenced in the Province of British Columbia: collect and remove such debris from Hazeltine Creek, Quesnel Lake and Polley Lake, as a result of the Mt Polley tailings pond failure; as would threaten public safety, road infrastructure and stream channel stability. Included in this order is approval for the installation and removal of a boat ramp at the West Fraser reload site as discussed during FLNRO joint inspection of August 19th 2014. The manner and nature of these activities is to be suitable to impacted parties, Federal Agencies and the Province.

I remind you that embedded debris removal within Polley Lake, Hazeltine Creek and at the Mouth of Hazeltine Creek where it enters Quesnel Lake must be approved by the Environmental Protection Division of the Ministry of Environment prior to being completed.

This order is ancillary to the jurisdictions of the Ministry of Mines and Ministry of Environment and it is expected that overlap will occur between the instructions from these Ministries. Works are to be consistent with the instructions from these Ministries and Federal agencies. This order facilitates the activities that will be approved under the Land act and Forest Act.

An appeal to this order may be taken only as directed within Section 92 of the *Water Act*. An appeal shall not act as a stay of execution of the order.

This order does not preclude legal proceedings.

Yours truly,

David Weir
Assistant Regional Water Manager

DW/yp

ec: preoc5.ops1@gov.bc.ca , Jennifer.Mcguire@gov.bc.ca , Al.Hoffman@gov.bc.ca , Rodger.Stewart@gov.bc.ca , Robin.Hoffos@gov.bc.ca

Enclosure: August 5th Order and August 20th order.

BRITISH COLUMBIA

August 21, 2014 76930-40/Mt Polley

Imperial Metals Corporation
200-580 Hornby Street, Vancouver, BC V6C3B6
604.669.8959

Sent by E:mail only dparsons@imperialmetals.com

Dear **Don Parsons**:

Enclosed is an Order issued under Section 88(1) of the *Water Act*.

This order replaces and extends the time period needed for completion of ongoing work to meet the objectives identified in the August 5th 3:15 pm order. In addition it provides for additional clarification regarding works needed to achieve the intention of that order. Progress of the activities will be monitored and the order may be extended, modified or cancelled at any time based upon the monitoring results.

Suitably qualified professionals include but are not limited to Geoscientists, Engineers, Archeaologists, Agrologists and Biologists. Robin Hoffos and I met with your representatives on Quesnel Lake to review the ongoing containment and removal of debris on Quesnel Lake including the proposal to improve the ramp at the West Fraser Log dewatering site. The proposals as described were satisfactory under the supervision of the Professional Biologist who was identified as Brian Aitken RP Bio and Professional Engineer Emily Cheung. We have not received the requested information from them but time is of the essence. We have not received information concerning the Professional oversight of operations on Polley Lake. Please maintain a complete record of the activities relating to this order which are to be supplied to us upon request.

Specific issues identified under during the review included Kokanee Shore Spawning, Cariboo Island, embedded debris at the mouth of Hazeltine Creek, natural debris, the installation of a ramp to remove debris, and the placement of light debris above the high water mark. The Williams Lake Indian band has requested monitoring of the debris removal on Cariboo Island due the potential for the destruction or loss of artifacts exposed below and above the high water mark. A contact has been provided to your representatives for you to address this issue. Brian Aitken indicated the intention to collect video evidence for "before and after" work is completed and we wish to receive a copy of this information upon completion of the work.

.../2

Ministry of Forests, Lands and Natural Resource Operations
Resource Authorizations
Cariboo Region
Mailing Address:
400 - 640 Borland Street
Williams Lake BC V2G 4T1
Telephone: 250-398-4530
Facsimile: 250-398-4214
Web: www.env.gov.bc.ca

Phone: 250.398.4927 Fax: 250.398.4214

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, August 25, 2014 2:15 PM
To: Hill, Douglas J FLNR:EX
Subject: FW: File: 76930-40/Mt Polley
Attachments: Imperial Metals - Order.pdf; Mount Polley Debris Clean Up in Quesnel Lake.pdf

As requested.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Weir, David J FLNR:EX
Sent: Monday, August 25, 2014 9:03 AM
To: Bellefontaine, Kim MEM:EX; Seabourne, Sean FLNR:IN
Subject: FW: File: 76930-40/Mt Polley

Please find the attached as requested. At the time of the order they had not submitted the Clean Up document.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Prediger, Yvonne ENV:EX
Sent: Friday, August 22, 2014 12:38 PM
To: 'dparsons@imperialmetals.com'
Cc: Weir, David J FLNR:EX
Subject: File: 76930-40/Mt Polley

Mr. Don Parsons,

Attached will find documents regarding an Order issued under Section 88(1) of the *Water Act*.

There will not be a hard copy mailed out.

Regards,

Yvonne Prediger
Admin Support
Ministry of Environment
400-640 Borland Street
Williams Lake BC V2G 4T1

Weir, David J FLNR:EX

From: Cameron, Valerie Z FLNR:EX
Sent: Tuesday, August 26, 2014 8:47 AM
To: Weir, David J FLNR:EX
Subject: RE: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

Thanks for following up Dave.
VZC

From: Weir, David J FLNR:EX
Sent: Monday, August 25, 2014 8:56 AM
To: Hamm, Mark FLNR:EX; Cameron, Valerie Z FLNR:EX
Subject: FW: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

We can discontinue the spot forecasts now.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Don Parsons [mailto:dparsons@imperialmetals.com]
Sent: Saturday, August 23, 2014 11:34 AM
To: Weir, David J FLNR:EX
Subject: RE: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

David
Not required.
Thanks
Don

Don Parsons, Chief Operating Officer
dparsons@imperialmetals.com
604.488.2652 | mobile 778.836.2652

Imperial Metals Corporation
200-580 Hornby Street, Vancouver, BC V6C3B6
604.669.8959 | www.imperialmetals.com

From: Weir, David J FLNR:EX [mailto:David.J.Weir@gov.bc.ca]
Sent: Thursday, August 21, 2014 12:19 PM
To: Don Parsons
Subject: FW: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

Hi Don, do you still want to receive these daily spot forecasts?

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Cameron, Valerie Z FLNR:EX
Sent: Thursday, August 21, 2014 12:00 PM
To: Weir, David J FLNR:EX
Subject: FW: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

Hi Dave,

I participated on the EMBC Mt Polley coordination call today and heard 2 things amongst others:

- Rowena said that the EOC has closed and they are at Level 1
- Michael Higgins advised Environment Canada that there was no need to provide spot forecasts over the weekend.

We have been received these WMB spot forecasts (attached) from Mark Hamm, which would appear to duplicate the Environment Canada forecasts. The WMB spot forecasts are pretty good, but in an earlier email Mark indicated that if they were not needed to let him know as the WMB forecasters are busy enough without having to do the spot forecast. I had responded to Mark that it would be Andrew Morrison's call on whether to continue with the WMB spot forecasts, but I note that with the EOC shut down that Andrew is probably not even at the EOC anymore. Furthermore, if there is no need for Environment Canada to produce spot forecasts over the weekend, would there still be a need for WMB to produce spot forecasts over the weekend? It would be unfortunate if WMB continued to devote resources to this function simply because no one thought to contact them to stop.

My question: are the WMB spot forecasts needed?
If not, I suggest that you contact Mark and advise him to ask WMB to cease the forecasts. Or if there is someone else you need to talk to about whether the forecasts should proceed?

Please feel free to contact me if you have any questions or require further information.

Valerie

From: Hamm, Mark FLNR:EX
Sent: Wednesday, August 20, 2014 5:22 PM
To: Ewanyshyn, Ron JAG:EX; Weir, David J FLNR:EX; Rothman, Stephen MEM:EX; Morrison, Andrew JAG:EX
Cc: Vanderburgh, Ken FLNR:EX; Palesch, Dan TRAN:EX; Cameron, Valerie Z FLNR:EX; Symonds, Brian FLNR:EX; Stolar, Harold B FLNR:EX; McGuire, Jennifer ENV:EX; Sundher, Avtar S ENV:EX
Subject: FYI: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

Apologies for the delay in forwarding!

Mark

Mark Hamm, R.P.F.
Resource Manager
Cariboo Chilcotin District
(Williams Lake)
Ministry of Natural Resource Operations

tel 250-398-4399
mob 250-398-0817
fax 250-398-4790
mailto:Mark.Hamm@gov.bc.ca

From: Rob Pigott [mailto:envirobc@telus.net]
Sent: Wednesday, August 20, 2014 10:47 AM
To: RWCOCAR HPR P FLNR:EX; PLANS, CAR FLNR:EX; FCRCAR FCA P FLNR:EX; Hamm, Mark FLNR:EX; EOCDirector@cariboord.bc.ca
Subject: Spot forecast for Mt Polley issued 10:45 Wednesday August 20, 2014

Rob Pigott
Enviro-BC Weather Services
1706 Capilano Ave.
Comox, BC
V9M 1B6
250-339-4424

Weir, David J FLNR:EX

From: SG PEP NEA PREOC Operations 1 SG:EX
Sent: Monday, August 25, 2014 2:30 PM
To: Woolford, Sonia JAG:EX
Subject: NEA PREOC Situation Report 25 August 2014 1430hrs
Attachments: Aug 25 2014 Sitrep.pdf

Please find attached the situation report for August 25, 2014.

Debbie Alexander

Operations Section Chief
Northeast Regional PREOC (PREOC 5)

Emergency Management British Columbia
3235 Westwood Drive
Prince George, B.C. V2N 1S4
www.pep.bc.ca
Ph 250.612-4172 Fax 250.612.4171
24 Hour Emergency Reporting 1.800 663 3456

Northeast Provincial Regional Emergency Operations Centre
(NEA PREOC)
SITUATION REPORT August 25, 2014
Update #16

Event: Wildfire and Mt. Polley Dam Failure
Date/Time Issued: August 25, 2014 14:00
EMBC Task #: Wildfire 151505; Mount Polley 152048
Operational Period: 08:30 -16:30
NEA PREOC Level: 1
Overall Regional Situation: Wildfire stable; Mount Polley stable
Activated EMBC Staff: 2
The next Situation Report will be issued: August 26, 2014 14:00

** New information

1. KEY REGIONAL INFORMATION

NR

DGIR: Mount Polley

- ** Next Conference Call scheduled for Thursday, August 28 at 1100 hrs.
- **Imperial Metal Corp continues to build rock berm in front of breach; material progress is 45% complete. Polley Lake level 1.44 meters above historic level since pumping began, July 31, 2014. Debris clean-up progressing well around town site, beaches and on lake. Water quality and sediment sampling analysis continues.
- **The CRD SOLE and area restriction remain in place. Today Monday August 25 the CRD will submit a request to extend SOLE as it expires Tuesday August 26.

Total Active RCs: 0
Total Active Alerts: 4
Total Orders: 1
Total States of Local Emergency: 1
Total Band Council Resolutions: 0

2. WEATHER FORECAST – Environment Canada

Northeast
http://weather.gc.ca/city/pages/bc-79_metric_e.html

- ** Upper ridge of high pressure weakening. Westerly zonal flow over northeastern BC. End of dry period, shower activity every day this week. No risk of thundershowers. Winds SW 20 kms per hr ease tonight, winds again Tuesday up to 30 kms per hour. .

Likely
http://weather.gc.ca/city/pages/bc-64_metric_e.html
- ** Today cloudy with showers, minimal precipitation 2mm, Wednesday 5mm precipitation. Minimal shower activity this week. .

3. LOCAL AUTHORITIES, EOC LEVEL, STATUS

Cariboo Regional District EOC – Level 1
- **Incident: Wildfires Task # 151596; Mount Polley Task # 152048**
- **Alerts: 1**
- **Orders: 1** (This is an order to restrict an area for Mount Polley incident)
- **State of Local Emergency: 1** (SOLE to expire Tuesday, August 26 2014 at 1300 hrs, extension request for SOLE to be submitted today Monday August 25)

- Kluskus/Euchiniko (G40198) Inc # 140179 – evacuation alert recinded August 6th.
- Chelaslie (R10070) Inc # 140232 – evacuation alert remains in place

- DGIR: Mt Polley
- Imperial Metal Corp:
- **Imperial Metal Corp continues to build rock berm in front of breach, 45% of material progress complete. Polley Lake level is 923.07, drop is 260mm, currently 1.44 m above level as of 31 July 2014.
- **Daily potable water available from 2:00- 4:00 and 7:30 – 9pm for residents at Spanish Mtn camp,
- **Installation of second pipeline to Hazeltine Creek will bring pumping capacity to 20,000 gal/min and timeline to approximately 50 day completion,ready to run, geotech writing up safework procedures .
- Debris clean up continues, loose debris has been boomed on Quesnel Lake and focus is on the beaches. Mt Polley is replanking a barge to faciliate an excavator to assist in removing debris from the beaches and moving it to the West Fraser reload site. Water quality sampling offered to residents: sampled seven intakes and results show elevated levels of coliform and ecoli. Continue with lake samples: including water, soil, turbidity. Fish sampling occured in conjuction with Soda Creek FN on the Fraser River.
- ** Protestors are still in place with blockade at the Likely Road turn off leading to Mt. Polley
- CRD:
- **SOLE still in place to maintain the area restriction for the mine site and surrounding area.SOLE extension request to be submitted today Monday, August 25
- **CRD and MOE are holding a public information meeting at the Likely Hall Tuesday August 26 @ 7pm

NR

NR

7. **TRANSPORTATION IMPACTED**

- **Mode: Roads**
- **Owner:**
- **Details:**
  - Mount Polley closure: Gavin Lake and Ditch Rd are closed (FSRs)

8. **USEFUL LINKS**

- Emergency Info BC
- Online Alerts & Bulletins: http://www.emergencyinfobc.gov.bc.ca/
  Wildfires of Note: http://bcwildfire.ca/hprscripts/wildfirenews/onefire.asp
- Facebook Pages:
  https://www.facebook.com/BCForestFireInfo
  https://www.facebook.com/CRDemergencyoperations
- Twitter
  @EmergencyInfoBC – Alerts only; Primary operational feed when PECC activated
  @EmergencyPrepBC – Emergency preparedness information
  @BCGovFireInfo – Updates, news and prevention tips from B.C.'s Wildfire Management Branch
- Hashtags used to date for #BCwildfire
- Fire Bans and Area Restrictions: http://bcwildfire.ca/hprScripts/WildfireNews/Bans.asp
- Smoke advisories: http://www.bcairquality.ca/
- MOE water sample results: http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm

APPROVED BY:
Bob Kelly
PREOC Director

Primary PREOC Email: preoc5.ops1@gov.bc.ca
Primary PREOC Phone: 250-614-6322
Primary PREOC Fax: 250-612-4171

Note: This document may be distributed within your agency. Any distribution outside your agency requires prior approval from the NEA PREOC Director.

Mount Polley

Tailings Breach

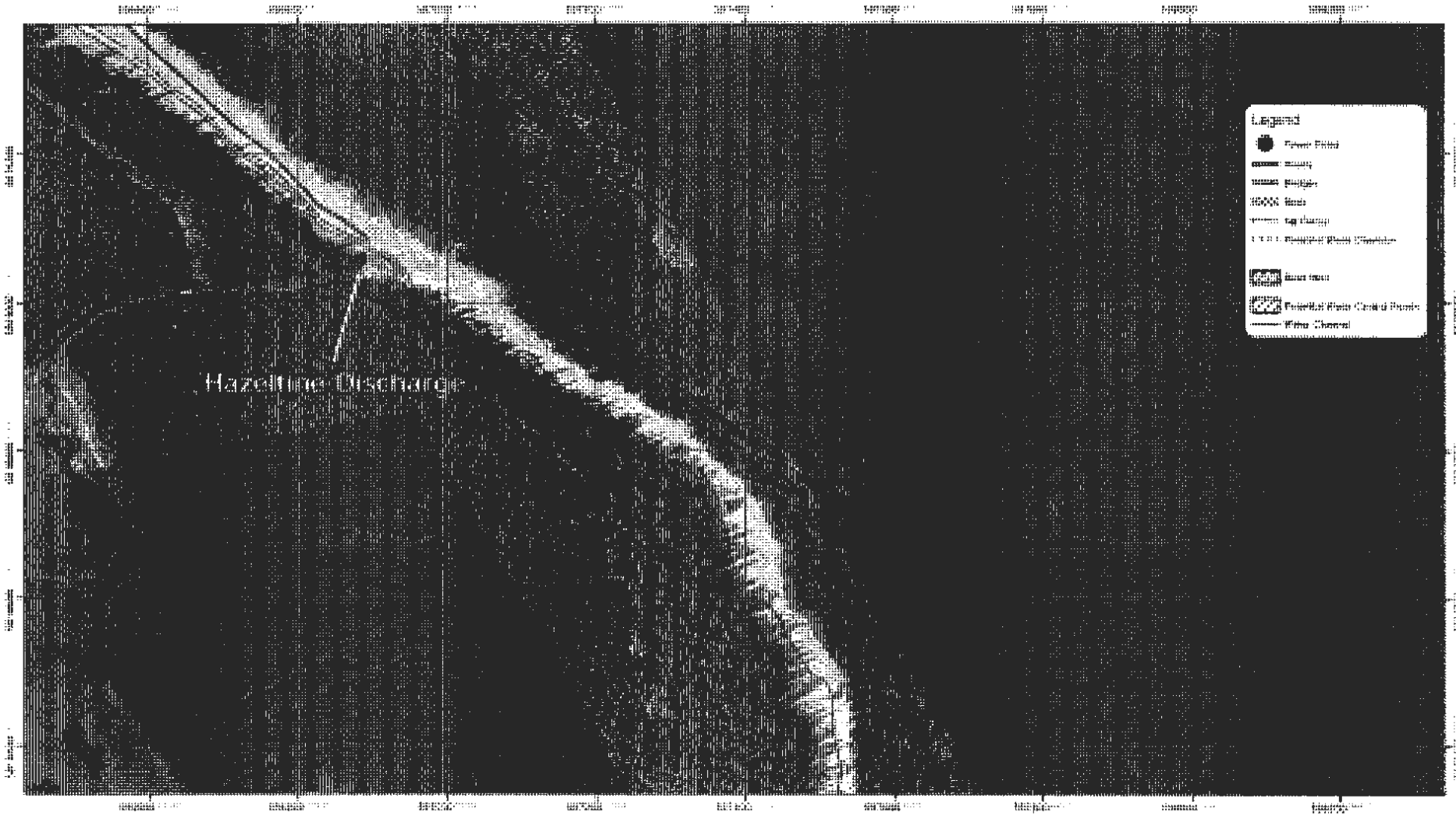
Map # 3

1:5,000

0 125 250 500 Meters

Coordinate System: NAD83 CSRS UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

N



Mount Polley

Tailings Breach

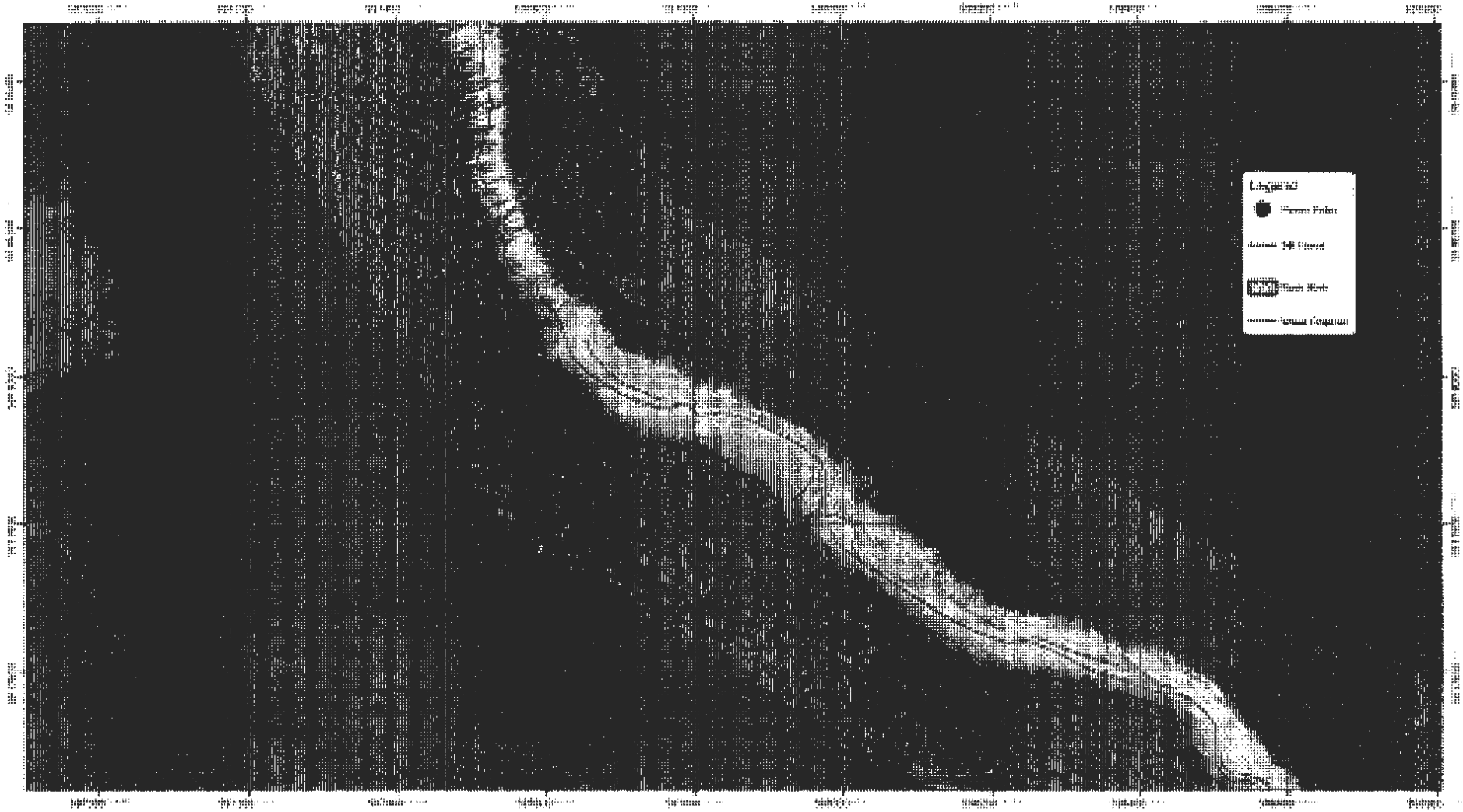
Map # 4

1:5,000

0 125 250 500 Meters

Coordinate System: NAD83 CSRS UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

N



Mount Polley

Tailings Breach

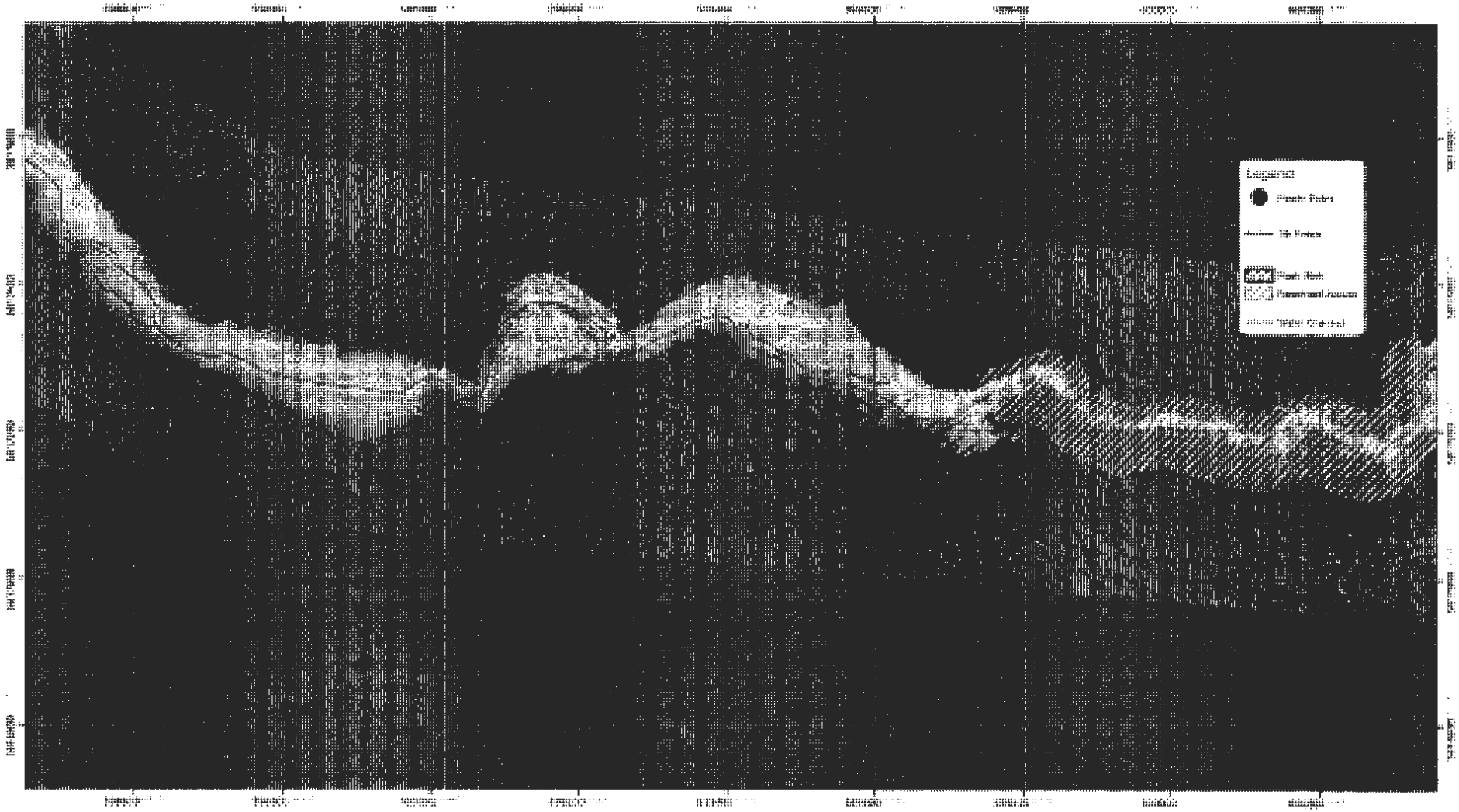
Map # 5

1:5,000

0 125 250 500 Meters

Coordinate System: NAD83 CSRS UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

N



Mount Polley

Tailings Breach

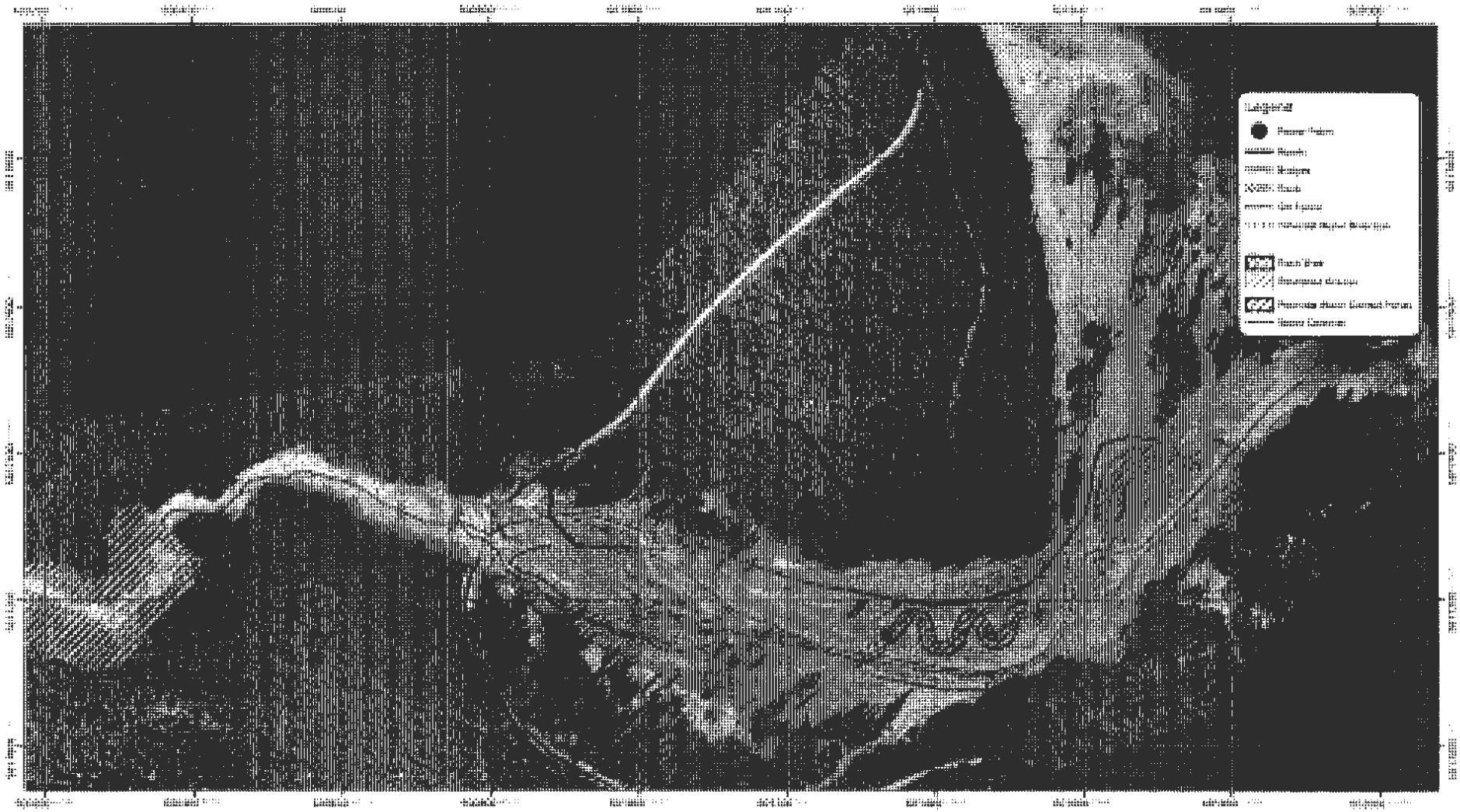
Map # 6

1:5,000

0 125 250 500 Meters

Coordinate System: NAD83 CSRS UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

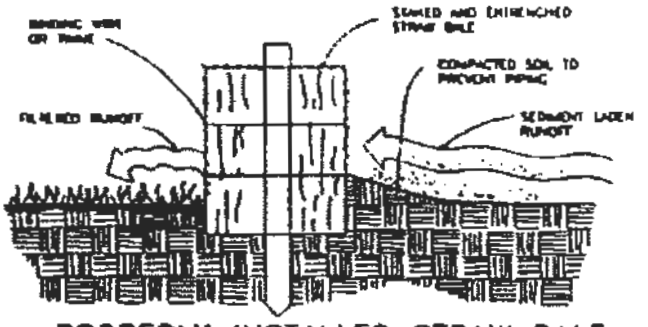
N



APPENDIX B

Recommendations for Proper Installation of the Erosion Control Materials

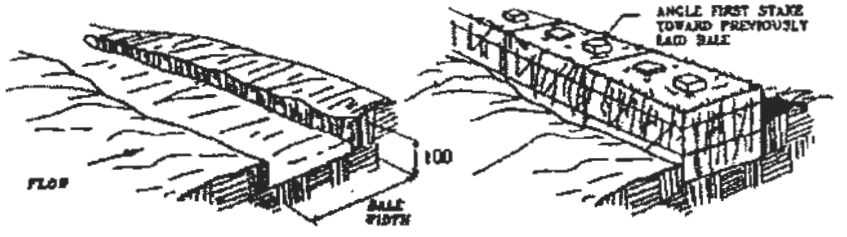
STRAW BALE BARRIER

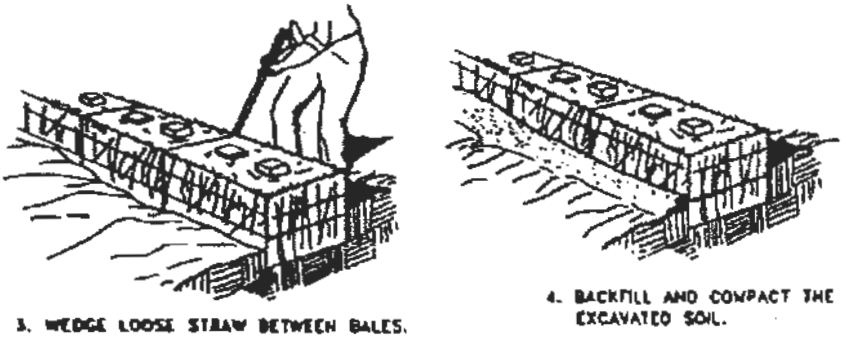


PROPERLY INSTALLED STRAW BALE
(CROSS SECTION)

1. EXCAVATE THE TRENCH.

2. PLACE AND STAKE STRAW BALES.



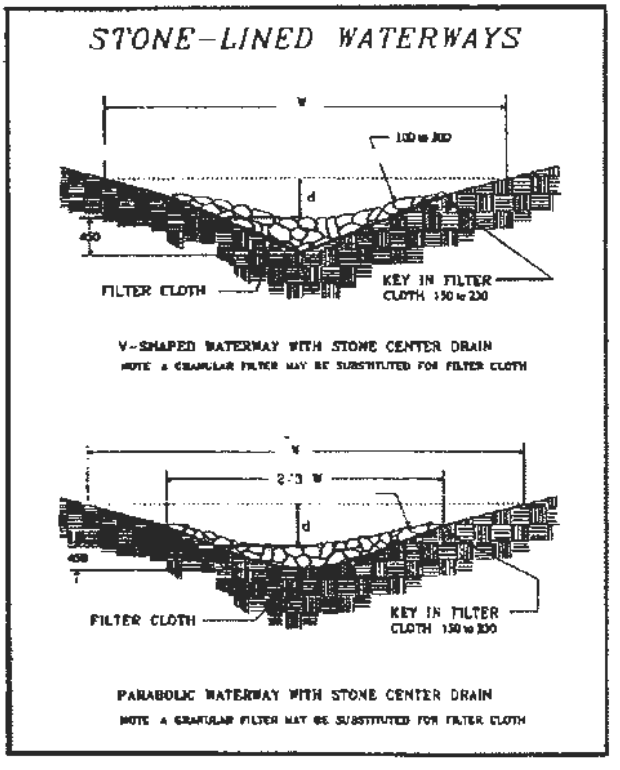


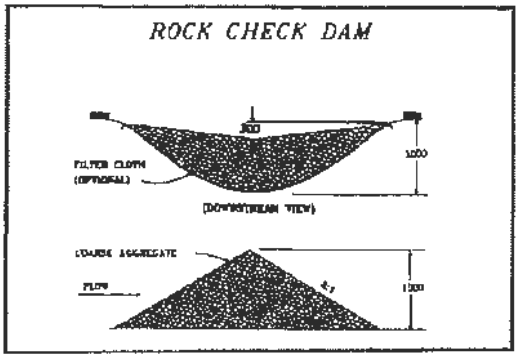
3. WEDGE LOOSE STRAW BETWEEN BALES.

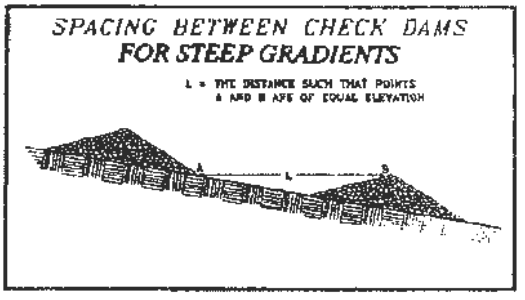
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

CONSTRUCTION OF STRAW BALE BARRIER

Straw Bale Barrier Installation (MoTH, 1997)







Application

Temporary ditches.

Permanent ditches that have not been stabilized by vegetation.

Ditches in more erodible soil (sand, silt) and those on steeper gradients.

Design

The centre should be lower than the edges so it acts as a weir.

Installation

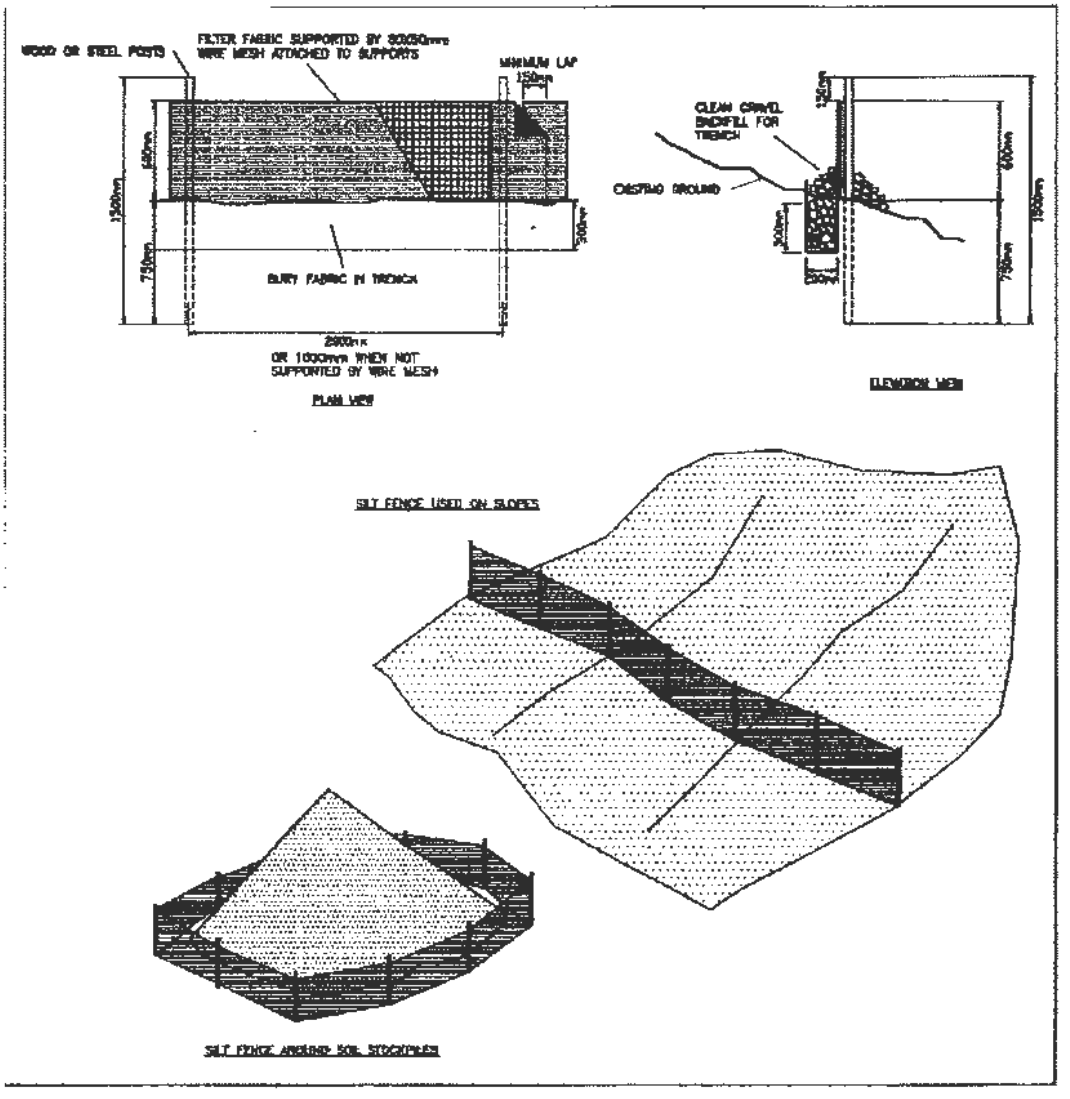
Use stone having a range of sizes to promote filtration and protection of underlying soil.

Maximum size should be about 250 mm.

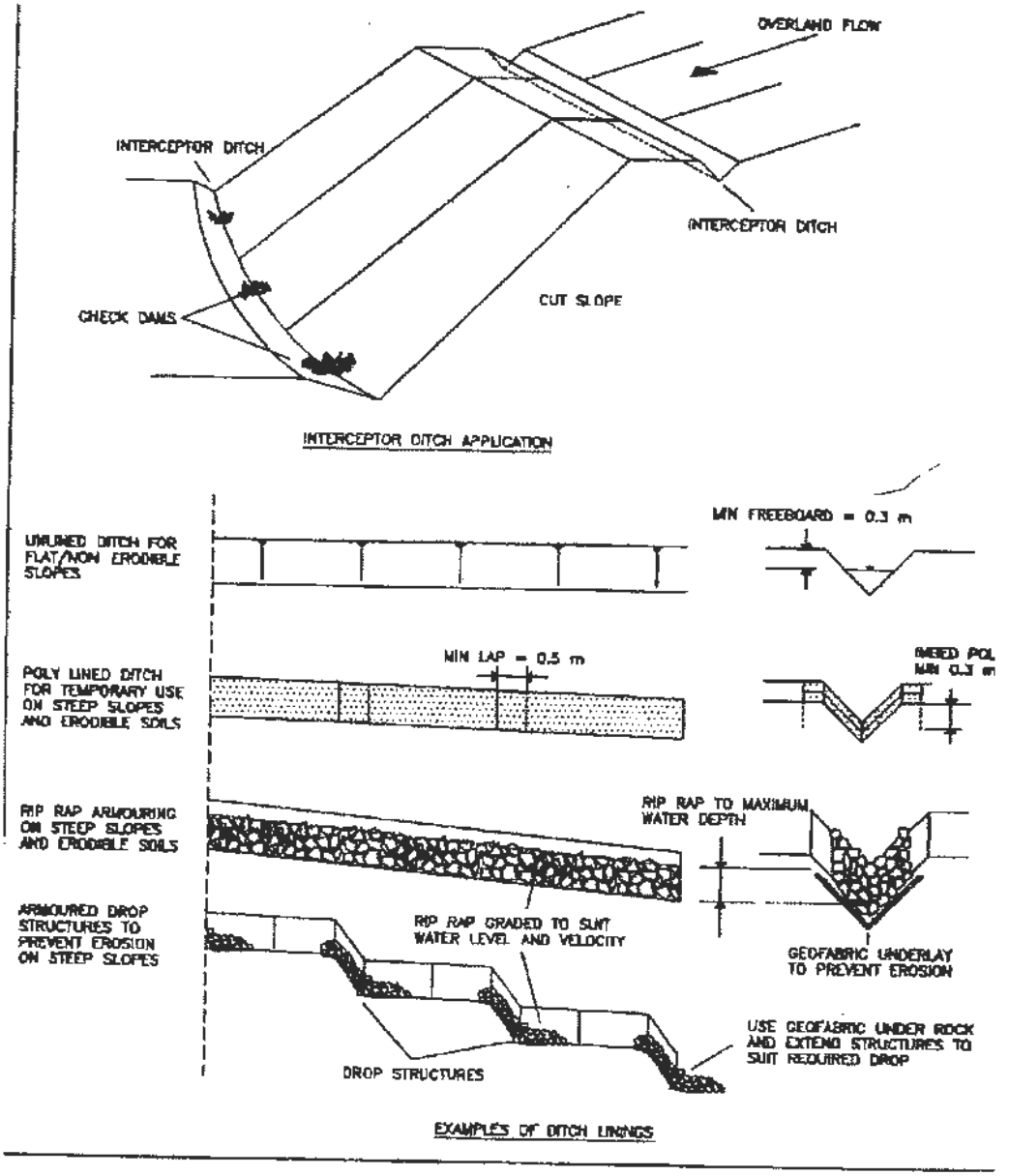
Maximum height should be less than 1 m.

Use side slopes of 2:1 on both sides.

Typical Installations of Rock Check Dams (MoTH, 1997)



Typical Silt Fence Installation (FOC, 1993)

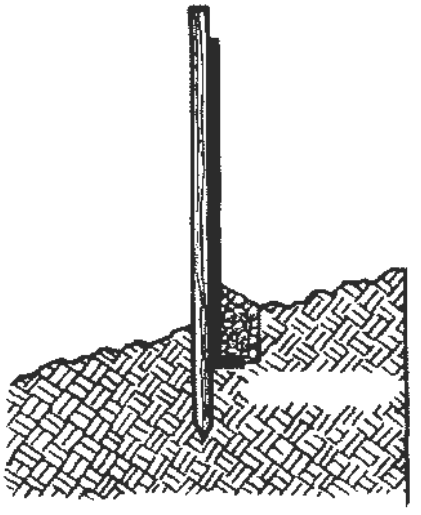


Examples of Ditch Interceptors and Linings (FOC, 1993)

NSTALLATION GUIDELINES

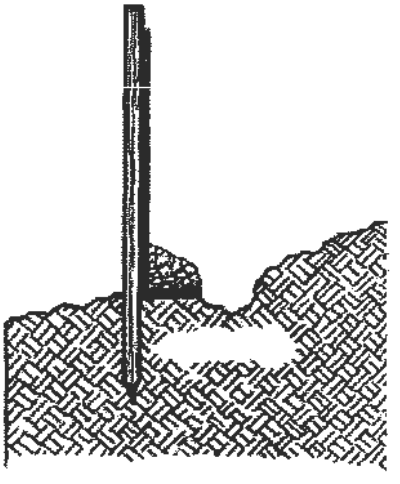
Option 1 (Preferred) Option 2

The second option is to pound in the stakes until the fabric is snug on the soil surface. Earth moving equipment should be used to cut and blade at least 6" (15 cm) of fill against the fabric edge. This method of installation is less labour intensive, but may allow water to undercut the silt fence in areas of high runoff.



http://www.nilex.com/products/sediment_control/silt_fence

To ensure optimal performance, silt fence is best installed in an excavated 6" x 6" (15 cm x 15 cm) trench. Stakes should be pounded in until the fabric reaches the bottom of the trench.
Always install with the posts facing downhill, so runoff pushes the fabric against the posts, not away from them. The trench should be backfilled by a backhoe or other earth moving equipment.



BRITISH COLUMBIA

NEWS RELEASE

For Immediate Release
2014ARR0024-001208
August 18, 2014

Ministry of Aboriginal Relations and Reconciliation

First Nations and government partner on response to Mt. Polley Mine breach

WILLIAMS LAKE – Williams Lake Indian Band and the Soda Creek Indian Band (Xatśūll First Nation) signed a letter of understanding with the Government of British Columbia to work in partnership to address all aspects of the breach of the tailings storage facility that occurred at the Mount Polley Mine on Aug. 4, 2014.

The agreement has five components that will be conducted in accordance with First Nations traditions and scientific knowledge and recognizes that the health and safety of the public and workers, including members of the First Nations, are paramount:

1. A principals table consisting of the Chiefs of the First Nations and the Ministers of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines will oversee a government-to-government response.
2. A senior officials committee from the three ministries and designates for the First Nations will be responsible for overseeing all of the response activities such as assessing impacts, clean up, remediation planning and decisions related to the future of Mount Polley mine. They will also address long-term funding requirements to respond to all aspects of the Mount Polley Mine incident.
3. $200,000 to each First Nation ($400,000 in total) to cover costs already incurred and future costs related to the tailings pond breach.
4. The recognition of the important economic contribution of mining to British Columbia and the commencement of a dialogue about existing laws, regulations and policies in relation to the mining sector in British Columbia.
5. Agreement that the entities responsible pay for all costs and damages incurred in relation to the Mount Polley Mine Incident in accordance with applicable legislation.

The provincial government and First Nations have been clear since the breach occurred that finding out exactly what happened, ensuring this never happens again and moving quickly on remediation plans to protect and preserve the environment are top priorities.

Earlier this morning, the provincial government, with the support of the Williams Lake and Soda Creek Indian Bands, announced an independent engineering investigation into the tailings pond breach and steps to ensure all permitted tailings ponds across the province are safe.

The investigation will be led by a panel of experienced geotechnical experts who will have the ability to compel evidence and witness testimony. The Williams Lake and Soda Creek Indian Bands will appoint a liaison to work with the panel.

The panel will provide recommendations through a final report by Jan. 31, 2015. This report will be provided to government and the Williams Lake and Soda Creek Indian Bands at the same

time and will then be made public.

Quotes:

Minister John Rustad, Minister of Aboriginal Relations and Reconciliation –

"I am pleased the Province has come together with the Williams Lake and Soda Creek Indian Bands to work in collaboration to oversee the response activities from the tailings pond breach at Mount Polley. There is a great deal of work ahead of us but I know our strong working partnership will help move the process along more quickly so local First Nations in the area can have confidence their natural environment is a safe place for their families."

Minister Mary Polak, Minister of Environment –

"I'm confident we will work constructively with the local First Nations to build their trust and to create a forum to establish an ongoing relationship."

Chief Bev Sellars, Soda Creek Indian Band (Xatśūll First Nation) –

"Until now, there has not been the level of cooperation and collaboration required between the provincial government and our nations to adequately respond to the Mount Polley mine disaster. Not only does this agreement commit our respective governments to joint oversight and decision-making in regards to all aspects of response to the Mount Polley mine disaster, it also allows First Nations and the provincial government to begin a necessary conversation about the adequacy of existing laws, regulations and policy in regards to the overall mining sector in British Columbia."

Chief Ann Louie, Williams Lake Indian Band –

"This letter of understanding is only the beginning of a process for mining reforms in British Columbia. The provincial government bears the responsibility to effectively collaborate with First Nations on a government-to-government basis on meaningful reforms to build confidence with all our communities that mineral exploration and mining is a safe industry. At this point that confidence still needs to be earned."

Letter of Understanding follows as a backgrounder.

Media Contact:

Lisa Leslie
Government Communications and Public Engagement
Ministry of Aboriginal Relations and Reconciliation
250 213-7724

BRITISH COLUMBIA

BACKGROUNDER

For Immediate Release
2014ARR0024-001208
August 18, 2014

Ministry of Aboriginal Relations and Reconciliation

Letter of Understanding

Letter of Understanding between

Soda Creek Indian Band, Williams Lake Indian Band
And
The Province of British Columbia

Guiding principles:

The Soda Creek Indian Band and the Williams Lake Indian Band (collectively, the "**First Nations**") and the Province of British Columbia ("**British Columbia**") agree to work in partnership, on a government-to-government basis through shared decision-making wherever possible, to jointly address all aspects of the tailings storage facility breach at the Mount Polley Mine ("**Mount Polley Mine Incident**").

The First Nations and British Columbia (collectively, the "**Parties**") agree that the processes for the joint oversight set out below will be conducted in accordance with the First Nations' traditional protocols, having regard to both traditional and scientific knowledge, and as expeditiously as possible.

The Parties agree that the health and safety of the public and workers, including members of the First Nations, are paramount.

The Parties therefore agree as follows:

1. The Parties agree to establish a principals table consisting of the Chiefs of the First Nations and the Ministers of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines to oversee a government-to-government response to the Mount Polley Mine Incident ("**Principals Table**").
2. The Parties agree to establish a senior officials committee consisting of designates of the First Nations, and the Assistant Deputy Ministers of the Ministries of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines, and other ministries as appropriate ("**Committee**"). The Committee shall be responsible for overseeing the following activities in response to the Mount Polley Mine Incident:
    i. assessing impacts, monitoring, cleanup, remediation planning and implementation, and any decisions related to the future of Mount Polley mine;
    ii. developing a plan to provide safe access to the impact zone for the purposes of assessing archaeological and environmental impacts;
    iii. discussing permitting required for future work at the Mount Polley mine;
    iv. assessing the adequacy of existing laws, regulations and policies in relation to the Mount Polley Incident;

v. addressing the First Nations' immediate and long-term funding requirements to respond to all aspects of the Mount Polley Mine Incident;
vi. identifying economic opportunities for the First Nations to participate in responding to the Mount Polley Mine Incident;
vii. reporting back to the Principals Table; and
viii. addressing any other issues related to the Mount Polley Mine Incident as agreed to by the Committee.

The Parties agree that this letter of understanding does not fetter statutory decision makers in carrying out their duties and responsibilities under the relevant provincial laws and regulations that apply to the Mount Polley Incident.

3. British Columbia agrees to provide $200,000 to each of the Soda Creek Indian Band and the Williams Lake Indian Band as soon as possible to cover costs already incurred and to be incurred in responding to the Mount Polley Mine Incident.
4. The Parties acknowledge the impact of the Mount Polley Mine Incident on public confidence in mining and recognize the important economic contribution of mining to British Columbia. Accordingly, British Columbia, in partnership with the Soda Creek Indian Band and the Williams Lake Indian Band, commits to commencing a dialogue about existing laws, regulations and policies in relation to the mining industry in British Columbia.The scope and mechanism for this dialogue will be considered by the Senior Officials Committee and recommendations will be made to the Principals Table. Those future discussions will be informed by the collaborative work between the Parties on the Mount Polley Mine Incident.
5. The Parties agree that the entities responsible, in accordance with applicable legislation, be required to pay for all costs and damages incurred in relation to the Mount Polley Mine Incident.

_____

Chief Bev Sellars, Soda Creek Indian Band

_____

Chief Ann C. Louie, Williams Lake Indian Band

_____

The Honourable John Rustad, Minister of Aboriginal Relations and Reconciliation

BRITISH COLUMBIA

BACKGROUNDER

For Immediate Release
2014ARR0024-001208
August 18, 2014

Ministry of Aboriginal Relations and Reconciliation

Letter of Understanding

Letter of Understanding between

Soda Creek Indian Band, Williams Lake Indian Band
And
The Province of British Columbia

Guiding principles:

The Soda Creek Indian Band and the Williams Lake Indian Band (collectively, the "**First Nations**") and the Province of British Columbia ("**British Columbia**") agree to work in partnership, on a government-to-government basis through shared decision-making wherever possible, to jointly address all aspects of the tailings storage facility breach at the Mount Polley Mine ("**Mount Polley Mine Incident**").

The First Nations and British Columbia (collectively, the "**Parties**") agree that the processes for the joint oversight set out below will be conducted in accordance with the First Nations' traditional protocols, having regard to both traditional and scientific knowledge, and as expeditiously as possible.

The Parties agree that the health and safety of the public and workers, including members of the First Nations, are paramount.

The Parties therefore agree as follows:

1. The Parties agree to establish a principals table consisting of the Chiefs of the First Nations and the Ministers of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines to oversee a government-to-government response to the Mount Polley Mine Incident ("**Principals Table**").
2. The Parties agree to establish a senior officials committee consisting of designates of the First Nations, and the Assistant Deputy Ministers of the Ministries of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines, and other ministries as appropriate ("**Committee**"). The Committee shall be responsible for overseeing the following activities in response to the Mount Polley Mine Incident:
    i. assessing impacts, monitoring, cleanup, remediation planning and implementation, and any decisions related to the future of Mount Polley mine;
    ii. developing a plan to provide safe access to the impact zone for the purposes of assessing archaeological and environmental impacts;
    iii. discussing permitting required for future work at the Mount Polley mine;
    iv. assessing the adequacy of existing laws, regulations and policies in relation to the Mount Polley Incident;

v. addressing the First Nations' immediate and long-term funding requirements to respond to all aspects of the Mount Polley Mine Incident;
vi. identifying economic opportunities for the First Nations to participate in responding to the Mount Polley Mine Incident;
vii. reporting back to the Principals Table; and
viii. addressing any other issues related to the Mount Polley Mine Incident as agreed to by the Committee.

The Parties agree that this letter of understanding does not fetter statutory decision makers in carrying out their duties and responsibilities under the relevant provincial laws and regulations that apply to the Mount Polley Incident.

3. British Columbia agrees to provide $200,000 to each of the Soda Creek Indian Band and the Williams Lake Indian Band as soon as possible to cover costs already incurred and to be incurred in responding to the Mount Polley Mine Incident.
4. The Parties acknowledge the impact of the Mount Polley Mine Incident on public confidence in mining and recognize the important economic contribution of mining to British Columbia. Accordingly, British Columbia, in partnership with the Soda Creek Indian Band and the Williams Lake Indian Band, commits to commencing a dialogue about existing laws, regulations and policies in relation to the mining industry in British Columbia.The scope and mechanism for this dialogue will be considered by the Senior Officials Committee and recommendations will be made to the Principals Table. Those future discussions will be informed by the collaborative work between the Parties on the Mount Polley Mine Incident.
5. The Parties agree that the entities responsible, in accordance with applicable legislation, be required to pay for all costs and damages incurred in relation to the Mount Polley Mine Incident.

_____

Chief Bev Sellars, Soda Creek Indian Band

_____

Chief Ann C. Louie, Williams Lake Indian Band

_____

The Honourable John Rustad, Minister of Aboriginal Relations and Reconciliation

Weir, David J FLNR:EX

From: Hill, Douglas J FLNR:EX
Sent: Tuesday, August 26, 2014 4:56 PM
To: Weir, David J FLNR:EX
Cc: Bunce, Hubert ENV:EX
Subject: RE: LUO and Conceptual Interim Erosion and Sediment Control Plan

Dave, I passed on the inquiry from Red Bluff to Julia Banks of SCIB as it's my understanding that SCIB/WLIB are to co-ordinate dissemination of data to other First Nations. Julia said she would followup with Red Bluff.

djh

From: Weir, David J FLNR:EX
Sent: Tuesday, August 26, 2014 4:49 PM
To: Hill, Douglas J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: RE: LUO and Conceptual Interim Erosion and Sediment Control Plan

The water act order appears to be consistent with the LOU. Under the order the Mine has to address Mines and MOE concerns which under the LOU are the Ministries charged with coordinating the FN engagement. They might want to consider having us on the "committee". Also, I called the Soda Creek, Williams Lake and the Lhtako Dene Nation to explain myself before issuing the new order. I wasn't able to talk to Soda Creek, Williams Lake was aware of the issue and expressed no concerns and the Dene just called me today and I gave you the contact to provide them with the water sampling data.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Hill, Douglas J FLNR:EX
Sent: Tuesday, August 26, 2014 3:22 PM
To: Weir, David J FLNR:EX
Subject: LUO and Conceptual Interim Erosion and Sediment Control Plan

Weir, David J FLNR:EX

From: Hill, Douglas J FLNR:EX
Sent: Tuesday, August 26, 2014 3:22 PM
To: Weir, David J FLNR:EX
Subject: LUO and Conceptual Interim Erosion and Sediment Control Plan
Attachments: Conceptual Interim Erosion and Sediment Control Plan Draft For Distribution August 21, 2014 reduced.pdf; FN LOU and news release.pdf

MOUNT POLLEY MINING CORPORATION

IMPERIAL METALS CORPORATION

Conceptual Interim Erosion and Sediment Control Plan

Mount Polley Mine Tailings Storage Facility Breach

Submitted to:

Ministry of Energy and Mines

Ministry of Environment

Victoria, BC

Submitted by:

Mount Polley Mining Corporation

200-580 Hornby Street

Vancouver B.C.

V6C 3B6

August 2014

Prepared by:

Jack Love, R.P.Bio, Environmental Superintendent, Mount Polley Mining Corporation

Reviewed By:

Gordon J. Johnson, M.Sc., P.Eng., SNC Lavalin Inc.

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1.0 INTRODUCTION

1.1 Background

The Mount Polley Mining Corporation (MPMC) owns and operates the Mount Polley copper-gold mine located 56 kilometres (km) northeast of Williams Lake, British Columbia (BC). Early on August 4, 2014 a breach of the TSF tailings dyke occurred that resulted in approximately 10M m^3 of water and approximately 4M m^3 of million tailings being released over a hillside into Polley Lake, along Hazeltine Creek and into Quesnel Lake. This release resulted in the following physical impacts to the downstream environment:

- Erosion and scour of the embankment separating the TSF from Polley Lake, as well as the riparian zone along Hazeltine Creek
- Deposition of trees and debris in Polley Lake, along the sides of the erosion scar associated with Hazeltine Creek, and in the confluence of Hazeltine Creek into Quesnel Lake
- Deposition of tailings and scoured earth within Polley Lake, portions of Hazeltine Creek, and the confluence of Hazeltine Creek into Quesnel Lake

The Province of British Columbia issued Pollution Abatement Order No. 107461, dated August 6, 2014, to MPMC (the Order). The Order requires MPMC to implement measures and submit documentation describing its response and to communicate to the Ministry of Environment (MOE) regarding response progress. These discussions have included a request from the MOE to MPMC to develop a plan for controlling erosion and sediments associated with the incident, which is the subject of this report.

1.2 Objectives and Scope

This report presents MPMC's conceptual plan for mitigating ongoing erosion and sediment transport within impacted areas downstream of the breach. Specific objectives of the Plan are summarized as follows:

- provide water management structures to improve the quality of water flowing into Quesnel Lake
- reduce the potential for re-mobilization of tailings and sediments that were deposited or exposed by the TSP breach
- minimize and control flows from the TSF and re-direct these flows to the Springer Pit

Three high priority areas have been identified where in-stream controls are planned to mitigate potential future erosion and/or sediment transport, as follows:

- within and down-gradient of the Tailings Storage Facility (TSF)
- where the water pumped from Polley Lake is transferred into Hazeltine Creek
- up-stream of the mouth of Hazeltine Creek, prior to draining into Quesnel Lake

Equipment access will need to be established to provide construction activities to occur in these priority areas. Accordingly, this Plan also addresses the preferred access locations and the

principles that will be implemented in establishing access while minimizing disturbance and the potential for further erosion and sediment transport. Best Management Practices (BMPs) will be implemented over the remaining areas of impact to reduce potential for erosion and sediment migration outside of the Hazeltine Creek water course.

The Plan is conceptual in nature and will be implemented as described, subject to completing more detailed designs and site inspections to confirm details and design standards. It may be necessary to modify the locations and methods to be deployed in this regard. At the time of preparing this Plan, safe access to Hazeltine Creek was not available. Access to complete physical works in and around Hazeltine Creek is dependent on obtaining safe access to the area down-gradient of Polley Lake, which is also addressed in this Plan.

1.3 Related Documents

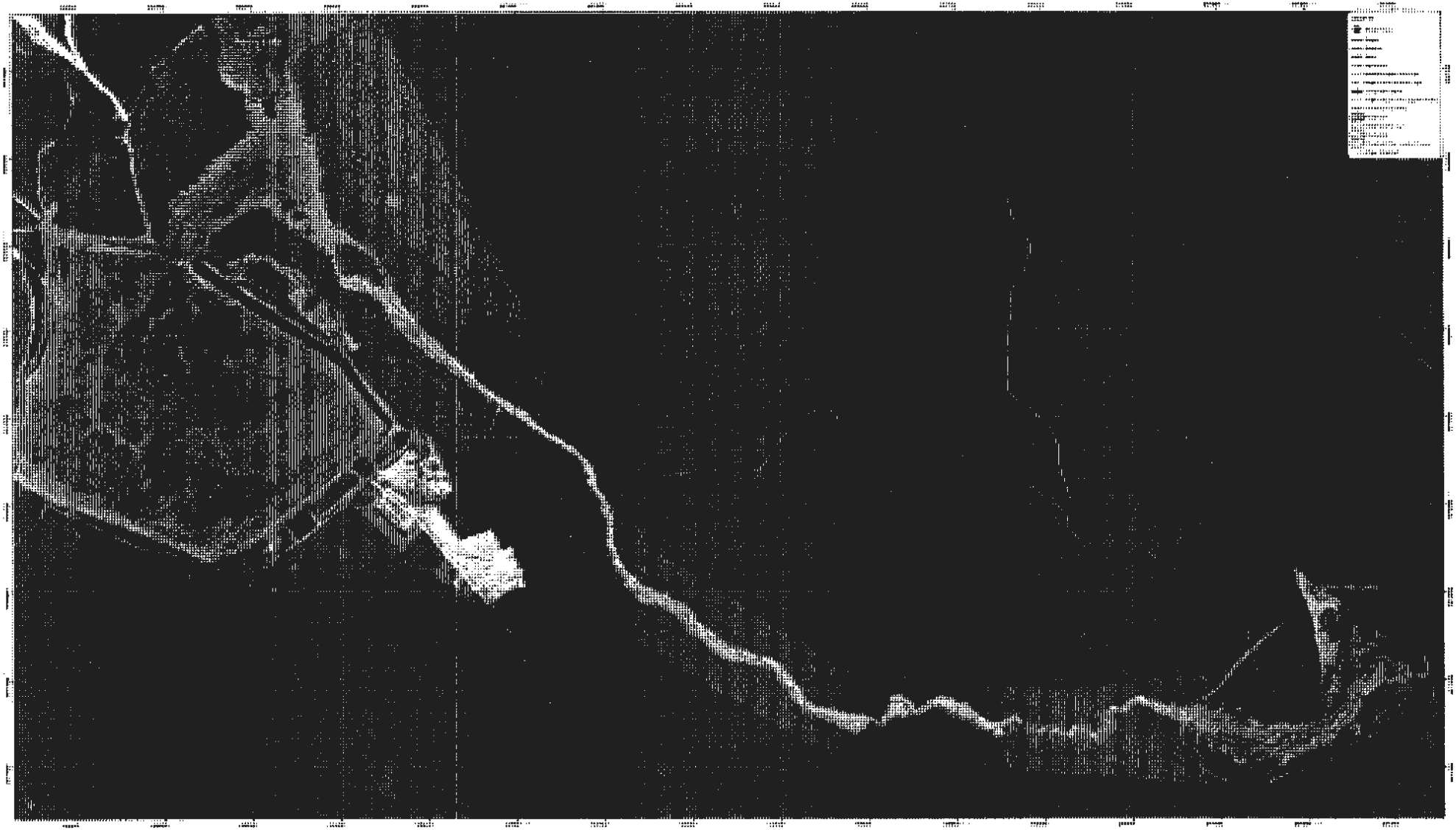
MPMC has implemented a number of measures to mitigate potential future release of tailings and tailings water to the environment that are described in MPMC's submission to the Ministry of Environment that is dated August 13, 2014.

SNC Lavalin Inc. (SLI) prepared a Comprehensive Environmental Impact Assessment and Action Plan that describes MPMC's overall incident response, which was submitted to the MOE on August 15, 2014.

Mount Polley

Tailings Breach

Site Overview



Leave blank

2.0 EROSION AND SEDIMENT CONTROL PLAN

2.1 General

The Erosion and Sediment Control Plan consists of in-stream controls and Best Management Practices (BMP's) to mitigate erosion and/or sediment transport. In-stream controls will be constructed at the following locations:

- within and down-gradient of the Tailings Storage Facility (TSF)
- where the water pumped from Polley Lake is transferred into Hazeltine Creek
- up-stream of the mouth of Hazeltine Creek, prior to draining into Quesnel Lake

BMP's will be implemented in the area impacted by the TSF breach, along Hazeltine Creek, to reduce the potential for re-mobilization of sediments deposits or exposed as a result of the TSF breach.

The following sub-sections provide descriptions of each of these aspects of work. Appendix A illustrates these components of the conceptual plan. Modifications may be made during the engineering of in-stream works and/or the implementation of BMP's to account for the results of field inspections and design analyses.

2.2 TSF Controls

A control weir and containment pond will be constructed downstream of the breach and original TSF embankment (Page 1 of Appendix A) to mitigate the potential for further release of tailings and tailings water, after the interim rock berm has been construction (see MPMC submission of August 13, 2014). All water that accumulates behind the weir will be transferred to the Springer Pit of the Mount Polley Mine. The flows from the breach will be directed to the Perimeter Embankment Collection Pond and till borrow in the meantime. Any tailings that accumulate in the containment pond will be transferred back to the TSF as soon as the infrastructure has been completed.

The containment pond will be sized to contain the water of water associated with a minimum 48 hours of seepage flowing through the interim rock berm. This volume will be determined by field observations and estimates.

2.3 Water Transfer Discharge Location

A sediment trap will be constructed upstream of the discharge point of the water diversion from Polley Lake to Hazeltine Creek (see Page 3 of Appendix A). This sediment trap will allow settlement of any sediment and suspended tailings that may be carried by creek flow upstream of this point. The sediment trap will be sized to provide 12 hour retention of the estimated flow (downstream of Polley Lake) that is associated with the one in 5 years runoff event that is relevant to the September to January timeframe.

2.4 Hazeltine Creek Discharge to Quesnel Lake

A series of sediment traps will be constructed upstream of the discharge point of Hazeltine Creek into Quesnel Lake (see Page 6 of Appendix A). These sediment traps will allow settlement of any sediment and suspended tailings that otherwise may be discharged into Quesnel Lake. The series of sediment traps will be designed to accommodate the flow downstream of Polley Lake that is associated with the one in 5 years runoff event that is relevant to the September to January timeframe. The retention period of the sedimentation traps will be contingent on working conditions and available space.

2.5 Best Management Practices

General

This section describes BMP's that will be implemented along the Hazeltine Creek channel to control potential erosion and sediment transport. The breach resulted in deposition and exposure of tailings, native soils and TSF embankment fill along the Hazeltine Creek channel to Quesnel Lake. These materials and erodible soils can be mobilized by rainfall and runoff events, resulting in additional sediment loading to Hazeltine Creek and Quesnel Lake.

Efforts will be made to minimize additional ground and vegetation disturbance. Any vegetation that must be moved to provide access can be set aside and keyed-in to adjacent disturbed ground to help stabilize this ground. In areas where trees are removed but no earthwork is required, efforts will be made to leave as much of the roots in place to help maintain the soil stability.

Isolation/ interception and management of runoff are the keys to erosion and sediment control. These limit the potential for soils to be eroded, and for suspended sediments to be transported by surface or groundwater. General principles of erosion and sediment control include:

- schedule work to minimize risk (if possible, work during dry periods)
- retain existing vegetation where possible
- re-vegetate or protect bare soils
- divert runoff away from bare soils
- minimize slope lengths, grades and areas
- minimize runoff velocities
- retain eroded sediments (traps, fences, clean-outs)
- inspect and maintain control features

Bank Slope Stability

The TSF beach resulting in creek bank erosion that has exposed steep, potentially unstable slopes. These exposed slopes will be assessed and stabilized using one or more of the following techniques:

- constructing toe berms or placing supporting objects such as straw bales to stabilize the slopes
- reducing slope angles in a controlled manner using cut and fill techniques
- installation of surface protection (mulches, erosion control blankets),

- installation of other erosion control measures such as vegetation, rainfall capture systems, and rip-rap

The duration of exposure, the grade of the bank slope, and the nature of the exposed surface soils that may be susceptible to instability and/or erosion are important factors that will be assessed in support of selecting a mitigation.

All temporary supports and erosion controls will be subject to regular monitoring and maintenance until such time that more permanent creek rehabilitation is completed.

Surface Erosion Protection

Exposed mineral soils and mine-affected materials present a potential source of sediment transport. Techniques for protecting these exposed materials include absorption of raindrop impact, reduction of runoff velocity, increase in infiltration and increase in soil particle binding. BMP's that will be implemented to reduce the potential for surface erosion may include, but are not necessarily limited to, the following:

- straw/ wood fibre mulch
- netting and seeding
- broadcast seeding
- erosion control blankets and matting
- plastic sheeting or tarps

Any exposed soils from excavation shall be stabilized to prevent erosion and sediment transport. Stock piled material must be covered with tarps or plastic sheeting until used as backfill, redistributed around the area (and re-vegetated) or transported off-site. Other exposed surfaces can be temporarily covered with tarps until seeded or covered with mulch. The site need to be periodically monitored, especially after storm events, to ensure that surface protection measures are working properly.

Flow Interception

Where possible and practical to do so, surface runoff will be intercepted and directed away from areas susceptible to erosion, thereby reducing potential surface erosion and limiting the need for further treatment. Alternatively, runoff containing high concentrations of suspended solids can be intercepted and directed to a treatment site. There are several choices available for interception designs dependent on the severity of erosion, amount of suspended sediment, sensitivity of receiving environment and workspace.

Techniques for surface interception can include both temporary and permanent devices such as interceptor/ infiltration ditches, diversion berms, benching, and select material blankets that act as French drains. Sediment trapping systems can also be created to allow for suspended sediments to settle out prior discharging to infiltration areas. Temporary detention techniques include filter-fabric barriers, straw bale barriers, sand bags, silt fences, gravel berms, check dams and drop inlet sediment barriers. A combination of these techniques will be applicable to this site. Silt fences and straw bales are likely to be the most practical options for reducing sediment transport into Hazeltine Creek. Appendix A illustrates the locations where these measure are currently planned. Monitoring and maintenance will be maintained throughout the period of creek rehabilitation to ensure their appropriate function

3.0 ACCESS DEVELOPMENT

3.1 Safe Work Procedures

Implementation of this Plan requires personnel to access the Hazeltine Creek channel downstream of the sediment plug at the outlet of Polley Lake. This plug was formed as a result of the TSF breach, is approximately 500 m long, and consists of deposited tailings sand, TSF embankment fill, eroded overburden and vegetation (Figure 1). The following potential hazards to individuals working downstream of this plug have been identified:

- a sudden release of tailings water and/or fluidized tailings
- a sudden release of water from Polley Lake

A rock berm as described in MPMC's submission of August 13th is being constructed to mitigate the risk associated with the sudden release of tailings water and/or fluidized tailings. The water level in Polley Lake is being drawn down with pumps and being discharged downstream of the sediment plug to mitigate the risk associated with the sudden release of water from Polley Lake.

Figure 1: Plug Located Downstream of Polley Lake

Safe work procedures to allow personnel to access Hazeltine Creek downstream of the sediment plug will include the following (see Figure 2):

- stopping inflows from the dam breach and long ditch from reporting to the sediment plug
- monitoring potential seepage through the sediment plug (an increase of seepage through the plug could be indicative of a weakening plug), which will include)
    - regular inspections by a qualified person (minimum 3 times per day when personnel are within the creek channel)
    - a weir to monitor outflow from the sediment plug and to measure potential increase in seepage
    - monitoring of the plug outlet by a spotter is currently required when personnel are in the creek channel.
- Check-in and Check-out procedures
- inspection and communication protocols
- hazard assessment of each entry into the downstream creek bed to determine entry and exit points and evacuation limits
- identification of "no entry zones" where personnel cannot egress in a timely manner
- no entry during period of heavy rainfall and runoff

Figure 2: Hazard Mitigations Downstream of Polley Lake

3.2 Access Construction

Three key access points have been identified:

1) Horsefly-Likely FSR (Ditch Road)
2) Hazeltine Discharge Location Road Access
3) Downstream of the breach outside of the investigation area

Access to the area of the mouth of Hazeltine Creek will be gained from near Likely, BC via the Horsefly-Likely Forest Service Road (FSR). Access from the FSR to Hazeltine Creek will be constructed to support conventional earthworks equipment that is capable of working on soft ground. Some coarse woody debris will need to be moved to facilitate access construction. The preferred access alignment will be finalized in the field to minimize disturbance, while taking advantage of firm ground where it exists. Access will be constructed to the standard required to maintain stability and safety for trafficking heavy equipment.

Access to the area where the water line from Polley Lake discharges into Hazeltine Creek will be established immediately upstream of the discharge pipe. This access requires only widening

of the existing access and construction of an access ramp to the channel. This access would also be construction to a standard suitable for supporting conventional earthworks equipment.

Access to the area immediately downstream of the breach is already available using the rock berm constructed in response to the breach.

4.0 SCHEDULE

At this point schedulling is dependant on the safety review of the Hazelttine Plug, the success of the pump down program and the condition on the ground when safe access is established. MPMC will keep regulatory agencies apprised of schedules and ongoing progress as updates become available.

5.0 CLOSURE

This plan presents conceptual ideas in order to archives the objectives of reducing the potential on uncontrolled releases into Quesnel Lake. It is highly likely that these plans will be modified as addition information is collected and the interim plans are field fit based on ground conditions. If there are significant modifications to the approach presented here the Ministry of Environment and the Ministry of Energy and Mines will be informed of the modifications.

APPENDIX A

Conceptual Works 11x 17 figures

Mount Polley

Tailings Breach

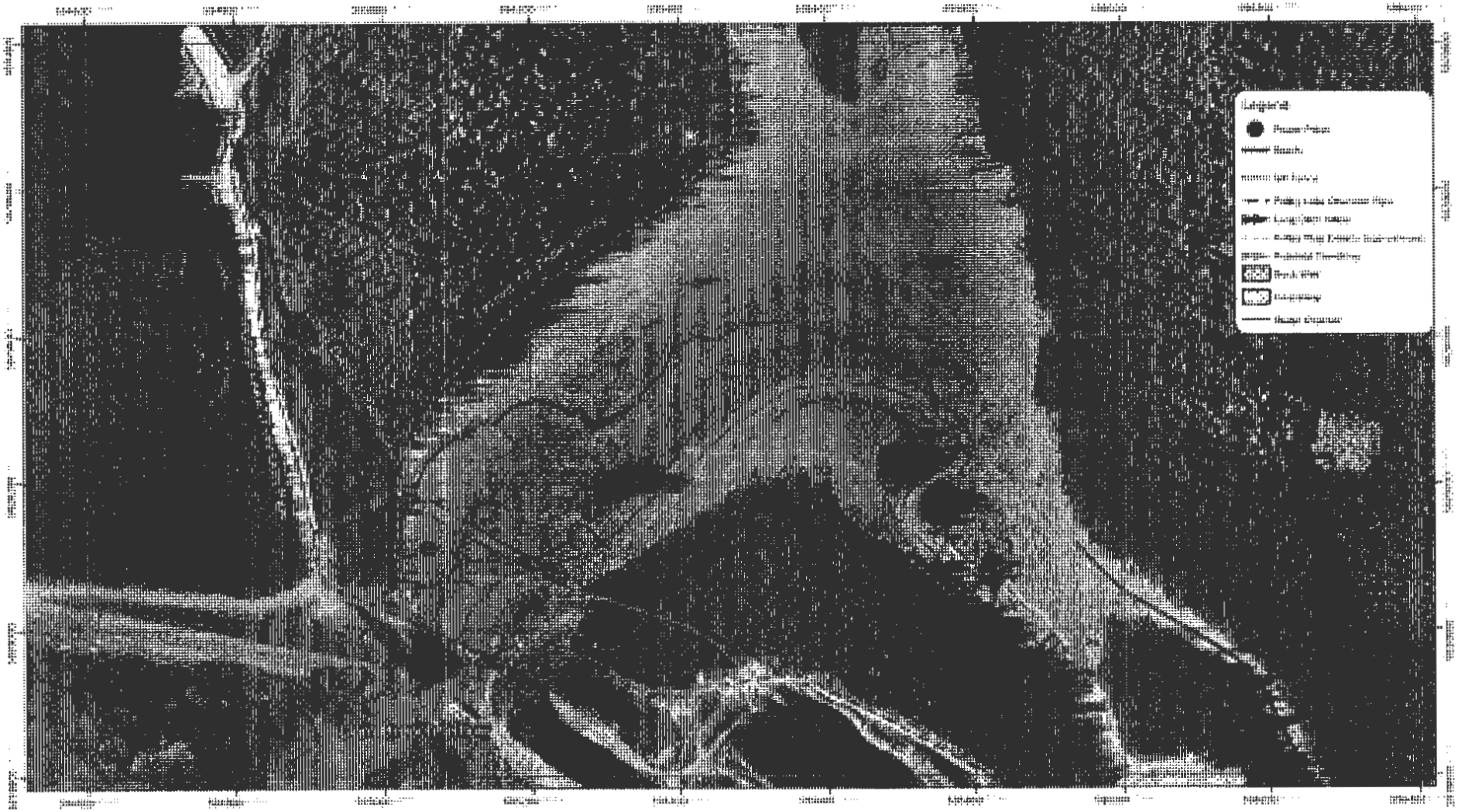
Map # 1

1:5,000

0 125 250 500 Meters

Coordinate System: NAD83 CSRS UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

N



Mount Polley

Tailings Breach

Map # 2

1:5,000

0 125 250 500 Meters

Coordinate System: NAD83 CSRS UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

N

Weir, David J FLNR:EX

From: Katie McMahen <kmcmahen@mountpolley.com>
Sent: Wednesday, August 27, 2014 2:33 PM
To: Howe, Diane J MEM:EX; Bunce, Hubert ENV:EX; Hill, Douglas J FLNR:EX; Swan, Chris L ENV:EX; Metcalfe, Shelley ENV:EX; Epps, Deb ENV:EX; Weir, David J FLNR:EX
Cc: Jack Love; Luke Moger; Colleen Hughes
Subject: August 26 Call - Follow Up

Hi all,

As follow up from yesterday's 3pm call:

1. Water quality data will be appended to this week's weekly report.
2. The bulk sediment sample taken at the mouth of Hazeltine Creek was taken to a depth of 5cm with the goal of characterizing the more mobile sediment fractions that are more likely to flow beyond the depositional area of the Hazeltine Creek mouth.
3. With regards to monitoring potential impacts of starting up a second discharge line pumping from Polley Lake into Hazeltine Creek, the proposed monitoring plan is to:
    a. Prior to discharge:
        i. Take in situ parameters (including turbidity and specific conductance) at HAC-01 (Hazeltine Creek before the single channel disperses into multiple channels in the fan area).
        ii. Take in situ parameters at near field Quesnel Lake sites (just out of the log booms) QUL-23 (very shallow – surface only) and QUL-66 (surface and at depth).
        iii. Note: these sites are being sampled daily (HAC-01, QUL-23) or every second day (QUL-66) prior to starting up the second discharge.
    b. Post-discharge (short-term):
        i. Approximately 1 hour after discharge begins, check for visual evidence of increased flow at HAC-01 (i.e. that the water has reached the creek mouth). Continue to check back on hour intervals until discharge water observed.
        ii. When discharge has reached the creek, take field parameters at HAC-01, QUL-23, and QUL-66 and note visual observations of the increased plume or effects of the discharge.
        iii. At the end of the sampling day, note visual observations of an increased plume, and take field parameters and full suite samples at HAC-01, QUL-23, QUL-66 (surface and depth).
    c. Post-discharge (long-term):
        i. Continue daily monitoring (in situ parameters/full suite samples) at HAC-01, QUL-23 (surface).
        ii. Monitor QUL-66 (surface and depth, including in situ parameter profile) the following day, and reduce to every second day if results are stable.

    Some slight adjustments may have to be made day of depending on access. A key discussion point will be what is an acceptable level of change with respect to turbidity and the plume. We can expect the turbidity to decrease somewhat over time as the creek erodes the thin layer of mobile material down to gravel, like we see in many areas of the creek now. Obviously, a lot of this material will be mobilized on rainy days over the next week or so regardless of our second discharge, and lowering the level of Polley Lake is an important priority to balance with potential environmental impacts. Chris – does you or part of your team wish to be involved in this program still? This can be discussed with Colleen at the 3pm meeting today.

Best regards,

Katie McMahen, P. Ag

Environmental Technologist
Mount Polley Mining Corporation
Phone: (250) 790-2215 ext. 2120
Email: kmcmahen@mountpolley.com

Weir, David J FLNR:EX

From: Bunce, Hubert ENV:EX
Sent: Tuesday, August 26, 2014 6:01 PM
To: Weir, David J FLNR:EX
Cc: Hill, Douglas J FLNR:EX
Subject: FW: MOUNT POLLEY TSF BREACH - REVIEW OF NEAR TERM MITIGATIONS AND INITIAL ACCESS PLAN
Attachments: Near Term Mitigations Draft for Distribution Aug 26 2014.pdf; Gavin Lake Horsefly Forest Service Road temporary access August 24, 2014.pdf

As you noted on the call today I believe your Order already allows for the proposed bridge installation (2nd attachment) but thought you should see what MPMC is proposing regardless

Hubert Bunce
A/Mining Director, Environmental Protection
Regional Operations
ph (250) 751-3254 fax (250) 751-3103
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Nanaimo BC V9T 6J9

From: Jack Love [mailto:JLove@imperialmetals.com]
Sent: Tuesday, August 26, 2014 3:46 PM
To: Caunce, Cassandra ENV:EX; Bunce, Hubert ENV:EX
Cc: Zacharias-Homer, Christa ENV:EX; Hoffman, Al MEM:EX; 'chughes@mountpolley.com'; 'dreimer@mountpolley.com'; Metcalfe, Shelley ENV:EX; McGuire, Jennifer ENV:EX; Bev Sellars (b.sellars@xatsull.com); Ann Louie (ann.louie@williamslakeband.ca); Aaron Higginbottom (Aaron.Higginbottom@williamslakeband.ca); Julia Banks (nrcoordinator@xatsull.com); Steve Robertson; Demchuk, Tania MEM:EX; Pierre Stecko; Green, Jack E ENV:EX; Brian Kynoch; dreimer@mountpolley.com; RC Cory Koenig; Don Parsons; Luke Moger (lmoger@mountpolley.com); Art Frye (afrye@mountpolley.com); Johnson, Gordon; Demchuk, Tania MEM:EX; Bellefontaine, Kim MEM:EX; Howe, Diane J MEM:EX; McConkey, Trevor; Jancicka, Erik; Hill, Douglas J FLNR:EX; Vanderburgh, Ken FLNR:EX; Luke Moger (lmoger@mountpolley.com); Katie McMahen
Subject: MOUNT POLLEY TSF BREACH – REVIEW OF NEAR TERM MITIGATIONS AND INITIAL ACCESS PLAN

Hello Hubert and Cassandra,

Find attached two memorandums. The first attachment provides some additional details around the option and alternatives associated with:

- Water management around Hazeltine creek
- The turbidity plume in Quesnel lake
- Fisheries assessments and considerations as well as
- Rehabilitation timings.

The second attachment provides some details around the methodologies to build the temporary accesses for initiation of the mitigation works.

Should you have any questions I am available on my mobile phone or contact Don Parsons or Luke Moger at the Mine Site.

Regards,

Jack Love, RPBio., Environmental Manager Mt Polley Tailings Breach
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SNC·LAVALIN

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Canada V6E 3C9

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MEMORANDUM

TO:	Jack Love	**DATE:**	AUGUST 26, 2014
C.C.:	Erik Jancicka		
FROM:	Gordon Johnson	**REF.:**	621717
SUBJECT:	**MOUNT POLLEY TSF BREACH – REVIEW OF NEAR TERM MITIGATIONS**		

1. Introduction

Mount Polley Mining Corporation (MPMC) has submitted a Conceptual Interim Erosion and Sediment Control Plan for mitigating ongoing erosion and sediment transport within impacted areas downstream of the breach. Specific objectives of the Plan include the following:

- reduce the suspended sediment loading of water flowing into Quesnel Lake
- reduce the potential for re-mobilization of tailings and sediments that were deposited or exposed by the Tailings Storage Facility (TSF) breach
- control ongoing flows from the TSF and re-direct these flows to the Springer Pit
- ensure safety of all workers conducting the mitigation works

The Plan identifies three high priority locations for implementation of in-stream controls to mitigate ongoing potential for erosion and/or sediment migration, as follows:

- within and down-gradient of the TSF
- the area from Polley lake downstream to the Gavin Lake Road crossing
- the channel section immediately up-stream of the mouth of Hazeltine Creek prior to draining into Quesnel Lake

Based on discussions with the Ministry of Environment (MOE), MPMC has been requested to consider and assess options for addressing the following additional issues that are related to this Plan:

- water management options for Hazeltine Creek and the advantages and disadvantages associated with directing water either into (or away) from the Creek while the impact assessment and creek rehabilitation program is occurring
- accommodating returning spawning fish that are destined to Hazeltine and Edney Creeks
- the preferred season and timing for rehabilitation of Hazeltine Creek
- characterizing and assessing potential risk associated with the deep turbidity plume that is currently being observed in Quesnel Lake; including options for mitigating potential impacts to residential drinking water intakes

This memorandum frames the initial evaluation of these issues and is prepared to support discussion with regulatory representatives, Aboriginal Groups and stakeholders with the goal of selecting a preferred approach for implementation moving forward.

2. Hazeltine Creek Water Management Options

Water was impounded in Polley Lake by a sediment plug that deposited across the lake's outlet during the TSF breach. To stabilize the plug, water is currently being pumped from Polley Lake into Hazeltine Creek. The goal of the diversion is to reduce water levels in Polley Lake to pre-incident levels. The water is currently extracted from Polley Lake and discharged just below the point where the TSF breach flowed into the creek channel. The current pumping rate is approximately 0.6 m^3/sec, which is higher than the mean annual discharge (MAD) flow of Hazeltine Creek (Minnow, 2014). To reduce the risk of high flows during the 2015 freshet it is necessary to draw the level of Polley Lake down to or below its pre-incident level. Considerations for water management include the following:

- maintaining the current water management strategy, making adjustments as required to support rehabilitation of Hazeltine Creek
- constructing a permanent or temporary outlet to Polley Lake and allowing water to flow out of this outlet to match the inflow into Polley Lake
- pumping water out of Polley Lake into an adjacent watershed to minimize flow in Hazeltine Creek
- pumping water directly from Polley Lake to Quesnel Lake to minimize flow into Hazeltine Creek

The current water management strategy has successfully reduced the water level in Polley Lake by over 0.3 m, and continues to reduce the water level at a rate of approximately 0.2 m per week. As a result, the risk associated with plug overtopping, plug failure and run-off surge in Hazeltine Creek continues to be reduced. The diversion of water into Hazeltine Creek also causes re-suspension of sediments deposited by the TSF breach, which increases suspended sediment loading into Quesnel Lake from Hazeltine Creek.

A temporary or permanent outlet from Polley Lake can be reconstructed to maintain pre-incident lake levels. Preferably, the outlet be situated near its original location and would be designed to maintain pre-incident flows conditions and to control flow rates during periods of high run-off. This option would naturalize flows to be coupled with incoming precipitation and snow melt, and eliminates the need to pump water and the related issues with the intake and outlet. The naturalization of flow would likely increase the number of larger discharge events, and the associated remobilization of sediment.

Diverting water from Polley Lake into an adjacent watershed will minimize the flows in Hazeltine Creek, which would:

- decrease the potential for erosion/remobilization of sediment
- ease the collection of data for the impact assessment and rehabilitation design
- improve access to the creek channel for rehabilitation activities
- decrease sediment transport into Quesnel Lake

This option would also alter flows, water chemistry and potentially the ecological function of the receiving water body. While the level of flow and impacts to chemistry are quantifiable, the potential ecological impacts associated with watershed transfer are more difficult to predict.

Diverting water directly from Polley Lake into Quesnel Lake will also minimize the flows in Hazeltine Creek and achieve the benefits listed above. This option would not alter flows and water chemistry in the receiving watershed because this water naturally flows from Polley Lake through Hazeltine Creek into Quesnel Lake. This option does involve much greater engineering challenge, would require significant time to implement, and would result in more significant land disturbance, particularly if the pipeline were to take a more direct, overland route to Quesnel Lake.

Table 1 provides a summary of the advantages and disadvantages of each of these options. The preferred strategy is to maintain the current water management program until such time that a more permanent outlet can be constructed out of Polley Lake. This requires the in-stream sediment controls being implemented as part of the Conceptual Interim Erosion and Sediment Control Plan to be proven effective. If these in-stream controls are not effective, then MPMC should consider diverting water directly from Polley Lake to Quesnel Lake to decrease the sediment loading to Quesnel Lake and provide better access into the creek channel for assessment and rehabilitation.

The natural flow will be returned to Hazeltine Creek following its assessment and rehabilitation.

Table 1: Water Management in Hazeltine Creek			
Option	**Advantage**	**Disadvantage**	**Mitigation**
Pump water from Polley Lake to Hazeltine Creek	Maintains impacted water in the current watershed	Re-mobilizes sediments associated with TSF breach	Construct settlement basins upstream of Quesnel Lake.
	Water management measure is already in place	Requires active pumping, potentially during at least the first part of winter	Turn off pumping during sensitive in-stream work
	Flow in Hazeltine Creek can be controlled	Increases sediment loading to Quesnel Lake	Control pumping rate to reduce sediment loading in creek
	Water level in Polley Lake can be controlled	Base flow in Hazeltine Creek during creek rehabilitation work	Maintain pumping rate to mirror stream flow
Construct temporary outlet from Polley Lake to Hazeltine Creek	Allows natural flow to occur	Risk of high flow event prior to or during creek rehabilitation	Construct settlement basins upstream of Quesnel Lake.
	Active pumping, intake and discharge avoided	Risk of sedimentation loading associated with outlet	Construct a weir to control flows during high runoff events
		Potential for fish passage into Hazeltine Creek during the rehabilitation work	Construct fish barrier
Pump water from Polley Lake into a different watershed	Minimizes flow in Hazeltine Creek.	Water quality and quantity impacts to receiving watershed	Monitor water prior to pumping
	Allows rehabilitation work to proceed with minimal flow	Large scale pumping and active monitoring of discharge	Monitor receiving watershed
	Minimizes sediment loading to Quesnel Lake	Ecological impacts associated with transfer difficult to predict	
Pump water from Polley Lake into Quesnel Lake	Minimizes flow in Hazeltine Creek.	Larger volumes of water need to be pumped during freshet	Size pumps for freshet flows
	Minimizes sediment loading to Quesnel Lake	Large scale pumping and active monitoring of discharge	
	Allows rehabilitation work to proceed with minimal flow	Significant engineering challenge and potential for surface disturbance	

3. Accommodating Spawning Salmon

In its current state, Hazeltine Creek does not provide adequate spawning habitat for returning (spawning) salmon to complete their reproductive process; however, there is a high probability that salmon species will be returning to both Hazeltine and Edney creeks. Review of available information suggests that the returning numbers for coho salmon may be low (n=4 Hazeltine Creek; n=12 Edney Creek; Holmes et al. 2008). Accordingly, the importance of each watercourse in supporting a self-sustaining population of coho salmon, and the significance of this year's reproductive event, is unknown. There is also insufficient information at this time to understand the ecological importance of Hazeltine and Edney creeks to sockeye salmon spawning and rearing.

The following options are being considered for accommodating spawning salmon destined for Hazeltine and/or Edney creeks:

- establish or leave existing upstream migratory obstruction(s) to Hazeltine and Edney creeks as-is and rely on natural recruitment once Hazeltine Creek has been rehabilitated
- provide (i.e., physically create) upstream migration access to Edney Creek; which would be open to all returning spawning fish
- capture spawning fish congregating at the Hazeltine Creek/Quesnel Lake confluence and physically transfer those fish upstream into Edney Creek
- build a temporary hatchery facility in the vicinity of Hazeltine & Edney creeks that can provide egg incubation and juvenile rearing capacity for key spawning species (e.g., coho, sockeye) returning to these two watercourses

Maintaining the current obstruction to fish access to Hazeltine Creek (or manufacturing an obstruction) may result in returning fish seeking alternative spawning locations. It may also result in these fish failing to spawn. In either event, the spawning year will be lost in the two creeks and re-population would be contingent on seeding the creeks in the future or natural recruitment.

Constructing an access route to Edney Creek would potentially provide passive upstream migration opportunity for returning adults to spawn as they otherwise would. Assuming Edney Creek flows would still merge with Hazeltine Creek prior to entering Quesnel Lake, the flows leaving Edney Creek should be higher (than those in Hazeltine) to ensure greater chance of attracting returning fish into Edney Creek. This option does not distinguish between fish returning to Hazeltine Creek, which would be blocked, and those returning to Edney Creek. Given the available information, the numbers of returning spawning salmon (i.e. coho) are expected to be low; hence, the potential consequences of 'mixing' stocks are considered to be low.

Capturing returning spawning fish at the Hazeltine Creek/Quesnel Lake confluence and transferring those individuals upstream into Edney Creek maintains the spawning run in Edney Creek while minimizing the risk of stranding fish in Hazeltine Creek Again, this option would not distinguish between fish returning to Hazeltine Creek, which would be blocked, and those

returning to Edney Creek. This option employs a different mechanism for directing spawning fish into Edney Creek.

Capturing a select number of spawning male and female salmon at the Hazeltine Cr/Quesnel Lake confluence and manually spawning the individuals in a hatchery environment would allow maintenance of the Hazeltine and Edney Creek runs. The goal would be to raise fish to the appropriate life stage and release back to Hazeltine/Edney creeks or Quesnel Lake, when appropriate. This option could allow for conservation of the local broodstock(s) while rehabilitation of Hazeltine Creek is implemented. MPMC could potentially develop its own temporary hatchery in the vicinity of Hazeltine/Edney creeks (on the ground or on a barge in Quesnel Lake), or investigate options for utilizing space at an existing hatchery.

Table 2 provides a summary of the advantages and disadvantages of these options. The preferred option would appear to be to collect returning spawning fish, incubate the eggs and return the fry to the creeks once rehabilitation of Hazeltine Creek has been completed.

Table 2: Options under Consideration for Accommodating Spawning Salmon			
Option	**Advantage**	**Disadvantage**	**Mitigation**
No Passage and rely on Natural Recruitment post-rehabilitation of Hazeltine Creek	Numbers of spawning salmon historically utilizing Hazeltine and Edney Creek are reported to be low and may not be self-sustaining.	May take years to naturally recruit sufficient numbers of fish to become self sustaining.	Natural recruitment only post-Hazeltine Creek rehabilitation.
		2014 spawning runs in Edney and Hazeltine Creek are lost.	Artificially re-populate Hazeltine and Edney Creeks once rehabilitation is completed.
Construct migration corridor or capturing and transferring fish to Edney Creek.	Access to potential spawning habitat in Edney Creek.	Unknown whether spawning fish will successfully reproduce in Edney Creek.	Conduct a field reconnaissance to rapidly characterize available spawning habitat quality (and conditions) in Edney Creek.
	Transferring fish upstream may be most effective given potential low numbers of spawning fish expected.	Construction of access to be costly for potentially low numbers of spawning fish.	Design effective method for capturing and releasing spawning fish.
	Passive access allows fish to move as they come in under preferred conditions.	Designing and constructing an effective access channel is time constrained given upcoming spawning of key species (sockeye, coho).	Construct fish blockage to prevent re-access to Hazeltine Creek once the fish have arrived or been transferred to Edney Creek.
	'Mixing' of Hazeltine and Edney stocks is expected to have low effect.	Unable to decipher whether returning fish are from Hazeltine or Edney Creeks. Uncertain whether 'mixing' of Hazeltine and Edney stocks will be detrimental.	
Temporary Hatchery Facility to conserve key salmon broodstock.	Preserve important broodstock for a spawning species listed under federal SARA (Interior Coho Salmon populations).	Set-up of a temporary hatching and rearing facility is time-constrained.	Investigate opportunities for obtaining space in existing hatcheries.
	Edney and Hazeltine Creek individuals are likely inter-dependent, thus combining fish is acceptable.	Uncertain at this time whether coho salmon in Hazeltine and Edney Creek are self sustaining populations and reproductively isolated/different from one another; uncertain on importance of watercourses to sockeye salmon productivity.	Expedite design of temporary hatching and rearing facilities.
		Unable to decipher whether returning fish are from Hazeltine or Edney Creek. These returning fish will be mixed.	

4. Timing of Hazeltine Creek Rehabilitation

The preferred timing of the rehabilitation of Hazeltine Creek is fundamental to planning and implementing the Comprehensive Environmental Impact Assessment and Action Plan (SLI, 2014). Work in stream channels is typically implemented during summer fish windows that coincide with periods of low discharge and lowest ecological consequence. It may be more beneficial to rehabilitate Hazeltine Creek outside of this window given the high level of impact to Hazeltine Creek and its associated riparian zone that occurred as a result of the TSF breach. Accelerating rehabilitation of the creek and riparian habitat should be given consideration in this light. The following timing options are considered reasonable:

- December, 2014 to March, 2015
- July to October, 2015
- December, 2015 to March, 2016

MPMC should initiate discussions with Ministry of Forests Lands and Natural Resources Operations and Fisheries and Oceans Canada to identify the bests options for in-stream work to return the impacted streams to provide productive capacity to the relevant fish populations.

Implementation of the earliest rehabilitation program would expedite the rehabilitation of Hazeltine Creek and would allow the reclamation of the riparian habitat to commence before the growing season of 2015. The rapid implementation would likely require work to occur in parallel with impact assessment activities, and with a coordinated and incremental design, approval and implementation process. It is possible that specific decisions would need to be made without the benefit of all of the results of the comprehensive EIA process. Implementation would also be challenged and benefit from certain aspects of winter construction (e.g. low flow, freezing conditions, short days).

Execution of the creek rehabilitation in the summer of 2015 would allow the design of the rehabilitation to fully benefit from the results of the CEIA and associated regulatory review, as well as summer construction. Implementation could be challenged by high rainfall and related runoff, should these events occur. The reclamation of riparian vegetation would be delayed one full growing season. Rehabilitation of fish habitat would be delayed approximately 6 months, which could negatively impact 2015 salmon spawning success.

Execution of the creek rehabilitation from December, 2015 to March 2016 would also allow the design of the rehabilitation to fully benefit from the results of the CEIA and associated regulatory review. It would also be challenged and benefit from winter implementation. Reclamation of riparian habitat would be delayed until 2016 and mitigation strategies would need to be implemented to address the fall, 2015 salmon run.

Review of the advantages and disadvantages of these options is provided in Table 3. It is SLI's preliminary opinion that implementation of the rehabilitation work from December, 2014 through

March, 2015 is ultimately preferable. This will involve initiating rehabilitation work as soon as is practical, understanding that the time to complete this work cannot be predicted at this time.

The advantages of earlier start to riparian habitat reclamation and creek rehabilitation to support a fishery outweigh the disadvantages associated with completing the assessment and rehabilitation design activities in parallel. The design and construction of the channel will be completed in stages, reconstructing the lower channel that connects Quesnel Lake to Edney Creek first due to the importance of returning access of salmon to the system. Subsequently, upstream sections will be designed and constructed. Parallel construction programs can also be implemented to expedite execution.

Table 3: Timing of rehabilitation of Hazeltine Creek

Option	Advantage	Disadvantage	Mitigation
December, 2014 to March, 2015	2015 Growing season for riparian vegetation and habitat.	Not all results of CEIA will be available for review and integration into design.	Coordinated and incremental design, approval and implementation process.
	Low flow and frozen ground for vehicle support.	Winter construction involves short days and sometimes challenging conditions.	Separate, parallel construction activities to expedite completion.
	More rapid execution and completion.	Execution, design and regulatory feedback must occur in parallel.	
	Hazeltine Creek is rehabilitated for the 2015 freshet.		
July to October, 2015	Design of rehabilitation to fully benefit from the results of the CEIA and regulatory feedback.	Potential for high rainfall and associated discharge event in Hazeltine Creek.	Active controls placed on flows from Hazeltine Creek.
	Summer construction with long days and lower risk of challenging conditions.	Riparian vegetation recovery delayed until 2016.	2014 fish conservation strategies can be continued in 2015.
		Negative impact to 2015 salmon spawning success.	
December, 2015 to March, 2016	Design of rehabilitation to fully benefit from the results of the CEIA and regulatory feedback.	Hazeltine Creek remains in management mode for a full year.	Conceptual Interim Erosion and Sediment Control Plan continued through 2015.
	Low flow and frozen ground for vehicle support.	Winter construction involves short days and sometimes challenging conditions.	2014 fish conservation strategies can be continued in 2015.

5. Turbidity Assessment

A turbidity plume has been observed at depth in Quesnel Lake. The source of this turbidity plume is likely attributable to one or more of the following:

- suspended tailings that originate from the tailings pond upstream of the TSF breach
- suspended sediments that are remobilized in Hazeltine Creek as a result of the water transfer from Polley Lake
- residual turbidity associated with the disturbance of sediments in Quesnel Lake that occurred during the TSF breach
- turbidity associated with lake currents and over-steepening of the Hazeltine Creek Delta from rapid deposition of the tailings and eroded soils on the delta front

The composition of the suspended sediment has yet to be determined. Further characterization will be completed to better understand the nature and extent of the sediment plume, and the potential risks to ecological receptors and water users. The Current Monitoring Program will be continued and adjusted as required to better understand the dynamics, location and extent of the plume. High volume samples will be collected for characterization of the suspended and dissolved loads within the plume. The results of these analyses will be compared to knowledge of the composition of the tailings, soils and natural sediments of Quesnel Lake to determine the likely origin of the sediment that is associated with the elevated turbidity. This will assist in understanding the source of the turbidity as well as evaluating the potential risks associated with this plume. Sedimentation tests will also be completed to determine whether this turbidity presents a longer term risk to lake water quality, or whether it is expected to decrease as a result of the deposition of solids. Toxicity testing will also be completed using larger volume water samples collected in zones of elevated turbidity.

Detailed bathymetric surveys, monitoring and modeling of the sediment plume is being initiated to better understand the fate and transport mechanisms of the sediment, including potential behavior of the sediment plume in the fall when the lake thermo-cline typically reverses. This program will be described in the work plans to be submitted on August 29th and will further inform our assessment of potential for impacts to lake water users and ecological systems.

The following options will be analyzed for mitigating potential impacts associated with this plume, once there is greater knowledge regarding its composition and anticipated behaviour and migration pattern:

- filtration systems for water users on Quesnel Lake and River
- erosion controls in Hazeltine Creek
- decrease discharge into Hazeltine Creek to decrease erosive potential
- plume mitigation and treatment alternatives

Filtration systems can be provided to water users on Quesnel Lake if the turbidity plume persists and is viewed to present a health risk.

The Conceptual Interim Erosion and Sediment Control Plan will be implemented to reduce sediment loading to Quesnel Lake. Monitoring of the effectiveness of this Plan will be implemented to determine whether additional controls are required to reduce sediment loading to the lake. If required, pumping of water into Hazeltine Creek can be decreased to further reduce the erosive potential of the Creek and therefore the concentration and mass of suspended sediment loading to Quesnel Lake.

The feasibility and anticipated effectiveness of collecting and treating water in the plume can be evaluated as an extension of the plume mapping and modeling program. The practicality of this option will be challenged by the location and distribution of the turbidity plume. This type of mitigation should be considered only if the turbidity plume is demonstrated to present a significant risk to lake water users or the lake environment.

References:

Holmes J and R Holmes. 2008. The 2007 Adult Coho Assessment of Tributaries of Quesnel Lake WSC 160 Waterbody ID 00431QUES. Prepared for Tolko Industries Ltd., January 23, 2008. 11pp. + appendices.

MOUNT POLLEY MINING CORPORATION
IMPERIAL METALS CORPORATION

Date August 24, 2014

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

Attention: Hubert Bunce., Director Environmental Management Act

Re: Conceptual Gavin Lake/Horsefly Forest Service Road temporary access plan for initiation of interim mitigation works.

In order to establish temporary access across the Gavin Lake Road and the Horsefly, Mount Polley Mining Corporation (MPMC) proposes the following works and construction sequence. The access is to support the sediment and erosion control measures described in the Conceptual Interim Sediment and Erosion Control Plan (August 21, 2014).

The temporary crossing will be in place until a suitable permanent resource bridge can be constructed. This bridge will be designed by a qualified bridge engineer. It is the intention to retain a bridge engineer to initiate the survey and design for installation suitable permanent structure. The design would start late August early September in order to re-establish permanent access as soon as conditions allow in spring of 2015

As a temporary measure we propose to use (2) 1200 mm culverts placed somewhat elevated over the existing stream channel. The 1200 mm culverts would be perched to allow some settling in behind the coarse rock base. The outlets of the culverts would not exceed 500 mm above the outlet water elevation. This would allow adult fish migration should mitigation and restoration activities proceed to the point to re-establish fish use.

The culvert capacity would be assess be a qualified water resource engineer to ensure they would accommodate the potential freshet flows for fall and spring.

Construction sequencing and details

1) Establish a rock ramp access down to the edge of the flowing water in the Hazeltine channel.
2) Place a 500mm base of 25 mm to 300 mm well graded coarse rock (with fines removed) across the base of the channel dewatered channel
3) Place a bed 25 mm minus material around the culvert locations to secure and embed the culverts
4) Anchor the culvert with some 10 to 30 kg size class rip-rip
5) Place rip-rap on the face of the base material to reduce erosion potential.
6) Re-establish flows through the two installed and anchored culverts
7) Place a well graded coarse rock material to the needed elevation

8) Decommission once the permanent access is completed
    a. Removal of erodible material and settled fines behind the rock coffer dam
    b. Reestablish stream channel through the temporary and permanent crossing locations

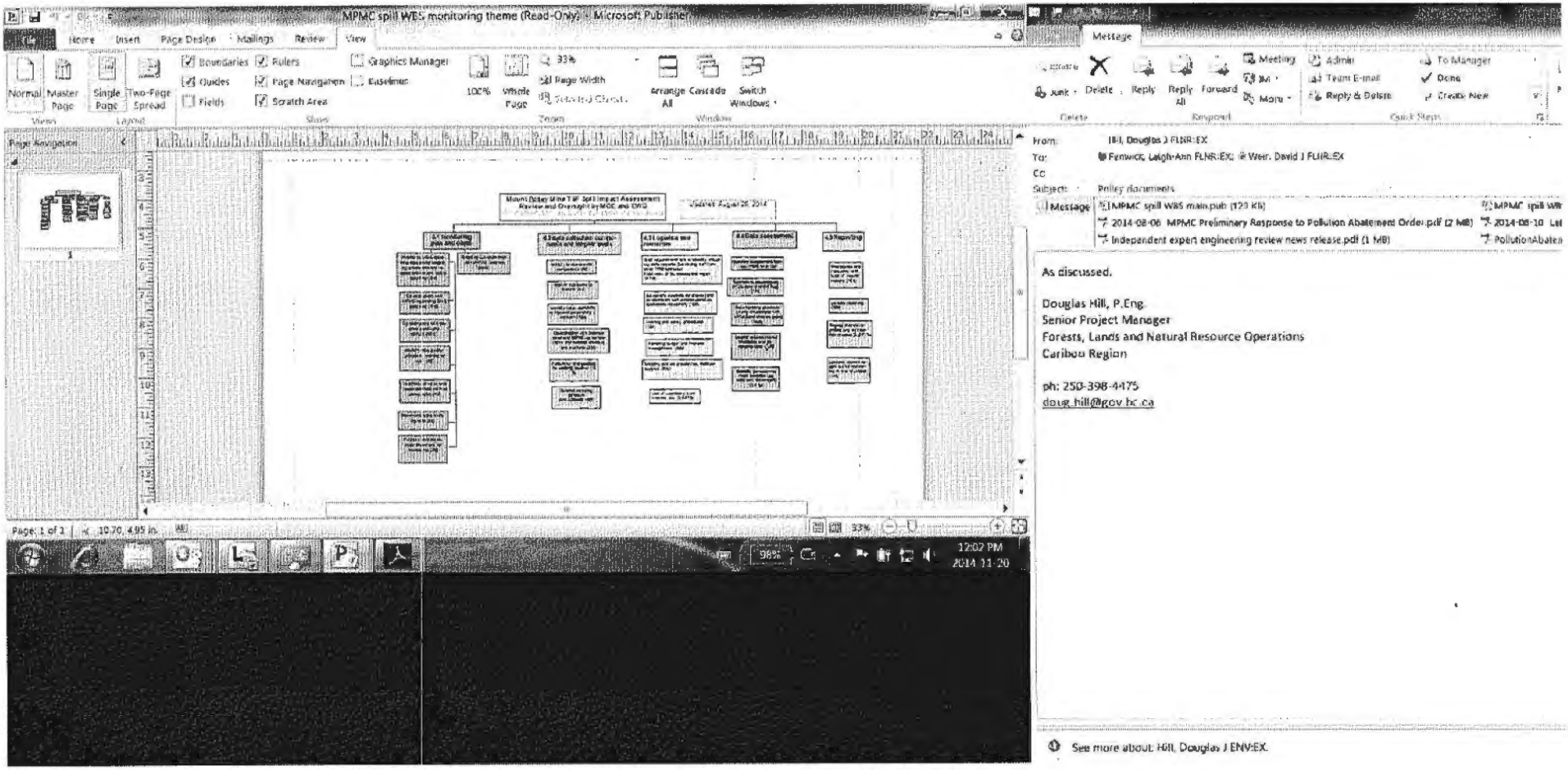
This letter provides additional details to support the upcoming reclamation and mitigation works and advises the regulatory and First Nations Representatives on plans and approaches.

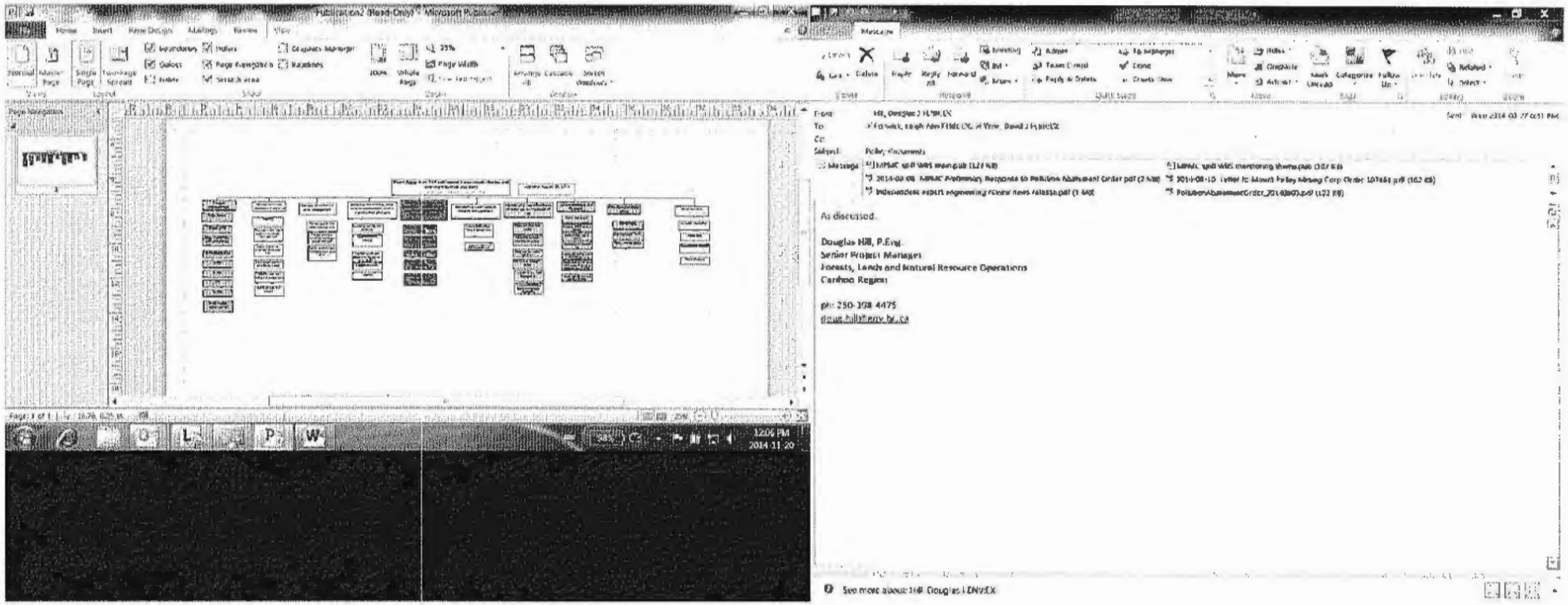
Sincerely,

MOUNT POLLEY MINING CORPORATION

Via email

Jack Love, R.P.Bio.
Environmental Manager
Imperial Metals-Red Chris Mine-Mount Polley Mine-Hwy37 Power Corp
604-358-2699 MOBILE
250-790-2215*2560


MPMC spill WBS monitoring theme (Read-Only) - Microsoft Publisher
Message
From: Hill, Douglas J FLNR:EX
To: Fenwick, Leigh-Ann FLNR:EX; Weir, David J FLNR:EX
Cc
Subject: Pelley documents
MPMC spill WBS main.pub (129 KB)
2014-08-06 MPMC Preliminary Response to Pollution Abatement Order.pdf (2 MB)
Independent expert engineering review news release.pdf (1 MB)
As discussed.
Douglas Hill, P.Eng.
Senior Project Manager
Forests, Lands and Natural Resource Operations
Caribou Region
ph: 250-398-4175
doug.hill@gov.bc.ca
See more about Hill, Douglas J ENV:EX.
12:07 PM
2014-11-20



As discussed.

Douglas Hill, P.Eng.
Senior Project Manager
Forests, Lands and Natural Resource Operations
Cariboo Region

ph: 250-398-4475
doug.hill@gov.bc.ca

Weir, David J FLNR:EX

From: Hill, Douglas J FLNR:EX
Sent: Wednesday, August 27, 2014 6:41 PM
To: Fenwick, Leigh-Ann FLNR:EX; Weir, David J FLNR:EX
Subject: Polley documents
Attachments: MPMC spill WBS main.pub; MPMC spill WBS monitoring theme.pub; 2014-08-06 MPMC Preliminary Response to Pollution Abatement Order.pdf; 2014-08-10 Letter to Mount Polley Mining Corp Order 107461.pdf; Independent expert engineering review news release.pdf; PollutionAbatementOrder_20140805.pdf; SNC Impact Assessment and Action Plan_FINAL_621717.pdf; Mount Polley Aug 17 Final LOU 654 pm.pdf; MPMC_Tailings_Dam_Failure_Monitoring_Program_Rev3.pdf

As discussed.

Douglas Hill, P.Eng.
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Forests, Lands and Natural Resource Operations
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MOUNT POLLEY MINING CORPORATION
IMPERIAL METALS CORPORATION

Date August 6, 2014

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

Attention: Hubert Bunce., Director Environmental Management Act

Re: Preliminary Response to Pollution Abatement Order File: 107461

In the early morning of August 4th, 2014 the Tailings Storage Facility (TSF) was breached at Mount Polley Mine, releasing an undetermined amount of water and tailings. The cause of the breach remains unknown at this time. On August 5th, 2014 the Ministry of Environment issues a Pollution Abatement Order on the grounds that pollution is being caused by the discharge from the TSF. The Pollution Abatement Order outlined a series orders pursuant to section 83 of the Environmental Management Act (EMA). This memorandum is intended to provide the initial deliverables due August 6th, 2014 outlined in the memo and listed below:

A) *Immediately retain a suitably qualified professional to initiate a preliminary Environmental Impact Assessment (EIA) and provide the name of the qualified professional to the Director for approval by August 6, 2014.*
B) *Based on the preliminary EIA, develop and submit to the Director by August 6, 2014 for approval, an Action Plan detailing measures relative to the preliminary EIA to be taken to:*

a. *Characterize the materials that were released into the receiving environment (including their expected behaviour in the receiving environment, settling rates, etc.);*

b. *Recover or otherwise manage mine-affected materials and sediments currently in the receiving environment;*

c. *Mitigate residual risks to the environment;*

d. *Assess and monitor the impacts and risks posed by the mine-affected materials and sediments currently in the receiving environment, as well as from the recovery and management efforts themselves; and*

e. *Report on the implementation of Action Plan measures on a weekly basis to regulatory agencies and stakeholders.*

The remaining portion of the memorandum presents the point by point actions to the order as well as the preliminary Environmental Impact Assessment (EIA) and monitoring programs.

Qualified Professionals

Mount Polley Mining Corporation has assembled to following team of qualified persons with more than 60 years' experience in Environmental Impact Assessments:

- Jack Love B.Sc., R.P.Bio Imperial Metals (resume attached to memo)
- Pierre Stecko, M.Sc., EP, R.P.Bio Minnow Environnemental Inc. (resume attached to memo)
- Norm Zirnhelt, Environmental Quality Inc. (resume forth coming)

Mount Polley is also in discussions with addition Qualified Professional to support the EIA and will provide additional qualifications, roles and responsibilities as the team develops.

Characterize the materials

Following the memo are a series of table that characterize the tailings supernatant and the tailings sands that migrated through the breach. Mount Polley mining will work toward fully characterizing the materials including fate and effects in the receiving environment.

Recover or otherwise manage mine-affected materials and sediments

The
Recovery and management of the materials is currently unsafe due to the potential instabilities associated with the tailings dam, the exposed tailings, and the plug of debris and tails in Polley Lake. This information and safety concerns were provided to MoE on a conference call on August 6th, 2014.

Mitigation Plan

The flowing plan was presented to make the area safe for access to initiate monitoring of the impacts and initiate additional mitigation and restoration activities (see Figure 1: Preliminary Mitigation and Stabilization Plan)

The plan includes two key aspects:

1) Stabilization of the breach area exposed tailings to additional slumping and migration. This includes construction of an upstream tailings dyke to hold back the tails and filter any effluent discharging from the TMF Photo 1 below show the breach of the dam and the proposed dyke would be in the foreground.
2) A clean water diversion (Yellow Line in Figure 1) to reduce the water impounded in Polley Lake (see photo 2). There is a safety and environmental risk should the water pressures behind this material not be reduced and an uncontrolled release occur.

Figure 1: Preliminary Mitigation and Stabilization Plan

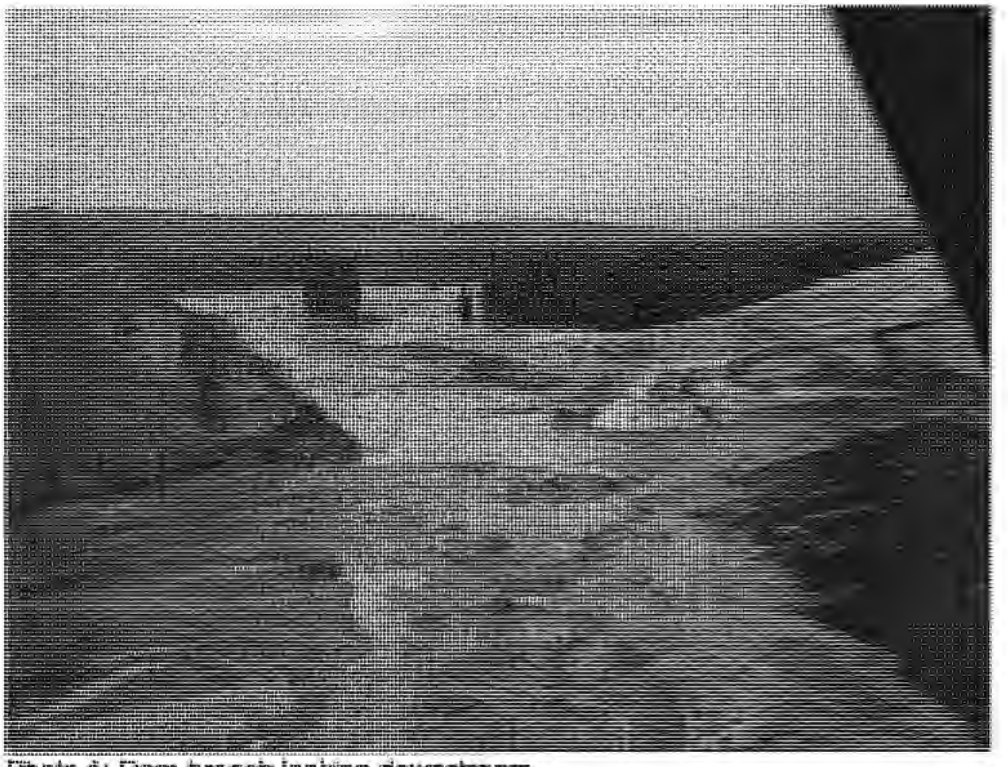

Photo 1: Dam breach looking downstream

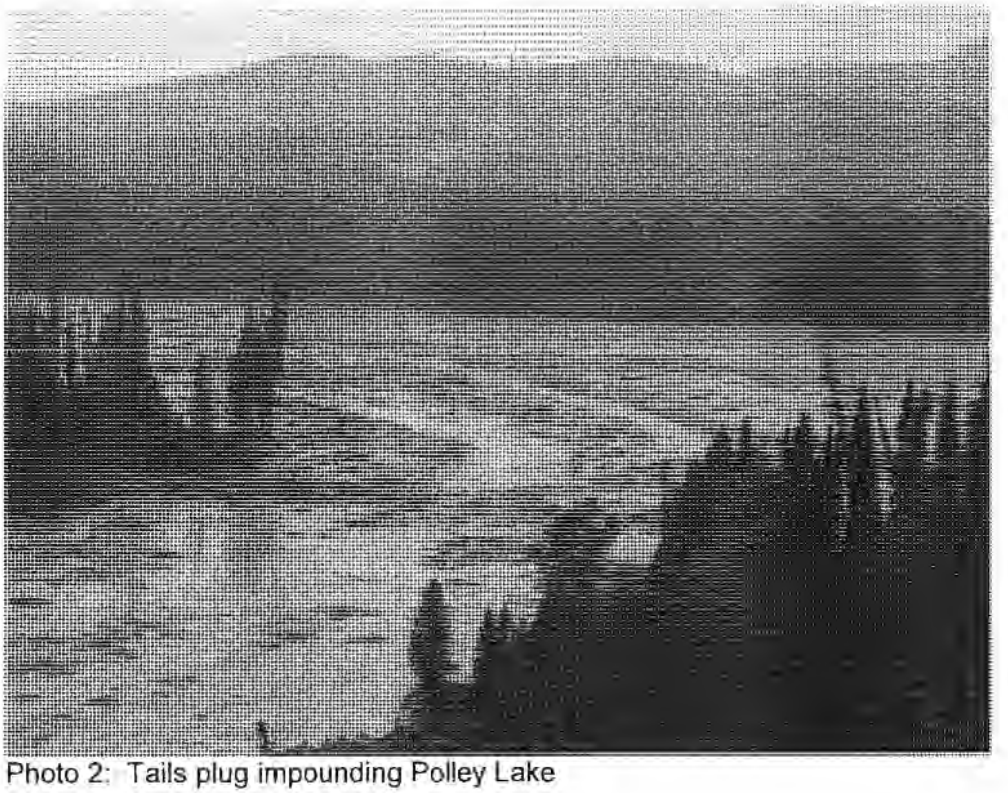

Photo 2: Tails plug impounding Polley Lake

Assess and monitor the impacts

A preliminary Aquatic Environmental Impact Assessment Monitoring Program is included in this memo for review. We have also prepared table of contents (TOC) for further defining the higher level concepts for the EIA. Implementation of the initial EIA commenced on August 6th, 2014. The EIA and monitoring approaches are presented in draft format for further refinement as information is gathered

TOC for the Preliminary EIA

1) Introduction
2) Monitoring Approach
    a. Weight of Evidence Approach
    b. Before After Control Impact (BACI) design
    c. Consultation with scientists experienced with research that has been conducted on Quesnel Lake
    d. Short term & long term monitoring consideration
    e. Stratification of the various eco-types downstream of the mine

3) Initial Results & Revision of Program
4) Study Design
    a. Develop detailed study designs to ensure adequate sampling intensities and consistent methodologies
5) Statistical analysis
6) Action Plan:
    - Characterization of released materials and refinement of predicted impacts
    - Recovery & management of mine-affected materials in the receiving environment
    - Identification of risks to the Receiving Environment
    - Mitigation of residual risks
    - Monitoring Program
    - Prospects for restoration of affected aquatic ecosystems e.g., Hazeltine Cr.
    - Reporting to regulatory agencies & stakeholders will be weekly via a one page summary of major activities undertaken by Mt. Polley over the past week. Key stakeholders need to be identified: reports, businesses, residents , First Nations, MOE
7) Adaptive Management Plan
    a. Preliminary findings will allow the evolution and adaption of monitoring tools to characterize the potential effects to the receiving environment
    b. Tis may also allow feedback to operational activities mitigate additional environmental risks

Report on the implementation of Action Plan Measures

Based on the conference call on August 6th, 2014 it was decided that daily conference calls with MoE agencies and other stakeholders at 15:00 each day until the group decides mutually to reduce frequency.

Sincerely,

MOUNT POLLEY MINING CORPORATION

Via email

Jack Love, R.P.Bio.
Environmental Superintendent
Imperial Metals-Red Chris Mine-Mount Polley Mine-Hwy37 Power Corp
604-358-2699 MOBILE
250-790-2215*2560

Table 1: Tailings Supernatant Water Quality

Sample Point	Date	Cond (In situ) (µs/cm)	pH (In situ) (pH)	Temp (In situ) (Deg Celcius)	Hardness (as CaCO3) (mg/L)	Total Suspended Solids (mg/L)	Chloride (Cl) (mg/L)	Sulphate (mg/L)	Ammonia (as N) (mg/L)	Nitrate (as N) (mg/L)	Nitrate and Nitrite (as N) (mg/L)	Nitrite (as N) (mg/L)	Total Nitrogen (mg/L)	Phosphorus (P) Total (mg/L)	Aluminum (Al)-Dissolved (mg/L)	Iron (Fe)-Dissolved (mg/L)	Cadmium (Cd)-Total (mg/L)	Copper (Cu)-Total (mg/L)	Iron (Fe)-Total (mg/L)	Molybdenum (Mo)-Total (mg/L)	Selenium (Se)-Total (mg/L)	Dissolved Organic Carbon (mg/L)
E1 - Tailings Impoundment	5-Aug-09	993	8.26	20.1	333	7.3	22.5	327	0.0576	3.58		0.0813	5.39	0.0082	0.0547	<0.03	0.000186	0.0163	0.101	0.31	0.0166	2.67
E1 - Tailings Impoundment	19-Aug-09	1070	8.47	19.6	340	8.7	23.4	442	0.0405	3.62		0.016	4.37	0.0036	0.0307	<0.03	<0.00001	0.00714	0.084	0.216	0.0182	2.45
E1 - Tailings Impoundment	2-Sep-09	1104	8.38	19	360	9.3	27.6	481	0.0348	3.74		0.0355	3.63	0.0098	0.0199	<0.03	0.000199	0.0137	0.109	0.248	0.0197	2.66
E1 - Tailings Impoundment	6-Oct-09	1642	8.75	8.1	858	8.4	29.6	830	0.107	3.58		0.106	4.79	0.0325	0.0284	<0.03	<0.001	0.0193	0.152	0.258	0.02	2.59
E1 - Tailings Impoundment	29-Oct-09	766	8.64	9.3	760	18.9	29.8	877	0.146	3.42		0.111	5.95		0.0118	<0.03	0.000246	0.0325	0.403	0.24		3.16
E1 - Tailings Impoundment	19-Nov-09	1685	8.98	3.5	741	33	30.4	839	0.276	3.68		0.117	4.6	0.0469	0.0105	<0.03	<0.000085	0.0183	0.69	0.235	0.0197	4.36
E1 - Tailings Impoundment	9-Dec-09				MD	3.8	33	870	0.297	3.97		0.149	5.45		0.0179	<0.03	<0.000085	0.00517	0.035	0.233		5.59
E1 - Tailings Impoundment	18-Jan-10	1699	9.45	2.6	647	<3.0	28.5	909	0.4	4.05		0.169	6.44	0.0085	0.0105	<0.03	<0.001	0.00508	0.057	0.23		9.97
E1 - Tailings Impoundment	10-Feb-10	1636	9.84	3.8	616	3.8	26	790	0.565	4.02		0.917	4.53	0.0778	0.0147	<0.03	0.000093	0.00548	0.068	0.24	0.0238	8.89
E1 - Tailings Impoundment	3-Mar-10	1470	9.71	4.6	564	<3.0	33.3	669	0.715	4.1		1.109	5.97	0.0622	0.015	<0.03	<0.000085	0.00607	0.089	0.201	0.0232	8.58
E1 - Tailings Impoundment	7-Apr-10	1273	9.35	6.4	490	11	30.8	586	0.479	3.86		0.248	4.83	0.043	0.017	<0.03	<0.00051	0.0265	0.42	0.193	0.024	8
E1 - Tailings Impoundment	12-May-10	1358	8.24	13.1	517	22	36	673	0.707	4.46	4.65	0.189	6.02	0.0414	0.0123	<0.03	<0.00061	0.04	0.427	0.22	0.0241	7.12
E1 - Tailings Impoundment	9-Jun-10		7.9	19.7	552	8	35.3	674	0.673	4.91	5.04	0.131	7.36	0.0163	0.0218	<0.03	<0.0009	0.0133	0.179	0.219	0.0269	7.52
E1 - Tailings Impoundment	8-Jul-10	1642	7.87	21.3	740	<3	38	885	0.143	5.67	5.76	0.097	6.26	0.0071	0.0137	<0.03	<0.000085	0.0101	0.057	0.35	0.0276	6.19
E1 - Tailings Impoundment	5-Aug-10	1787	7.94	20.9	781	<3	28.8	936	0.083	4.36	4.44	0.08	7.63	0.0059	0.0095	<0.03	0.000093	<0.025	0.076	0.278	0.0303	5.77
E1 - Tailings Impoundment	1-Sep-10	1848		13.6	773	5.5	44	925	0.172	6.99	7.08	0.098	10.1	0.0108	0.0109	<0.03	<0.00007	0.0135	0.195	0.267	0.0334	6.73
E1 - Tailings Impoundment	7-Oct-10	2001	7.78	10.5	908	14.2	38	1030	0.286	6.93	7.1	0.175	7.42	0.0424	0.0166	<0.03	<0.00007	0.0431	0.42	0.228	0.0297	5.67
E1 - Tailings Impoundment	4-Nov-10	1889	8.08	5.2	868	23.1	39.2	949	0.359	7.29	7.42	0.138	7.88	0.0278	0.012	<0.03	0.000135	0.0641	0.547	0.243	0.0288	6.82
E1 - Tailings Impoundment	1-Dec-10	1992	8.25	3.8	970	3.3	38.8	1100	0.408	9.15	9.33	0.178	9.15	0.0179	0.0083	<0.03	<0.0001	0.0087	0.083	0.263	0.0273	8.26
E1 - Tailings Impoundment	10-Jan-11	1902	8.42	2.8	879	<3	37.6	984	0.48	7.9	8.05	0.15	8.5	0.0167	0.0082	<0.03	<0.00006	0.00681	0.043	0.274	0.035	9.58
E1 - Tailings Impoundment	3-Feb-11				769	13.5	35.5	899	0.654	7.7	7.85	0.151	10.1	0.0165	0.0092	<0.03	<0.00002	0.0158	0.318	0.233	0.0249	10.7
E1 - Tailings Impoundment	3-Mar-11	1671	9.42	3.7	683	6.8	33	829	0.617	7.33	7.48	0.155	7.97	0.0147	0.0109	<0.03	0.000023	0.0052	0.08	0.174	0.0221	10.6
E1 - Tailings Impoundment	6-Apr-11	1498	8.33	3.3	565	9.6	28.2	667	0.719	5.54	5.71	0.185	6.51	0.0288	0.0132	<0.03	0.000027	0.0139	0.504	0.178	0.0287	9.4
E1 - Tailings Impoundment	12-May-11	1055	7.91	12.6	409	13.8	19.7	474	0.607	4.59	4.68	0.092	6.83	0.0362	0.015	<0.03	<0.00002	0.0275	0.462	0.125	0.0158	5.87
E1 - Tailings Impoundment	9-Jun-11	1076	8.31	17.2	433	8.7	17.7	525	0.196	4.95	4.99	0.04	7.12	0.0094	0.0229	<0.03	<0.00002	0.00627	0.075	0.152	0.0186	5.6
E1 - Tailings Impoundment	14-Jul-11	1106	8.32	17	456	3.5	17.7	508	0.0619	5.21	5.31	0.093	7.57	0.0071	0.0203	<0.03	<0.00002	0.0107	0.118	0.167	0.0221	4.67
E1 - Tailings Impoundment	4-Aug-11	1176	8.12	16	474	<3	20.3	547	0.125	5.68	5.76	0.073	7.14	0.0035	0.0478	<0.03	<0.00002	0.00571	0.046	0.176	0.0203	4.76
E1 - Tailings Impoundment	8-Sep-11	1215	8.56	17.3	470	3.7	22	573	0.0869	5.38	5.47	0.087	8.16	0.0042	0.0255	<0.03	0.000016	0.00554	0.041	0.186	0.0218	4.1
E1 - Tailings Impoundment	5-Oct-11	1280	8.43	9.4	472	24.2	22.3	575	0.126	5.4	5.5	0.1	9.79	0.0161	0.0154	<0.030	0.000023	0.0224	0.331	0.188	0.0223	4.03
E1 - Tailings Impoundment	31-Oct-11	1311	8.9	4.4																		
E1 - Tailings Impoundment	1-Nov-11	1339	8.98	2.5	479	18.9	23.3	596	0.179	5.02	5.12	0.097	8.6	0.0617	0.0145	<0.030	0.00005	0.0275	1.69	0.234	0.0216	4.58
E1 - Tailings Impoundment	5-Dec-11	1327	9.47	1.3	457	5.3	24.5	587	0.348	5.69	5.83	0.136	8.77	0.0214	0.0155	<0.030	0.000027	0.00482	0.069	0.207	0.0201	6.16
E1 - Tailings Impoundment	4-Jan-12	1337	9.16	3.5	449	<3.0	28	596	0.323	5.76	5.9	0.145	9.08	0.008	0.0148	<0.030	<0.000020	0.0024	0.041	0.219	0.0206	6.02
E1 - Tailings Impoundment	8-Feb-12	1838	9.33	3.7	442	<3.0	28	596	0.484	5.89	6.09	0.201	10.5	0.0056	0.0137	<0.030	<0.000020	0.00272	0.04	0.294	0.021	6.77
E1 - Tailings Impoundment	14-Mar-12	2331	7.36	3.5	418	3.3	27.9	580	0.478	6.27	6.48	0.215	8.69	0.009	0.0175	<0.030	<0.000020	0.00326	0.043	0.294	0.0208	7.76
E1 - Tailings Impoundment	3-Apr-12	2297		2.8	434	7.7	27.3	560	0.457	5.75	5.92	0.172	7.71	0.0187	0.02	<0.030		0.00766	0.234	0.199	0.0201	7.94
E1 - Tailings Impoundment	2-May-12	2084	9.471	9.6	371	19.9	20.7	465	0.401	4.93	5.06	0.127	6.52	0.0449	0.0183	<0.030		0.0252	0.855	0.159	0.0205	7.7
E1 - Tailings Impoundment	7-Jun-12	1128	8.2	12.9	403	15.2	22.2	454	0.126	4.96	5.08	0.075	6.59	0.0247	0.0521	<0.030		0.0148	0.662	0.177	0.0219	5.78
E1 - Tailings Impoundment	5-Jul-12	1131	8.08	16.5	402	<3.0	22.2	497	0.105	5.6	5.68	0.075	6.36	0.0069	0.0271	<0.030	<0.0000050	0.0067	0.059	0.141	0.0222	5.36
E1 - Tailings Impoundment	1-Aug-12	1191	8.23	20.1	424	3.6	23.9	521	0.106	5.85	5.92	0.063	7.16	0.0047	0.0264	<0.030	<0.00010	0.00548	0.087	0.188	0.0262	4.52
E1 - Tailings Impoundment	6-Sep-12	1225	8.545	14.7	411	3.1	23.7	545	0.182	6.2	6.27	0.075	7.45	0.0053	0.0203	<0.030	<0.0000050	0.0065	0.13	0.185	0.0274	4.08
E1 - Tailings Impoundment	3-Oct-12	1271	8	1.2	405	8.3	28	562	0.129	6.32	6.4	0.079	7.7	0.01	0.0391	<0.030	<0.0000050	0.009	0.116	0.188	0.0274	4.71
E1 - Tailings Impoundment	25-Nov-12	1284	8.606	1.3	500	7.9	25	574	0.278	6.46	6.76	0.094	7.56	0.0073	0.012	<0.030	<0.0000050	0.0111	0.19	0.183	0.0268	4.88
E1 - Tailings Impoundment	6-Dec-12	1283	8.247	2.6	458	3.8	24	579	0.327	6.81	6.9	0.097	7.5	0.0097	0.0133	<0.030	<0.0000050	0.00611	0.083	0.195	0.0308	7.16
E1 - Tailings Impoundment	2-Jan-13	1273	8.903	3.4	460	5.6	23.4	563	0.353	7.42	7.55	0.125	7.23	0.0079	0.0158	<0.030	<0.0000050	0.00476	0.096	0.189	0.0283	5.43
E1 - Tailings Impoundment	6-Feb-13	1273	0.4894	3.5	489	<3.0	24.1	575	0.395	7.66		0.138	7.27	0.0067			<0.0000050	0.00307	0.047	0.197	0.0278	5.97
E1 - Tailings Impoundment	1-May-13	1072	8.069	8.4	403	11.3	19.5	477	0.25	6.26	6.38	0.125	6.67	0.0148			<0.0000050	0.00828	0.227	0.158	0.0272	7.31
E1 - Tailings Impoundment	6-Aug-13	1193	8.051	21.8	488	19.6	23.4	560	0.229	7.32	7.41	0.091	7.76	0.015			<0.0000040	0.0149	0.462	0.181	0.03	4.15
E1 - Tailings Impoundment	5-Nov-13	1283	8.391	1.2	474	54.9	25.6	576	0.168	7.48	7.57	0.088	7.53	0.0612			<0.00010	0.0409	1.47	0.2	0.0313	5.57
E1 - Tailings Impoundment	11-Feb-14	1269	8.737	2.9	475	<3.0	26.3	583	0.303	7.76	7.9	0.142	7.74	0.0077			<0.0000050	0.00195	0.046	0.188	0.0348	5.34
E1 - Tailings Impoundment	7-May-14	1099	8.64	5.4	393	18.6	22.8	483	0.227	6.75	6.88	0.134	7.06	0.0307			<0.00003	0.0155	0.357	0.153	0.0284	4.46
		Conductivity (In situ) (µs/cm)	pH (In situ) (pH)	Temperature (In situ) (Degrees Celcius)	Hardness (as CaCO3) (mg/L)	Total Suspended Solids (mg/L)	Chloride (Cl) (mg/L)	Sulphate (mg/L)	Ammonia (as N) (mg/L)	Nitrate (as N) (mg/L)	Nitrate and Nitrite (as N) (mg/L)	Nitrite (as N) (mg/L)	Total Nitrogen (mg/L)	Phosphorus (P) Total (mg/L)	Aluminum (Al)-Dissolved (mg/L)	Iron (Fe)-Dissolved (mg/L)	Cadmium (Cd)-Total (mg/L)	Copper (Cu)-Total (mg/L)	Iron (Fe)-Total (mg/L)	Molybdenum (Mo)-Total (mg/L)	Selenium (Se)-Total (mg/L)	Dissolved Organic Carbon (mg/L)
	Average	1367.273	8.543	8.814285714	548.64	11.78571	27.676	647.4	0.2844	5.677	6.2913	0.1396	7.05	0.022404	0.02912	<0.030	0.000085	0.01378	0.30642	0.2051	0.03425	5.982

Table 2 Tailings Impoundment Supernatant (Sampling Point E1) Water Quality (August 2009 - May 2014) Compared to BC Aquatic Life and Drinking Water Guideline

	Summary Statistics			BCWQG		Drinking Water Quality Guidelines
Date/Time	Mean	Maximum	Minimum	acute	30 day/chronic	(BC/Canada)
Comment						
Physical Parameters						
Conductivity (in situ) (µs/cm)	1352	2001	766			
pH (in situ) (pH)	8.54	9.94	7.30			
Temperature (in situ) (Degrees Celcius)	9.0	21.8	1.2			
Hardness (as CaCO3) (mg/L)	543	970	313			
Total Suspended Solids (mg/L)	9.5	54.9	1.5			
Total Dissolved Solids (mg/L)	1080	2450	730			500
Anions and Nutrients						
Chloride (Cl) (mg/L)	27.7	44.0	17.7	600	150	250
Sulphate (mg/L)	647	1100	397		218	500 (aesthetic)
Ammonia (as N) (mg/L)	0.284	0.719	0.0348	Temperature dependent		
Nitrate (as N) (mg/L)	5.68	8.15	3.42	31.3	3	10
Nitrate and Nitrite (as N) (mg/L)	6.29	8.33	4.44			
Nitrite (as N) (mg/L)	0.140	0.917	0.016	0.06	0.02	1
Total Nitrogen (mg/L)	7.05	10.50	3.62			
Phosphorus (P) Total (mg/L)	0.0236	0.0850	0.0035	0.0005 - 0.015 (lakes)		
Dissolved Metals						
Aluminum (Al)-Dissolved (mg/L)	0.0191	0.0547	0.0082	0.1	0.05	0.2
Iron (Fe)-Dissolved (mg/L)	0.015	0.015	0.015	0.35		
Total Metals						
Antimony (SB) - Total (mg/L)	0.00222	0.00516	0.00087	0.02		0.006
Arsenic (As) - Total (mg/L)	0.00223	0.00377	0.00125	0.005		0.01
Barium (B) - Total (mg/L)	0.0780	0.108	0.0392	5	1	1
Cadmium (Cd)-Total (mg/L)	8.970E-05	0.0005	0.00001	0.00002526		0.005
Copper (Cu)-Total (mg/L)	0.0137	0.0641	0.0020	0.008862	0.00292	0.5
Chromium (Cr)-Total (mg/L)	0.0005386	0.00209	0.0003	0.001 Cr(V1), 0.0089 CR(111)		0.05
Iron (Fe)-Total (mg/L)	0.266	1.69	0.033	1		3 (aesthetic)
Lead (Pb)-Total (mg/L)	0.00018	0.00115	0.000025	54	5.4	0.01
Mercury (Hg)-Total (mg/L)	1.7857E-05	0.000025	0.000005			0.001
Manganese (Mn)-Total (mg/L)	0.0350	0.1160	0.0063	1.344	0.9262	0.05 (aesthetic)
Molybdenum (Mo)-Total (mg/L)	0.205	0.287	0.125	2	1	0.25
Nickel (Ni)-Total (mg/L)	0.00062	0.00165	0.00025	0.065		
Silver (Ag)-Total (mg/L)	0.0000126	0.000049	0.000005	0.0001	0.00005	
Selenium (Se)-Total (mg/L)	0.0241	0.0346	0.0158	0.002		0.01
Sodium (Na)-Total (mg/L)	89.8	119.0	55.9			200 (aesthetic)
Zinc (Zn)-Total (mg/L)	0.0024	0.0062	0.001	0.033	0.0075	5 (aesthetic)
Organics						
Dissolved Organic Carbon (mg/L)	5.98	10.70	2.45			

Notes:

1) Results below MDL are represented as 0.5*MDL

2) Parameters exceeding water quality guidelines (on average) are shown in red

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

Tailings Composite Metals Analysis January 2010 - May 2014

Date Sampled	31-JAN-10	28-FEB-10	31-MAR-10	31-MAR-10	30-APR-10	30-MAY-10	30-MAY-10	31-JUL-10	31-AUG-10	30-SEP-10	31-OCT-10	30-NOV-10	30-DEC-10	30-JAN-11	28-FEB-11
Physical Tests															
Moisture														1.02	
pH	8.91	8.93	8.80	8.80	8.90	8.81	8.85	8.83	8.74	8.35	8.88	8.82	8.85	8.84	
Metals															
Aluminum (Al)	19700	19600	19200	20400	20200	22100	20600	22900	22400	20100	19000	20900	20600	18100	19800
Antimony (Sb)	0.37	0.38	0.35	0.40	0.50	0.37	0.42	0.51	0.43	0.52	0.58	0.50	0.64	0.48	0.33
Arsenic (As)	18.0	18.4	14.5	16.3	19.7	16.0	19.1	14.5	16.2	16.9	19.7	16.0	19.0	14.0	11.8
Barium (Ba)	153	143	184	186	212	228	201	253	263	204	204	206	201	269	223
Beryllium (Be)	0.25	0.25	0.25	0.25	0.25	0.86	0.82	0.88	0.87	0.67	0.66	0.69	0.79	0.71	0.73
Bismuth (Bi)	10	10	10	10	10	10	10	10	10	0.1	0.1	0.1	0.1	0.1	0.1
Cadmium (Cd)	0.30	0.17	0.29	0.23	0.34	0.27	0.37	0.23	0.29	0.33	0.42	0.39	0.30	0.16	0.099
Calcium (Ca)	26100	24200	28800	28200	32700	28300	34600	30200	31100	35800	35400	36000	37300	26000	28000
Chromium (Cr)	14.8	10.4	14.0	13.6	14.0	23.7	24.1	20.5	22.6	43.0	16.0	27.3	19.7	31.2	9.97
Cobalt (Co)	20.0	20.2	15.8	15.8	16.9	17.7	17.8	17.3	17.5	16.8	16.1	15.9	16.8	16.6	16.4
Copper (Cu)	1130	991	1150	1070	1220	1100	972	1410	1150	1070	1300	1240	1090	1100	1060
Iron (Fe)	59500	55200	46700	51100	53000	52100	54800	52400	55200	58200	50600	46500	50300	74300	48500
Lead (Pb)	4.7	6.4	7.2	7.9	10.3	10.8	7.9	8.3	4.7	14.3	5.11	5.38	4.17	4.00	3.47
Lithium (Li)	21.6	18.9	18.7	19.2	19.9	19.5	20.3	20.4	19.7	17.9	18.1	17.3	19.0	15.2	19.8
Magnesium (Mg)	14900	13500	11700	12300	12200	13200	13200	13300	13100	11800	10800	11100	11100	10800	11100
Manganese (Mn)	774	640	785	749	959	729	1060	845	947	1200	1330	1110	1150	828	540
Mercury (Hg)	0.0544	0.105	0.0922	0.0947	0.0941	0.090	0.080	0.085	0.074	0.063	0.086	0.092	0.068	0.0983	0.0618
Molybdenum (Mo)	2.99	5.54	6.53	5.27	4.43	5.8	6.1	5.55	4.47	4.00	5.03	3.87	3.67	2.79	2.52
Nickel (Ni)	5.9	2.5	2.5	2.5	2.5	9.3	10.8	10.5	9.8	12.0	7.37	10.6	7.04	13.6	7.66
Phosphorus (P)	1380	1560	1430	1500	1390	1440	1440	1490	1390	1410	1370	1500	1450	1240	1360
Potassium (K)	1480	1470	2090	2130	1760	3050	2340	3050	2750	1560	1570	1920	2710	2190	1970
Selenium (Se)	1.22	2.06	1.88	1.63	1.47	1	1	1.43	1.18	1.03	1.44	1.02	0.93	0.71	0.74
Silver (Ag)	0.45	0.53	0.45	0.37	0.44	0.52	0.55	0.46	0.51	0.48	0.60	0.50	0.48	0.33	0.27
Sodium (Na)	1480	1900	1470	1640	1020	1710	1390	1600	1610	980	780	1370	1460	1100	1620
Strontium (Sr)	93.1	136	171	166	150	194	116	197	198	149	133	208	114	114	163
Thallium (Tl)	0.05	0.05	0.05	0.05	0.05	0.25	0.25	0.25	0.25	0.025	0.025	0.025	0.025	0.025	0.025
Tin (Sn)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1	1	1	1	2.0	1
Titanium (Ti)	1520	1490	1330	1550	1540	1560	1560	1650	1670	1560	1430	1500	1710	1760	1510
Uranium (U)										1.93	1.99	1.86	2.17	1.29	0.956
Vanadium (V)	196	179	169	178	172	187	198	197	200	200	188	177	188	279	172
Zinc (Zn)	88.8	63.0	85.3	72.1	92.2	88.8	89.3	71.9	79.1	95.2	116	116	113	74.4	48.8

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

Date Sampled	31-JAN-10	28-FEB-10	31-MAR-10	31-MAR-10	30-APR-10	30-MAY-10	30-MAY-10	31-JUL-10	31-AUG-10	30-SEP-10	31-OCT-10	30-NOV-10	30-DEC-10	30-JAN-11	28-FEB-11
Leachable Metals															
Aluminum (Al)-Leachable														0.276	
Antimony (Sb)-Leachable														0.00103	
Arsenic (As)-Leachable														0.0054	
Barium (Ba)-Leachable														0.0396	
Beryllium (Be)-Leachable														0.00025	
Bismuth (Bi)-Leachable														0.00025	
Boron (B)-Leachable														0.054	
Cadmium (Cd)-Leachable														0.000025	
Calcium (Ca)-Leachable														17.4	
Chromium (Cr)-Leachable														0.00025	
Cobalt (Co)-Leachable														0.00030	
Copper (Cu)-Leachable														0.0134	
Lead (Pb)-Leachable														0.00005	
Lithium (Li)-Leachable														0.0099	
Magnesium (Mg)-Leachable														3.40	
Manganese (Mn)-Leachable														0.00849	
Mercury (Hg)-Leachable														0.000025	
Molybdenum (Mo)-Leachable														0.0317	
Nickel (Ni)-Leachable														0.00025	
Potassium (K)-Leachable														13.7	
Selenium (Se)-Leachable														0.00295	
Silver (Ag)-Leachable														0.000025	
Sodium (Na)-Leachable														30.3	
Strontium (Sr)-Leachable														0.193	
Thallium (Tl)-Leachable														0.00005	
Tin (Sn)-Leachable														0.00098	
Uranium (U)-Leachable														0.000343	
Vanadium (V)-Leachable														0.0086	
Zinc (Zn)-Leachable														0.005	

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

Date Sampled	31-JAN-10	28-FEB-10	31-MAR-10	31-MAR-10	30-APR-10	30-MAY-10	30-MAY-10	31-JUL-10	31-AUG-10	30-SEP-10	31-OCT-10	30-NOV-10	30-DEC-10	30-JAN-11	28-FEB-11
TCLP Metals															
1st Preliminary PH	9.73	9.80	9.74	9.74	9.74	9.74	9.80	9.67	9.65	9.51	9.68	9.70	9.52	9.70	9.75
2nd Preliminary PH	1.92	1.91	2.60	2.50	2.35	2.52	2.30	2.85	2.86	2.26	2.24	2.23	2.10	2.55	1.97
Final pH	5.52	5.36	5.58	5.50	5.48	5.61	5.66	5.38	5.47	5.50	5.61	5.50	5.48	5.45	5.44
Extraction Solution Initial pH	4.90	4.90	4.90	4.90	4.90	4.92	4.92	4.92	4.92	4.93	4.93	4.93	4.92	4.91	4.92
Antimony (Sb)-Leachable	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Arsenic (As)-Leachable	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Barium (Ba)-Leachable	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Beryllium (Be)-Leachable	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Boron (B)-Leachable	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.71	0.25
Cadmium (Cd)-Leachable	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Calcium (Ca)-Leachable	523	435	538	496	466	507	510	483	535	491	527	462	538	467	443
Chromium (Cr)-Leachable	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Cobalt (Co)-Leachable	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Copper (Cu)-Leachable	4.88	5.66	4.55	4.50	5.75	2.17	1.69	3.47	3.34	2.82	4.16	3.80	3.80	2.98	3.49
Iron (Fe)-Leachable	0.055	0.055	0.055	0.055	0.055	0.055	0.19	0.23	0.27	0.35	0.055	0.34	0.45	0.50	0.35
Lead (Pb)-Leachable	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Magnesium (Mg)-Leachable	5.87	5.99	10.1	10.7	12.1	11.8	11.1	15.1	15.3	12.2	11.5	14.7	13.3	14.4	10.1
Mercury (Hg)-Leachable	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Nickel (Ni)-Leachable	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Selenium (Se)-Leachable	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Silver (Ag)-Leachable	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Thallium (Tl)-Leachable	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Vanadium (V)-Leachable	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
Zinc (Zn)-Leachable	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.67	0.25

Notes:

1) <MDL represented as 0.5*MDL

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

31-MAR-11	30-APR-11	30-JUN-11	30-JUL-11	30-AUG-11	30-SEP-11	30-OCT-11	30-NOV-11	31-DEC-11	30-JAN-12	29-FEB-12	31-MAR-12	30-APR-12	03-SEP-13	30-SEP-13	01-NOV-13	01-DEC-13
								0.125								
	9.83															
17300	18900	17000	16800	18700	15200	14300	15300	18000	16300	19200	17200	16800	19100	21800	20100	21100
0.38	0.33	0.42	0.30	0.43	0.34	0.25	0.40	0.32	0.35	0.50	0.38	0.56	0.40	0.49	0.54	0.92
11.7	10.7	11.4	9.34	12.1	9.30	8.70	11.8	10.1	10.6	11.8	8.57	10.9	10.5	11.4	11.8	12.0
234	269	283	228	320	247	253	230	235	326	250	263	297	182	192	202	169
0.73	0.65	0.63	0.52	0.56	0.53	0.46	0.56	0.59	0.56	0.63	0.54	0.65	0.71	0.76	0.73	0.73
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.125	0.081	0.138	0.131	0.158	0.109	0.121	0.155	0.129	0.101	0.115	0.077	0.135	0.083	0.114	0.278	0.259
25100	26300	27000	25000	31800	28400	26800	32000	26500	28900	27900	28100	25100	24100	28300	30200	25200
13.1	15.2	21.1	16.3	16.4	13.6	13.4	15.5	20.4	25.7	21.1	15.8	32.4	12.7	19.4	15.4	23.2
17.7	17.7	17.6	16.0	16.3	16.3	14.9	14.3	15.7	17.9	18.0	19.0	16.5	16.5	16.6	16.8	18.9
1050	1180	1110	895	757	1030	1050	730	885	790	849	881	787	638	802	769	1380
47300	46500	47500	43300	42700	42300	39000	32000	40000	53400	51800	52000	46700	49200	49700	48200	51900
3.82	3.16	5.19	5.24	10.1	8.47	5.93	4.72	4.51	4.87	4.79	3.98	6.17	2.93	5.90	11.8	6.53
16.9	15.6	18.3	18.8	20.8	16.7	14.8	18.4	19.7	17.8	16.4	16.3	15.9	14.8	17.3	14.3	15.7
10800	10200	10400	9390	10600	10600	9450	10600	9370	11200	10300	9420	11000	10800	10900	9510	10400
572	524	607	573	721	621	518	664	584	618	570	474	591	489	564	589	473
0.0613	0.058	0.0480	0.0563	0.0660	0.0508	0.0520	0.0583	0.43	0.0411	0.0528	0.0542	0.157	0.0471	0.0696	0.0625	0.112
2.32	2.87	4.72	7.43	8.66	5.28	4.79	6.17	5.07	3.41	4.60	5.09	5.71	3.65	5.67	7.66	9.16
6.27	8.03	7.36	7.81	8.91	8.15	6.27	5.27	1210	11.5	6.35	5.71	11.8	12.1	7.20	8.59	8.47
1380	1280	1300	1230	1260	1280	1160	1270	1950	1180	1270	1150	1200	1160	1350	1310	1490
1990	2180	2970	1850	2370	2230	2070	2320	0.87	1920	3500	2780	2040	2030	2600	2340	2540
0.72	0.86	0.94	0.93	1.14	1.02	0.92	0.82	0.28	0.78	0.86	0.88	1.12	0.79	1.09	1.37	2.29
0.31	0.29	0.37	0.29	0.33	0.30	0.29	0.30	1820	0.24	0.29	0.25	0.34	0.24	0.29	0.41	0.50
900	1660	1550	1830	1760	1300	1580	1350	128	1200	2030	2110	1320	1650	1770	1530	1770
112	131	95.7	116	154	114	106	131	1300	113	116	119	121	213	316	265	252
0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
1	1	1	1	1	1	1	1	1	1	2.3	2.2	1	1	2.3	2.3	2.2
1570	1320	1680	1510	1760	1390	1160	1520	1510	1530	1950	1590	1490	1770	2010	1740	1760
0.946	0.757	0.862	0.639	0.849	0.617	0.552	0.717	0.706	0.745	0.705	0.687	0.812	1.12	1.06	1.26	1.19
173	166	192	152	184	198	109	173	147	209	243	185	185	193	203	188	190
58.9	46.0	61.8	56.7	71.2	54.1	54.0	69.5	59.6	56.1	62.1	45.8	58.0	43.8	50.2	72.9	57.2

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

31-MAR-11	30-APR-11	30-JUN-11	30-JUL-11	30-AUG-11	30-SEP-11	30-OCT-11	30-NOV-11	31-DEC-11	30-JAN-12	29-FEB-12	31-MAR-12	30-APR-12	03-SEP-13	30-SEP-13	01-NOV-13	01-DEC-13
								0.23								
								0.025								
								0.025								
								0.042								
								0.0025								
								0.05								
								0.005								
								12.6								
								0.005								
								0.005								
								0.016								
								0.053								
								0.025								
								2.09								
								0.0090								
								0.046								
								0.025								
								0.15								
								15.2								
								0.025								
								6.43								
								0.005								
								31.0								
								0.191								
								0.1								
								0.015								
								0.005								
								0.25								
								0.015								

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

31-MAR-11	30-APR-11	30-JUN-11	30-JUL-11	30-AUG-11	30-SEP-11	30-OCT-11	30-NOV-11	31-DEC-11	30-JAN-12	29-FEB-12	31-MAR-12	30-APR-12	03-SEP-13	30-SEP-13	01-NOV-13	01-DEC-13
9.80	9.78	9.82	9.77	9.72	9.79	9.82	9.79	9.84	9.87	9.79	9.85	9.83	9.81	9.70	9.71	9.85
2.02	2.59	3.27	2.73	3.77	3.90	3.09	4.37	2.87	3.38	3.16	2.45	3.40	3.24	3.38	5.44	3.25
5.53	5.46	5.59	5.85	5.84	5.82	5.84	6.01	5.54	5.88	5.80	5.80	5.98	5.70	5.72	4.37	5.58
4.92	4.92	4.95	4.97	4.86	4.92	4.92	4.92	4.94	4.93	4.91	4.92	4.95	4.93	4.93	2.88	4.92
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
0.82	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
512	495	504	492	636	514	458	580	531	823	491	603	555	522	525	593	471
0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2.03	3.77	2.28	1.37	0.603	1.08	1.12	0.326	0.906	0.513	0.876	0.702	0.786	0.398	0.620	4.70	0.643
0.49	0.30	0.24	0.19	0.15	0.26	0.055	0.055	0.26	0.055	0.49	0.38	0.20	0.31	0.29	9.18	0.34
0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
10.3	11.3	10.8	8.71	9.52	9.58	8.52	9.87	9.53	12.0	13.2	13.9	12.5	13.3	14.1	18.3	15.1
0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.025	0.025	0.025
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
0.88	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

31-DEC-13	31-JAN-14	28-FEB-14	31-MAR-14	30-APR-14	31-MAY-14	AVERAGE
20500	19900	21300	23600	19900	20000	19139
0.35	0.36	0.43	0.40	0.37	0.45	0.43
10.8	9.85	10.0	10.1	9.22	9.77	12.32
154	207	177	165	175	185	222
0.75	0.72	0.72	0.77	0.74	0.69	0.63
0.1	0.1	0.1	0.1	0.1	0.1	1.85
0.094	0.086	0.083	0.102	0.113	0.074	0.16
24000	26900	28000	26500	25400	27400	26122
20.4	19.0	26.8	22.6	32.2	22.4	20.3
18.3	17.1	17.8	16.0	17.1	19.6	17.4
896	711	642	788	841	677	931
56300	49300	44900	44000	45100	47900	49851
3.10	2.89	3.02	4.50	3.57	2.92	5.35
16.6	14.8	14.5	16.1	14.3	13.1	17.0
12800	9760	9670	10900	11000	9980	10869
505	489	495	556	469	486	652
0.0836	0.0698	0.0618	0.0645	0.0746	0.0704	0.49
4.33	5.00	4.74	6.26	7.52	4.37	5.37
13.8	8.59	5.85	6.99	10.3	5.48	104.61
1340	1250	1340	1380	1300	1260	1405
2000	2820	2580	2550	2420	2290	2121
1.23	1.00	0.99	1.11	0.92	1.03	1.04
0.32	0.25	0.29	0.30	0.29	0.25	116.01
1300	1990	2030	1830	1360	1480	1438.16
251	270	299	327	274	223	192.12
0.025	0.025	0.025	0.025	0.025	0.025	0.025
1	2.0	2.7	1	2.2	2.5	
1860	1630	1900	1930	1660	1980	1525
1.06	1.16	1.43	1.24	1.07	1.47	15.61
216	190	176	175	173	175	180.54
53.6	37.6	40.8	52.7	46.7	39.1	59.44

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

31-DEC-13	31-JAN-14	28-FEB-14	31-MAR-14	30-APR-14	31-MAY-14	AVERAGE
						0.25
						0.013
						0.015
						0.0408
						0.0014
						0.025
						0.030
						8.3
						8.703
						0.003
						0.009
						0.033
						0.013
						1.05
						1.7045
						0.027
						0.013
						0.09
						7.6
						6.883
						3.22
						0.003
						30.7
						0.192
						0.05
						0.01
						0.003
						0.13
						0.010

Table 3: Tailings Composite Metals Analysis January 2010 - May 2014

31-DEC-13	31-JAN-14	28-FEB-14	31-MAR-14	30-APR-14	31-MAY-14	AVERAGE
9.81	9.67	9.75	9.70	9.74	9.65	9.75
2.48	2.97	2.98	3.11	3.12	3.39	2.95
5.54	5.58	5.75	5.55	6.90	5.79	5.59
4.92	4.92	4.93	4.92	4.98	4.90	4.84
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
1.25	1.25	1.25	1.25	1.25	1.25	1.25
0.015	0.015	0.015	0.015	0.015	0.015	0.015
0.25	0.25	0.25	0.25	0.25	0.25	0.28
0.025	0.025	0.025	0.025	0.025	0.025	0.025
502	520	527	490	748	551	521
0.125	0.125	0.125	0.125	0.125	0.125	0.125
0.025	0.025	0.025	0.025	0.025	0.025	0.025
0.544	0.447	0.362	1.30	0.025	0.137	1.905
0.51	0.39	0.24	0.22	0.055	0.20	0.64
0.125	0.125	0.125	0.125	0.125	0.125	0.125
12.1	11.4	13.1	13.8	32.5	12.2	12.5
0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
0.125	0.125	0.125	0.125	0.125	0.125	0.125
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.025	0.025	0.025	0.025	0.025	0.025	0.11
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.055	0.055	0.055	0.055	0.055	0.055	0.055
0.25	0.25	0.25	0.25	0.25	0.25	0.28

Table 4: Tailings NPR Analysis

Year	Month	Tailings Composite NPR	NP	C %	AP %	S %
2012	January	-				
	February	14.2	25.418	0.305	1.791	0.057
	March	17.87	28.085	0.337	1.572	0.05
	April	8.69	26.335	0.316	3.031	0.097
	May	8.69	26.335	0.316	3.031	0.097
	June	9.74	25.502	0.306	2.619	0.084
	July	8.66	27.335	0.328	3.156	0.101
	August	15.36	27.502	0.33	1.791	0.057
	September	14.86	27.585	0.331	1.856	0.059
	October	10.88	27.168	0.326	2.497	0.08
	November	15.39	22.752	0.273	1.478	0.047
	December	9.17	22.918	0.275	2.5	0.08
2013	January	10.52	25.502	0.306	2.425	0.078
	February	19.31	31.919	0.383	1.653	0.053
	March	13.44	25.418	0.305	1.891	0.06
	April	12.8	25.168	0.302	1.966	0.063
	May	14.1	27.002	0.324	1.916	0.061
	June	8.84	25.918	0.311	2.931	0.094
	July	12.54	25.002	0.3	1.994	0.064
	August	19.5	26.752	0.321	1.372	0.44
	September	8.03	26.335	0.316	3.281	0.105
	October	7.42	27.585	0.331	3.719	0.119
	November	3.48	22.335	0.268	6.438	0.206
	December	7.53	23.418	0.281	3.109	0.1
2014	January	9.84	26.418	0.317	2.684	0.086
	February	13.47	25.085	0.301	1.862	0.06
	March	10.7	25.168	0.302	2.353	0.075
	April	11.25	24.252	0.291	2.156	0.069
	May	13.33	29.169	0.35	2.188	0.07
AVERAGE		11.77	26.049	0.31	2.474	0.09

Note: NPR > 2 is consered to be PAG material

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BRITISH COLUMBIA

NEWS RELEASE

For Immediate Release
2014MEM0022-001207
August 18, 2014

Ministry of Energy and Mines and Responsible for Core Review

Independent expert engineering review launched following Mount Polley dam breach

VANCOUVER – The Government of British Columbia, with the support of the Soda Creek Indian Band (Xats'ull First Nation) and Williams Lake Indian Band, has ordered an independent engineering investigation and inquiry into the Mount Polley tailings pond breach, and independent third-party reviews of all 2014 Dam Safety Inspections for every tailings pond at a permitted mine in the province.

The independent engineering investigation and inquiry is authorized under the Mount Polley Investigation and Inquiry Regulation, issued pursuant to section 8 of the Ministry of Energy and Mines Act. The investigation will be conducted by a panel of experts that will investigate the cause of the Mount Polley Mine Tailings Storage Facility failure, including geotechnical standards, design of the dam, maintenance, regulations, inspections regimes and other matters the panel deems appropriate. This section also provides the panel with the ability to compel evidence and authorizes the Minister to require the company to cover costs of the inquiry.

The independent engineering investigation and inquiry is step one of a two-step process.

First, the independent panel will conduct an investigation and provide recommendations through a final report by Jan. 31, 2015, that will determine why the tailings dam failed.

Second, the panel's recommendations will be received by government and the Soda Creek Indian Band and Williams Lake Indian Band and then shared with the public, and implemented by government as needed and where appropriate to ensure such an incident never happens again.

The panel members have been appointed by government with the support of the Soda Creek and Williams Lake Indian Bands. The panel members are experienced geotechnical experts with expertise in tailings management facilities. They are:

- Norbert Morgenstern, advisor to consulting engineers
- Steven Vick, geotechnical engineer (Colorado)
- Dirk Van Zyl, professor, University of British Columbia (UBC) Normal B. Keevil Institute of Mining Engineering

The Soda Creek and Williams Lake Indian Bands were consulted on the terms of reference for the engineering investigation and will have a liaison to the panel. The Association of Professional Engineers and Geoscientists of British Columbia (APEGBC), and the Institute of Mining Engineering at the University of British Columbia also provided input on the panel members.

The chief inspector of mines has also issued an order to all mining companies to conduct a Dam

Safety Inspection for every tailings storage facility at a permitted mine by Dec. 1, 2014. Under the order, those inspections must be reviewed by an independent, qualified, third-party, professional engineer from a firm not associated with the tailings facility. All information obtained under this order will be provided to First Nations and made public.

Under the Health, Safety and Reclamation Code for Mines in British Columbia, the deadline for annual Dam Safety Inspections would have been March 31, 2015, and would not have required an independent third-party review. The order accelerates the deadline and establishes the requirement for an independent review.

The order also includes a requirement for a third-party review of the dam consequence classifications by Dec. 1, 2014. A dam's consequence classification is based on the potential impact to population, the environment, cultural values and infrastructure should it fail, and is set according to the Canadian Dam Association Dam Safety Guidelines. Under the order, mines with high, very high or extreme consequence classifications will be required to have their Emergency Preparedness and Response Plans reviewed by an independent third-party.

There are currently 98 permitted tailings impoundments at 60 operating and closed metal and coal mines in B.C.

Quotes:

Bill Bennett, Minister of Energy and Mines and Responsible for Core Review –

"We have a responsibility, as the jurisdiction where this failure took place, to find out exactly why it happened, ensure it never happens again and take a leadership role internationally in learning from this serious incident."

"Mining is a critical industry in British Columbia, supporting dozens of communities and thousands of families. The independent engineering investigation and third-party reviews of Dam Safety Inspections for every permitted tailings facility in the province will get the answers necessary to provide public confidence following this serious incident."

Chief Bev Sellars, Soda Creek Indian Band –

"There is no doubt in anyone's minds that this is the worst mining disaster to ever occur in this province. Our nations and all British Columbians have raised questions as to how such a disaster could occur. With this independent investigation, we will all get the answers we need and deserve. We look forward to receiving the results of the investigation and taking action to ensure an accident like this this never happens again."

Chief Ann Louie, Williams Lake Indian Band –

"An independent engineering investigation is a crucial process required to understand the cause of this breach. However, it is merely a first step in understanding the broader implications of this disaster. Many questions will remain regarding the long-term impacts to our communities and environment."

Dirk Van Zyl, professor, UBC, Norman B. Keevil Institute of Mining Engineering, member of independent engineering investigation panel –

"The failure of the tailings facility at Mount Polley was a dark day for the mining industry not only here in British Columbia, but worldwide. It's extremely important for us to understand how this breach happened and why so that we can move forward with the best possible practices in ongoing and future mining operations."

Ann English, P.Eng., CEO, Association of Professional Engineers and Geoscientists of BC –

"As the regulator for engineering and geoscience in B.C., we expect resource development projects to be conducted safely and professionally. We are committed to upholding high standards of professional practice for B.C. engineers and geoscientists as they undertake their work. The public has a right to know what happened at Mt. Polley, and it is our hope that the inquiry will bring all the facts to light so we can ensure an accident like this never happens again."

Al Richmond, chair, Cariboo Regional District –

"Our communities, the various agencies, and the Province have responded to this serious incident and are doing everything necessary to protect our residents and return to a sense of normalcy." We need to get the bottom of why this occurred and ensure it doesn't happen again. Minister Bennett's decision to order an independent engineering investigation will find those answers and give all parties confidence in the results."

Learn More:

For a collection of documents from government and partners surrounding the Mount Polley breach, visit: http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm

Four backgrounders follow.

Media Contact:

Sandra Steilo
Media Relations
Ministry of Energy and Mines
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BRITISH COLUMBIA

BACKGROUNDER

For Immediate Release
2014MEM0022-001207
August 18, 2014

Ministry of Energy and Mines

Mount Polley Inspections

- Early in the morning of Aug. 4, 2014, the tailings pond dam at the Mount Polley Mine site breached and released an estimated 10 million cubic metres of water and 4.5 million cubic metres of fine sand into Polley Lake. Hazeltine Creek flows out of Polley Lake and the flow of contaminated water continued into Quesnel Lake.
- The Mount Polley mine has a valid Mines Act permit and the company has been generally compliant with the Health, Safety and Reclamation Code and their Mines Act permit conditions.
- Following reports of a previous breach at the mine, Ministry of Energy and Mines (MEM) officials investigated an incident on May 24, 2014, and determined this was not a breach. Rather, the height of the tailings pond was above regulation. This occurred in a different area of the tailings pond than the Aug. 4, 2014, dam failure.
- At the time of the advisory, the distance between the water elevation and the crest of the dam (freeboard) was less than one meter. The tailings pond level returned to authorized levels and freeboard was approximately 2.4 meters when last measured. Mine records show that the operation was carrying out visual dam inspections and measuring freeboard at an acceptable frequency, including daily measurements following the incident.
- The MEM conducted a geotechnical inspection at the mine in September 2013, which resulted in no inspection orders related to the tailings facility.
- Here is a list of recent advisories to Mount Polley from the Ministry of Environment (MoE), only one of which was related to height of the tailings pond. The MoE is responsible to ensure no unauthorized effluent discharge from the tailings pond structure:
    - May 24, 2014: The ministry issued an advisory to Mount Polley Mining Corporation for exceedance of the height of effluent within the tailings impoundment. The effluent level returned to authorized levels commencing June 30, 2014.
    - April 18, 2014: The ministry issued an advisory to Mount Polley Mining Corporation for bypass of authorized treatment works. The site experienced high flows due to spring freshet which caused the pump system to become blocked and resulted in an overflow of effluent to the long ditch. Flow did not reach the creek and was directed into Till Borrow Pit.
    - January and April 2012: The ministry issued an advisory to Mount Polley Mining Corporation for not submitting monitoring data for one of the groundwater monitoring wells.
    - oAug. 30, 2012: The ministry issued a warning to Mount Polley Mining Corporation for failure to report exceedance of the height of effluent for the perimeter pond. This perimeter pond overflowed, releasing approximately 150 cubic metres of effluent over 13 hours to ground.

- As required by the Health, Safety and Reclamation Code for Mines in British Columbia, companies must submit Annual Dam Safety Inspection reports to the Chief Inspector on an annual basis. Inspections of tailing pond dams by ministry geotechnical inspectors are conducted at a frequency informed by the dam consequence classification that is designated by the dam design engineers in accordance with the Canadian Dam Association Dam Safety Guidelines.
- Since the Mount Polley mine was permitted in 1995, there have been 16 geotechnical inspections conducted by ministry geotechnical inspectors. One inspection was conducted each year from 1995-2001 and in 2006, 2008 and 2013. Two inspections were conducted in each of 2005, 2007 and 2012.
- In summary, seven geotechnical inspections took place before the mine went into care and maintenance in 2001 and nine geotechnical inspections have taken place since it re-opened in March 2005. The last geotechnical inspection was conducted in September 2013 and resulted in no inspection orders related to the tailings facility.
- Here is a historical record of the number of all types of inspections (including geotechnical) each year from 1999 to 2014:
    - 1999 – 1
    - 2000 – 4
    - 2001 - 22 (care and maintenance started September 2001)
    - 2002 – 4
    - 2003 – 2
    - 2004 – 5
    - 2005 - 15 (mine reopened March 2005)
    - 2006 – 10
    - 2007 – 10
    - 2008 – 8
    - 2009 – 9
    - 2010 – 7
    - 2011 – 4
    - 2012 – 6
    - 2013 – 15
    - 2014 (to-date) – 8
- Monitoring devices, called piezometers, designed to measure the pressure of water in the dam, did not show any changes in the water pressure before the dam breach. The last piezometer readings were taken on Aug. 2, 2014. The investigation will determine if the piezometers were located correctly.

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BRITISH COLUMBIA

BACKGROUNDER

For Immediate Release
2014MEM0022-001207
August 18, 2014

Ministry of Energy and Mines and Responsible for Core Review

Current investigations underway into the Mount Polley breach

Conservation Officer Service

An investigation into the cause of the Mount Polley tailings pond breach is underway, being led by British Columbia's Conservation Officer Service (COS), and assisted by Environment Canada, Department of Fisheries and Oceans Canada and the RCMP.

The COS is an independent law enforcement body, and forwards recommendations for charges when warranted directly to provincial Crown Counsel.

The COS Major Investigations Unit (MIU) has been at the Mount Polley site since Aug. 4, performing tasks such as conducting interviews and collecting evidence.

MIU officers, trained in specialized investigative techniques, focus on cases that are complex, involve corporations, are international or are multi-jurisdictional in scope. As law enforcement officers, conservation officers in the MIU are highly trained in complex investigations including person interview practices and evidence gathering techniques that can secure criminal prosecution.

The COS uses the highest level of Major Case File Management techniques, as well as internationally recognized systems such as the incident command system. Major Case Management supports major investigations by efficiently processing, organizing, indexing, and ultimately disclosing the large quantities of information derived from these investigations.

The COS is the primary natural resource law enforcement agency in B.C. that specializes in commercial environmental and industrial investigations. The COS enforces over 33 pieces of provincial and federal legislation, including the Environmental Management Act and the Fisheries Act. Conservation Officers are also Special Provincial Constables under the Police Act with a wide suite of powers associated with that designation.

If the public has any information, they are asked to call the Report all Poachers and Polluters (RAPP) line at 1 877-952-7277 or online at www.env.gov.bc.ca/cos/rapp/form.htm.

Chief inspector of mines investigation

B.C.'s chief inspector of mines is also conducting an investigation under the statutory authority of the Mines Act.

The Mines Act states:

An inspector may, and on the direction of the chief inspector must, make an investigation of and report about an accident that has caused serious personal injury, loss of life or property or

environmental damage.

Appointed by the Minister of Energy and Mines, the Chief Inspector of Mines is responsible for administering and enforcing the Mines Act and the Health, Safety and Reclamation Code for Mines in B.C.

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BRITISH COLUMBIA

BACKGROUNDER

For Immediate Release
2014MEM0022-001207
August 18, 2014

Ministry of Energy and Mines and Responsible for Core Review

Inspections and independent reviews of tailings ponds at permitted mines

The Chief Inspector of Mines has issued an order to all mining companies to conduct a Dam Safety Inspection for every tailings storage facility at a permitted mine by December 1, 2014.

Under the order, those inspections must be reviewed by an independent qualified third-party professional engineer from a firm not associated with the tailings facility. All information obtained under this order will be provided to First Nations and made public.

Under the Health, Safety and Reclamation Code for Mines in British Columbia, the deadline for annual Dam Safety Inspections would have been March 31, 2015, and would not have required an independent third-party review. The order accelerates the deadline and establishes the requirement for an independent review.

The order also includes a requirement for a third party review of the dam consequence classifications. A dam's consequence classification is based on the potential impact to population, the environment, cultural values and infrastructure should it fail, and is set according to the Canadian Dam Association Dam Safety Guidelines.

Under the order, mines with high, very high or extreme consequence classifications will be required to have their Emergency Preparedness and Response Plans reviewed by an independent third party.

Tailings ponds in British Columbia

There are a total of 98 tailings ponds at permitted mines in British Columbia. Thirty one of these ponds are at active mining operations and the remaining 67 belong to mines that have either closed permanently or are in care and maintenance, which means they may or may not reopen in the future.

Click the link below for a list of active and inactive tailings ponds in B.C.

http://www.newsroom.gov.bc.ca/downloads/Permitted_Metal_and_Coal_TSF.pdf

Dam Safety Inspections, Reviews and Consequence Classifications

Under the Health, Safety and Reclamation Code for Mines in British Columbia, mining companies are required to conduct annual Dam Safety Inspections and submit them to the Chief Mines Inspector. In addition, mines are required to conduct more comprehensive dam safety reviews on a periodic basis according to their dam consequence classification. The consequence classification is a five-step scale based on factors such as population at risk, potential loss of life, potential damage to environmental and cultural values and economic

impact.

Dam Consequence Classification: Extreme
Frequency of Dam Safety Review (DSR): Every five years

Dam Consequence Classification: Very high
Frequency of Dam Safety Review (DSR): Every five years

Dam Consequence Classification: High
Frequency of Dam Safety Review (DSR): Every seven years

Dam Consequence Classification: Significant
Frequency of Dam Safety Review (DSR): Every 10 years

Dam Consequence Classification: Low
Frequency of Dam Safety Review (DSR): N/A

In addition to annual Dam Safety Inspections and regular dam safety reviews conducted by mining companies as required by the Health, Safety and Reclamation Code for Mines in British Columbia, the Ministry of Energy and Mines also conducts regular geotechnical inspections.

Tailings impoundment structures are inspected by ministry geotechnical inspectors, based on dam consequence classification. The ministry conducted 31 geotechnical mine inspections in 2013.

For more information about dam safety reviews in B.C., check the link below.

https://www.apeg.bc.ca/getmedia/a373a764-1869-41b5-b07d-81d36a0698c3/APEGBC-Legislative-Dam-Safety-Reviews.pdf.aspx

Chief Inspector's Order

The following is the full text of the Chief Inspector's order:

Notification of Chief Inspector's Orders

Tailings Dams – Independent Review of Dam Safety and Consequence Classification

As Chief Inspector of Mines, it is my responsibility to ensure that tailings dams in British Columbia are being designed, constructed, and operated in a safe manner. In light of the recent tailings dam failure at the Mount Polley mine on August 4, 2014, I am issuing the following orders for the purpose of reviewing the safety of tailings impoundment structures at mines throughout the province to establish where improvements may be required.

Owners, agents or managers responsible for tailings dams are being issued these orders pursuant to Section 18 of the Mines Act:

Orders:

Dam Safety Inspection and Independent Third Party Review of Dam Safety Inspection

1. You are required to conduct a Dam Safety Inspection (DSI) by Dec. 1, 2014. The DSI must cover all dam structures for all tailings storage facilities on your mine site.The DSI must

be conducted by a qualified professional engineer consistent with the BC Ministry of Energy and Mines Guidelines for Dam Safety Inspections.

http://www.empr.gov.bc.ca/Mining/Permitting-Reclamation/Geotech/Documents/Guidelines_for_Annual_Dam_Safety_Inspections(RevisedAug2013).pdf

1. The mine manager must have the DSI reviewed by an independent qualified third party professional engineer from a firm that has not been associated with the tailings dam. The Independent Third Party Review of the DSI must also include a review of the dam consequence classification.
2. Both the DSI and the Independent Third Party Review of the DSI must be sealed by the qualified licensed professional engineers who conducted the work.
3. Any recommendations made in the DSI or the Independent Third Party Review of the DSI must be summarized in an accompanying letter from the Mine Manager to the Chief Inspector outlining the commitments for completing the recommended work along with a schedule for implementing the recommended work.
4. The DSI, Independent Review of the DSI, and the mine manager's letter to the Chief Inspector must be submitted to the Chief Inspector by December 1, 2014.

Emergency Preparedness and Response Plan and Dam Break Inundation Study

1. All tailings dams that have a failure consequence classification of high, very high or extreme (and taking into account any change in dam classification resulting from the Independent Third Party Review of the DSI under Orders 1 through 5), must have an Emergency Preparedness and Response Plan (EPRP) and a Dam Break Inundation Study.
2. The EPRP and Dam Break Inundation Study must be completed and tested consistent with the Canadian Dam Association, Dam Safety Guidelines (CDA Guidelines). If the tailings facility already has an existing EPRP, it must be reviewed and updated for consistency with the CDA Guidelines and with current standards of engineering practice.
3. The Dam Break Inundation Study must be prepared by a qualified licensed professional engineer.The EPRP must be informed by the Dam Break Inundation Study with input from the qualified licensed professional engineer.
4. The Dam Break Inundation Study, the EPRP, and a summary of the EPRP test including any identified gaps and lessons learned from the EPRP test, must be submitted to the Chief Inspector by December 1, 2014.

The Ministry of Energy and Mines will be placing reliance on the seal of the qualified professionals undertaking the above work. In addition, all submitted reports and reviews that are submitted to satisfy these orders will be subject to additional review by Ministry of Energy and Mines geotechnical engineers and/or their consultants. As well, in the interest of transparency and the public interest, all submitted documents related to these orders will be made available to the public.

Sincerely,

Al Hoffman, P.Eng.
Chief Inspector of Mines

Media Contact:

Sandra Steilo
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BRITISH COLUMBIA

BACKGROUNDER

For Immediate Release
2014MEM0022-001207
August 18, 2014

Ministry of Energy and Mines and Responsible for Core Review

Terms of Reference for Independent Expert Engineering Investigation and Review Panel

Below are the Terms of Reference issued by Minister Bill Bennett with the support of the Soda Creek and Williams Lake Indian Bands:

Establishment of the Panel

Pursuant to the Mount Polley Investigation and Inquiry Regulation, issued pursuant to section 8 (2) of the Ministry of Energy and Mines Act, I direct that an independent expert engineering investigation and review Panel (the Panel) be established, in accordance with these Terms of Reference, to investigate into and report on the breach of the tailings storage facility (TSF) at the Mount Polley mine on August 4, 2014.

For the purposes of conducting the investigation into the breach of the tailings storage facility at the Mount Polley mine on Aug. 4, 2014, I confer upon the Panel members the powers and authorities as set out in section 8.2 and 8.4(1) of the Ministry of Energy and Mines Act.

I further confer upon the Panel members the protection set out in section 8.5 of the Ministry of Energy and Mines Act.

Purpose of the Panel

The purpose of the panel is to investigate into and report on the cause of the failure of the tailings storage facility that occurred on Aug. 4, 2014, at the Mount Polley mine in B.C.

The panel will report on the cause of the failure of the tailings storage facility at the Mount Polley mine. In addition, the panel may make recommendations to government on actions that could be taken to ensure that a similar failure does not occur at other mine sites in B.C.

The panel is authorized, as part of its investigation and report, to comment on what actions could have been taken to prevent this failure and to identify practices or successes in other jurisdictions that could be considered for implementation in B.C.

Scope of Review

In its report, it is expected the panel will:

1. identify any mechanism(s) of failure of the tailings storage facility;
2. identify any technical, management, or other practices that may have enabled or contributed to the mechanism(s) of failure. This may include an independent review of the design, construction, operation, maintenance, surveillance and regulation of the facility;
3. identify any changes that could be considered to reduce the potential for future such

occurrences.

In conducting its investigation and in order to prepare its report into the cause of the failure of the tailings storage facility at the Mount Polley mine, the Panel may, at its discretion, and as it deems necessary, examine some or all of the following in respect of the Mount Polley mine in B.C.:

- geotechnical designs of the dams and structures associated with the TSF, including both intact and breached embankments, and including both the original design and all lifts of the embankment structure;
- the adequacy of geotechnical investigations completed throughout design and operation of the facility;
- interpretation of results of geotechnical investigations and associated laboratory testing;
- patterns, trends, and relationships in instrumentation behaviour;
- interpretation of instrumentation and performance data in relation to dam behaviour;
- whether or not dam instrumentation and monitoring was consistent with standards of practice;
- appropriateness of methods and input parameters for geotechnical analyses;
- materials, methods, procedures, and quality assurance/quality control practices for dam construction and modification, and a determination with respect to whether or not construction was completed in general conformance with the design;
- water balance and water quality as they relate to the TSF breach;
- operational procedures and planning for tailings deposition and water management;
- inspection and surveillance procedures and implementation;
- the engineer of record's field reviews to ensure that construction was in conformance with design;
- regulatory oversight by the Ministry of Energy and Mines and the Ministry of Environment; and
- other matters the Panel deems appropriate to be examined.

Panel Members

The panel members are:

- Norbert Morgenstern
- Steven G. Vick
- Dirk Van Zyl

The panel will be chaired by Norbert Morgenstern.

A liaison will be appointed in consultation with the Williams Lake Indian Band and the Soda Creek Indian Band.

Secretariat to the Panel

Administrative, technical and procedural support required by the Panel shall be provided by a secretariat.
Kevin Richter will manage the secretariat in support and under the direction of the Panel.

Information to be provided to the Panel

The Panel will be supplied with all available information necessary for achieving its purpose and performing its functions.

Timeline

The Panel will submit a final report to the Minister of Energy and Mines and the Williams Lake Indian Band and the Soda Creek Indian Band on or before January 31, 2015.

Limitations

The panel shall perform its duties without expressing any conclusions or recommendations regarding the potential civil or criminal liability of any person or organization. The panel shall further ensure that the conduct of the inquiry does not in any way impede or conflict with any other ongoing investigation or proceeding related to these matters. Specifically, the Panel`s review will not in any way impede investigations conducted by mines inspectors, Conservation Officers or other regulatory agencies and any related proceedings.

Independent Engineering Investigation and Inquiry Panel Members Biographies:

The panel members have been appointed by government with the support of the Soda Creek and Williams Lake Indian Bands.

The Association of Professional Engineers and Geoscientists of British Columbia (APEGBC), and the Institute of Mining Engineering at the University of British Columbia also provided input on the panel members.

The panel members are experienced geotechnical experts with expertise in tailings management facilities. They are:

Norbert (Nordie) Morgenstern

Norbert Morgenstern is a well-recognized leader in the field of geotechnical engineering and has extensive experience in dam engineering (having worked on over 140 dam projects worldwide). Nordie is recognized as a distinguished university professor (Emeritus) of civil engineering at the University of Alberta where he previously held the role of chair of the department of civil and environmental engineering. He has released over 330 publications in the field of engineering. He is heavily involved in the engineering community having held the role of Member, Chair, Vice President, or President on an extensive list of technical committees worldwide, and has received a plethora of honours and awards throughout his career.

Dirk van Zyl

Dirk J. A. Van Zyl has more than 30 years' experience in research, teaching, and consulting in tailings and mined earth structures. During that period, he was a faculty member for 13 years at four universities in the U.S.A. and Canada. For the last ten years, much of his attention has been focused on mining and sustainable development. Dirk has been involved internationally in many mining projects which covered the whole mining life cycle, from exploration to closure and post-closure, in a large range of climactic and geographic environments. His present research is in the area of the contributions that mining makes to sustainable development, as well as the application of life cycle assessment to mined earth structures.

Steven G. Vick

A leader in the field of dam engineering, Steve Vick is a geotechnical engineer and internationally recognized review consultant who has worked with various engineering firms, project proponents and governments. In addition to extensive experience working on projects located in B.C., Vick has wide-ranging experience in both technical review and forensic investigations, including chairing the investigation of the Omai tailings dam failure for the government of Guyana and participating in the investigation of the New Orleans levee failures that occurred during Hurricane Katrina. Vick has written two books, including Planning, Design, and Analysis of Tailings Dams, which is the only text of its kind that has remained in print for over 30 years and is familiar to most experts in the field. Vick has released numerous other publications related to dam safety and various aspects of risk analyses throughout his career and also speaks on the subject frequently—his most recent keynote lecture was entitled "The Consequences of Tailings Dam Failure". He holds undergraduate and graduate degrees from MIT.

Media Contact:

Sandra Steilo
Media Relations
Ministry of Energy and Mines
250 952-0617

BRITISH COLUMBIA

August 10, 2014 File: Order 107461

Mount Polley Mining Corporation
Suite 200 – 580 Hornby St
Vancouver BC V6C 3B6

To Whom It May Concern:

RE: Pollution Abatement Order 107461

Thank you for submitting your action plan, as required by Section 6, and for submitting a list of qualified professionals, as required by Section 2 of Order 107461, to the Ministry of Environment by August 6, 2014.

Upon reviewing the action plan, I am generally satisfied with the plan provided, however, to fully satisfy Section 6 of the Order, I request that Mount Polley Mining Corporation:

i. Provide in writing to the Ministry of Environment more detail on how to recover mine affected material and sediment:
   a. while diverting water from Polley Lake (e.g. log booms and silt screens), and
   b. once safe access to Hazeltine Creek is possible;

ii. Provide in writing to the Ministry of Environment more detail on how to mitigate residual risk to the environment from mine-affected material;

iii. Provide, in addition to the daily calls, a written report by 4pm on Friday each week to the Ministry of Environment that includes a high level summary of:
   a. monitoring that occurred during the week and what is planned for the upcoming week, including where sampling is occurring and what is being sampled for;
   b. any modifications to the sampling/monitoring program;
   c. any gaps identified in the monitoring program and next actions;
   d. visual observations from each day during sampling (e.g. impacts); and
   e. a list of all the sampling sites with a map that is updated as it changes and provided as soon as possible;

iv. Additionally, it is expected that the detailed comprehensive Environmental Impact Assessment required under Section 7 of the Order will address and consider the following:
   a. Water quality should be analysed for all parameters that may be impacted due to the tailings release and subsequent environmental effects (e.g. debris introduction into lakes);

..2

Ministry of Environment Mining Operations Environmental Protection Division
Mailing Address: 2080A Labieux Road Nanaimo BC V9T 6J9
Telephone: 250 751-3100 Facsimile: 250 751-3103 Website: www.gov.bc.ca/env

b. Sediment analysis should focus on fine sediment, less than 63 micron (see Baseline Guidance Document referenced below);
c. Water sampling in Quesnel River downstream should be determined based on sample results upstream (if levels exceed guidelines, downstream sites need to be sampled);
d. Sediment toxicity sampling in Hazeltine Creel up and downstream should be conducted whenever something changes in the sediment, e.g. when new tailings or sediments are moved into the area.

Please be advised that field and lab methods should follow the Water and Air Baseline Monitoring Guidance for Mine Proponents and Operators (http://www.env.gov.bc.ca/epd/industrial/mining/pdf/water_air_baseline_monitoring.pdf) and the BC Field Sampling Manual (http://www.env.gov.bc.ca/wsd/data_searches/field_sampling_manual/field_man_03.html).

Section 2 of the Order is satisfied.

Sincerely,

Cassandra Caunce
For Director, *Environmental Management Act*

cc: Al Hoffman, Chief Inspector, Ministry of Energy and Mines
Dale Reimer, Mine Manager
Colleen Hughes, Environmental Coordinator

BRITISH COLUMBIA

Date: August 5, 2014 File: 107461

MOUNT POLLEY MINING
CORPORATION
SUITE 200
580 HORNBY ST
VANCOUVER, BC
V6C 3B6

POLLUTION ABATEMENT ORDER

I have reasonable grounds to believe that pollution is being caused by the discharge of mine tailings from the tailings storage facility at the Mount Polley Mine site into the environment. The discharge is occurring from a property located approximately 5 kilometers southeast of Likely, BC and is legally described as Mineral Claim CB-20, Cariboo Mining Division, Cariboo Land District, owned and/or operated by MOUNT POLLEY MINING CORPORATION.

It has been reported to the Ministry of Environment that on Monday, August 4, 2014 mine tailings escaped an impoundment facility via a dam breach on the above-mentioned property. Further investigation has revealed that a significant volume of materials have left the property and impacted Polley Lake, Hazeltine Creek and Quesnel Lake.

Pursuant to Section 83 of the *Environmental Management Act* [SBC 2003] Chapter 53, MOUNT POLLEY MINING CORPORATION is hereby ordered to comply with the following requirements:

1. Immediately take action, under the direction of a suitably qualified professional, to abate the discharge of mine-affected materials and sediments from the impoundment facility, and specifically into Polley Lake, Hazeltine Creek and Quesnel Lake. A written summary of actions taken must be submitted to the Director on August 13, 2014

2. Immediately retain a suitably qualified professional to initiate a preliminary Environmental Impact Assessment (EIA) and provide the name of the qualified professional to the Director for approval by August 6, 2014.

3. Retain a suitably qualified professional to initiate a comprehensive Environmental Impact Assessment (EIA) and provide the name of the qualified professional to the Director for approval by August 13, 2014.

Ministry of Environment Mining Operations
Environmental Protection
Mailing Location/Address
2080 Labieux Rd.
Nanaimo, BC V9T 6J9
Telephone: (250) 751-3100
Facsimile: (250) 751-3103
http://www.gov.bc.ca

4. Upon completion of the preliminary EIA, immediately implement clean up activities, mitigation measures and management actions as required by the EIA.

5. Upon completion of the comprehensive EIA, immediately implement clean up activities, mitigation measures, site restoration and management actions as required by the comprehensive EIA.

6. Based on the preliminary EIA, develop and submit to the Director by August 6, 2014 for approval, an Action Plan detailing measures relative to the preliminary EIA to be taken to:

   a. Characterize the materials that were released into the receiving environment (including their expected behaviour in the receiving environment, settling rates, etc.);

   b. Recover or otherwise manage mine-affected materials and sediments currently in the receiving environment;

   c. Mitigate residual risks to the environment;

   d. Assess and monitor the impacts and risks posed by the mine-affected materials and sediments currently in the receiving environment, as well as from the recovery and management efforts themselves; and

   e. Report on the implementation of Action Plan measures on a weekly basis to regulatory agencies and stakeholders.

7. Based on the comprehensive EIA, develop and submit to the Director by August 15, 2014 for approval, an Action Plan detailing measures relative to the comprehensive EIA to be taken to:

   a. Fully characterize the materials that were released into the receiving environment (including their expected behaviour in the receiving environment, settling rates, etc.);

   b. Fully recover or otherwise manage mine-affected materials and sediments currently in the receiving environment;

   c. Define Site mitigation and/or mitigate residual risks to the environment;

   d. Assess and monitor the impacts and risks posed by the mine-affected materials and sediments currently in the receiving environment, as well as from the recovery and management efforts themselves; and

   e. Report on the implementation of Action Plan measures on a weekly basis to regulatory agencies and stakeholders

8. Prepare and submit a formal written update by September 15, 2014. The update report is to include at a minimum:

   a. A list of all other qualified professionals who contributed to the report, and a summary of their qualifications;

   b. A summary of the preliminary EIA and results;

   c. A summary of the comprehensive EIA and results;

   e. A description of clean up activities, mitigation measures, site restoration and management actions that were implemented as a result of the preliminary and comprehensive EIA;

   f. Recommendations for additional mitigation and restoration measures, if appropriate; and

   g. A proposed ongoing monitoring program.

Failure to comply with the requirements of this order is a contravention of the *Environmental Management Act* and may result in legal action. I direct your attention to Section 120(10) of the *Environmental Management Act*, which reads:

> *"(10) A person who contravenes an order...that is given, made or imposed under this Act by a ...director...commits an offence and is liable on conviction to a fine not exceeding $300 000 or imprisonment for not more than 6 months, or both."*

Failure to comply with the requirements of this order may also result in an administrative penalty under the *Administrative Penalties Regulation (Environmental Management Act) (B.C. Reg 133/2014)* (Regulation). I direct your attention to Section 12(4) of the *Regulation*, which reads:

> *"(4) A person who fails to comply with an order under the [Environmental Management] Act is liable to an administrative penalty not exceeding $40 000."*

This order does not authorize entry upon, crossing over, or use for any purpose of private or crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with you. It is also your responsibility to ensure that all activities are carried out with due regard for the rights of third parties, and comply with other applicable legislation that may be in force, such as municipal bylaws relating to the discharge of waste to municipal storm or sanitary sewers.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date notice is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

If you have any questions, please call the undersigned or Jack Green at (250) 398-4544.

Yours truly,

Hubert Bunce
for Director, Environmental Management Act
Vancouver Island Region

cc: Environment Canada
Al Hoffman, Chief Inspector, Ministry of Energy and Mines
Dale Reimer, Mine Manager
Colleen Hughes, Environmental Coordinator

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 1:07 PM
To: McCarthy, Christine A MNGD:EX
Subject: Mt Polley

Hello Christine, I apologize for incorrectly sending you e-mails on Mt Polley. Please delete all of them as they were sent to you in error.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Hill, Douglas J FLNR:EX
Sent: Monday, September 8, 2014 12:05 PM
To: Weir, David J FLNR:EX
Cc: Fenwick, Leigh-Ann FLNR:EX
Subject: embedded debris

Dave, please keep Leigh-Ann in the loop on behalf of EP as she is leading their project.

djh

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 11:51 AM
To: XT:Carpenter, Penny FLNR:IN
Cc: McCarthy, Christine A MNGD:EX; Hill, Douglas J FLNR:EX
Subject: RE: confirmations

The embedded debris is the stuff deeply buried. For the rest just have an SOP from your biologist the same as with the other areas. Everything can be shared with EP and their concerns listened too but for the buried debris I want you to get their approval due to the risk of re animating tailing materials.

I have sent you another note on this.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Penny Carpenter s.22
Sent: Tuesday, September 2, 2014 5:18 PM
To: Weir, David J FLNR:EX
Subject: confirmations

Hi David
I tried to contact you several times today for clarification on cleaning the mouth of Hazeltine. Your order said "I remind you that embedded debris removal from Polley Lake, Hazeltine Creek and at the mouth of Hazeltine Creek where it enters Quesnel Lake must be approved by the Environmental Protection Division of the Ministry of Environment prior to being complete"
I am looking for clarification of embedded. I want to take a boom boat into Hazeltine along with a smaller boat and the tug tostart the removal of the logs and debris in the mouth of Hazeltine as soon as possible. I need to know if I need to contact EP prior to removing any of the logs and debris at the mouth of the creek .I do not plan to dig through the mud to get embedded logs but I would like to be able to remove the ones that have become beached due to high water.
What are your thoughts and requirements for this part of the removal. I hope to start this on Friday.
I also wanted to know if we were allowed to have the excavator there on the beach doing the same work it has been doing along the shores of the Mitchel Bay.
What are your thoughts and requirements for this part of the removal. I hope to start this on Friday.

I know that I require a first nations monitor and I have spoken with the WLIB to supply one for me. Adam was going to do it but apparently he is now working on the stream with SNC. He has informed me he will be sending a replacement to monitor our work at Hazeltine.

Do I need to contact EP and if so who do I contact?

Thanks Penny

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 11:51 AM
To: XT:Carpenter, Penny FLNR:IN
Cc: McCarthy, Christine A MNGD:EX; Hill, Douglas J FLNR:EX
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David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
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Do I need to contact EP and if so who do I contact?

Thanks Penny

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 11:36 AM
To: MacDougall, Gerry L FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: RE: Hazeltine freshet prep

We have been provided with a document concerning the control of sediment on Hazeltine creek but I have not been able to review it yet. I think they are looking at three ponds but things may have changed. It is possible they may have to look at a control structure on Polley lake if the pumping is not successful but have only heard rumours on this.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations Williams Lake , BC David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

-----Original Message-----
From: MacDougall, Gerry L FLNR:EX
Sent: Thursday, September 4, 2014 6:46 AM
To: Weir, David J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: Hazeltine freshet prep

Hi David,
At some point the risk of working near Hazeltine will be abated. For that moment (hopefully) when it is, are there any signals from Imperial or MEM that they'll have a design figured out for an impoundment structure at the bottom of Hazeltine to capture/mitigate freshet runoff? Granted, it may be difficult to design without ground access at this time, but there should be enough geomatics to figure out if it is even doable.

gerry

Sent from my iPad

Weir, David J FLNR:EX

From:	McCarthy, Christine A MNGD:EX
Sent:	Monday, September 8, 2014 8:10 AM
To:	Weir, David J FLNR:EX
Subject:	Out of Office: Embedded debris removal?

I am out of the office until Monday September 15th and will not be monitoring my emails. I will respond once I return.

For Petroleum Titles Online BCeID activation for Posting Land, please contact Elle Bardol at Elle.Bardol@gov.bc.ca or Mel Henze at Mel.Henze@gov.bc.ca

For immediate assistance with Tenure Management items please call Cindy Kocol at 250-952-0342 or Terry Branscombe at 250-952-0340 (terrence.branscombe@gov.bc.ca).

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 8:10 AM
To: Stolar, Harold B FLNR:EX
Cc: XT:Carpenter, Penny FLNR:IN; McCarthy, Christine A MNGD:EX
Subject: RE: Embedded debris removal?

The order only restricts removal of imbedded debris at Hazeltine creek. Operational issues such as skidding logs would be addressed by SOP's from their professional biologist.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Stolar, Harold B FLNR:EX
Sent: Tuesday, September 2, 2014 8:59 AM
To: Weir, David J FLNR:EX
Subject: Embedded debris removal?

Penny Carpenter call and she was wondering about your order that no embedded material is to be removed, however she was wondering about skidding or dragging logs across shore into the water. Logs are on shoreline now that water has receded. She asked who from EP could come and see what they are planning?

Penny's number is 250 296-0111.

Inspiring Stewardship through Respectful Conversation

Harold B. Stolar
Resource Manager
Cariboo-Chilcotin District
250 398-4372
cell 250 305-9344

Weir, David J FLNR:EX

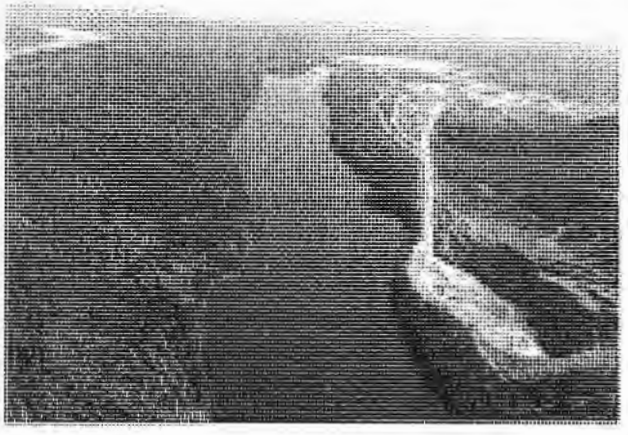
From: Beadman, Krista FLNR:EX
Sent: Thursday, September 4, 2014 4:41 PM
To: FLNR Cariboo Region All Staff
Subject: Key Messages August 2014

RMT Key Messages August 2014

The August face to face RMT meeting took place on Thursday, August 7.

Some key items from the meeting:

Mt. Polley Mine – David Weir provided updates and answered questions regarding the Mt. Polley Mine tailings pond breach that took place on August 4. FLNR staff are continuing to support and provide expertise to the Ministry of Environment and Ministry of Energy and Mines.
Harold Stolar and David Weir flew over Mt. Polley and the surrounding area in the days following the breach. Below are pictures taken during their flight:



Jennifer McGuire (Ministry of Environment) conducted a Live Meeting regarding the Mt. Polley tailings pond breach on August 27.
The Ministry of Environment has been providing updates if you would like more information:
http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm

NR

September RMT – The September 10 & 11 RMT Face to Face meeting will be on the road to Quesnel! Day 1 will be the meeting portion and Day 2 will be the field day.

If you have a story you would like to share, please email me your idea.
Stay tuned for the next edition of Key Messages in September!

Krista Beadman
Regional Administrative Assistant
Cariboo Region
Ministry of Forests, Lands & Natural Resource Operations
Phone: 250-398-4327

Weir, David J FLNR:EX

From: MacDougall, Gerry L FLNR:EX
Sent: Thursday, September 4, 2014 6:46 AM
To: Weir, David J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: Hazeltine freshet prep

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gerry

Sent from my iPad

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Sent: Tuesday, September 2, 2014 8:59 AM
To: Weir, David J FLNR:EX
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Penny's number is 250 296-0111.

Inspiring Stewardship through Respectful Conversation

Harold B. Stolar
Resource Manager
Cariboo-Chilcotin District
250 398-4372
cell 250 305-9344

Weir, David J FLNR:EX

From: Colleen Hughes <chughes@mountpolley.com>
Sent: Thursday, August 28, 2014 8:18 AM
To: Bunce, Hubert ENV:EX; Howe, Diane J MEM:EX; Demchuk, Tania MEM:EX; Hill, Douglas J FLNR:EX; Swan, Chris L ENV:EX; Metcalfe, Shelley ENV:EX; Epps, Deb ENV:EX; Weir, David J FLNR:EX
Cc: Jack Love; Luke Moger; Katie McMahen; Greg Wenger
Subject: Follow up from Augsut 27 3pm call

Good Morning All

There were three items requiring follow up from yesterday's call.

1. Regarding the second pipeline from Polley Lake, how will we be bringing the new pumps online? The pumps will be turned on one at a time. We will follow Katie's monitoring plan (sent yesterday) as each pump comes on.
2. What is our plan for monitoring at the mouth of Hazeltine Creek once the second pipeline is functioning? We are currently in the process of assessing the options for monitoring and sediment control. A crew from SNC Lavalin are walking he creek today assessing the tailings deposits and will make recommendations for moving forward with pumping.
3. A request was made for information regarding the hazard mitigation plan for the Polley Lake Plug. Please see memo from Greg Wenger below.

Regards,

Colleen Hughes, EP
Environmental Coordinator
Mount Polley Mining Corporation
PO Box 12
Likely, BC V0L 1N0
250-790-2617
chughes@mountpolley.com

From: Greg Wenger [mailto:GWenger@bgcengineering.ca]
Sent: Wednesday, August 27, 2014 6:00 PM
To: Colleen Hughes
Cc: Luke Moger
Subject: Polley Lake Sediment Plug Hazard Mitigation Plan Summary

Colleen,

Below is a quick summary of the Polley lake sediment plug hazard mitigation plan as discussed on the conference call with the ministry representatives today:

The project requires personnel to access the Hazeltine Creek channel downstream of the sediment plug that is restricting outflow from Polley Lake. The potential for a sudden release of water and/or sediment exists and poses a

hazard for personnel working in the creek channel downstream of the sediment plug. Works undertaken to date to reduce the potential of a sudden release of water and/or sediment include:

- Reducing the water level in Polley lake via pumping through a diversion pipe
- Control of water dam breach and Long ditch flows onto the sediment plug via sumps and pumping

As part of a hazard mitigation plan, BGC is preparing a sediment plug monitoring plan for MPMC, which will include periodic:

- Visual inspections of the extent of moist and wet soil zones in the plug.
- Monitoring for seepage at the downstream limits of the sediment plug
- Monitoring of Polley Lake water levels
- Visual inspections for potential erosion of plug materials from rainfall runoff.
- Monitoring of continued control of the dam breach and Long ditch inflows onto the sediment plug.

Other aspects of the hazard mitigation plan being coordinated by MPMC will include:

- Full time monitoring of the plug outlet by a spotter when personnel are in the downstream creek channel.
- A radio alert system
- Radio check-in and check-out procedures
- Job Safety Assessments (JSA) by each person/group entering the downstream creek bed to determine entry and exit points and evacuation limits.
- A no-entry zone where Hazeltine Creek is deeply incised and exit times cannot be completed in a timely manner.

I hope this summary meets your needs while the safe work plan is being finalized.

BGC ENGINEERING INC.
per:

Greg Wenger, M.Eng.
Geotechnical Engineer

BGC ENGINEERING INC.
Suite 800 - 1045 Howe Street
Vancouver, BC, CAN, V6Z 2A9
Telephone: (604) 684-5900 ext. 41140
Facsimile: (604) 684-5909
www.bgcengineering.ca

Weir, David J FLNR:EX

From: Hill, Douglas J FLNR:EX
Sent: Wednesday, August 27, 2014 6:46 PM
To: Weir, David J FLNR:EX; Fenwick, Leigh-Ann FLNR:EX
Subject: FW: Critical Tasks and Initial Schedule Mnt Polley Tailings Breach EIA
Attachments: Critical Task Workflow_Schedule_Draft_August 26 2014.pdf; Mt Polley Project Schedule_Draft(as of 140826).pdf

From: Jack Love [mailto:JLove@imperialmetals.com]
Sent: Tuesday, August 26, 2014 9:29 PM
To: Caunce, Cassandra ENV:EX; Bunce, Hubert ENV:EX
Cc: Zacharias-Homer, Christa ENV:EX; Hoffman, Al MEM:EX; 'chughes@mountpolley.com'; 'dreimer@mountpolley.com'; Metcalfe, Shelley ENV:EX; McGuire, Jennifer ENV:EX; Bev Sellars (b.sellars@xatsull.com); Ann Louie (ann.louie@williamslakeband.ca); Aaron Higginbottom (Aaron.Higginbottom@williamslakeband.ca); Julia Banks (nrcoordinator@xatsull.com); Steve Robertson; Demchuk, Tania MEM:EX; Pierre Stecko; Green, Jack E ENV:EX; Brian Kynoch; dreimer@mountpolley.com; RC Cory Koenig; Don Parsons; Luke Moger (lmoger@mountpolley.com); Art Frye (afrye@mountpolley.com); Johnson, Gordon; Bellefontaine, Kim MEM:EX; Howe, Diane J MEM:EX; McConkey, Trevor; Jancicka, Erik; Hill, Douglas J FLNR:EX; Vanderburgh, Ken FLNR:EX; Luke Moger (lmoger@mountpolley.com); Paslawski, Janice; Katie McMahen
Subject: Critical Tasks and Initial Schedule Mnt Polley Tailings Breach EIA

Hi Hubert and Cassandra,

Attached are two additional documents outlining the schedules and tasks for review and discussion. I look forward to further discussions and collaboration as we work through the various assessments and activities.

Regards,
Jack

Jack Love, RPBio., Environmental Manager Mt Polley Tailings Breach
jlove@imperialmetals.com
mobile 604.358.2699 | 604.800.9200 ext 329 Red Chris | 250.790.2215 ext 2560 Mt. Polley
Red Chris Development Company Ltd.
Hwy 37 Power Corp.
Mount Polley Mining Corp.
Imperial Metals Corporation
200-580 Hornby Street, Vancouver, BC V6C3B6
604.669.8959 | www.imperialmetals.com

Red Chris
an Imperial Metals company

SNC·LAVALIN

SNC-Lavalin Inc.,
Environment & Water
203 – 1300 1st Avenue
Prince George, British Columbia
Canada V2L 2Y3

Telephone: 250-562-5172
Fax: 250-562-5128

MEMORANDUM

TO:	Mr. Jack Love	Date:	August 26, 2014
C.C.:	Gordon Johnson		
FROM:	David Tarnocai/Janice Paslawski	Ref.:	621717
Subject:	Mount Polley Comprehensive Environmental Impact Critical Tasks		

The Comprehensive Environmental Impact Assessment (CEIA) workplan is structured to consist of three parallel components in order to mitigate the mine tailings breech: Environmental Impact Assessment; Environmental Effects Monitoring and Mitigation/Rehabilitation of the impacted area. To facilitate these components eight (8) concurrently conducted tasks are undertaken to link the data collection of the region in order to best mitigate the impact and restore the area to pre-impact conditions. Each of the components incorporates the data at different times and forms with the use of an overall Risk Assessment approach throughout the process to inform the critical path.

Tasks and subtasks referred to in this memo are identified according to the Task numbering in the accompanying GANTT chart. The concurrent tasks consist of:

- 3.1 - Hydrology Impact Assessment;
- 3.2 - Water Quality Impact Assessment;
- 3.3 - Soil Quality Impact Assessment;
- 3.4 - Sediment Impact Assessment;
- 3.5 - Terrestrial Impact Assessment;
- 3.6 - Fish and Aquatic Habitat Impact Assessment;
- 3.7 - Archeological Impact Assessment; and,
- 3.8 - Environmental Risk Assessment.

The Water Quality Impact Assessment (Task 3.2) to Fish and Aquatic Habitat Impact Assessment (Task 3.6) Tasks produce information that informs the quantitative Environmental Risk Assessment Task, with the early project phase subtasks of Task 3.6 being used to identify data gaps, focus on critical uncertainties and also guide/refine the monitoring program and Tasks 3.2 through 3.6 work programs

where necessary to ensure impacts are identified in the critical stages. The results of Tasks 3.2 through 3.6 ultimately are used in whole or in part in the Detailed Quantitative risk assessment subtask of Task 3.8 in order to identify areas of the site requiring management and site management options.

There are multiple critical paths within the CEIA. These critical paths are identified below:

TASK 3.1 HYDROLOGY IMPACT ASSESSMENT

The overall Task 3.1 objective is channel design and construction to rehabilitate Hazeltine Creek if determined to be the most environmentally beneficial to the ecology and aquatic wellbeing. To meet this objective, a number of concurrent Task 1 subtasks need to be completed. The critical subtasks, in order of timing are:

- 3.1.1 - Data review and gap analysis,
- 3.1.6 - Hydrometric gauging and sediment discharge assessment
- 3.1.9 - Channel design and construction

TASK 3.2 - WATER QUALITY IMPACT ASSESSMENT

Task 3.2 results provide information on sediment plume dispersion and delineation and provide water quality information that is utilized in Task 3.8. There are two critical paths in Task 3.2. The Task 3.2 critical path that link to Task 3.8 consists of the following subtasks, in order of timing:

- 3.2.1 - Data review and gap analysis; and,
- 3.2.2 and 3.2.3 Water quality sampling.

The second Task 3.2 critical path which identifies sediment plume extent consists of the following subtasks, in order of timing:

- 3.2.4 - Plume delineation field program;
- 3.2.5 - Plume Model development; and,
- 3.2.6.3 - Detailed report related to plume delineation.

TASK 3.3 - SOIL QUALITY IMPACT ASSESSMENT

The output of Task 3.3 will be utilized in Task 3.8. The critical path for Task 3.3 subtasks, in order of timing is as follows:

- 3.3.1 to 3.3.3 Data gap and sampling programs; and,
- 3.3.4 – Reporting related to outcome of the soil impact assessment.

TASK 3.4 SEDIMENT IMPACT ASSESSMENT

Task 3.4 results provide sediment characterization information which will be incorporated into Task 3.2 to provide additional data on sediment plume extents and in Task 3.8. The Task 3.4 critical path that links to Task 3.4 and Task 3.8 consists of the following subtasks, in order of timing:

- 3.4.1 Data review and gap analysis;
- 3.4.2 Tier 1 and Tier 2 sediment sampling; and,
- 3.4.3 Reporting related to sediment characterization.

TASK 3.5 - TERRESTRIAL IMPACT ASSESSMENT

The output of Task 3.5 will be utilized in Task 3.8. The critical path for Task 3.5 subtasks, in order of timing is as follows:

- 3.5.1 Data review and gap analysis;
- 3.5.2 to 3.5.4 Field activities;
- 3.5.5 Analysis and Assessment; and
- 3.5.6 Reporting of analysis and assessment results. identified in the schedule – for work leading to Task 3.8.

Note:

Some tasks may require work to discontinue at the point the data is collected before continuing.
Some tasks will be analyzed during the field programs to determine additional scope.

TASK - 3.6 - FISH AND AQUATIC HABITAT IMPACT ASSESSMENT

The output of Task 3.6 will be utilized in Task 3.8. The critical path for Task 3.6 subtasks, in order of timing is as follows:

- 3.6.1 Data review and gap analysis;
- 3.6.2 to 3.6.4 Fish, community and habitat assessments; and,
- 3.6.6 Reporting related to results of Tasks 3.6.2 to 3.6.4.

TASK - 3.7 - ARCHEOLOGICAL IMPACT ASSESSMENT

The objective of Task 3.7 is to identify impacts to archaeological and traditional land use sites caused by the tailings release from the TSF and potential impacts that may occur to these sites as a result of clean-up and reclamation work. The critical path for Task 3.7 subtasks, in order of timing is as follows:

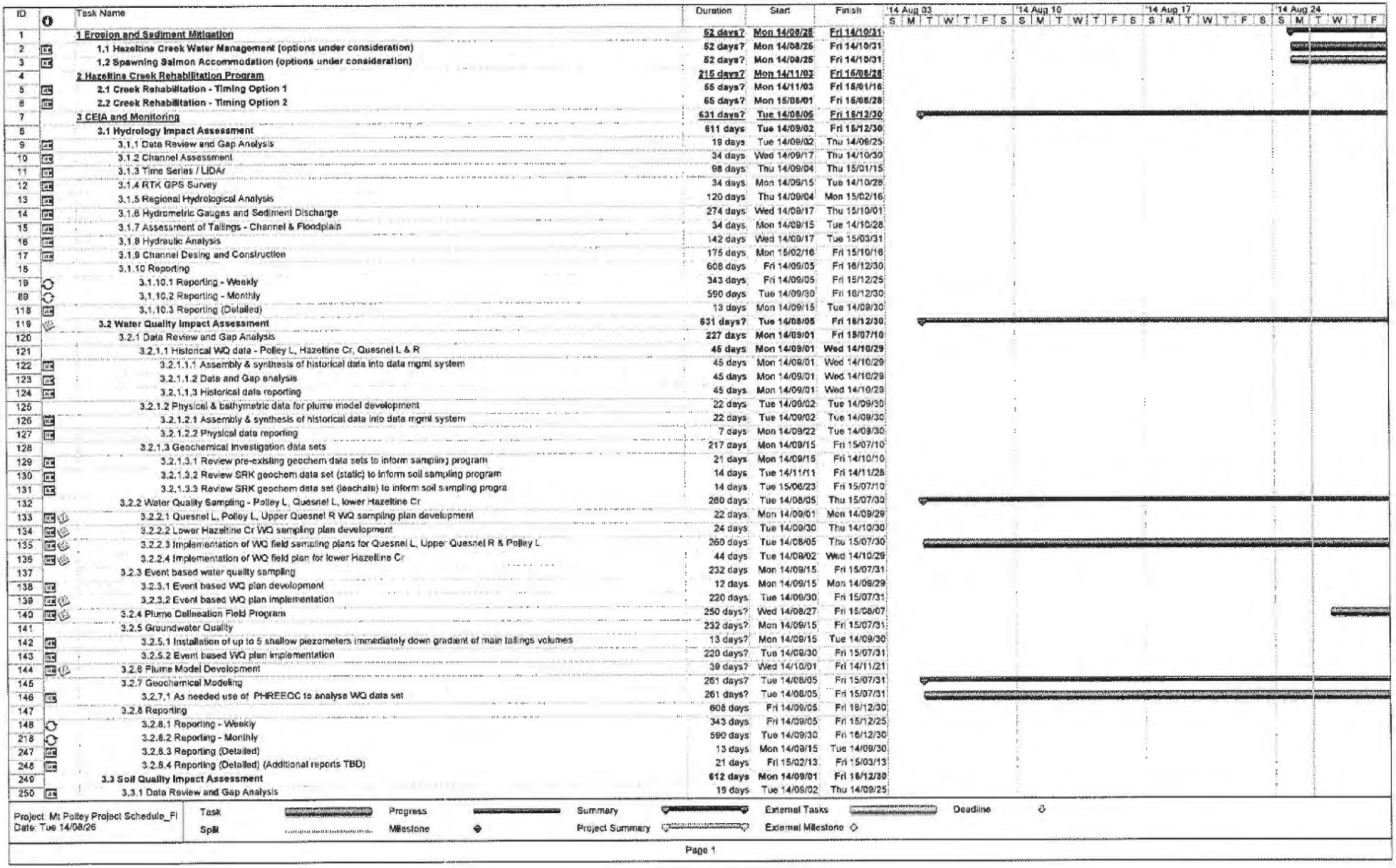
- 3.7.1 and 3.7.2 Data collection and review and preliminary field reconnaissance;
- 3.7.4.3.1 Preliminary assessment reporting
- 3.7.3 Archeological inventory assessment; and,
- 3.7.4.3.2 Archeological inventory assessment reporting.

3.8 - ENVIRONMENTAL RISK ASSESSMENT

There is one critical path for Task 3.8, with information from other tasks as identified above informing the final stage of the risk assessment (Task 3.8.4). The critical path for Task 3.8, in order of timing is as follows:

- 3.8.1 and 3.8.2 data review, gap analysis and problem formulation;
- 3.8.3 Preliminary risk assessment in addition to Task 3.2 to 3.6 results; and,
- 3.8.4 Detailed quantitative risk assessment.

Work conducted in later stages of the CEIA may be subject to change based on the outcome of preceding stages of work. The critical path for the CEIA will include detailed reporting for soil, sediment and surface water in February-March of 2015.



ID	Task Name	Duration	Start	Finish
1	1 Erosion and Sediment Mitigation	52 days?	Mon 14/08/25	Fri 14/10/31
2	1.1 Hazeltine Creek Water Management (options under consideration)	52 days?	Mon 14/08/25	Fri 14/10/31
3	1.2 Spawning Salmon Accommodation (options under consideration)	52 days?	Mon 14/08/25	Fri 14/10/31
4	2 Hazeltine Creek Rehabilitation Program	215 days?	Mon 14/11/03	Fri 15/08/28
5	2.1 Creek Rehabilitation - Timing Option 1	55 days?	Mon 14/11/03	Fri 15/01/16
6	2.2 Creek Rehabilitation - Timing Option 2	65 days?	Mon 15/05/01	Fri 15/08/28
7	3 CEIA and Monitoring	631 days?	Tue 14/08/05	Fri 16/12/30
8	3.1 Hydrology Impact Assessment	611 days	Tue 14/09/02	Fri 16/12/30
9	3.1.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25
10	3.1.2 Channel Assessment	34 days	Wed 14/09/17	Thu 14/10/30
11	3.1.3 Time Series / LIDAr	98 days	Thu 14/09/04	Thu 15/01/15
12	3.1.4 RTK GPS Survey	34 days	Mon 14/09/15	Tue 14/10/28
13	3.1.5 Regional Hydrological Analysis	120 days	Thu 14/09/04	Mon 15/02/16
14	3.1.6 Hydrometric Gauges and Sediment Discharge	274 days	Wed 14/09/17	Thu 15/10/01
15	3.1.7 Assessment of Tailings - Channel & Floodplain	34 days	Mon 14/09/15	Tue 14/10/28
16	3.1.8 Hydraulic Analysis	142 days	Wed 14/09/17	Tue 15/03/31
17	3.1.9 Channel Desing and Construction	175 days	Mon 15/02/16	Fri 15/10/16
18	3.1.10 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
19	3.1.10.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
89	3.1.10.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
118	3.1.10.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
119	3.2 Water Quality Impact Assessment	631 days?	Tue 14/08/05	Fri 16/12/30
120	3.2.1 Data Review and Gap Analysis	227 days	Mon 14/09/01	Fri 15/07/10
121	3.2.1.1 Historical WQ data - Polley L, Hazeltine Cr, Quesnel L & R	45 days	Mon 14/09/01	Wed 14/10/29
122	3.2.1.1.1 Assembly & synthesis of historical data into data mgmt system	45 days	Mon 14/09/01	Wed 14/10/29
123	3.2.1.1.2 Data and Gap analysis	45 days	Mon 14/09/01	Wed 14/10/29
124	3.2.1.1.3 Historical data reporting	45 days	Mon 14/09/01	Wed 14/10/29
125	3.2.1.2 Physical & bathymetric data for plume model development	22 days	Tue 14/09/02	Tue 14/09/30
126	3.2.1.2.1 Assembly & synthesis of historical data into data mgmt system	22 days	Tue 14/09/02	Tue 14/09/30
127	3.2.1.2.2 Physical data reporting	7 days	Mon 14/09/22	Tue 14/09/30
128	3.2.1.3 Geochemical investigation data sets	217 days	Mon 14/09/15	Fri 15/07/10
129	3.2.1.3.1 Review pre-existing geochem data sets to inform sampling program	21 days	Mon 14/09/15	Fri 14/10/10
130	3.2.1.3.2 Review SRK geochem data set (static) to inform soil sampling program	14 days	Tue 14/11/11	Fri 14/11/28
131	3.2.1.3.3 Review SRK geochem data set (leachate) to inform soil sampling progra	14 days	Tue 15/06/23	Fri 15/07/10
132	3.2.2 Water Quality Sampling - Polley L, Quesnel L, lower Hazeltine Cr	280 days	Tue 14/08/05	Thu 15/07/30
133	3.2.2.1 Quesnel L, Polley L, Upper Quesnel R WQ sampling plan development	22 days	Mon 14/09/01	Mon 14/09/29
134	3.2.2.2 Lower Hazeltine Cr WQ sampling plan development	24 days	Tue 14/09/30	Thu 14/10/30
135	3.2.2.3 Implementation of WQ field sampling plans for Quesnel L, Upper Quesnel R & Polley L	260 days	Tue 14/08/05	Thu 15/07/30
136	3.2.2.4 Implementation of WQ field plan for lower Hazeltine Cr	44 days	Tue 14/09/02	Wed 14/10/29
137	3.2.3 Event based water quality sampling	232 days	Mon 14/09/15	Fri 15/07/31
138	3.2.3.1 Event based WQ plan development	12 days	Mon 14/09/15	Mon 14/09/29
139	3.2.3.2 Event based WQ plan implementation	220 days	Tue 14/09/30	Fri 15/07/31
140	3.2.4 Plume Delineation Field Program	250 days?	Wed 14/08/27	Fri 15/08/07
141	3.2.5 Groundwater Quality	232 days?	Mon 14/09/15	Fri 15/07/31
142	3.2.5.1 Installation of up to 5 shallow piezometers immediately down gradient of main tailings volumes	13 days?	Mon 14/09/15	Tue 14/09/30
143	3.2.5.2 Event based WQ plan implementation	220 days?	Tue 14/09/30	Fri 15/07/31
144	3.2.6 Plume Model Development	39 days?	Wed 14/10/01	Fri 14/11/21
145	3.2.7 Geochemical Modeling	261 days?	Tue 14/08/05	Fri 15/07/31
146	3.2.7.1 As needed use of PHREEQC to analyse WQ data set	261 days?	Tue 14/08/05	Fri 15/07/31
147	3.2.8 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
148	3.2.8.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
218	3.2.8.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
247	3.2.8.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
248	3.2.8.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
249	3.3 Soil Quality Impact Assessment	612 days	Mon 14/09/01	Fri 16/12/30
250	3.3.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25

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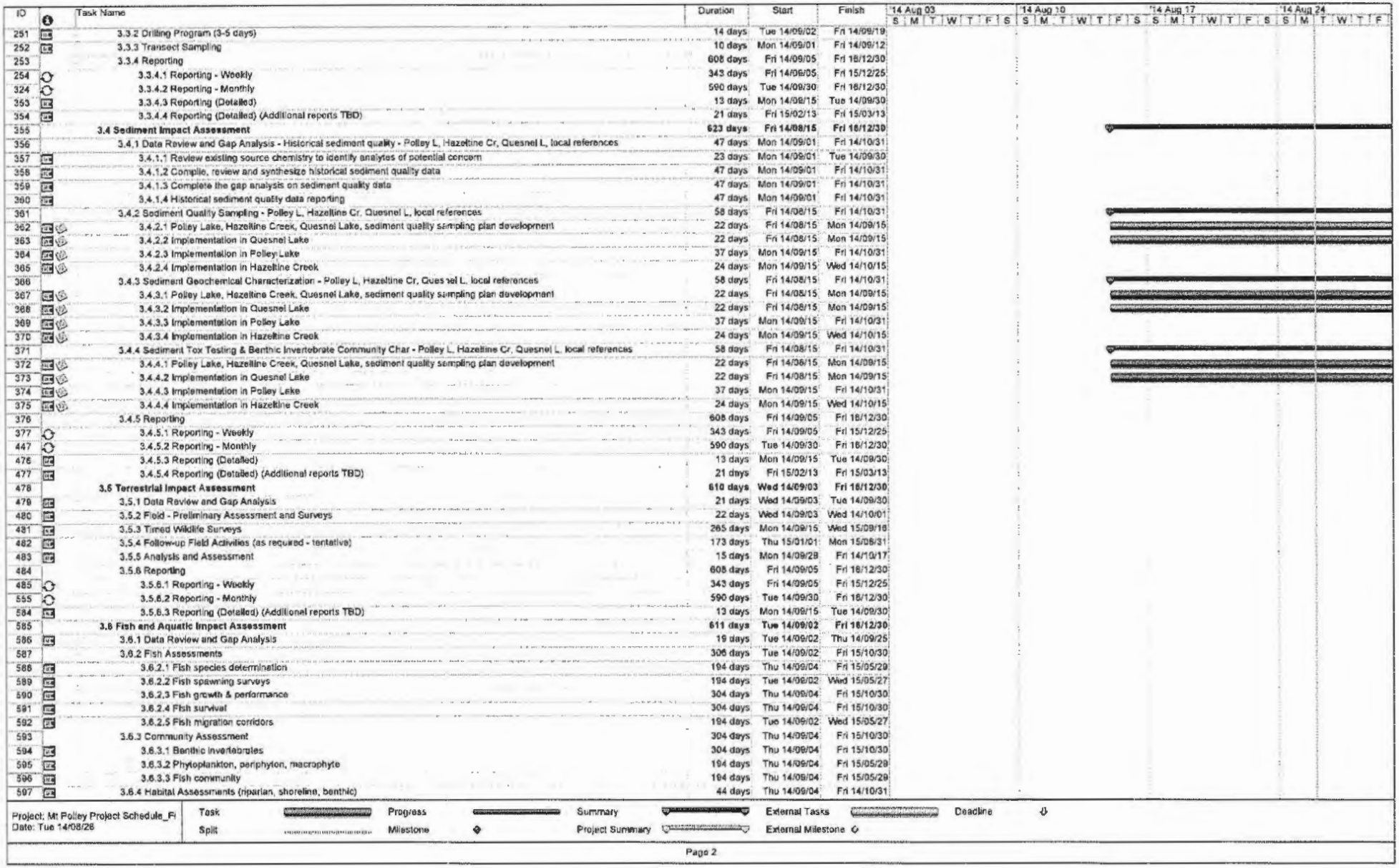

ID	Task Name	Duration	Start	Finish
251	3.3.2 Drilling Program (3-5 days)	14 days	Tue 14/09/02	Fri 14/09/19
252	3.3.3 Transect Sampling	10 days	Mon 14/09/01	Fri 14/09/12
253	3.3.4 Reporting	608 days	Fri 14/09/05	Fri 18/12/30
254	3.3.4.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
324	3.3.4.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 18/12/30
353	3.3.4.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
354	3.3.4.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
355	**3.4 Sediment Impact Assessment**	**623 days**	**Fri 14/08/15**	**Fri 18/12/30**
356	3.4.1 Data Review and Gap Analysis - Historical sediment quality - Polley L, Hazeltine Cr, Quesnel L, local references	47 days	Mon 14/09/01	Fri 14/10/31
357	3.4.1.1 Review existing source chemistry to identify analytes of potential concern	23 days	Mon 14/09/01	Tue 14/09/30
358	3.4.1.2 Compile, review and synthesize historical sediment quality data	47 days	Mon 14/09/01	Fri 14/10/31
359	3.4.1.3 Complete the gap analysis on sediment quality data	47 days	Mon 14/09/01	Fri 14/10/31
360	3.4.1.4 Historical sediment quality data reporting	47 days	Mon 14/09/01	Fri 14/10/31
361	3.4.2 Sediment Quality Sampling - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
362	3.4.2.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
363	3.4.2.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
364	3.4.2.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
365	3.4.2.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
366	3.4.3 Sediment Geochemical Characterization - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
367	3.4.3.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
368	3.4.3.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
369	3.4.3.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
370	3.4.3.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
371	3.4.4 Sediment Tox Testing & Benthic Invertebrate Community Char - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
372	3.4.4.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
373	3.4.4.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
374	3.4.4.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
375	3.4.4.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
376	3.4.5 Reporting	608 days	Fri 14/09/05	Fri 18/12/30
377	3.4.5.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
447	3.4.5.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 18/12/30
476	3.4.5.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
477	3.4.5.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
478	**3.5 Terrestrial Impact Assessment**	**610 days**	**Wed 14/09/03**	**Fri 18/12/30**
479	3.5.1 Data Review and Gap Analysis	21 days	Wed 14/09/03	Tue 14/09/30
480	3.5.2 Field - Preliminary Assessment and Surveys	22 days	Wed 14/09/03	Wed 14/10/01
481	3.5.3 Timed Wildlife Surveys	265 days	Mon 14/09/15	Wed 15/09/16
482	3.5.4 Follow-up Field Activities (as required - tentative)	173 days	Thu 15/01/01	Mon 15/08/31
483	3.5.5 Analysis and Assessment	15 days	Mon 14/09/28	Fri 14/10/17
484	3.5.6 Reporting	608 days	Fri 14/09/05	Fri 18/12/30
485	3.5.6.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
555	3.5.6.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 18/12/30
584	3.5.6.3 Reporting (Detailed) (Additional reports TBD)	13 days	Mon 14/09/15	Tue 14/09/30
585	**3.6 Fish and Aquatic Impact Assessment**	**611 days**	**Tue 14/09/02**	**Fri 18/12/30**
586	3.6.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25
587	3.6.2 Fish Assessments	306 days	Tue 14/09/02	Fri 15/10/30
588	3.6.2.1 Fish species determination	194 days	Thu 14/09/04	Fri 15/05/29
589	3.6.2.2 Fish spawning surveys	194 days	Tue 14/09/02	Wed 15/05/27
590	3.6.2.3 Fish growth & performance	304 days	Thu 14/09/04	Fri 15/10/30
591	3.6.2.4 Fish survival	304 days	Thu 14/09/04	Fri 15/10/30
592	3.6.2.5 Fish migration corridors	194 days	Tue 14/09/02	Wed 15/05/27
593	3.6.3 Community Assessment	304 days	Thu 14/09/04	Fri 15/10/30
594	3.6.3.1 Benthic invertebrates	304 days	Thu 14/09/04	Fri 15/10/30
595	3.6.3.2 Phytoplankton, periphyton, macrophyte	194 days	Thu 14/09/04	Fri 15/05/29
596	3.6.3.3 Fish community	194 days	Thu 14/09/04	Fri 15/05/29
597	3.6.4 Habitat Assessments (riparian, shoreline, benthic)	44 days	Thu 14/09/04	Fri 14/10/31

'14 Aug 03 | '14 Aug 10 | '14 Aug 17 | '14 Aug 24

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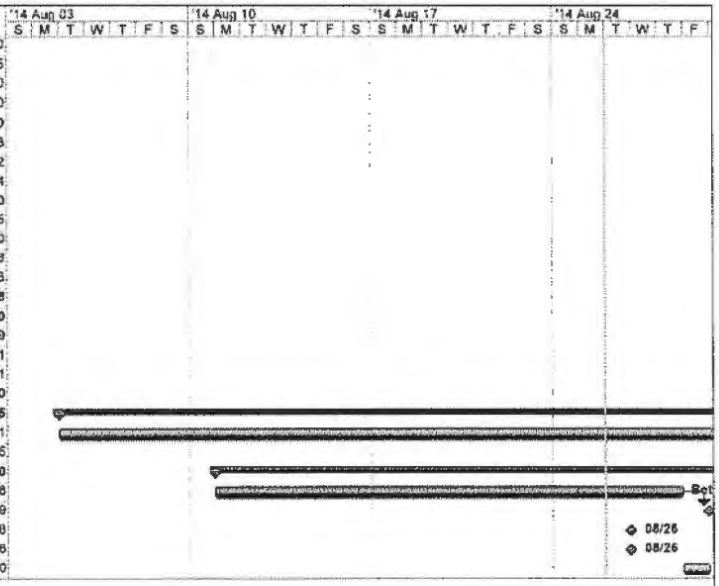
ID	Task Name	Duration	Start	Finish
598	3.6.5 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
599	3.6.5.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
669	3.6.5.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
688	3.6.5.3 Reporting (Detailed) (Additional reports TBD)	13 days	Mon 14/09/15	Tue 14/09/30
699	**3.7 Archaeological Impact Assessment**	**611 days?**	**Tue 14/09/02**	**Fri 16/12/30**
700	3.7.1 Data Review and Collection	20 days?	Tue 14/09/02	Fri 14/09/26
701	3.7.2 Preliminary Field Reconnaissance	8 days?	Tue 14/09/02	Fri 14/09/12
702	3.7.3 Archeological Inventory Assessment	14 days	Tue 14/10/07	Fri 14/10/24
703	3.7.4 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
704	3.7.4.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
774	3.7.4.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
803	3.7.4.3 Reporting (Detailed) (Additional reports TBD)	59 days	Thu 14/09/11	Fri 14/11/28
804	3.7.4.3.1 Preliminary Reconnaissance Report	24 days	Thu 14/09/11	Mon 14/10/13
805	3.7.4.3.2 AIA Final Report	26 days	Sat 14/10/25	Fri 14/11/28
806	**3.8 Environmental Risk Assessment**	**612 days**	**Mon 14/09/01**	**Fri 16/12/30**
807	3.8.1 Data Review and Gap Analysis	45 days	Mon 14/09/01	Wed 14/10/29
808	3.8.2 Problem Formulation	14 days	Wed 14/10/15	Fri 14/10/31
809	3.8.3 Preliminary Risk Assessment	304 days	Mon 14/11/03	Thu 15/12/31
810	3.8.4 Detailed Quantitative Risk Assessment	261 days	Fri 15/01/01	Fri 16/12/30
811	**3.9 Monitoring Program**	**366 days?**	**Tue 14/08/05**	**Fri 16/12/25**
812	3.9.1 Program in progress - to continue as determined by assessment work	282 days?	Tue 14/08/05	Mon 15/08/31
813	3.9.2 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
883	**3.10 Project Management**	**627 days**	**Mon 14/08/11**	**Fri 16/12/30**
884	3.10.1 Development of Work Plans	14 days	Mon 14/08/11	Thu 14/08/28
885	3.10.2 Issuance of Work Plans	1 day	Fri 14/08/29	Fri 14/08/29
886	3.10.3 Issuance of Project Schedule	1 day	Tue 14/08/26	Tue 14/08/26
887	3.10.4 Critical Task Pathway	1 day	Tue 14/08/26	Tue 14/08/26
888	3.10.5 Weekly WBS, Schedule, Budget Updates	613 days	Fri 14/08/29	Fri 16/12/30



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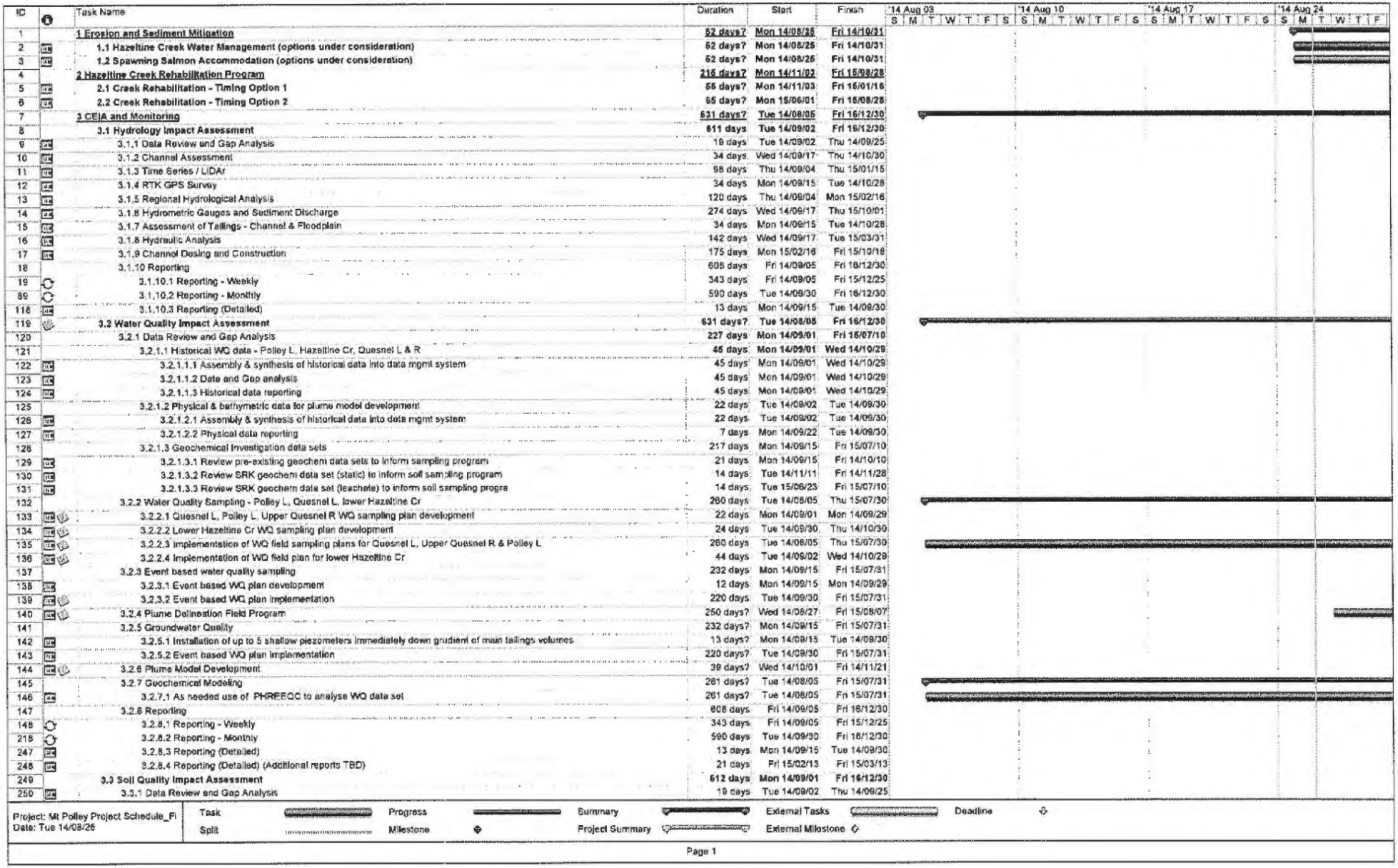

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2	1.1 Hazeltine Creek Water Management (options under consideration)	52 days?	Mon 14/08/25	Fri 14/10/31
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4	2 Hazeltine Creek Rehabilitation Program	215 days?	Mon 14/11/03	Fri 15/08/28
5	2.1 Creek Rehabilitation - Timing Option 1	55 days?	Mon 14/11/03	Fri 15/01/16
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124	3.2.1.1.3 Historical data reporting	45 days	Mon 14/09/01	Wed 14/10/29
125	3.2.1.2 Physical & bathymetric data for plume model development	22 days	Tue 14/09/02	Tue 14/09/30
126	3.2.1.2.1 Assembly & synthesis of historical data into data mgmt system	22 days	Tue 14/09/02	Tue 14/09/30
127	3.2.1.2.2 Physical data reporting	7 days	Mon 14/09/22	Tue 14/09/30
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130	3.2.1.3.2 Review SRK geochem data set (static) to inform soil sampling program	14 days	Tue 14/11/11	Fri 14/11/28
131	3.2.1.3.3 Review SRK geochem data set (leachate) to inform soil sampling progra	14 days	Tue 15/06/23	Fri 15/07/10
132	3.2.2 Water Quality Sampling - Polley L, Quesnel L, lower Hazeltine Cr	260 days	Tue 14/08/05	Thu 15/07/30
133	3.2.2.1 Quesnel L, Polley L, Upper Quesnel R WQ sampling plan development	22 days	Mon 14/09/01	Mon 14/09/29
134	3.2.2.2 Lower Hazeltine Cr WQ sampling plan development	24 days	Tue 14/09/30	Thu 14/10/30
135	3.2.2.3 Implementation of WQ field sampling plans for Quesnel L, Upper Quesnel R & Polley L	260 days	Tue 14/08/05	Thu 15/07/30
136	3.2.2.4 Implementation of WQ field plan for lower Hazeltine Cr	44 days	Tue 14/09/02	Wed 14/10/29
137	3.2.3 Event based water quality sampling	232 days	Mon 14/09/15	Fri 15/07/31
138	3.2.3.1 Event based WQ plan development	12 days	Mon 14/09/15	Mon 14/09/29
139	3.2.3.2 Event based WQ plan implementation	220 days	Tue 14/09/30	Fri 15/07/31
140	3.2.4 Plume Delineation Field Program	250 days?	Wed 14/08/27	Fri 15/08/07
141	3.2.5 Groundwater Quality	232 days?	Mon 14/09/15	Fri 15/07/31
142	3.2.5.1 Installation of up to 5 shallow piezometers immediately down grudient of main tailings volumes	13 days?	Mon 14/09/15	Tue 14/09/30
143	3.2.5.2 Event based WQ plan implementation	220 days?	Tue 14/09/30	Fri 15/07/31
144	3.2.6 Plume Model Development	39 days?	Wed 14/10/01	Fri 14/11/21
145	3.2.7 Geochemical Modeling	261 days?	Tue 14/08/05	Fri 15/07/31
146	3.2.7.1 As needed use of PHREEQC to analyse WQ data set	261 days?	Tue 14/08/05	Fri 15/07/31
147	3.2.8 Reporting	606 days	Fri 14/09/05	Fri 16/12/30
148	3.2.8.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
218	3.2.8.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
247	3.2.8.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
248	3.2.8.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
249	3.3 Soil Quality Impact Assessment	612 days	Mon 14/09/01	Fri 16/12/30
250	3.3.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25

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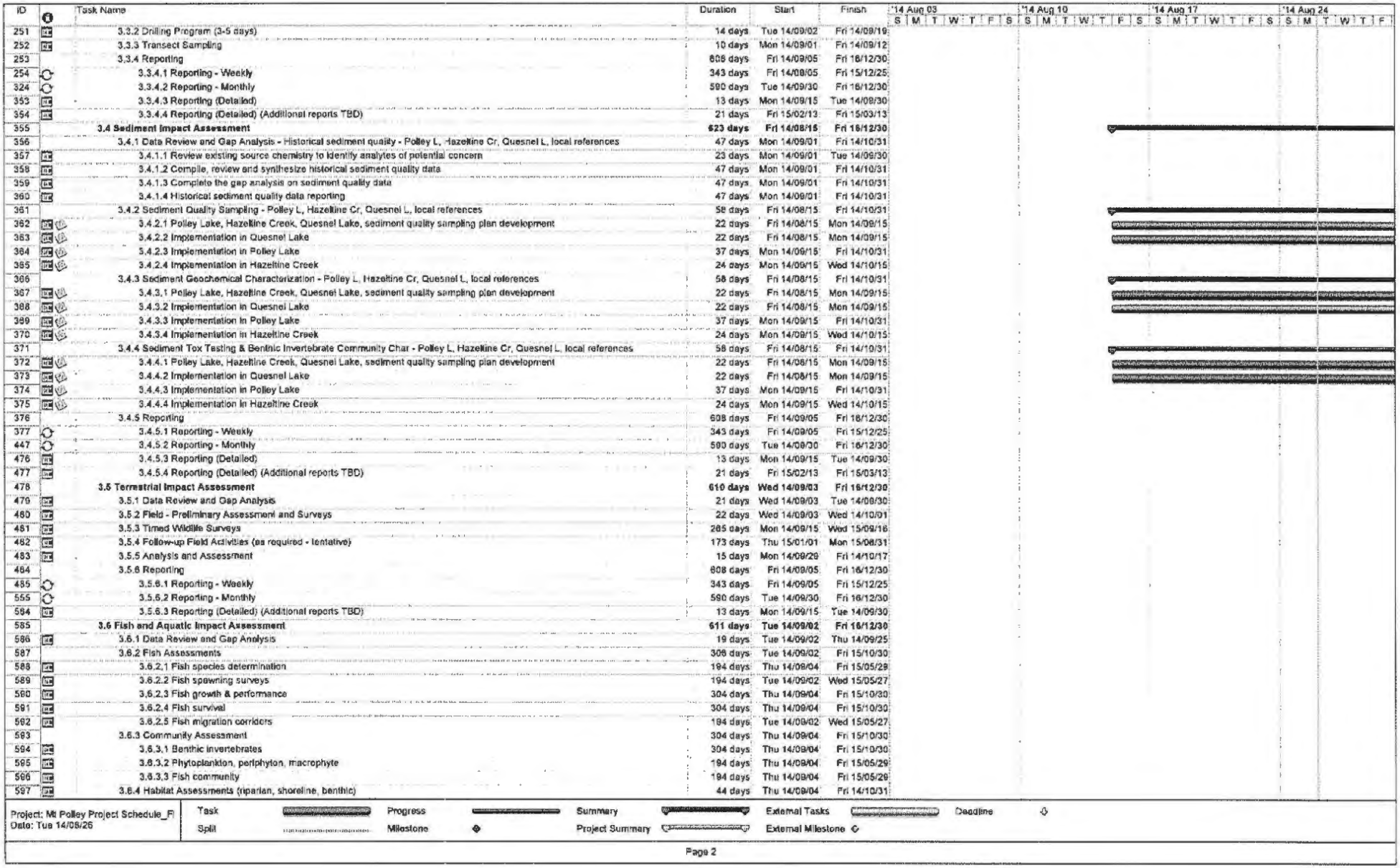
Project: Mt Polley Project Schedule_Fi
Date: Tue 14/08/26

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone



ID	Task Name	Duration	Start	Finish
251	3.3.2 Drilling Program (3-5 days)	14 days	Tue 14/09/02	Fri 14/09/19
252	3.3.3 Transect Sampling	10 days	Mon 14/09/01	Fri 14/09/12
253	3.3.4 Reporting	606 days	Fri 14/09/05	Fri 16/12/30
254	3.3.4.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
324	3.3.4.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
353	3.3.4.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
354	3.3.4.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
355	**3.4 Sediment Impact Assessment**	**623 days**	**Fri 14/08/15**	**Fri 16/12/30**
356	3.4.1 Data Review and Gap Analysis - Historical sediment quality - Polley L, Hazeltine Cr, Quesnel L, local references	47 days	Mon 14/09/01	Fri 14/10/31
357	3.4.1.1 Review existing source chemistry to identify analytes of potential concern	23 days	Mon 14/09/01	Tue 14/09/30
358	3.4.1.2 Compile, review and synthesize historical sediment quality data	47 days	Mon 14/09/01	Fri 14/10/31
359	3.4.1.3 Complete the gap analysis on sediment quality data	47 days	Mon 14/09/01	Fri 14/10/31
360	3.4.1.4 Historical sediment quality data reporting	47 days	Mon 14/09/01	Fri 14/10/31
361	3.4.2 Sediment Quality Sampling - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
362	3.4.2.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
363	3.4.2.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
364	3.4.2.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
365	3.4.2.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
366	3.4.3 Sediment Geochemical Characterization - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
367	3.4.3.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
368	3.4.3.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
369	3.4.3.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
370	3.4.3.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
371	3.4.4 Sediment Tox Testing & Benthic Invertebrate Community Char - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
372	3.4.4.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
373	3.4.4.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
374	3.4.4.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
375	3.4.4.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
376	3.4.5 Reporting	606 days	Fri 14/09/05	Fri 16/12/30
377	3.4.5.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
447	3.4.5.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
476	3.4.5.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
477	3.4.5.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
478	**3.5 Terrestrial Impact Assessment**	**610 days**	**Wed 14/09/03**	**Fri 16/12/30**
479	3.5.1 Data Review and Gap Analysis	21 days	Wed 14/09/03	Tue 14/09/30
480	3.5.2 Field - Preliminary Assessment and Surveys	22 days	Wed 14/09/03	Wed 14/10/01
481	3.5.3 Timed Wildlife Surveys	265 days	Mon 14/09/15	Wed 15/09/16
482	3.5.4 Follow-up Field Activities (as required - tentative)	173 days	Thu 15/01/01	Mon 15/08/31
483	3.5.5 Analysis and Assessment	15 days	Mon 14/09/29	Fri 14/10/17
484	3.5.6 Reporting	606 days	Fri 14/09/05	Fri 16/12/30
485	3.5.6.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
555	3.5.6.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
584	3.5.6.3 Reporting (Detailed) (Additional reports TBD)	13 days	Mon 14/09/15	Tue 14/09/30
585	**3.6 Fish and Aquatic Impact Assessment**	**611 days**	**Tue 14/09/02**	**Fri 16/12/30**
586	3.6.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25
587	3.6.2 Fish Assessments	306 days	Tue 14/09/02	Fri 15/10/30
588	3.6.2.1 Fish species determination	194 days	Thu 14/09/04	Fri 15/05/29
589	3.6.2.2 Fish spawning surveys	194 days	Tue 14/09/02	Wed 15/05/27
590	3.6.2.3 Fish growth & performance	304 days	Thu 14/09/04	Fri 15/10/30
591	3.6.2.4 Fish survival	304 days	Thu 14/09/04	Fri 15/10/30
592	3.6.2.5 Fish migration corridors	194 days	Tue 14/09/02	Wed 15/05/27
593	3.6.3 Community Assessment	304 days	Thu 14/09/04	Fri 15/10/30
594	3.6.3.1 Benthic invertebrates	304 days	Thu 14/09/04	Fri 15/10/30
595	3.6.3.2 Phytoplankton, periphyton, macrophyte	194 days	Thu 14/09/04	Fri 15/05/29
596	3.6.3.3 Fish community	194 days	Thu 14/09/04	Fri 15/05/29
597	3.6.4 Habitat Assessments (riparian, shoreline, benthic)	44 days	Thu 14/09/04	Fri 14/10/31

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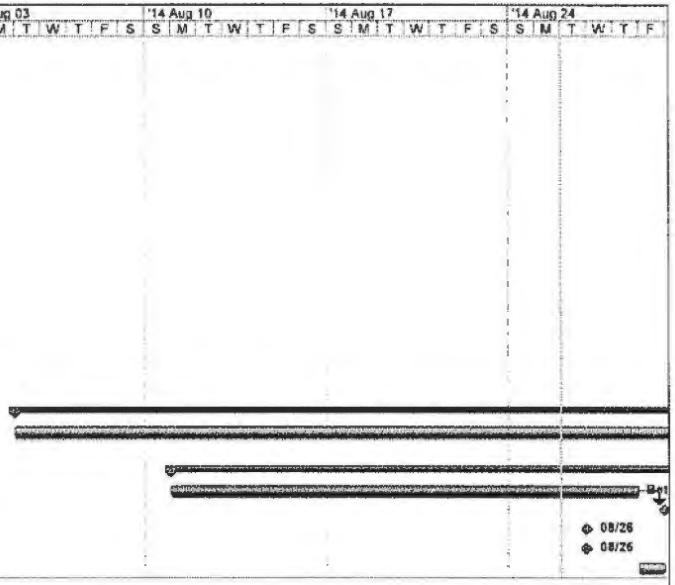
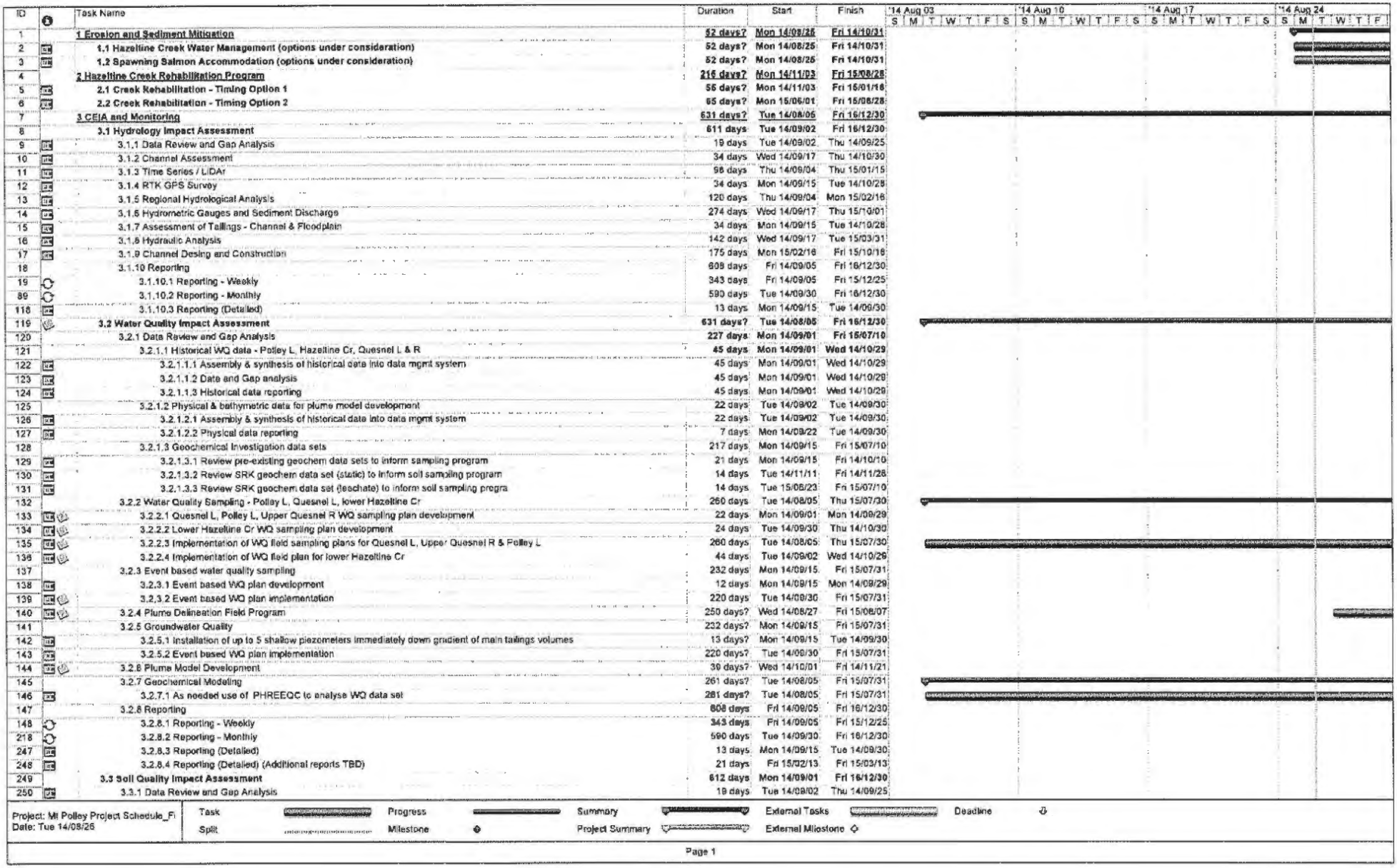
ID	Task Name	Duration	Start	Finish
598	3.6.5 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
599	3.6.5.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
669	3.6.5.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
698	3.6.5.3 Reporting (Detailed) (Additional reports TBD)	13 days	Mon 14/09/15	Tue 14/09/30
699	**3.7 Archaeological Impact Assessment**	**611 days?**	**Tue 14/09/02**	**Fri 16/12/30**
700	3.7.1 Data Review and Collection	20 days?	Tue 14/09/02	Fri 14/09/26
701	3.7.2 Preliminary Field Reconnaissance	9 days?	Tue 14/09/02	Fri 14/09/12
702	3.7.3 Archeological Inventory Assessment	14 days	Tue 14/10/07	Fri 14/10/24
703	3.7.4 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
704	3.7.4.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
774	3.7.4.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
803	3.7.4.3 Reporting (Detailed) (Additional reports TBD)	59 days	Thu 14/09/11	Fri 14/11/28
804	3.7.4.3.1 Preliminary Reconnaissance Report	24 days	Thu 14/09/11	Mon 14/10/13
805	3.7.4.3.2 AIA Final Report	26 days	Sat 14/10/25	Fri 14/11/28
806	**3.8 Environmental Risk Assessment**	**612 days**	**Mon 14/09/01**	**Fri 16/12/30**
807	3.8.1 Data Review and Gap Analysis	45 days	Mon 14/09/01	Wed 14/10/29
808	3.8.2 Problem Formulation	14 days	Wed 14/10/15	Fri 14/10/31
809	3.8.3 Preliminary Risk Assessment	304 days	Mon 14/11/03	Thu 15/12/31
810	3.8.4 Detailed Quantitative Risk Assessment	261 days	Fri 16/01/01	Fri 16/12/30
811	**3.9 Monitoring Program**	**386 days?**	**Tue 14/08/05**	**Fri 15/12/25**
812	3.9.1 Program in progress - to continue as determined by assessment work	282 days?	Tue 14/08/05	Mon 15/08/31
813	3.9.2 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
883	**3.10 Project Management**	**627 days**	**Mon 14/08/11**	**Fri 16/12/30**
884	3.10.1 Development of Work Plans	14 days	Mon 14/08/11	Thu 14/08/28
885	3.10.2 Issuance of Work Plans	1 day	Fri 14/08/29	Fri 14/08/29
886	3.10.3 Issuance of Project Schedule	1 day	Tue 14/08/26	Tue 14/08/26
887	3.10.4 Critical Task Pathway	1 day	Tue 14/08/26	Tue 14/08/26
888	3.10.5 Weekly WBS, Schedule, Budget Updates	613 days	Fri 14/08/29	Fri 16/12/30



Project: Mt Polley Project Schedule_Fi
Date: Tue 14/08/26

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline



ID	Task Name	Duration	Start	Finish
1	1 Erosion and Sediment Mitigation	52 days?	Mon 14/08/25	Fri 14/10/31
2	1.1 Hazeltine Creek Water Management (options under consideration)	52 days?	Mon 14/08/25	Fri 14/10/31
3	1.2 Spawning Salmon Accommodation (options under consideration)	52 days?	Mon 14/08/25	Fri 14/10/31
4	2 Hazeltine Creek Rehabilitation Program	216 days?	Mon 14/11/03	Fri 15/08/28
5	2.1 Creek Rehabilitation - Timing Option 1	56 days?	Mon 14/11/03	Fri 15/01/16
6	2.2 Creek Rehabilitation - Timing Option 2	65 days?	Mon 15/05/01	Fri 15/08/28
7	3 CEIA and Monitoring	631 days?	Tue 14/08/05	Fri 16/12/30
8	3.1 Hydrology Impact Assessment	611 days	Tue 14/09/02	Fri 16/12/30
9	3.1.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25
10	3.1.2 Channel Assessment	34 days	Wed 14/09/17	Thu 14/10/30
11	3.1.3 Time Series / LiDAr	96 days	Thu 14/09/04	Thu 15/01/15
12	3.1.4 RTK GPS Survey	34 days	Mon 14/09/15	Tue 14/10/28
13	3.1.5 Regional Hydrological Analysis	120 days	Thu 14/09/04	Mon 15/02/16
14	3.1.6 Hydrometric Gauges and Sediment Discharge	274 days	Wed 14/09/17	Thu 15/10/01
15	3.1.7 Assessment of Tailings - Channel & Floodplain	34 days	Mon 14/09/15	Tue 14/10/28
16	3.1.8 Hydraulic Analysis	142 days	Wed 14/09/17	Tue 15/03/31
17	3.1.9 Channel Desing and Construction	175 days	Mon 15/02/16	Fri 15/10/16
18	3.1.10 Reporting	609 days	Fri 14/09/05	Fri 16/12/30
19	3.1.10.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
89	3.1.10.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
116	3.1.10.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
119	3.2 Water Quality Impact Assessment	631 days?	Tue 14/08/05	Fri 16/12/30
120	3.2.1 Data Review and Gap Analysis	227 days	Mon 14/09/01	Fri 15/07/10
121	3.2.1.1 Historical WQ data - Polley L, Hazeltine Cr, Quesnel L & R	45 days	Mon 14/09/01	Wed 14/10/29
122	3.2.1.1.1 Assembly & synthesis of historical data into data mgmt system	45 days	Mon 14/09/01	Wed 14/10/29
123	3.2.1.1.2 Data and Gap analysis	45 days	Mon 14/09/01	Wed 14/10/29
124	3.2.1.1.3 Historical data reporting	45 days	Mon 14/09/01	Wed 14/10/29
125	3.2.1.2 Physical & bathymetric data for plume model development	22 days	Tue 14/09/02	Tue 14/09/30
126	3.2.1.2.1 Assembly & synthesis of historical data into data mgmt system	22 days	Tue 14/09/02	Tue 14/09/30
127	3.2.1.2.2 Physical data reporting	7 days	Mon 14/09/22	Tue 14/09/30
128	3.2.1.3 Geochemical Investigation data sets	217 days	Mon 14/09/15	Fri 15/07/10
129	3.2.1.3.1 Review pre-existing geochem data sets to inform sampling program	21 days	Mon 14/09/15	Fri 14/10/10
130	3.2.1.3.2 Review SRK geochem data set (static) to inform soil sampling program	14 days	Tue 14/11/11	Fri 14/11/28
131	3.2.1.3.3 Review SRK geochem data set (leachate) to inform soil sampling progra	14 days	Tue 15/06/23	Fri 15/07/10
132	3.2.2 Water Quality Sampling - Polley L, Quesnel L, lower Hazeltine Cr	260 days	Tue 14/08/05	Thu 15/07/30
133	3.2.2.1 Quesnel L, Polley L, Upper Quesnel R WQ sampling plan development	22 days	Mon 14/09/01	Mon 14/09/29
134	3.2.2.2 Lower Hazeltine Cr WQ sampling plan development	24 days	Tue 14/09/30	Thu 14/10/30
135	3.2.2.3 Implementation of WQ field sampling plans for Quesnel L, Upper Quesnel R & Polley L	260 days	Tue 14/08/05	Thu 15/07/30
136	3.2.2.4 Implementation of WQ field plan for lower Hazeltine Cr	44 days	Tue 14/09/02	Wed 14/10/29
137	3.2.3 Event based water quality sampling	232 days	Mon 14/09/15	Fri 15/07/31
138	3.2.3.1 Event based WQ plan development	12 days	Mon 14/09/15	Mon 14/09/29
139	3.2.3.2 Event based WQ plan implementation	220 days	Tue 14/09/30	Fri 15/07/31
140	3.2.4 Plume Delineation Field Program	250 days?	Wed 14/08/27	Fri 15/08/07
141	3.2.5 Groundwater Quality	232 days?	Mon 14/09/15	Fri 15/07/31
142	3.2.5.1 Installation of up to 5 shallow piezometers immediately down gradient of main tailings volumes	13 days?	Mon 14/09/15	Tue 14/09/30
143	3.2.5.2 Event based WQ plan implementation	220 days?	Tue 14/09/30	Fri 15/07/31
144	3.2.6 Plume Model Development	30 days?	Wed 14/10/01	Fri 14/11/21
145	3.2.7 Geochemical Modeling	261 days?	Tue 14/08/05	Fri 15/07/31
146	3.2.7.1 As needed use of PHREEQC to analyse WQ data set	261 days?	Tue 14/08/05	Fri 15/07/31
147	3.2.8 Reporting	609 days	Fri 14/09/05	Fri 16/12/30
148	3.2.8.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
218	3.2.8.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
247	3.2.8.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
248	3.2.8.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
249	3.3 Soil Quality Impact Assessment	612 days	Mon 14/09/01	Fri 16/12/30
250	3.3.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25

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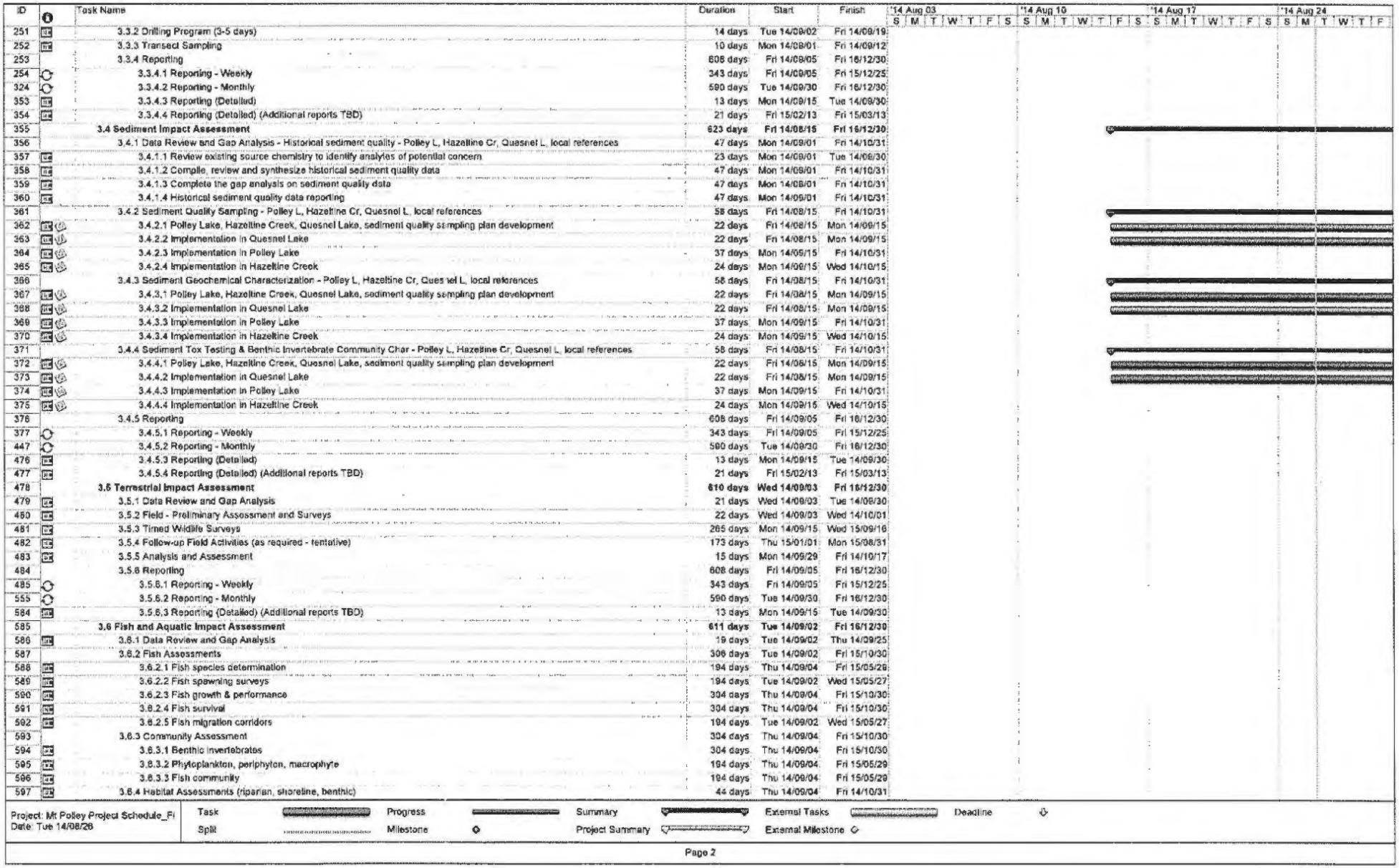
Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline



ID	Task Name	Duration	Start	Finish
251	3.3.2 Drilling Program (3-5 days)	14 days	Tue 14/09/02	Fri 14/09/19
252	3.3.3 Transect Sampling	10 days	Mon 14/09/01	Fri 14/09/12
253	3.3.4 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
254	3.3.4.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
324	3.3.4.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
353	3.3.4.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
354	3.3.4.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
355	**3.4 Sediment Impact Assessment**	**623 days**	**Fri 14/08/15**	**Fri 16/12/30**
356	3.4.1 Data Review and Gap Analysis - Historical sediment quality - Polley L, Hazeltine Cr, Quesnel L, local references	47 days	Mon 14/09/01	Fri 14/10/31
357	3.4.1.1 Review existing source chemistry to identify analytes of potential concern	23 days	Mon 14/09/01	Tue 14/09/30
358	3.4.1.2 Compile, review and synthesize historical sediment quality data	47 days	Mon 14/09/01	Fri 14/10/31
359	3.4.1.3 Complete the gap analysis on sediment quality data	47 days	Mon 14/09/01	Fri 14/10/31
360	3.4.1.4 Historical sediment quality data reporting	47 days	Mon 14/09/01	Fri 14/10/31
361	3.4.2 Sediment Quality Sampling - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
362	3.4.2.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
363	3.4.2.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
364	3.4.2.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
365	3.4.2.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
366	3.4.3 Sediment Geochemical Characterization - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
367	3.4.3.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
368	3.4.3.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
369	3.4.3.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
370	3.4.3.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
371	3.4.4 Sediment Tox Testing & Benthic Invertebrate Community Char - Polley L, Hazeltine Cr, Quesnel L, local references	58 days	Fri 14/08/15	Fri 14/10/31
372	3.4.4.1 Polley Lake, Hazeltine Creek, Quesnel Lake, sediment quality sampling plan development	22 days	Fri 14/08/15	Mon 14/09/15
373	3.4.4.2 Implementation in Quesnel Lake	22 days	Fri 14/08/15	Mon 14/09/15
374	3.4.4.3 Implementation in Polley Lake	37 days	Mon 14/09/15	Fri 14/10/31
375	3.4.4.4 Implementation in Hazeltine Creek	24 days	Mon 14/09/15	Wed 14/10/15
376	3.4.5 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
377	3.4.5.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
447	3.4.5.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
476	3.4.5.3 Reporting (Detailed)	13 days	Mon 14/09/15	Tue 14/09/30
477	3.4.5.4 Reporting (Detailed) (Additional reports TBD)	21 days	Fri 15/02/13	Fri 15/03/13
478	**3.5 Terrestrial Impact Assessment**	**610 days**	**Wed 14/09/03**	**Fri 16/12/30**
479	3.5.1 Data Review and Gap Analysis	21 days	Wed 14/09/03	Tue 14/09/30
480	3.5.2 Field - Preliminary Assessment and Surveys	22 days	Wed 14/09/03	Wed 14/10/01
481	3.5.3 Timed Wildlife Surveys	265 days	Mon 14/09/15	Wed 15/09/16
482	3.5.4 Follow-up Field Activities (as required - tentative)	173 days	Thu 15/01/01	Mon 15/08/31
483	3.5.5 Analysis and Assessment	15 days	Mon 14/09/29	Fri 14/10/17
484	3.5.6 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
485	3.5.6.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
555	3.5.6.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
584	3.5.6.3 Reporting (Detailed) (Additional reports TBD)	13 days	Mon 14/09/15	Tue 14/09/30
585	**3.6 Fish and Aquatic Impact Assessment**	**611 days**	**Tue 14/09/02**	**Fri 16/12/30**
586	3.6.1 Data Review and Gap Analysis	19 days	Tue 14/09/02	Thu 14/09/25
587	3.6.2 Fish Assessments	306 days	Tue 14/09/02	Fri 15/10/30
588	3.6.2.1 Fish species determination	194 days	Thu 14/09/04	Fri 15/05/29
589	3.6.2.2 Fish spawning surveys	194 days	Tue 14/09/02	Wed 15/05/27
590	3.6.2.3 Fish growth & performance	304 days	Thu 14/09/04	Fri 15/10/30
591	3.6.2.4 Fish survival	304 days	Thu 14/09/04	Fri 15/10/30
592	3.6.2.5 Fish migration corridors	194 days	Tue 14/09/02	Wed 15/05/27
593	3.6.3 Community Assessment	304 days	Thu 14/09/04	Fri 15/10/30
594	3.6.3.1 Benthic invertebrates	304 days	Thu 14/09/04	Fri 15/10/30
595	3.6.3.2 Phytoplankton, periphyton, macrophyte	194 days	Thu 14/09/04	Fri 15/05/29
596	3.6.3.3 Fish community	194 days	Thu 14/09/04	Fri 15/05/29
597	3.6.4 Habitat Assessments (riparian, shoreline, benthic)	44 days	Thu 14/09/04	Fri 14/10/31

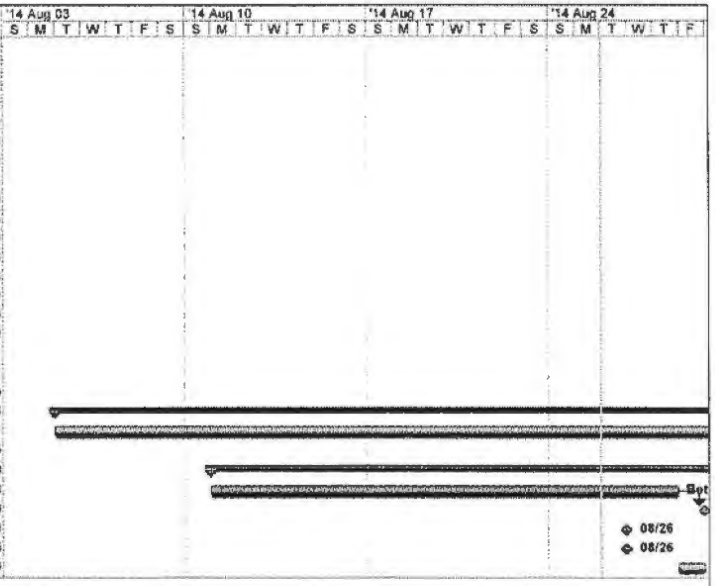
'14 Aug 03 | '14 Aug 10 | '14 Aug 17 | '14 Aug 24

S M T W T F S S M T W T F S S M T W T F S S M T W T F

Project: Mt Polley Project Schedule_Fi
Date: Tue 14/08/26

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

ID	Task Name	Duration	Start	Finish
598	3.6.5 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
599	3.6.5.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
669	3.6.5.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
698	3.6.5.3 Reporting (Detailed) (Additional reports TBD)	13 days	Mon 14/09/15	Tue 14/09/30
699	**3.7 Archaeological Impact Assessment**	**611 days?**	**Tue 14/09/02**	**Fri 16/12/30**
700	3.7.1 Data Review and Collection	20 days?	Tue 14/09/02	Fri 14/09/26
701	3.7.2 Preliminary Field Reconnaissance	9 days?	Tue 14/09/02	Fri 14/09/12
702	3.7.3 Archeological Inventory Assessment	14 days	Tue 14/10/07	Fri 14/10/24
703	3.7.4 Reporting	608 days	Fri 14/09/05	Fri 16/12/30
704	3.7.4.1 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
774	3.7.4.2 Reporting - Monthly	590 days	Tue 14/09/30	Fri 16/12/30
803	3.7.4.3 Reporting (Detailed) (Additional reports TBD)	59 days	Thu 14/09/11	Fri 14/11/28
804	3.7.4.3.1 Preliminary Reconnaissance Report	24 days	Thu 14/09/11	Mon 14/10/13
805	3.7.4.3.2 AIA Final Report	26 days	Sat 14/10/25	Fri 14/11/28
806	**3.8 Environmental Risk Assessment**	**612 days**	**Mon 14/09/01**	**Fri 16/12/30**
807	3.8.1 Data Review and Gap Analysis	45 days	Mon 14/09/01	Wed 14/10/29
808	3.8.2 Problem Formulation	14 days	Wed 14/10/15	Fri 14/10/31
809	3.8.3 Preliminary Risk Assessment	304 days	Mon 14/11/03	Thu 15/12/31
810	3.8.4 Detailed Quantitative Risk Assessment	281 days	Fri 16/01/01	Fri 16/12/30
811	**3.9 Monitoring Program**	**366 days?**	**Tue 14/08/05**	**Fri 15/12/25**
812	3.9.1 Program in progress - to continue as determined by assessment work	252 days?	Tue 14/08/05	Mon 15/08/31
813	3.9.2 Reporting - Weekly	343 days	Fri 14/09/05	Fri 15/12/25
883	**3.10 Project Management**	**627 days**	**Mon 14/08/11**	**Fri 16/12/30**
884	3.10.1 Development of Work Plans	14 days	Mon 14/08/11	Thu 14/08/28
885	3.10.2 Issuance of Work Plans	1 day	Fri 14/08/29	Fri 14/08/29
886	3.10.3 Issuance of Project Schedule	1 day	Tue 14/08/26	Tue 14/08/26
887	3.10.4 Critical Task Pathway	1 day	Tue 14/08/26	Tue 14/08/26
888	3.10.5 Weekly WBS, Schedule, Budget Updates	613 days	Fri 14/08/29	Fri 16/12/30



Project: M1 Polley Project Schedule_FI
Date: Tue 14/08/26

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

Weir, David J FLNR:EX

From: Stolar, Harold B FLNR:EX
Sent: Tuesday, September 9, 2014 8:44 AM
To: Weir, David J FLNR:EX
Subject: RE: Log 208986 Ð Deputy Response Ð Due September 19/14

August 25th is correct.

Inspiring Stewardship through Respectful Conversation

Harold

From: Weir, David J FLNR:EX
Sent: Tuesday, September 9, 2014 8:20 AM
To: Stolar, Harold B FLNR:EX
Subject: RE: Log 208986 Ð Deputy Response Ð Due September 19/14

Only if the date I used is wrong.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Stolar, Harold B FLNR:EX
Sent: Monday, September 8, 2014 5:54 PM
To: Weir, David J FLNR:EX
Subject: Re: Log 208986 Ð Deputy Response Ð Due September 19/14

s.22

Do you still need anything from me?

Sent from iPhone

On Sep 8, 2014, at 2:38 PM, "Weir, David J FLNR:EX" <David.J.Weir@gov.bc.ca> wrote:

> Thank you for your letter of August 19th 2014 concerning the potential impacts to your water licences
> s.22 Dave Weir Section Head Water Stewardship of the Ministry of Forests, Lands and Natural Resource Operations again extends his offer of August 25th 2014 to attend with you onsite and answer any question you may have concerning the potential impacts to your licences. To arrange on onsite meeting Mr. Weir can be contacted at (250) 398- 4924 by phone or by e-mail at David.J.Weir@gov.bc.ca
>
> For up to date information concerning what is happening with respect to the Mount Polley incident please visit http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley/ .
>
> David Weir
> Water Section Head,

Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Beadman, Krista FLNR:EX
Sent: Thursday, September 4, 2014 8:04 AM
To: Weir, David J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

HI Dave
Please draft a Deputy response for the cliff log below and email to me for Ken's approval by September 17.
Thank you!
Krista

Krista Beadman
Regional Administrative Assistant
Cariboo Region
Ministry of Forests, Lands & Natural Resource Operations
Phone: 250-398-4327

From: Correspondence Serv. Sectn, FLNR:EX
Sent: Wednesday, September 3, 2014 4:36 PM
To: Beadman, Krista FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

Hi Krista, sorry forgot to add you in the CLIFF email. ☹

Regards,
Sheree

Sheree Rialp
Correspondence Services
Ministry of Forests, Lands and Natural Resource Operations
411 - 780 Blanshard Street
250-387-7285
Sheree.Rialp@gov.bc.ca

From: FLNR.Correspondence@gov.bc.ca [mailto:FLNR.Correspondence@gov.bc.ca]
Sent: Wednesday, September 3, 2014 4:34 PM
To: Siperka, Linda FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: Log 208986 Ð Deputy Response Ð Due September 19/14

Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including DrafterÕs name, Approved By and all pc addresses, by September 19.

Forests, Lands and Natural Resource Operations CLIFF Log 208986						
First Name s.22			Written	2014/08/19	Log ID	208986
Last Name			Received	2014/09/02	Type	Correspondence
Title			Due	2014/09/22	Action	Deputy Response
Division			Interim		Office	DM-CSS
Company			Signed		Sign By	
Address s.22			Closed		Entered By	SRIALP
			File No.			
City			Batch			
Province	BC	Phone	Confidential:No Frequent Writer:No Elected Official:No			
Country		Fax	Email			
Subject	Water Management Branch, s.22 - inquiring on Minister's role in remediating August 4, 2014 Mount Polley tailings pond owned by Imperial Metals re. water licences s.22					
Other/X-Ref						
Copied To	ENV Minister Polak, MoH Minister Lake, Premier's Office, Official Opposition					
Addressed to	Minister Thomson		Drafter			
Resp. Office	RS-Water Management		MLA	Oakes, Coralee (BC Liberal)		
Issue	Water Licence - 2B		Electoral Dist	Cariboo North		

Notes for Log 208986

2014/09/03T16:31 SRIALP (DM-CSS) - Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including Drafter's name, Approved By and all pc addresses, by September 19.

Attachments for Log 208986

PDF: 208986 - INCOMING

Referrals for Log 208986

Sent By	DM-CSS	Sent	2014/09/03	Received	Status	Completed
Sent To	MO-Minister	Due	2014/09/05	Active for <1 day	State	
Action	Information	Completed	2014/09/03	File No.		

Sent By	MO-Minister	Sent	2014/09/03	Received	Status	Sent
Sent To	DM-CSS	Due	2014/09/19	Active for <1 day	State	Pending
Action	Coordinate Response	Completed		File No.		

Sent By	DM-CSS	Sent	2014/09/03	Received	Status	Sent
Sent To	RS-Water Management	Due	2014/09/19	Active for <1 day	State	Active
Action	Draft Wording	Completed		File No.		

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RED-Cariboo	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

<208986_208986 - INCOMING.pdf>

Weir, David J FLNR:EX

From: Williston, Lee X FLNR:EX
Sent: Monday, September 8, 2014 5:02 PM
To: Weir, David J FLNR:EX
Subject: Out of Office: Quesnel Lake

I am out of the office until Monday September 15, 2014.

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 5:02 PM
To: Williston, Lee X FLNR:EX
Subject: RE: Quesnel Lake

I think we had talked about doing at the end of the month and I am just a couple weeks ahead of myself.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Williston, Lee X FLNR:EX
Sent: Monday, September 8, 2014 4:28 PM
To: Weir, David J FLNR:EX
Subject: Quesnel Lake

Hi Dave,

Unfortunately, I can't make it to Quesnel Lake next week. I'm in Bella Coola the rest of this week and have to go to the Dean River for most of next week.

Sorry,
Lee

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 2:38 PM
To: Vanderburgh, Ken FLNR:EX
Cc: Weir, David J FLNR:EX; Stolar, Harold B FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14
Attachments: 208986_208986 - INCOMING.pdf

Thank you for your letter of August 19th 2014 concerning the potential impacts to your water licences s.22 s.22 Dave Weir Section Head Water Stewardship of the Ministry of Forests, Lands and Natural Resource Operations again extends his offer of August 25th 2014 to attend with you onsite and answer any question you may have concerning the potential impacts to your licences. To arrange on onsite meeting Mr. Weir can be contacted at (250) 398- 4924 by phone or by e-mail at David.J.Weir@gov.bc.ca

For up to date information concerning what is happening with respect to the Mount Polley incident please visit http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley/ .

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Beadman, Krista FLNR:EX
Sent: Thursday, September 4, 2014 8:04 AM
To: Weir, David J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

HI Dave
Please draft a Deputy response for the cliff log below and email to me for Ken's approval by September 17.
Thank you!
Krista

Krista Beadman
Regional Administrative Assistant
Cariboo Region
Ministry of Forests, Lands & Natural Resource Operations
Phone: 250-398-4327

From: Correspondence Serv. Sectn, FLNR:EX
Sent: Wednesday, September 3, 2014 4:36 PM
To: Beadman, Krista FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

Hi Krista, sorry forgot to add you in the CLIFF email. ☹

Regards,
Sheree

Sheree Rialp
Correspondence Services
Ministry of Forests, Lands and Natural Resource Operations
411 - 780 Blanshard Street
250-387-7285
Sheree.Rialp@gov.bc.ca

From: FLNR.Correspondence@gov.bc.ca [mailto:FLNR.Correspondence@gov.bc.ca]
Sent: Wednesday, September 3, 2014 4:34 PM
To: Siperka, Linda FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: Log 208986 Ð Deputy Response Ð Due September 19/14

Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including DrafterÕs name, Approved By and all pc addresses, by September 19.

Forests, Lands and Natural Resource Operations CLIFF Log 208986							
First Name	s.22			Written	2014/08/19	Log ID	208986
Last Name				Received	2014/09/02	Type	Correspondence
Title				Due	2014/09/22	Action	Deputy Response
Division				Interim		Office	DM-CSS
Company				Signed		Sign By	
Address	s.22			Closed		Entered By	SRIALP
				File No.			
City				Batch			
Province	BC	Phone		Confidential:No Frequent Writer:No Elected Official:No			
Country		Fax		Email			
Subject	Water Management Branch, s.22 - inquiring on Minister's role in remediating August 4, 2014 Mount Polley tailings pond owned by Imperial Metals re. water licences s.22						
Other/X-Ref							
Copied To	ENV Minister Polak, MoH Minister Lake, Premier's Office, Official Opposition						
Addressed to	Minister Thomson			Drafter			
Resp. Office	RS-Water Management			MLA	Oakes, Coralee (BC Liberal)		
Issue	Water Licence - 2B			Electoral Dist	Cariboo North		
Notes for Log 208986							
2014/09/03T16:31 SRIALP (DM-CSS) - Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including Drafter's name, Approved By and all pc addresses, by September 19.							

Attachments for Log 208986

PDF: 208986 - INCOMING

Referrals for Log 208986

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Completed
Sent To	MO-Minister	Due	2014/09/05	Active for <1 day		State	
Action	Information	Completed	2014/09/03	File No.			

Sent By	MO-Minister	Sent	2014/09/03	Received		Status	Sent
Sent To	DM-CSS	Due	2014/09/19	Active for <1 day		State	Pending
Action	Coordinate Response	Completed		File No.			

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RS-Water Management	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RED-Cariboo	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

August 19, 2014

Ministry of Forests, Lands and Natural Resource Operations

Honourable, Steve Thomson

P.O. Box 9049

Victoria. British Columbia

V8W 9E2

Re: Water Management Branch, s.22

Dear Sir,

We are writing today to inquire into your role in remediation of the August 4th, 2014 release of toxic materials from the tailings pond at Polley Mine, owned by Imperial Metals, with regard to the two water licenses we hols.22
Not only the surface water of the creek will be affected, but more importantly, the leaching out of Polley Lake, and assorted creeks and springs, will affect the whole aquifer.

s.22 and have had excellent service from your branch with regard to notifying us of any logging, road building, or other construction in the area that could affect our water. As one of your mandates is protection of natural resources, we are sure that you will be diligent in protecting our water supply after this major environmental disaster. It is our understanding s.22 and we are understandably concerned. We have not, as yet, received any communication from Imperial Metals to inform us of their toxic spill into the area for which we hold current water licenses.

We look forward to hearing from you at your earliest convenience.

Yours truly,
s.22

Cc Honourable Mary Polak, Honourable Terry Lake, Office of the Premier, Office of the Official Opposition

Weir, David J FLNR:EX

From: Hill, Douglas J FLNR:EX
Sent: Tuesday, September 9, 2014 1:29 PM
To: Weir, David J FLNR:EX
Subject: FW: ARCHAEOLOGY BRANCH
Attachments: FW: URGENT Mount Polley permit

fyi

From: Bunce, Hubert ENV:EX
Sent: Tuesday, September 9, 2014 1:24 PM
To: 'Lee_Nikl@golder.com'
Cc: Fenwick, Leigh-Ann FLNR:EX; Hill, Douglas J FLNR:EX; Glaum, Doug FLNR:EX; Metcalfe, Shelley ENV:EX
Subject: FW: ARCHAEOLOGY BRANCH

I spoke with Doug Glaum of the Archeology branch today
He can expedite your permit application if they receive a quality application and
They can reduce the consultation period down to very little or zero if you have agreement letters from all three bands (see attached email)

Hope this helps

Hubert Bunce
A/Director Mining Operations
Environmental Protection
ph (250) 751-3254
fax (250) 751-3103
email Hubert.Bunce@gov.bc.ca
2080A Labieux Road
Nanaimo BC V9T 6J9

From: McGuire, Jennifer ENV:EX
Sent: Monday, September 8, 2014 3:49 PM
To: Bunce, Hubert ENV:EX
Subject: FW: ARCHAEOLOGY BRANCH

Jennifer McGuire, P.Ag.
Executive Director, Regional Operations
Environmental Protection
Ministry of Environment
ph: 250-356-6027
cell: 250-361-5944

From: Nikl, Lee [mailto:Lee_Nikl@golder.com]
Sent: Monday, September 8, 2014 3:45 PM

To: McGuire, Jennifer ENV:EX
Cc: Don Parsons (dparsons@imperialmetals.com); Dale Reimer (dreimer@mountpolley.com); Steve Robertson
Subject: ARCHAEOLOGY BRANCH

Hi Jen,

Information to support our application has been collected and our team's Archaeologist has been advised that letters of consent from the two First Nations will be forthcoming. This would allow a bypass of the usual 30d waiting period for an application to be processed. We wonder if you could contact the Archaeology Branch to connect them with our response work and your Ministry's program. We were advised that it would take on the order of 2 weeks to process the permit, which could delay the works. We are hoping to have approvals in place so that we can implement the erosion and sediment control plan (in prep) once we have necessary approval of that plan.

I understand that you would be able to contact the Archaeology Branch directly to outline the urgent nature of the work. The manager of the permitting section is Doug Glaum (250-953-3357). The director is Justine Batten (250-953-3355).

Please feel free to contact me if you would like further clarification.

Regards,

Lee

Lee Nikl (M.Sc., R.P.Bio.) | Principal / Senior Environmental Scientist | **Golder Associates Ltd.** | 500 - 4260 Still Creek Drive, Burnaby, British Columbia, Canada V5C 6C6
D: +1.604.297.2016 | **T:** +1.604.296.4200 | **F:** +1.604.298.5253 | **C:** +1.778.231.6636 | **E:** Lee_Nikl@golder.com | **www.golder.com**

Work Safe, Home Safe

Weir, David J FLNR:EX

From: Glaum, Doug FLNR:EX
Sent: Tuesday, September 9, 2014 12:12 PM
To: Bunce, Hubert ENV:EX
Subject: FW: URGENT Mount Polley permit

Hi Hubert:
As below and further to our phone call, we have identified three first nations within the Hazeltine Creek Area using CAD: Williams Lake, Soda Creek and Neskonlith Indian Band. TNG Engagement Zone A requires only notification, not consultation.

Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
(250) 953-3357
Visit our website

From: Acheson, Steven FLNR:EX
Sent: Tuesday, September 9, 2014 11:05 AM
To: Glaum, Doug FLNR:EX
Subject: RE: URGENT Mount Polley permit

I was told in a teleconference the other day with Remi Farvaque, Adam Kanatakis (Williams Lake IB) and Jim Light (5NC Lavalin) regarding Mount Polley that Williams Lake (T'exelc) and Soda Creek (Xats'ull) were the only two affected FNs. CAD, however, also cites Neskonlith IB. For the record it also lies within the TNG Engagement Zone A.

Steven Acheson, D.Phil. | Supervisor, Permitting and Assessment
Archaeology Branch | Ministry of Forests, Lands and Natural Resource Operations
Phone: 250-953-3306 | Fax: 250-953-3340 |e-mail: archpermitapp@gov.bc.ca
Unit 3 - 1250 Quadra Street, Victoria BC V8W 2K7 | PO Box 9816 Stn Prov Govt, Victoria, BC V8W 9W3

Visit our website at: **http://www.for.gov.bc.ca/archaeology/**

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Wednesday, September 10, 2014 8:23 AM
To: Vanderburgh, Ken FLNR:EX
Subject: FW: Log 208986 D Deputy Response Ð Due September 19/14
Attachments: s.22

Please find the attached if needed for Log 208986

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Jensen, Fern FLNR:EX
Sent: Wednesday, September 10, 2014 8:12 AM
To: Weir, David J FLNR:EX
Subject: RE: Log 208986 Ð Deputy Response Ð Due September 19/14

Dates downstream licencees (Quesnel Lake and River) called were on August 5 and 6, 2014.

Not entirely sure what you are looking for but this is what I came up with . s.22
s.22

I have the map in mxd format in Arc map, if you want it (e.g. look at other layers - topo, other PODs and measurements).

Fern

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 11:33 AM
To: Jensen, Fern FLNR:EX
Subject: FW: Log 208986 D Deputy Response D Due September 19/14

Hi Fern, I will be preparing this note and will need to confirm that there is no connectivity s.22
s.22
below the tailings pond failure. Could you also tell me the date you called the downstream licencees?

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca

(250) 398 4924
Cell 250 267-5925

From: Beadman, Krista FLNR:EX
Sent: Thursday, September 4, 2014 8:04 AM
To: Weir, David J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

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Thank you!
Krista

Krista Beadman
Regional Administrative Assistant
Cariboo Region
Ministry of Forests, Lands & Natural Resource Operations
Phone: 250-398-4327

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Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

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Regards,
Sheree

Sheree Rialp
Correspondence Services
Ministry of Forests, Lands and Natural Resource Operations
411 - 780 Blanshard Street
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From: FLNR.Correspondence@gov.bc.ca [mailto:FLNR.Correspondence@gov.bc.ca]
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To: Siperka, Linda FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
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Forests, Lands and Natural Resource Operations CLIFF Log 208986					
First Name s.22		Written	2014/08/19	Log ID	208986
Last Name		Received	2014/09/02	Type	Correspondence
Title		Due	2014/09/22	Action	Deputy Response

Division				Interim		Office	DM-CSS
Company				Signed		Sign By	
Address	s.22			Closed		Entered By	SRIALP
				File No.			
City				Batch			
Province	BC	Phone		Confidential:No Frequent Writer:No Elected Official:No			
Country		Fax		Email			
Subject	Water Management Branch, s.22 - inquiring on Minister's role in remediating August 4, 2014 Mount Polley tailings pond owned by Imperial Metals re. water licences s.22						
Other/X-Ref							
Copied To	ENV Minister Polak, MoH Minister Lake, Premier's Office, Official Opposition						
Addressed to	Minister Thomson			Drafter			
Resp. Office	RS-Water Management			MLA	Oakes, Coralee (BC Liberal)		
Issue	Water Licence - 2B			Electoral Dist	Cariboo North		

Notes for Log 208986

2014/09/03T16:31 SRIALP (DM-CSS) - Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including Drafter's name, Approved By and all pc addresses, by September 19.

Attachments for Log 208986

PDF: 208986 - INCOMING

Referrals for Log 208986

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Completed
Sent To	MO-Minister	Due	2014/09/05	Active for <1 day		State	
Action	Information	Completed	2014/09/03	File No.			

Sent By	MO-Minister	Sent	2014/09/03	Received		Status	Sent
Sent To	DM-CSS	Due	2014/09/19	Active for <1 day		State	Pending
Action	Coordinate Response	Completed		File No.			

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RS-Water Management	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RED-Cariboo	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

Page 1071

Withheld pursuant to/removed as

s.22

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Wednesday, September 10, 2014 8:21 AM
To: Jensen, Fern FLNR:EX
Subject: RE: Log 208986 Ð Deputy Response Ð Due September 19/14

Thank you that is exactly what I was looking for.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Jensen, Fern FLNR:EX
Sent: Wednesday, September 10, 2014 8:12 AM
To: Weir, David J FLNR:EX
Subject: RE: Log 208986 Ð Deputy Response Ð Due September 19/14

Dates downstream licencees (Quesnel Lake and River) called were on August 5 and 6, 2014.

Not entirely sure what you are looking for but this is what I came up with s.22
s.22

I have the map in mxd format in Arc map, if you want it (e.g. look at other layers - topo, other PODs and measurements).

Fern

From: Weir, David J FLNR:EX
Sent: Monday, September 8, 2014 11:33 AM
To: Jensen, Fern FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

Hi Fern, I will be preparing this note and will need to confirm that there is no connectivity s.22
s.22
s.22 below the tailings pond failure. Could you also tell me the date you called the downstream licencees?

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Beadman, Krista FLNR:EX
Sent: Thursday, September 4, 2014 8:04 AM
To: Weir, David J FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

Hi Dave
Please draft a Deputy response for the cliff log below and email to me for Ken's approval by September 17.
Thank you!
Krista

Krista Beadman
Regional Administrative Assistant
Cariboo Region
Ministry of Forests, Lands & Natural Resource Operations
Phone: 250-398-4327

From: Correspondence Serv. Sectn, FLNR:EX
Sent: Wednesday, September 3, 2014 4:36 PM
To: Beadman, Krista FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: FW: Log 208986 Ð Deputy Response Ð Due September 19/14

Hi Krista, sorry forgot to add you in the CLIFF email. ☹

Regards,
Sheree

Sheree Rialp
Correspondence Services
Ministry of Forests, Lands and Natural Resource Operations
411 - 780 Blanshard Street
250-387-7285
Sheree.Rialp@gov.bc.ca

From: FLNR.Correspondence@gov.bc.ca [mailto:FLNR.Correspondence@gov.bc.ca]
Sent: Wednesday, September 3, 2014 4:34 PM
To: Siperka, Linda FLNR:EX
Cc: Correspondence Serv. Sectn, FLNR:EX
Subject: Log 208986 Ð Deputy Response Ð Due September 19/14

Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including DrafterÕs name, Approved By and all pc addresses, by September 19.

Forests, Lands and Natural Resource Operations CLIFF Log 208986					
First Name	s.22	Written	2014/08/19	Log ID	208986
Last Name		Received	2014/09/02	Type	Correspondence
Title		Due	2014/09/22	Action	Deputy Response
Division		Interim		Office	DM-CSS
Company		Signed		Sign By	

Address	s.22			Closed		Entered By	SRIALP
				File No.			
City				Batch			
Province	BC	Phone		Confidential:No Frequent Writer:No Elected Official:No			
Country		Fax		Email			
Subject	Water Management Branch, s.22 inquiring on Minister's role in remediating August 4, 2014 Mount Polley tailings pond owned by Imperial Metals re. water licences s.22						
Other/X-Ref							
Copied To	ENV Minister Polak, MoH Minister Lake, Premier's Office, Official Opposition						
Addressed to	Minister Thomson			Drafter			
Resp. Office	RS-Water Management			MLA	Oakes, Coralee (BC Liberal)		
Issue	Water Licence - 2B			Electoral Dist	Cariboo North		

Notes for Log 208986

2014/09/03T16:31 SRIALP (DM-CSS) - Sent to Water Management Branch to coordinate with RED-Cariboo for DM Response. Please provide to CSS draft wording, including Drafter's name, Approved By and all pc addresses, by September 19.

Attachments for Log 208986

PDF: 208986 - INCOMING

Referrals for Log 208986

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Action	Information	Completed	2014/09/03	File No.			

Sent By	MO-Minister	Sent	2014/09/03	Received		Status	Sent
Sent To	DM-CSS	Due	2014/09/19	Active for <1 day		State	Pending
Action	Coordinate Response	Completed		File No.			

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RS-Water Management	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

Sent By	DM-CSS	Sent	2014/09/03	Received		Status	Sent
Sent To	RED-Cariboo	Due	2014/09/19	Active for <1 day		State	Active
Action	Draft Wording	Completed		File No.			

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Wednesday, September 10, 2014 3:21 PM
To: Bunce, Hubert ENV:EX
Subject: Mt Polley Sign off of embedded debris at mouth of Hazeltine Creek
Attachments: Imperial Metals - Order.pdf

Hi Hubert, I just had time to put this together. Please be aware that the requirement for approval by EP is a condition of the water act order. It does not have to be anything formal as the purpose of the clause is only to make sure that the work is being done to your satisfaction. If they are not doing it to your satisfaction please contact me if you do not have a more suitable mechanism to bring them into compliance.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

BRITISH COLUMBIA

August 21, 2014 76930-40/Mt Polley

Imperial Metals Corporation
200-580 Hornby Street, Vancouver, BC V6C3B6
604.669.8959

Sent by E:mail only dparsons@imperialmetals.com

Dear **Don Parsons**:

Enclosed is an Order issued under Section 88(1) of the *Water Act*.

This order replaces and extends the time period needed for completion of ongoing work to meet the objectives identified in the August 5th 3:15 pm order. In addition it provides for additional clarification regarding works needed to achieve the intention of that order. Progress of the activities will be monitored and the order may be extended, modified or cancelled at any time based upon the monitoring results.

Suitably qualified professionals include but are not limited to Geoscientists, Engineers, Archeaologists, Agrologists and Biologists. Robin Hoffos and I met with your representatives on Quesnel Lake to review the ongoing containment and removal of debris on Quesnel Lake including the proposal to improve the ramp at the West Fraser Log dewatering site. The proposals as described were satisfactory under the supervision of the Professional Biologist who was identified as Brian Aitken RP Bio and Professional Engineer Emily Cheung. We have not received the requested information from them but time is of the essence. We have not received information concerning the Professional oversight of operations on Polley Lake. Please maintain a complete record of the activities relating to this order which are to be supplied to us upon request.

Specific issues identified under during the review included Kokanee Shore Spawning, Cariboo Island, embedded debris at the mouth of Hazeltine Creek, natural debris, the installation of a ramp to remove debris, and the placement of light debris above the high water mark. The Williams Lake Indian band has requested monitoring of the debris removal on Cariboo Island due the potential for the destruction or loss of artifacts exposed below and above the high water mark. A contact has been provided to your representatives for you to address this issue. Brian Aitken indicated the intention to collect video evidence for "before and after" work is completed and we wish to receive a copy of this information upon completion of the work.

.../2

Ministry of Forests, Lands and Natural Resource Operations
Resource Authorizations
Cariboo Region
Mailing Address:
400 - 640 Borland Street
Williams Lake BC V2G 4T1
Telephone: 250-398-4530
Facsimile: 250-398 4214
Web: www.env.gov.bc.ca

I remind you that embedded debris removal within Polley Lake, Hazeltine Creek and at the Mouth of Hazeltine Creek where it enters Quesnel Lake must be approved by the Environmental Protection Division of the Ministry of Environment prior to being completed.

This order is ancillary to the jurisdictions of the Ministry of Mines and Ministry of Environment and it is expected that overlap will occur between the instructions from these Ministries. Works are to be consistent with the instructions from these Ministries and Federal agencies. This order facilitates the activities that will be approved under the Land act and Forest Act.

An appeal to this order may be taken only as directed within Section 92 of the *Water Act*. An appeal sball not act as a stay of execution of the order.

This order does not preclude legal proceedings.

Yours truly,

David Weir
Assistant Regional Water Manager

DW/yp

ec: preoc5.ops1@gov.bc.ca , Jennifer.Mcguire@gov.bc.ca , Al.Hoffman@gov.bc.ca , Rodger.Stewart@gov.bc.ca , Robin.Hoffos@gov.bc.ca

Enclosure: August 5th Order and August 20th order.

ENGINEER'S ORDER

SECTION 88 OF THE *WATER ACT*

WHEREAS **Imperial Metals Corporation** are the registered owners of **Mount Polley Mine**, and

WHEREAS **Imperial Metals Corporation** you have, or permitted to have, allowed debris to block the outlet of Polley Lake, enter Hazeltine Creek and enter into Quesnel Lake, and

WHEREAS a person commits an offence under **Section 93(2) (p) and Section 94(1) (g)** of the *Water Act* who:

(p) fails to do an act or thing required to be done by the person under this Act or under an order of the comptroller, regional water manager, engineer or officer;

(g) places, maintains or makes use of an obstruction in the channel of a stream without authority, and

WHEREAS I, David Weir, Engineer under the *Water Act*, am empowered under Section 88 (1) (j) and (l) of the Water Act to:

(j) order the release of stored or impounded water that the engineer considers a danger to life and property;

(l) order a person to remove from a stream any substance or thing that the person has put or permitted to get into the stream;

I HEREBY ORDER Imperial Metals Corporation to:

1. Under the direction of suitably qualified professionals licenced in the Province of British Columbia: collect and remove such debris from Hazeltine Creek, Quesnel Lake and Polley Lake, as a result of the Mt Polley tailings pond failure; as would threaten public safety, road infrastructure and stream channel stability. Included in this order is approval for the installation and removal of a boat ramp at the West Fraser reload site as discussed during FLNRO joint inspection of August 19th 2014. The manner and nature of these activities is to be suitable to impacted parties, Federal Agencies and the Province.

2. Under the direction of suitably, qualified and experienced professionals, licenced in the Province of British Columbia: maintain the lake level of Polley Lake in a manner that prevents further mass movement of material from Polley Lake and Hazeltine Creek.

By the 31st day of October 2014.

Dated at Williams Lake, British Columbia, this 20th day of August 2014.

David Weir
Engineer under the *Water Act*

Attachments:

August 5th 3:15pm order that was sent via Penny Carpenter.

Hello, at this time it is our understanding that Stephen Rothman has the authority under the mines act to order the necessary measures to contain and remove the debris in Quesnel Lake and to authorize the management of the water level on Polley lake.

However: to remove any confusion and to address any shortcoming that might exist between the Mines Act, Water Act and the MOU that guides there coordination I order under Section 85 as follows;

Subject to the requirements of the Mines Act and MOU http://iwww.cnv.gov.bc.ca/wsd/sla_mou/mempr_mou%202009.pdf and as it is in the public interest for the protection of safety and the integrity of Hazeltine Creek, Polley Lake, Quesnel Lake and the Quesnel River, recognizing the Mt Polley Mine's willingness to undergo the required work at their own cost and save the province harmless:

1) Under the direction of suitably qualified professionals licenced in the Province of BC the corporation is ordered to collect and remove such debris from Quesnel Lake, as a result of the Mt Polley tailings pond failure, as would threaten road infrastructure and stream channel stability. The manner and nature to be suitable to impacted parties Federal Agencies and the Province.
2) Under the direction of suitably qualified and experienced professionals licenced in the Province of BC; maintain the Lake level of Polley Lake in a manner that prevents further mass movement of material from Polley lake and Hazeltine Creek.
3) This order does not superseded any other legislation, agency, or government authority nor does it save them harmless.
4) This order is not intended to mitigate or limit the future punitive action of government with respect any non compliance by Mt Polley Mine.
5) This order is a temporary measure and is subject to cancelation or modification under the authority of the Water Act Mines Act or the MOU.
6) This order doe not authorize the entry onto private lands.

If necessary a more formal and document can be provided at a future date and in the absence of any direction to the contrary it should be considered to be expired as of August 22nd 2014 if not renewed. In addition to the general protection of public interest the specific purpose is to protect the bridge at Likely and to prevent secondary mass movements of material from the failure.

If there are any questions or you feel there is error please contact me. Keeping in mind the rushed nature of this document.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations

Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Penny Carpenter s.22
Sent: Tuesday, August 5, 2014 12:46 PM
To: Weir, David J FLNR:EX
Subject: RE: Mt Polley

Hi David
The Mines Gentleman Steve Rothman will be contacting you regarding the breach of the tailing pond. He will be able to fill you in and maybe it will help the work load so things are not getting duplicated.
Penny Carpenter

From: Weir, David J FLNR:EX [mailto:David.J.Weir@gov.bc.ca]
Sent: August-05-14 11:41 AM
To: XT:Carpenter, Penny FLNR:IN
Subject: Mt Polley

As per our discussion

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Wednesday, September 10, 2014 3:41 PM
To: Shook, James G ENV:EX
Subject: Mt Polley water act order
Attachments: Imperial Metals - Order.pdf

You probably do not need this information but as per our conversation today I thought I would share it.

The second order was issued to address 93 (2) (p) failure to comply with the first order and Sec 94 (1) (g)placement of an obstruction in a stream (and lake). The remedies used are under Sec 88 (1) (j) release the stored water and 88 (l) remove substance put into stream.

The first order uses sec 85 because that is the sec that allows me to issue orders. I did not speak to the issue of stream channel modification as the orders are focussed on the protection of the public from future impacts. This order expires at the end of October and if an extension is needed and if a mitigation plan is available I may speak to the issue of changes in and about a stream and the order of stream channel mitigation.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

BRITISH COLUMBIA

August 21, 2014 76930-40/Mt Polley

Imperial Metals Corporation
200-580 Hornby Street, Vancouver, BC V6C3B6
604.669.8959

Sent by E:mail only dparsons@imperialmetals.com

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Yours truly,

David Weir
Assistant Regional Water Manager

DW/yp

ec: preoc5.ops1@gov.bc.ca , Jennifer.Mcguire@gov.bc.ca , Al.Hoffman@gov.bc.ca , Rodger.Stewart@gov.bc.ca , Robin.Hoffos@gov.bc.ca

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If there are any questions or you feel there is error please contact me. Keeping in mind the rushed nature of this document.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations

Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

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Sent: Tuesday, August 5, 2014 12:46 PM
To: Weir, David J FLNR:EX
Subject: RE: Mt Polley

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Penny Carpenter

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Sent: August-05-14 11:41 AM
To: XT:Carpenter, Penny FLNR:IN
Subject: Mt Polley

As per our discussion

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Glaum, Doug FLNR:EX
Sent: Thursday, September 11, 2014 11:27 AM
To: Weir, David J FLNR:EX
Cc: Acheson, Steven FLNR:EX
Subject: RE: Mt Polley

Hi David:

Just to be clear, we have barely been involved in this project and have not received any indication of the impact zone/area of concern (a GeoBC commitment) nor have we received a permit application. Our advice to date has consisted of trying to get all studies contained in a single permit instead of two for expediency's sake; and trying to gather the FN support by letter as part of the application instead of the Archaeology Branch having to refer the application to FN for comment.

We would see no reason for any archaeological studies in areas with no potential to contain sites, which would probably cover materials redeposited by the flooding and the alluvial fan, however the proponent's archaeological consultants may have additional information on this.

Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
(250) 953-3357
Visit our website

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 10:43 AM
To: Bunce, Hubert ENV:EX; Glaum, Doug FLNR:EX; 'adam.kantakis@williamslakeband.ca'
Cc: Vanderburgh, Ken FLNR:EX
Subject: Mt Polley

I am concerned with the pace that the company is proceeding to fulfill the requirement of the Water Act order for clean up of Hazeltine Creek. While it is good that the permit is being expedited I can see no risk to the resource if Adam is given verbal approval to begin pit testing the high potential sites. I am confused as to why any delay would occur with the excavation of any deposited materials and also confused as to why those areas within the active alluvial plane would be delayed. I am confused why the upper pond would have any assessment required. However; I would assume that monitoring and artifact recovery should be a top priority for these pond areas even though both the event and the active alluvial plane would have destroyed continuity any artifacts would have cultural significance.

Why not allow work to go ahead in the most disturbed areas and give Adam verbal to begin testing on the undisturbed areas on the shoulders of the fan tomorrow. Have Arch site monitors observe the excavations and recover artifacts at the gravel screening area if any are discovered?

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations

Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:25 AM
To: Fenwick, Leigh-Ann FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Mt Polley

Hello, as discussed please find the attached. Next week may be the best weather for the completion of the excavations and after that we do not know what the weather will bring. The sediment may pose a potential risk to human health and cannot be retrieved from the lake at some future time. A water act order exists requiring the removal of the material that entered Hazeltine creek. The Arch permit is delaying the works. If the FN's participating in the Environmental working group are comfortable with works progressing or works progressing subject to conditions I can and will instruct the Company to comply immediately with the water act order in this regard.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 10:43 AM
To: Buncc, Hubert ENV:EX; Glaum, Doug FLNR:EX; 'adam.kantakis@williamslakeband.ca'
Cc: Vanderburgh, Ken FLNR:EX
Subject: Mt Polley

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(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Hill, Douglas J ENV:EX
Sent: Thursday, September 11, 2014 11:35 AM
To: Weir, David J FLNR:EX
Subject: FW: Seeding of MPMC impacted areas

fyi

From: Bunce, Hubert ENV:EX
Sent: Thursday, September 11, 2014 10:04 AM
To: 'Nikl, Lee'; 'Jack Love'; 'Dale Reimer'; 'Colleen Hughes'
Cc: Fenwick, Leigh-Ann FLNR:EX; Epps, Deb ENV:EX; 'kirk.dressler@williamslakeband.ca'; 'Julia Banks [nrcoordinator@xatsull.com]'; XT:HLTH Waters, Shannon HLTH:IN; 'Aaron.Higginbottom@williamslakeband.ca'; 'Lisa.Montgomeryreid@fnha.ca'; 'Brian Olding'; Metcalfe, Shelley ENV:EX; Hill, Douglas J ENV:EX; XT:Sobol, Isaac Dr. HLTH:IN; s.22 ; Swan, Chris L ENV:EX; McGuire, Jennifer ENV:EX; 'Amy Crook'; 'Rhonda.Leech@williamslakeband.ca'; 'Rick Holmes'; 'Linda Pillsworth'; 'Cheryl.Stump@fnha.ca'; XT:Jock, Richard HLTH:IN; McGuire, Jennifer ENV:EX; s.22 Matscha, Gabriele ENV:EX
Subject: Seeding of MPMC impacted areas

In consideration of the information I have before me at this time and the need for prompt action to abate impacts I support the action to hydro seed the mine impacted materials along the course of Hazeltine Creek and as possible on the Polley lake plug and in the Tailings Storage Facility

I have considered the concerns raised by the members of the Env Working Group and find the possible risks to grass consuming animals to be outweighed by the following:

There is an immediate need to limit the further loss of sediment into Hazeltine Creek and Quesnell lake to protect the drinking water quality and the aquatic/ fisheries values downstream in advance of further rainfall events and winter conditions. This is an action that can take place in the impacted zone safely at this time;

The proposed planting of grass seed is an accepted erosion protection measure, it is not a final vegetative solution therefore exposure to ungulates will be limited. The opportunity to achieve grass germination is short and therefore the sooner grass seed can be distributed the better. Research on other mine sites (some going back as far as the 1970s) where ungulates spend a modest portion of their time grazing do not report a high risk of metals uptake;

Community and First Nation concern regarding need for prompt action and to protect the more immediate concerns relative to the more significant fishery resource of Quesnel Lake outweigh the less understood possible impacts of short term exposure of ungulates in a more limited area;

Failure to take immediate action at this time could be interpreted as contradicting the order to abate the discharge of mine affected materials and the subsequent advisory letter.

Resulting from this seeding project MPMC need to conduct sampling of the resulting vegetation to determine what level of metal uptake may have occurred and correlate that to metals levels in the associated sediment.

The Ministry of Environment may conduct additional sampling and data review as it deems necessary to verify the impacts of the seeding.

Consider the emergent nature of the work a short turn around response has been required in this case. MPMC should provide as much prior notification of specifc actions as possible.

MOE plans to hold a conference call to discuss this issue further with Environmental Working group

Hubert Bunce
A/Mining Director, Environmental Protection
Regional Operations
ph (250) 751-3254 fax (250) 751-3103
2080A Labieux Road
Nanaimo BC V9T 6J9

Weir, David J FLNR:EX

From: Hill, Douglas J ENV:EX
Sent: Thursday, September 11, 2014 11:34 AM
To: Weir, David J FLNR:EX
Subject: FW: Review of Interim Measures

From: Bunce, Hubert ENV:EX
Sent: Wednesday, September 10, 2014 5:39 PM
To: 'Dale Reimer'; Hill, Douglas J ENV:EX; Hoffman, Al MEM:EX; Rothman, Stephen MEM:EX; 'Ann Louie'; 'Bev Sellars'; 'Steve Robertson'; 'Brian Kynoch'; 'Nikl, Lee'; 'donparsons@imperialmetals.com'; 'Art Frye'; Fenwick, Leigh-Ann FLNR:EX; Metcalfe, Shelley ENV:EX; Demchuk, Tania MEM:EX; Bellefontaine, Kim MEM:EX; Howe, Diane J MEM:EX; McGuire, Jennifer ENV:EX
Subject: RE: Review of Interim Measures

The Ministry of Environment (MOE) acknowledges that MPMC has been working to abate the discharge and its impacts to the receiving environment but is of the opinion that more could be done. The continued discharge of turbid water into Quesnel Lake is obviously of primary concern and any and all possible actions that can be implemented should be done as promptly as possible. MOE obviously does not want activities undertaken that are unsafe and as such we interested to see that acceptable safe work procedures are fully developed and implemented. In consideration of this agreement to the priority drawdown of Polley Lake with discharge into Hazeltine Creek was accepted to reduce the safety risks. MOE is keen to review and comment on the latest version of the Erosion and Sediment Control Plan which we understand will be provided imminently. Implementation of the related control features is a priority and those actions that can be implemented now should be.

Obviously MOE cannot provide direction on specific actions that need to be taken but continued delays on the company's proposed installation of works such as the silt curtain at the outlet of Hazeltine Creek have been continuing for weeks now and as such this is unacceptable from an environmental perspective. These are works that would help mitigate the impacts related to the pump down of Polley Lake, and others from the Tailings Storage Facility and along the course of Hazeltine Creek. While I can appreciate that significant resources are being applied to the issues already possibly more need to be considered to complete safety works and procedures, ensure monitoring and reporting is completed, and installation of more control and treatment works more promptly.

Hubert Bunce
A/Mining Director, Environmental Protection
Regional Operations
ph (250) 751-3254 fax (250) 751-3103
2080A Labieux Road
Nanaimo BC V9T 6J9

From: Dale Reimer [mailto:dreimer@mountpolley.com]
Sent: Wednesday, September 10, 2014 3:43 PM
To: Bunce, Hubert ENV:EX; Hill, Douglas J ENV:EX; Hoffman, Al MEM:EX; Rothman, Stephen MEM:EX; Ann Louie; Bev Sellars; Steve Robertson; Brian Kynoch; Nikl, Lee; donparsons@imperialmetals.com; Art Frye
Subject: Review of Interim Measures

Please see attached letter regarding a review of interim measures implemented for the Polley Lake draw down.
Regards: Dale

Dale Reimer
General Manager
Mount Polley Mining Corporation
Box 12 Likely, B.C. V0L 1N0
Ph. 250-790-2600
Cell 250-305-8530

Weir, David J FLNR:EX

From: Hill, Douglas J ENV:EX
Sent: Thursday, September 11, 2014 11:31 AM
To: 'Dale Reimer'
Cc: Weir, David J FLNR:EX
Subject: RE: Review of Interim Measures

Dale, I forwarded your note to David Weir of Water Stewardship. He is the best contact for FLNR regarding Water Act issues.

djh

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Sent: Wednesday, September 10, 2014 3:43 PM
To: Bunce, Hubert ENV:EX; Hill, Douglas J ENV:EX; Hoffman, Al MEM:EX; Rothman, Stephen MEM:EX; Ann Louie; Bev Sellars; Steve Robertson; Brian Kynoch; Nikl, Lee; donparsons@imperialmetals.com; Art Frye
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Weir, David J FLNR:EX

From: Hill, Douglas J ENV:EX
Sent: Thursday, September 11, 2014 11:30 AM
To: Weir, David J FLNR:EX
Subject: FW: Review of Interim Measures
Attachments: ScanToEmail_0164.pdf

From: Dale Reimer [mailto:dreimer@mountpolley.com]
Sent: Wednesday, September 10, 2014 3:43 PM
To: Bunce, Hubert ENV:EX; Hill, Douglas J ENV:EX; Hoffman, Al MEM:EX; Rothman, Stephen MEM:EX; Ann Louie; Bev Sellars; Steve Robertson; Brian Kynoch; Nikl, Lee; donparsons@imperialmetals.com; Art Frye
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Regards: Dale

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Mount Polley Mining Corporation
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Ph. 250-790-2600
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Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

September 10, 2014

Ministry of Environment
Ministry of Energy and Mines
Ministry of Forests, Lands and Natural Resource Operations

Re: REVIEW OF INTERIM MEASURES BEING IMPLEMENTED FOR POLLEY LAKE DRAW-DOWN

Dear Sirs,

As you are aware from our correspondence of August 13, 2014, Mount Polley Mining Corporation (MPMC) have been reducing the water level of Polley Lake behind a plug formed from the Tailings Storage Facility (TSF) Breach of August 4, 2014. This dewatering was deemed necessary by our engineering advisors, BGC Engineering Inc. and is consistent with an order under the *Water Act*.

As you are no doubt aware, the process of dewatering Polley Lake has resulted in the discharge of turbid water into Quesnel Lake. We are concerned that these actions may conflict with other statutory obligations. MPMC has been working expeditiously towards developing an Erosion and Sediment Control Plan (ESCP) for Hazeltine Creek which we hope will reduce the sediment loads into Quesnel Lake as we continue to reduce the water level of Polley Lake. We are seeking your direction to assist us in confirming or revising our present actions.

At present, Polley Lake is approximately 1.3 m above its natural water level and our engineers are concerned that this might pose a safety and property risk. In particular, they are concerned that the stability of the sediment plug could be comprised by:

- Internal erosion caused by seepage of water through the sediment plug.
- Erosion from external surface water flow onto the sediment plug leading to downcutting.
- Because fall rains are expected to add to Polley Lake, the dewatering of the lake remains necessary to create freeboard in advance.

In these circumstances, we are concerned that continuing with our dewatering programs to fulfill certain regulatory requirements may result in non-compliance with other current statutory

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obligations. Given that we have been working with you with respect to our response programs, we respectfully request, on an urgent basis, that you provide us with clear direction as to the actions we are taking.

Mount Polley Mining Corporation

Dale Reimer
General Manager

Weir, David J FLNR:EX

From: O'Sullivan, Susan FLNR:EX
Sent: Thursday, September 11, 2014 1:14 PM
To: Weir, David J FLNR:EX; Glaum, Doug FLNR:EX
Subject: RE: Mt Polley

Dave, can you send me the document referenced in the email.

s.16

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:42 AM
To: Glaum, Doug FLNR:EX
Cc: O'Sullivan, Susan FLNR:EX
Subject: FW: Mt Polley

I will get after the company on this today. s.16

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:25 AM
To: Fenwick, Leigh-Ann FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Mt Polley

Hello, as discussed please find the attached. Next week may be the best weather for the completion of the excavations and after that we do not know what the weather will bring. The sediment may pose a potential risk to human health and cannot be retrieved from the lake at some future time. A water act order exists requiring the removal of the material that entered Hazeltine creek. The Arch permit is delaying the works. If the FN's participating in the Environmental working group are comfortable with works progressing or works progressing subject to conditions I can and will instruct the Company to comply immediately with the water act order in this regard.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 10:43 AM
To: Bunce, Hubert ENV:EX; Glaum, Doug FLNR:EX; 'adam.kantakis@williamslakeband.ca'
Cc: Vanderburgh, Ken FLNR:EX
Subject: Mt Polley

I am concerned with the pace that the company is proceeding to fulfill the requirement of the Water Act order for clean up of Hazeltine Creek. While it is good that the permit is being expedited I can see no risk to the resource if Adam is given verbal approval to begin pit testing the high potential sites. I am confused as to why any delay would occur with the excavation of any deposited materials and also confused as to why those areas within the active alluvial plane would be delayed. I am confused why the upper pond would have any assessment required. However; I would assume that monitoring and artifact recovery should be a top priority for these pond areas even though both the event and the active alluvial plane would have destroyed continuity any artifacts would have cultural significance.

Why not allow work to go ahead in the most disturbed areas and give Adam verbal to begin testing on the undisturbed areas on the shoulders of the fan tomorrow. Have Arch site monitors observe the excavations and recover artifacts at the gravel screening area if any are discovered?

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 12:48 PM
To: Bunce, Hubert ENV:EX
Subject: FW: Mt Polley permit

FYI.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Glaum, Doug FLNR:EX
Sent: Thursday, September 11, 2014 12:20 PM
To: Weir, David J FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Forgeng, Eric E FLNR:EX
Cc: Fenwick, Leigh-Ann FLNR:EX
Subject: RE: Mt Polley permit

I've assigned Eric Forgeng to oversee this permit application. He will be your contact.

Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
(250) 953-3357
Visit our website

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:51 AM
To: 'Adam.kantakis@williamslakeband.ca'
Cc: Glaum, Doug FLNR:EX; Fenwick, Leigh-Ann FLNR:EX
Subject: Mt Polley permit

I understand that the permit has not been applied for yet? Please submit the application immediately. If you are worried about its completness please call Doug and I believe he will help you out.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Dale Reimer <dreimer@mountpolley.com>
Sent: Thursday, September 11, 2014 12:10 PM
To: Weir, David J FLNR:EX
Subject: RE: Review of Interim Measures

Thanks David, will do. Regards: Dale

From: Weir, David J FLNR:EX [mailto:David.J.Weir@gov.bc.ca]
Sent: September-11-14 11:59 AM
To: Hill, Douglas J ENV:EX; Dale Reimer
Cc: Fenwick, Leigh-Ann FLNR:EX
Subject: RE: Review of Interim Measures

Hello Dale,

With respect to the Water Act order please forward copies of documents to me as well as to those other contacts you have been given relating to the documents. I have been working with Penny and Russ but we did meet onsite.

David Weir
Water Section Head,
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Regards: Dale

Dale Reimer
General Manager
Mount Polley Mining Corporation
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Ph. 250-790-2600
Cell 250-305-8530

Weir, David J FLNR:EX

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Cc: Fenwick, Leigh-Ann FLNR:EX
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Subject: Mt Polley permit

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Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Forgeng, Eric E FLNR:EX
Sent: Thursday, September 11, 2014 2:38 PM
To: 'Remi Farvacque'; Weir, David J FLNR:EX
Cc: 'Wendy Slavica'; 'Light Jim (Jim.Light@snclavalin.com)'
Subject: RE: Mt Polley permit

Thanks very much for the update, Remi.

Best,
Eric

Eric Forgeng, MA | Archaeologist / Heritage Resource Specialist
Archaeology Branch | Ministry of Forests, Lands and Natural Resource Operations
Phone: 250-953-3362 | Fax: 250-953-3340 |e-mail: eric.forgeng@gov.bc.ca
Unit 3 - 1250 Quadra Street, Victoria BC V8W 2K7 | PO Box 9816 Stn Prov Govt, Victoria, BC V8W 9W3

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From: Remi Farvacque [mailto:R.Farvacque@archercrm.ca]
Sent: Thursday, September 11, 2014 14:35
To: Weir, David J FLNR:EX
Cc: Forgeng, Eric E FLNR:EX; Wendy Slavica; Light Jim (Jim.Light@snclavalin.com)
Subject: RE: Mt Polley permit

Good afternoon David;

Reading through the thread, Wendy Slavica (cc'ed here) will be the Permit Holder. We have not submitted the Permit as of yet as we were waiting for Letters of Support from the affect three First Nations. Our intent (at this time) is to submit the Permit tomorrow with or without letters of support.

Rémi Farvacque, *M.Sc., RPCA*
Director
ARCHER CRM Partnership

Tel: 1.250.261.5584
Cell: 1.250.793.0036
Fax: 1.250.261.5474

Our Burnaby Office is now open ...
More details at www.archercrm.ca

From: Forgeng, Eric E FLNR:EX [mailto:Eric.Forgeng@gov.bc.ca]
Sent: September-11-14 2:30 PM
To: Weir, David J FLNR:EX
Cc: Remi Farvacque
Subject: FW: Mt Polley permit

Hi David,

My understanding is that Remi Farvacque of Archer CRM would be applying for the HCA permit, his email is R.Farvacque@archercrm.ca

Please feel free to call if I can be of any help in the meantime.

Best,
Eric

Eric Forgeng, MA | Archaeologist / Heritage Resource Specialist
Archaeology Branch | Ministry of Forests, Lands and Natural Resource Operations
Phone: 250 953-3362 | Fax: 250-953-3340 |e-mail: eric.forgeng@gov.bc.ca
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From: Glaum, Doug FLNR:EX
Sent: Thursday, September 11, 2014 12:20
To: Weir, David J FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Forgeng, Eric E FLNR:EX
Cc: Fenwick, Leigh-Ann FLNR:EX
Subject: RE: Mt Polley permit

I've assigned Eric Forgeng to oversee this permit application. He will be your contact.

Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
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David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations

Williams Lake , BC
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(250) 398 4924
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Weir, David J FLNR:EX

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David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 2:47 PM
To: 'Remi Farvacque'
Subject: RE: Mt Polley permit

Okay. I am away tomorrow but will be back on Monday if issues arise.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

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Sent: Thursday, September 11, 2014 2:35 PM
To: Weir, David J FLNR:EX
Cc: Forgeng, Eric E FLNR:EX; Wendy Slavica; Light Jim (Jim.Light@snclavalin.com)
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Weir, David J FLNR:EX

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 2:44 PM
To: O'Sullivan, Susan FLNR:EX
Subject: RE: Mt Polley
Attachments: Imperial Metals - Order.pdf

I can send you the order but Mt Polley has not applied for the Arch permit yet.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: O'Sullivan, Susan FLNR:EX
Sent: Thursday, September 11, 2014 1:14 PM
To: Weir, David J FLNR:EX; Glaum, Doug FLNR:EX
Subject: RE: Mt Polley

Dave, can you send me the document referenced in the email.

s.16

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:42 AM
To: Glaum, Doug FLNR:EX
Cc: O'Sullivan, Susan FLNR:EX
Subject: FW: Mt Polley

I will get after the company on this today. s.16

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:25 AM
To: Fenwick, Leigh-Ann FLNR:EX
Cc: Vanderburgh, Ken FLNR:EX
Subject: FW: Mt Polley

Hello, as discussed please find the attached. Next week may be the best weather for the completion of the excavations and after that we do not know what the weather will bring. The sediment may pose a potential risk to human health and cannot be retrieved from the lake at some future time. A water act order exists requiring the removal of the material that entered Hazeltine creek. The Arch permit is delaying the works. If the FN's participating in the Environmental working group are comfortable with works progressing or works progressing subject to conditions I can and will instruct the Company to comply immediately with the water act order in this regard.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 10:43 AM
To: Bunce, Hubert ENV:EX; Glaum, Doug FLNR:EX; 'adam.kantakis@williamslakeband.ca'
Cc: Vanderburgh, Ken FLNR:EX
Subject: Mt Polley

I am concerned with the pace that the company is proceeding to fulfill the requirement of the Water Act order for clean up of Hazeltine Creek. While it is good that the permit is being expedited I can see no risk to the resource if Adam is given verbal approval to begin pit testing the high potential sites. I am confused as to why any delay would occur with the excavation of any deposited materials and also confused as to why those areas within the active alluvial plane would be delayed. I am confused why the upper pond would have any assessment required. However; I would assume that monitoring and artifact recovery should be a top priority for these pond areas even though both the event and the active alluvial plane would have destroyed continuity any artifacts would have cultural significance.

Why not allow work to go ahead in the most disturbed areas and give Adam verbal to begin testing on the undisturbed areas on the shoulders of the fan tomorrow. Have Arch site monitors observe the excavations and recover artifacts at the gravel screening area if any are discovered?

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

BRITISH COLUMBIA

August 21, 2014 76930-40/Mt Polley

Imperial Metals Corporation
200-580 Hornby Street, Vancouver, BC V6C3B6
604.669.8959

Sent by E:mail only dparsons@imperialmetals.com

Dear **Don Parsons**:

Enclosed is an Order issued under Section 88(1) of the *Water Act*.

This order replaces and extends the time period needed for completion of ongoing work to meet the objectives identified in the August 5th 3:15 pm order. In addition it provides for additional clarification regarding works needed to achieve the intention of that order. Progress of the activities will be monitored and the order may be extended, modified or cancelled at any time based upon the monitoring results.

Suitably qualified professionals include bnt are not limited to Geoscientists, Engineers, Archeaologists, Agrologists and Biologists. Robin Hoffos and I met with your representatives on Quesnel Lake to review the ongoing containment and removal of debris on Quesnel Lake including the proposal to improve the ramp at the West Fraser Log dewatering site. The proposals as described were satisfactory under the supervision of the Professional Biologist wbo was identified as Brian Aitken RP Bio and Professional Engineer Emily Cheung. We have not received the requested information from them but time is of the essence. We have not received information concerning the Professional oversight of operations on Polley Lake. Please maintain a complete record of the activities relating to this order which are to be supplied to us upon request.

Specific issues identified under during the review included Kokanee Shore Spawning, Cariboo Island, embedded debris at the mouth of Hazeltine Creek, natural debris, the installation of a ramp to remove debris, and the placement of light debris above the high water mark. The Williams Lake Indian band has requested monitoring of the debris removal on Cariboo Island due the potential for the destruction or loss of artifacts exposed below and above the high water mark. A contact has been provided to your representatives for you to address this issue. Brian Aitken indicated the intention to collect video evidence for "before and after" work is completed and we wish to receive a copy of this information upon completion of the work.

.../2

Ministry of Forests, Lands and Natural Resource Operations
Resource Authorizations
Cariboo Region
Mailing Address:
400 - 640 Borland Street
Williams Lake BC V2G 4T1
Telephone: 250-398-4530
Facsimile: 250-398-4214
Web: www.env.gov.bc.ca

I remind you that embedded debris removal within Polley Lake, Hazeltine Creek and at the Mouth of Hazeltine Creek where it enters Quesnel Lake must be approved by the Environmental Protection Division of the Ministry of Environment prior to being completed.

This order is ancillary to the jurisdictions of the Ministry of Mines and Ministry of Environment and it is expected that overlap will occur between the instructions from these Ministries. Works are to be consistent with the instructions from these Ministries and Federal agencies. This order facilitates the activities that will be approved under the Land act and Forest Act.

An appeal to this order may be taken only as directed within Section 92 of the *Water Act*. An appeal shall not act as a stay of execution of the order.

This order does not preclude legal proceedings.

Yours truly,

David Weir
Assistant Regional Water Manager

DW/yp

ec: preoc5.ops1@gov.bc.ca , Jennifer.Mcguire@gov.bc.ca , Al.Hoffman@gov.bc.ca , Rodger.Stewart@gov.bc.ca , Robin.Hoffos@gov.bc.ca

Enclosure: August 5th Order and August 20th order.

ENGINEER'S ORDER

SECTION 88 OF THE *WATER ACT*

WHEREAS **Imperial Metals Corporation** are the registered owners of **Mount Polley Mine**, and

WHEREAS **Imperial Metals Corporation** you have, or permitted to have, allowed debris to block the outlet of Polley Lake, enter Hazeltine Creek and enter into Quesnel Lake, and

WHEREAS a person commits an offence under **Section 93(2) (p) and Section 94(1) (g)** of the *Water Act* who:

(p) fails to do an act or thing required to be done by the person under this Act or under an order of the comptroller, regional water manager, engineer or officer;

(g) places, maintains or makes use of an obstruction in the channel of a stream without authority, and

WHEREAS I, David Weir, Engineer under the *Water Act*, am empowered under Section 88 (1) (j) and (l) of the Water Act to:

(j) order the release of stored or impounded water that the engineer considers a danger to life and property;

(l) order a person to remove from a stream any substance or thing that the person has put or permitted to get into the stream;

I HEREBY ORDER Imperial Metals Corporation to:

1. Under the direction of suitably qualified professionals licenced in the Province of British Columbia: collect and remove such debris from Hazeltine Creek, Quesnel Lake and Polley Lake, as a result of the Mt Polley tailings pond failure; as would threaten public safety, road infrastructure and stream channel stability. Included in this order is approval for the installation and removal of a boat ramp at the West Fraser reload site as discussed during FLNRO joint inspection of August 19th 2014. The manner and nature of these activities is to be suitable to impacted parties, Federal Agencies and the Province.

2. Under the direction of suitably, qualified and experienced professionals, licenced in the Province of British Columbia: maintain the lake level of Polley Lake in a manner that prevents further mass movement of material from Polley Lake and Hazeltine Creek.

By the 31st day of October 2014.

Dated at Williams Lake, British Columbia, this 20th day of August 2014.

David Weir
Engineer under the *Water Act*

Attachments:

August 5th 3:15pm order that was sent via Penny Carpenter.

Hello, at this time it is our understanding that Stephen Rothman has the authority under the mines act to order the necessary measures to contain and remove the debris in Quesnel Lake and to authorize the management of the water level on Polley lake.

However: to remove any confusion and to address any shortcoming that might exist between the Mines Act, Water Act and the MOU that guides there coordination I order under Section 85 as follows;

Subject to the requirements of the Mines Act and MOU http://iwww.env.gov.bc.ca/wsd/sla_mou/mempr_mou%202009.pdf and as it is in the public interest for the protection of safety and the integrity of Hazeltine Creek, Polley Lake, Quesnel Lake and the Quesnel River, recognizing the Mt Polley Mine's willingness to undergo the required work at their own cost and save the province harmless:

1) Under the direction of suitably qualified professionals licenced in the Province of BC the corporation is ordered to collect and remove such debris from Quesnel Lake, as a result of the Mt Polley tailings pond failure, as would threaten road infrastructure and stream channel stability. The manner and nature to be suitable to impacted parties Federal Agencies and the Province.
2) Under the direction of suitably qualified and experienced professionals licenced in the Province of BC; maintain the Lake level of Polley Lake in a manner that prevents further mass movement of material from Polley lake and Hazeltine Creek.
3) This order does not superseded any other legislation, agency, or government authority nor does it save them harmless.
4) This order is not intended to mitigate or limit the future punitive action of government with respect any non compliance by Mt Polley Mine.
5) This order is a temporary measure and is subject to cancelation or modification under the authority of the Water Act Mines Act or the MOU.
6) This order doe not authorize the entry onto private lands.

If necessary a more formal and document can be provided at a future date and in the absence of any direction to the contrary it should be considered to be expired as of August 22nd 2014 if not renewed. In addition to the general protection of public interest the specific purpose is to protect the bridge at Likely and to prevent secondary mass movements of material from the failure.

If there are any questions or you feel there is error please contact me. Keeping in mind the rushed nature of this document.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations

Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Penny Carpenter s.22
Sent: Tuesday, August 5, 2014 12:46 PM
To: Weir, David J FLNR:EX
Subject: RE: Mt Polley

Hi David
The Mines Gentleman Steve Rothman will be contacting you regarding the breach of the tailing pond. He will be able to fill you in and maybe it will help the work load so things are not getting duplicated.
Penny Carpenter

From: Weir, David J FLNR:EX [mailto:David.J.Weir@gov.bc.ca]
Sent: August-05-14 11:41 AM
To: XT:Carpenter, Penny FLNR:IN
Subject: Mt Polley

As per our discussion

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Bunce, Hubert ENV:EX
Sent: Thursday, September 11, 2014 4:34 PM
To: Forgeng, Eric E FLNR:EX
Cc: Weir, David J FLNR:EX; Glaum, Doug FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Fenwick, Leigh-Ann FLNR:EX; 'Nikl, Lee'; Batten, Justine FLNR:EX
Subject: RE: Mt Polley permit
Attachments: Letter ofUnderstanding Soda Creek, Williams Lake.pdf

Hi Eric, thanks for taking this on

Whatever can be done to speed up this application process would be appreciated. Mount Polley Mine Corporation has received letters of agreement from the Williams Lake and Soda Creek Indian bands thus negating the consultation period for these bands as I understand it. The province, the mine, and the community are keen to see activity move forward on actions to protect against further degradation of the environment

The province has signed a Letter of Understanding with the WLIB and SCIB (attached) to work at a govt to govt level and s.16

Hubert Bunce
A/Mining Director, Environmental Protection
Regional Operations
ph (250) 751-3254 fax (250) 751-3103
2080A Labieux Road
Nanaimo BC V9T 6J9

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 12:48 PM
To: Bunce, Hubert ENV:EX
Subject: FW: Mt Polley permit

FYI.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

From: Glaum, Doug FLNR:EX
Sent: Thursday, September 11, 2014 12:20 PM
To: Weir, David J FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Forgeng, Eric E FLNR:EX

Cc: Fenwick, Leigh-Ann FLNR:EX
Subject: RE: Mt Polley permit

I've assigned Eric Forgeng to oversee this permit application. He will be your contact.

Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
(250) 953-3357
Visit our website

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 11:51 AM
To: 'Adam.kantakis@williamslakeband.ca'
Cc: Glaum, Doug FLNR:EX; Fenwick, Leigh-Ann FLNR:EX
Subject: Mt Polley permit

I understand that the permit has not been applied for yet? Please submit the application immediately. If you are worried about its completness please call Doug and I believe he will help you out.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Letter of Understanding between

Soda Creek Indian Band, Williams Lake Indian Band

And

The Province of British Columbia

Guiding principles:

The Soda Creek Indian Band and the Williams Lake Indian Band (collectively, the "**First Nations**") and the Province of British Columbia ("**British Columbia**") agree to work in partnership, on a government-to-government basis through shared decision-making wherever possible, to jointly address all aspects of the tailings storage facility breach at the Mount Polley Mine ("**Mount Polley Mine Incident**").

The First Nations and British Columbia (collectively, the "**Parties**") agree that the processes for the joint oversight set out below will be conducted in accordance with the First Nations' traditional protocols, having regard to both traditional and scientific knowledge, and as expeditiously as possible.

The Parties agree that the health and safety of the public and workers, including members of the First Nations, are paramount.

The Parties therefore agree as follows:

1. The Parties agree to establish a principals table consisting of the Chiefs of the First Nations and the Ministers of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines to oversee a government-to-government response to the Mount Polley Mine Incident ("**Principals Table**").

2. The Parties agree to establish a senior officials committee consisting of designates of the First Nations, and the Assistant Deputy Ministers of the Ministries of Environment, Aboriginal Relations and Reconciliation, and Energy and Mines, and other ministries as appropriate ("**Committee**"). The Committee shall be responsible for overseeing the following activities in response to the Mount Polley Mine Incident:

    a. assessing impacts, monitoring, cleanup, remediation planning and implementation, and any decisions related to the future of Mount Polley mine;

    b. developing a plan to provide safe access to the impact zone for the purposes of assessing archaeological and environmental impacts;

    c. discussing permitting required for future work at the Mount Polley mine;

d. assessing the adequacy of existing laws, regulations and policies in relation to the Mount Polley Incident;

e. addressing the First Nations' immediate and long-term funding requirements to respond to all aspects of the Mount Polley Mine Incident;

f. identifying economic opportunities for the First Nations to participate in responding to the Mount Polley Mine Incident;

g. reporting back to the Principals Table; and

h. addressing any other issues related to the Mount Polley Mine Incident as agreed to by the Committee.

The Parties agree that this letter of understanding does not fetter statutory decision makers in carrying out their duties and responsibilities under the relevant provincial laws and regulations that apply to the Mount Polley Incident.

3. British Columbia agrees to provide $200,000 to each of the Soda Creek Indian Band and the Williams Lake Indian Band as soon as possible to cover costs already incurred and to be incurred in responding to the Mount Polley Mine Incident.

4. The Parties acknowledge the impact of the Mount Polley Mine Incident on public confidence in mining and recognize the important economic contribution of mining to British Columbia. Accordingly, British Columbia, in partnership with the Soda Creek Indian Band and the Williams Lake Indian Band, commits to commencing a dialogue about existing laws, regulations and policies in relation to the mining industry in British Columbia. The scope and mechanism for this dialogue will be considered by the Senior Officials Committee and recommendations will be made to the Principals Table. Those future discussions will be informed by the collaborative work between the Parties on the Mount Polley Mine Incident.

5. The Parties agree that the entities responsible, in accordance with applicable legislation, be required to pay for all costs and damages incurred in relation to the Mount Polley Mine Incident.

Chief Bev Sellars, Soda Creek Indian Band

Chief Ann C. Louie, Williams Lake Indian Band

The Honourable John Rustad, Minister of Aboriginal Relations and Reconciliation

Weir, David J FLNR:EX

From: Wendy Slavica <W.Slavica@archercrm.ca>
Sent: Friday, September 12, 2014 1:00 PM
To: Forgeng, Eric E FLNR:EX; Remi Farvacque
Cc: Bunce, Hubert ENV:EX; Metcalfe, Shelley ENV:EX; Fenwick, Leigh-Ann ENV:EX; Weir, David J FLNR:EX
Subject: Re: Mt Polley permit

Thank you very much Eric for your work on this.

Regards,

Wendy Slavica, B.A.
Field Director

ARCHER CRM Partnership
www.archercrm.ca
Cell: 1.250.301.8512
Tel: 1.250.562.0444
Fax. 1.250.562.0445
Email: w.slavica@archercrm.ca

Sent from my BlackBerry 10 smartphone.

From: Forgeng, Eric E FLNR:EX
Sent: Friday, September 12, 2014 12:00 PM
To: Remi Farvacque; Wendy Slavica
Cc: Bunce, Hubert ENV:EX; Metcalfe, Shelley ENV:EX; Fenwick, Leigh-Ann ENV:EX; Weir, David J FLNR:EX
Subject: RE: Mt Polley permit

Hello everyone,

The Mt Polley HCA Section 14 permit has been issued as **2014-0264**, documentation is being forwarded right now. You're clear to proceed whenever you're ready.

Please let me know if you have any questions

Best,

Eric Forgeng, MA | Archaeologist / Heritage Resource Specialist
Archaeology Branch | Ministry of Forests, Lands and Natural Resource Operations
Phone: 250-953-3362 | Fax: 250-953-3340 |e-mail: eric.forgeng@gov.bc.ca
Unit 3 1250 Quadra Street, Victoria BC V8W 2K7 | PO Box 9816 Stn Prov Govt, Victoria, BC V8W 9W3

Visit our website at: **http://www.for.gov.bc.ca/archaeology/index.htm**

From: Bunce, Hubert ENV:EX
Sent: Friday, September 12, 2014 09:33
To: Forgeng, Eric E FLNR:EX
Cc: Metcalfe, Shelley ENV:EX; Fenwick, Leigh-Ann FLNR:EX
Subject: RE: Mt Polley permit

Thanks for keeping me in the loop

Hubert Bunce
A/Mining Director, Environmental Protection
Regional Operations
ph (250) 751-3254 fax (250) 751-3103
2080A Labieux Road
Nanaimo BC V9T 6J9

From: Forgeng, Eric E FLNR:EX
Sent: Friday, September 12, 2014 8:32 AM
To: Bunce, Hubert ENV:EX
Subject: RE: Mt Polley permit

Application is in hand, I'll keep you posted.

Best,
Eric

Eric Forgeng, MA | Archaeologist / Heritage Resource Specialist
Archaeology Branch | Ministry of Forests, Lands and Natural Resource Operations
Phone: 250-953-3362 | Fax: 250-953-3340 |e-mail: eric.forgeng@gov.bc.ca
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Visit our website at: **http://www.for.gov.bc.ca/archaeology/index.htm**

From: Bunce, Hubert ENV:EX
Sent: Thursday, September 11, 2014 16:34
To: Forgeng, Eric E FLNR:EX
Cc: Weir, David J FLNR:EX; Glaum, Doug FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Fenwick, Leigh-Ann FLNR:EX; 'Nikl, Lee'; Batten, Justine FLNR:EX
Subject: RE: Mt Polley permit

Hi Eric, thanks for taking this on

Whatever can be done to speed up this application process would be appreciated. Mount Polley Mine Corporation has received letters of agreement from the Williams Lake and Soda Creek Indian bands thus negating the consultation period for these bands as I understand it. The province, the mine, and the community are keen to see activity move forward on actions to protect against further degradation of the environment

The province has signed a Letter of Understanding with the WLIB and SCIB (attached) to work at a govt to govt level and s.16

s.16

Hubert Bunce
A/Mining Director, Environmental Protection
Regional Operations
ph (250) 751-3254 fax (250) 751-3103
2080A Labieux Road
Nanaimo BC V9T 6J9
Please consider the environment before printing this email
BC Pollution Free

From: Weir, David J FLNR:EX
Sent: Thursday, September 11, 2014 12:48 PM
To: Bunce, Hubert ENV:EX
Subject: FW: Mt Polley permit

FYI.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

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Sent: Thursday, September 11, 2014 12:20 PM
To: Weir, David J FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Forgeng, Eric E FLNR:EX
Cc: Fenwick, Leigh-Ann FLNR:EX
Subject: RE: Mt Polley permit

I've assigned Eric Forgeng to oversee this permit application. He will be your contact.

Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
(250) 953-3357
Visit our website

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To: 'Adam.kantakis@williamslakeband.ca'
Cc: Glaum, Doug FLNR:EX; Fenwick, Leigh-Ann FLNR:EX
Subject: Mt Polley permit

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David Weir
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David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Remi Farvacque <R.Farvacque@archercrm.ca>
Sent: Friday, September 12, 2014 12:05 PM
To: Forgeng, Eric E FLNR:EX; Wendy Slavica
Cc: Bunce, Hubert ENV:EX; Metcalfe, Shelley ENV:EX; Fenwick, Leigh-Ann ENV:EX; Weir, David J FLNR:EX
Subject: RE: Mt Polley permit

On behalf of everyone involved, thank-you very, very much!

Remi

From: Forgeng, Eric E FLNR:EX [mailto:Eric.Forgeng@gov.bc.ca]
Sent: September-12-14 12:00 PM
To: Remi Farvacque; Wendy Slavica
Cc: Bunce, Hubert ENV:EX; Metcalfe, Shelley ENV:EX; Fenwick, Leigh-Ann ENV:EX; Weir, David J FLNR:EX
Subject: RE: Mt Polley permit

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Please let me know if you have any questions

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To: Forgeng, Eric E FLNR:EX
Cc: Weir, David J FLNR:EX; Glaum, Doug FLNR:EX; 'Adam.kantakis@williamslakeband.ca'; Fenwick, Leigh-Ann FLNR:EX; 'Niki, Lee'; Batten, Justine FLNR:EX
Subject: RE: Mt Polley permit

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s.16

Hubert Bunce
A/Mining Director, Environmental Protection
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Nanaimo BC V9T 6J9

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To: Bunce, Hubert ENV:EX
Subject: FW: Mt Polley permit

FYI.

David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
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Subject: RE: Mt Polley permit

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Doug Glaum
Archaeology Branch
Ministry of Forests, Lands and Natural Resource Operations
1250 Quadra
(250) 953-3367
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Cc: Glaum, Doug FLNR:EX; Fenwick, Leigh-Ann FLNR:EX
Subject: Mt Polley permit

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David Weir
Water Section Head,
Ministry of Forest Lands and Natural Resource Operations
Williams Lake , BC
David.J.Weir@gov.bc.ca
(250) 398 4924
Cell 250 267-5925

Weir, David J FLNR:EX

From: Fenwick, Leigh-Ann FLNR:EX
Sent: Thursday, September 11, 2014 5:47 PM
To: Weir, David J FLNR:EX
Subject: Re: Mt Polley permit

Thx.

> On Sep 11, 2014, at 14:45, "Weir, David J FLNR:EX" <David.J.Weir@gov.bc.ca> wrote:
>
> See attached.
>
> David Weir
> Water Section Head,
> Ministry of Forest Lands and Natural Resource Operations Williams Lake
> , BC David.J.Weir@gov.bc.ca
> (250) 398 4924
> Cell 250 267-5925
>
> From: Remi Farvacque [mailto:R.Farvacque@archercrm.ca]
> Sent: Thursday, September 11, 2014 2:35 PM
> To: Weir, David J FLNR:EX
> Cc: Forgeng, Eric E FLNR:EX; Wendy Slavica; Light Jim
> (Jim.Light@snclavalin.com)
> Subject: RE: Mt Polley permit
>
> Good afternoon David;
>
> Reading through the thread, Wendy Slavica (cc'ed here) will be the Permit Holder. We have not submitted the Permit as of yet as we were waiting for Letters of Support from the affect three First Nations. Our intent (at this time) is to submit the Permit tomorrow with or without letters of support.
>
> Rémi Farvacque<mailto:r.farvacque@archercrm.ca>, M.Sc., RPCA Director
>
> ARCHER CRM Partnership
>
>
> Tel: 1.250.261.5584
> Cell: 1.250.793.0036
> Fax: 1.250.261.5474
>
> <http://www.archercrm.ca/>[cid:image002.jpg@01CFCDCD.A2BE3D40]<http://
> www.archercrm.ca/><http://www.archercrm.ca/>Our Burnaby Office is now
> open ... More details at www.archercrm.ca
>
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>

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>
>
>
> From: Forgeng, Eric E FLNR:EX [mailto:Eric.Forgeng@gov.bc.ca]
> Sent: September-11-14 2:30 PM
> To: Weir, David J FLNR:EX
> Cc: Remi Farvacque
> Subject: FW: Mt Polley permit
>
> Hi David,
>
> My understanding is that Remi Farvacque of Archer CRM would be
> applying for the HCA permit, his email is
> R.Farvacque@archercrm.ca<mailto:R.Farvacque@archercrm.ca>
>
> Please feel free to call if I can be of any help in the meantime.
>
> Best,
> Eric
>
> Eric Forgeng, MA | Archaeologist / Heritage Resource Specialist
> Archaeology Branch | Ministry of Forests, Lands and Natural Resource Operations
> Phone: 250-953-3362 | Fax: 250-953-3340 |e-mail: eric.forgeng@gov.bc.ca<mailto:diana.cooper@gov.bc.ca>
> Unit 3 - 1250 Quadra Street, Victoria BC V8W 2K7 | PO Box 9816 Stn
> Prov Govt, Victoria, BC V8W 9W3
>
> Visit our website at: http://www.for.gov.bc.ca/archaeology/index.htm
>
>
>
> From: Glaum, Doug FLNR:EX
> Sent: Thursday, September 11, 2014 12:20
> To: Weir, David J FLNR:EX; 'Adam.kantakis@williamslakeband.ca';
> Forgeng, Eric E FLNR:EX
> Cc: Fenwick, Leigh-Ann FLNR:EX
> Subject: RE: Mt Polley permit
>
> I've assigned Eric Forgeng to oversee this permit application. He will be your contact.
>
> Doug Glaum
> Archaeology Branch
> Ministry of Forests, Lands and Natural Resource Operations
> 1250 Quadra
> (250) 953-3357
> Visit our website<http://www.for.gov.bc.ca/archaeology>
>
>
> From: Weir, David J FLNR:EX

> Sent: Thursday, September 11, 2014 11:51 AM
> To: 'Adam.kantakis@williamslakeband.ca'
> Cc: Glaum, Doug FLNR:EX; Fenwick, Leigh-Ann FLNR:EX
> Subject: Mt Polley permit
>
> I understand that the permit has not been applied for yet? Please submit the application immediately. If you are worried about its completness please call Doug and I believe he will help you out.
>
> David Weir
> Water Section Head,
> Ministry of Forest Lands and Natural Resource Operations Williams Lake
> , BC David.J.Weir@gov.bc.ca<mailto:David.J.Weir@gov.bc.ca>
> (250) 398 4924
> Cell 250 267-5925
>
> <image001.jpg>
> <image002.jpg>

Weir, David J FLNR:EX

From: Hill, Douglas J ENV:EX
Sent: Friday, September 12, 2014 4:53 PM
To: Weir, David J FLNR:EX; 'Colleen Hughes'
Subject: FW: Weekly update for September 12 2014 - Tailings Breach Monitoring
Attachments: Weekly Update for week ending September 12.pdf; HazeltineCreek_SW_20140910.pdf; PolleyLake_SWMaster_20140910.pdf; QuesnelLake_SWMaster_20140910.pdf; QusnelLake_SEDMaster_20140829_s.pdf; 621717-005_SampleLocPlanSeries_20140912_FINAL.PDF; 621717-006_SEDLocPlan_140905.pdf

Colleen, could you add David Weir, Water Stewardship to your distribution list for these reports, he is responsible for the Water Act Order facilitating the Polley Lake drawdown. You can also remove me from the list as I won't be directly involved in Mt Polley for the foreseeable future.

djh

From: Colleen Hughes [mailto:chughes@mountpolley.com]
Sent: Friday, September 12, 2014 4:40 PM
To: Bunce, Hubert ENV:EX
Cc: Zacharias-Horner, Christa ENV:EX; Hoffman, Al MEM:EX; Jack Love; Dale Reimer; Metcalfe, Shelley ENV:EX; McGuire, Jennifer ENV:EX; b.sellars@xatsull.com; Chief Ann Louie ; Aaron Higginbottom; Julia Banks; Steve Robertson; Demchuk, Tania MEM:EX; Pierre Stecko (pstecko@minnow.ca); Green, Jack E ENV:EX; Brian Kynoch; RC Cory Koenig; Don Parsons; Katie McMahen; Art Frye; Johnson, Gordon; Bellefontaine, Kim MEM:EX; Howe, Diane J MEM:EX; trevor.mcconkey@snclavalin.com; Hill, Douglas J ENV:EX; Jancicka, Erik (erik.jancicka@snclavalin.com)
Subject: Weekly update for September 12 2014 - Tailings Breach Monitoring

Good Afternoon Hubert

Please find attached all the documents that make up the weekly update report.

Regards,

Colleen Hughes, EP
Environmental Coordinator
Mount Polley Mining Corporation
PO Box 12
Likely, BC V0L 1N0
250-790-2617
chughes@mountpolley.com

MOUNT POLLEY MINING CORPORATION
IMPERIAL METALS CORPORATION

Date September 12, 2014

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

Attention: Hubert Bunce, Director Environmental Management Act

Re: Weekly Update for Week Ending September 12, 2014

Monitoring Update

As of September 12, 2014, the Monitoring Program implemented in response to the tailings release consists of the following: 1) Water Quality Programs (Quesnel Lake, Quesnel River, Polley Lake, Residential Intakes, and Hazeltine Creek), 2) Sediment Quality (Quesnel Lake), 3) Fish Sampling. The following sections summarize the programs, changes, and key actions and interactions relevant to the program.

Water Quality Programs

More than 90 water quality sampling locations have been established as of September 12, 2014 to assess and monitor water quality as part of the program. Drawings 621717-005-P1 through 621717-P8 (attached) show sample locations.

The following parameters continue to form the basis for the monitoring program and evaluating impacts to water quality as a result of the release.

- Total and dissolved metals (excluding mercury);
- Anions: sulphate, chloride, fluoride;
- Nutrients: total ammonia, nitrate, nitrite, total nitrogen, total Kjeldahl nitrogen, orthophosphate, total phosphorous, dissolved phosphorous; and
- Toxicity testing

Table A below summarizes the various Water Quality Programs. With the exception of toxicity testing, results have been provided in Tables 1a, 3, and 4 (attached).

TABLE A: Summary of Water Quality Monitoring Programs

Monitoring Program	Area	Frequency	Sample Locations
Surface Water Quality	*Quesnel Lake*	*Single Sample*	QUL-4 to QUR-8, QUR-10 to QUR-16, QUL-30, QUL-31, , QUR-69, QUL-74, QUL-75, QUL-87, QUL-96,
		Repeated Sites	QUL-1, QUL-9, QUL-10, QUL-17, QUL-20, QUL-23, QUL-28 As of week of September 12, 2014: Ongoing repeated sampling is being carried out at locations QUL-18, and QUL-23. A CTD profile is completed at QUL-20 during each sampling event. Samples will be collected if stratification observed. The water column is usually well mixed at this location.
	Polley Lake	*Repeated Sites*	POL-3, POL-4, POL-5, POL-6, P1, P2 As of week of September 12, 2014: Ongoing repeated sampling (weekly) is being carried out at locations P POL-3, POL-4, POL-5, POL-6, P1, and P2.
	Polley Discharge and Hazeltine Crk.	*Sampling Sites*	HAD-1 and HAD-2 (monitor only) (Weekly), HAC-01 (daily), Breach-1 (Weekly) As of week of September 12, 2014: HAD-1, HAD-2 (monitor only), and Breach-1 collected on an approximate weekly basis. HAC-01 collected on an approximately daily basis.
	Quesnel River	*Repeated Sites*	QUR-1 (includes QURU-1x & QUR-3): ISKO sampler collects 3 samples per day. A fourth grab sample is also collected at this location. A datalogger records measurements of pH, temperature, conductivity, turbidity, and conductivity every 15 minutes).
Water Quality Profiles	*Quesnel Lake*	*Single Sample*	QUL-28, QUL-65, QUL-67, QUL-68, QUL-70, QUL-71, QUL-72, QUL-73, QUL-76, QUL-78, QUL-80, QUL-87
		Repeated Sites	QUL-2, QUL-3, QUL-18, QUL-19, QUL-20, QUL-21, QUL-22, QUL-26, QUL-66, QUL-79, As of week of September 12, 2014: QUL-2, QUL-21, QUL-22, QUL-66, and QUL-79 are visited on a rotational basis approximately every other day. Samples are collected near surface and near lake bottom, and in consideration of CTD field monitoring results.
Residential Water Intake Sampling Program	*Quesnel Lake*	*Single Sample*	QUL-32, QUL-33, QUL-34, QUL-36, QUL-39, QUL-62, QUL-63, QUL-77, QUL-81, QUL-82 to QUL-86, QUL-88, QUL-89, QUL-90, QUL-91, QUL-92, QUL-93, QUL-94, QUL-95, QUL-100, QUL-101, QUR-102, QUR-103, raft creek site
		Repeated Sites	QUL-35, QUL-37, QUL-38, QUL-60, QUL-61, QUL-64

Results of the toxicity testing completed to date are provided in Table B. Additional results are pending and will be updated as they become available.

Table B: Summary of Draft Water Toxicity Testing

Date	Location	Location Description	Acute (96h) Rainbow Trout[1]	Acute (48-h) Daphnia magna[2]	Sublethal (7-d) fish survival and growth[3]	Sublethal (7-d) invertebrate survival and reproduction[4]	Sublethal (72-h) algal growth[5]	Sublethal (7-d) plant growth[6]	Results
August 6, 2014	QUR-1	Quesnel River at Research Station				✓			LC50, IC25, IC50 all >100%
August 9, 2014	POL-2	Polley Lake near South End				✓			LC50, IC25, IC50 all >100%
August 13, 2014	HAD-1	Discharge from Polley to Hazeltine	✓	✓	✓	✓	✓	✓	> 100% for all tests
August 20, 2014	HAD-1	Discharge from Polley to Hazeltine	✓	✓					LC50 >100%
August 21, 2014	QUL-66-40m	Quesnel Lake Plume	✓	✓	✓	✓	✓	✓	LC50 >100%, IC25 and IC50 pending
August 22, 2014	QUR-1	Quesnel River Research Centre	✓	✓	✓	✓	✓		LC50 > 100% IC25 and IC50 Pending
August 27, 2014	HAD-1	Discharge from Polley to Hazeltine			✓	✓			Pending
August 28, 2014	QUL-66-40m	Quesnel Lake Plume	✓	✓	✓	✓	✓	✓	LC50 > 100% IC25 and IC50 Pending
September 3, 2014	QUL-66-45m	Quesnel Lake Plume			✓	✓			Pending
September 3, 2014	HAD-2	Discharge from Polley to Hazeltine			✓	✓			Pending
September 10, 2014	HAD-1	Discharge from Polley to Hazeltine			✓	✓			Pending
September 10, 2014	QUL-66-48m	Quesnel Lake Plume			✓	✓			Pending

[1]Rainbow trout acute lethality (96-hours)
[2]Daphnia magna acute lethality (48-hours)
[3]Fathead minnow survival and growth (7-days)
[4]Ceriodaphnia dubia survival and reproduction (up to 8-d)
[5]Algal growth (Pseudokirchneriella subcapitata - 72-hours)
[6]Plant growth (Lemna minor - 7-days)

Sediment Quality Program

A detailed sediment study is ongoing and part of the Comprehensive Environmental Impact Assessment (CEIA) and therefore no additional sample locations or results are being provided in this update. Details will be provided in a separate report that is currently in progress. As part of this study, forty-six additional sediment data locations have been established since September 3, 2014. Previously collected sediment sample locations are shown on Drawing 621717-006 (attached). Previous sediment data is provided on Tables 2a and 5a.

Fish Program

Sampling of fish tissue specimens at select locations was initiated on August 20th, 2014. As of September 4th, 2014 seventeen fish sampling events have occurred with a total of 60 fish specimens (comprised of whole fish, liver tissues, and/or muscle tissue) collected. Fish species being sampled include; sockeye salmon, northern pikeminnow, burbot, Longnose Dace, rainbow trout, and Peamouth Chub. Laboratory analytical results for all fish tissue samples submitted are pending. Laboratory analytical results will be reported as part of the CEIA.

Summary of Modifications to the Monitoring Program

- A review of current analytical and field monitoring results in progress and adaptations to the monitoring program will be considered on an ongoing basis.
- Water quality at HAD-2 is similar to that measured at HAD-1 (similar intake locations). Therefore HAD-2 has been dropped from the sampling program. Field monitoring will continue to confirm similar field measurements (EC, pH, etc.). HAD-1 will be monitored and sampled on a weekly basis.
- POL-5 and POL-6 have been added to the sampling program. P1, P2, POL-3 and POL-4, POL-5, and POL-6 will be sampled on a weekly basis going forward.
- P1 and P2 (existing MPMC sampling locations) have been added to the Polley Lake monitoring program and will be included to provide historical data and context.
- HAC-01 sampling has increased to daily. Access to this location has been restricted due to clean up activities at the mouth of the creek.
- Requests for monitoring of water quality at residential intakes are being catalogued and an appropriate program is being developed for ongoing response to these requests.
- Toxicity testing at QUL-66 (within plume) and HAD-1 will continue on a monthly basis; however, only for sublethal tests as there have been no acute effects observed.

- Mercury parameters are being dropped from routine monitoring program and are being considered as part of water quality impact assessment.
- Total Algae has been added to the routine monitoring and profiling program.
- Profiling locations (CTD and sampling) are being completed on a daily rotational basis (every other day) to confirm surface water quality and quality near the bottom of the lake, and at elevated CTD and/or turbidity readings.
- Lab turnaround time has been changed from priority to regular for most sample analysis.

Gaps Identified in the Monitoring Program and Next Actions

Plume Monitoring remains a priority. Data from the EBA Tetra-Tech vessels are being evaluated and considered in monitoring program going forward.

Summary of Daily Observations and Public Interactions

August 28 – Two vessles equipped for bottom, sediment, and plume mapping arrived and will be implementing related scopes of work. Equipment on board vessels includes deep water monitoring and sampling devices.
August 29 – MPMC is evaluating proposals from UNBC for opportunities for partnering and integration with the planned CEIA.
August 28 to September 10 – Ongoing dialogue and data review with private property and lodge owners regarding water quality results as requested.
September 10- Community meeting held at Likely Community Centre. Residential sample data made available to community members at the meeting.
September 3-Sept 10 Evidence of a sediment plume near surface in Quesnel Lake in the area of Hazeltine Creek toward Mitchell Bay on September 3rd triggered some reactive profiling and sampling by field crews. Sediment has dispersed resulting in a slight increase in turbidity in Quesnel Lake.

Sincerely,

MOUNT POLLEY MINING CORPORATION

Via email

Colleen Hughes, EP
Environmental Coordinator
Mount Polley Mining Corporation
250-790-2617
chughes@mountpolley.com

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters								Microbiological Tests		Total Inorganics														
			Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (uS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (ug/L)	Nitrate Nitrogen (ug/L)	Nitrite Nitrogen (ug/L)	Nitrate+Nitrite Nitrogen (ug/L)	Chloride (mg/L)	Fluoride (ug/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus (mg/L)
BC Guidelines																											
BCWQG Aquatic Life (AW)[1,2]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 0	n/a	n/a	Change of 25	n/a	n/a	n/a	n/a	n/a	5,960-18,400[3]	32,800	60 (CI<2)	32,800[4]	600	668.2-1,224.3[5]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[1,2,3]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	n/a	n/a	1,960-1,770[3]	3,000	20 (CI<2)	3,000[4]	150	n/a	128-309[5]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[1,2]			n/a	6.5-8.5	6.5-8.5	n/a[7]	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000[4]	250	1,500	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[6]			n/a	6.5-8.5	6.5-8.5	n/a[7]	n/a[8]	n/a	500	n/a	n/a	n/a[7]	0/100ml	n/a	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUR-1	QUR-1	2014 06 06	48.5	-	7.94	-	0.33	97.2	54	< 3	2.03	-	-	-	0.173	< 5	62.7	< 1	62.7	< 0.5	35	5.65	44.4	-	< 0.001	< 0.002[9]
	QUR-1X	2014 06 06	48.7	-	7.93	-	0.38	98.7	63	< 3	2.08	-	-	-	0.163	< 5	61.2	< 1	61.2	< 0.5	35	5.8	43.8	-	< 0.001	< 0.002[9]
	QUR-1 RPD %		1.1	-	0.21	-	14.1	1.3	15.7	4.7	2.6	-	-	-	6	4.5	1.6	0	1.6	0.7	0	1.4	1.3	-	0	0
	QUR-1(13:30)	2014 06 09	48.7	-	7.93	-	0.52	97.1	58	< 3	2.08	-	-	-	0.132	< 5	61.9	1	62.9	< 0.5	34	5.8	44.7	-	< 0.001	< 0.002[9]
	QUR-1	2014 06 07	47.6	-	7.93	-	0.55	96.9	62	< 3	1.86	-	-	0.115	0.174	< 5	77.3	< 1	-	< 0.5	33	5.71	44.5	-	< 0.001	< 0.002[9]
	QUR-1(11:33)	2014 06 09	50	-	7.98	-	0.5	102	63	< 3	1.95	-	-	-	0.162	< 5	104	< 1	-	< 0.5	35	5.76	47.5	-	< 0.001	< 0.002[9]
	QUR-1(15:45)	2014 06 09	50.6	7.80	7.93	9.9	0.45	103	66	< 3	1.85	-	-	-	0.171	< 5	116	< 1	-	< 0.5	35	5.9	47	-	< 0.001	< 0.002[9]
	QUR-1(10:05)	2014 06 09	52.6	7.34	7.95	9.6	0.4	104	73	< 3	2.09	-	-	-	0.164	< 5	114	< 1	-	< 0.5	35	5.89	46.3	-	< 0.001	< 0.002[9]
	QUR-1(14:30)	2014 06 09	51.6	7.94	7.95	10.9	0.3	103	74	< 3	2.09	-	-	-	0.178	< 5	110	< 1	-	< 0.5	34	5.80	45.8	-	< 0.001	< 0.002[9]
	QUR-1(10:19)	2014 06 10	49.8	7.76	7.87	12.9	0.63	99.9	67	< 3	2.07	-	-	-	0.172	< 5	93.1	< 1	-	< 0.5	34	5.77	46.1	-	< 0.001	< 0.002[9]
	QUR-1(17:45)	2014 06 10	50.3	7.91	7.92	13.6	0.31	100	68	< 3	2.05	-	-	-	0.178	< 5	82.5	< 1	-	< 0.5	34	5.77	46.6	-	< 0.001	< 0.002[9]
	QUR-1(11:18)	2014 06 11	49.3	-	7.88	-	0.45	99.8	70	< 3	2.03	-	-	-	0.154	< 5	72.9	< 1	-	< 0.5	34	5.75	45.1	-	< 0.001	0.0028
	QUR-1(17:12)	2014 06 11	49.6	7.73	7.93	16.8	0.52	100	68	< 3	2.16	-	-	-	0.149	< 5	72.2	< 1	-	< 0.5	34	5.73	45.3	-	< 0.001	< 0.002[9]
	QUR-1(14:04)	2014 06 12	49.1	-	7.92	-	1.2	99.5	-	-	-	-	-	-	-	-	99.2	1	-	< 0.5	34	5.77	-	< 0.05	-	-
	QUR-1(10:34)	2014 06 12	49.7	8.14	7.95	17.4	0.85	99.4	68	< 3	1.92	-	-	-	0.142	< 5	64.4	< 1	-	< 0.5	35	5.74	45.2	-	0.0013	< 0.002[9]
	QUR-1(20:00)	2014 06 12	49.5	-	7.92	-	0.75	99.8	-	-	-	-	-	-	-	-	64.7	< 1	-	< 0.5	37	5.76	-	< 0.05	-	-
	QUR-1(04:50)	2014 06 13	50.1	-	7.9	-	0.37	99.1	-	-	-	-	-	-	-	-	62.1	< 1	-	< 0.5	36	5.77	-	< 0.05	-	-
	QUR-1(12:00)	2014 06 12	49.4	-	7.91	-	1.22	99.1	-	-	-	-	-	-	-	-	57.5	< 1	-	< 0.5	34	5.76	-	< 0.05	-	-
	QUR-1(13:16)	2014 06 13	48.4	8.20	7.83	18.5	0.25	99.1	68	< 3	1.92	-	-	-	0.139	< 5	56	1.2	-	< 0.5	35	5.79	45.3	-	0.0011	< 0.002[9]
	QUR-1(20:00)	2014 06 13	48.3	-	7.84	-	0.22	98.5	-	-	-	-	-	-	-	-	54.2	< 1	-	< 0.5	32	5.74	-	-	-	-
	QUR-1(14:45)	2014 06 14	49.1	7.96	7.97	19.8	0.18	99.9	66	< 3	2.17	-	-	-	0.124	< 5	48.4	< 1	-	< 0.5	33	5.71	45.7	-	< 0.001	< 0.002[9]
	QUR-1X(14:50)	2014 06 14	49.9	-	7.98	-	0.14	98.4	59	< 3	2.03	-	-	-	0.124	< 5	48.8	< 1	-	< 0.5	33	5.72	46	-	< 0.001	< 0.002[9]
	QUR-1 RPD %		0	-	0	-	14.1	1	11	4.7	7	-	-	-	0	0	1	0	1	0	1	1	1	-	0	0
	QUR-1(04:00)	2014 06 14	48.2	-	7.94	-	0.14	96.5	-	-	-	-	-	-	-	-	53.6	< 1	-	< 0.5	32	5.73	-	-	-	-
	QUR-1(12:00)	2014 06 14	48.4	-	7.97	-	0.18	97.1	-	-	-	-	-	-	-	-	50.2	< 1	-	< 0.5	32	5.73	-	-	-	-
	QUR-1(20:00)	2014 06 14	48	-	7.86	-	0.42	99	-	-	-	-	-	-	-	-	50.7	< 1	-	< 0.5	34	5.76	-	-	-	-
	QUR-1(04:00)	2014 06 15	49	-	7.97	-	0.28	100	-	-	-	-	-	-	-	-	56.4	< 1	-	< 0.5	36	5.75	-	-	-	-
	QUR-1(12:00)	2014 06 15	48.7	-	8	-	0.32	101	-	-	-	-	-	-	-	-	61.2	< 1	-	< 0.5	37	5.78	-	-	-	-
	QUR-1(13:26)	2014 06 15	48.1	8.19	7.94	17.5	0.26	99.6	61	< 3	1.89	-	-	-	0.133	< 5	61.4	< 1	-	< 0.5	36	5.74	44.6	-	< 0.001	0.0024
	QUR-1(14:59)	2014 06 15	49.1	8.21	7.96	18.1	0.45	100	68	< 3	2.18	-	-	-	0.129	< 5	58.2	< 1	58.2	< 0.5	36	5.72	45.2	-	< 0.001	< 0.002[9]
	QUR-1(20:00)	2014 06 16	50.3	-	7.97	-	0.28	100	-	-	-	-	-	-	-	-	61.4	< 1	-	< 0.5	34	5.77	-	-	-	-
	QUR-1	2014 06 17	48.4	8.19	7.96	18.6	0.43	99.2	69	< 3	2.08	-	-	-	0.137	< 5	57	< 1	-	< 0.5	36	5.72	45.2	-	< 0.001	< 0.002[9]
	QUR-1(20:00)	2014 06 17	49.5	-	7.97	-	0.28	99.5	-	-	-	-	-	-	-	-	61.6	< 1	-	< 0.5	33	5.78	-	-	-	-
	QUR-1(04:00)	2014 06 18	49.5	-	7.96	-	0.4	99.5	-	-	-	-	-	-	-	-	63.4	< 1	-	< 0.5	33	5.79	-	-	-	-
	QUR-1(09:18)	2014 06 18	49.6	8.11	7.90	17.3	0.54	99	69	< 3	2.5	-	-	-	0.103	5.3	62.6	< 1	-	< 0.5	34	5.76	44.7	-	< 0.001	< 0.002[9]
	QUR-1(12:00)	2014 06 18	50.1	-	7.92	-	0.33	98.9	-	-	-	-	-	-	-	-	62.3	< 1	-	< 0.5	34	5.88	-	-	-	-
	QUR-1(20:00)	2014 06 18	51.4	-	7.93	-	0.39	98.8	-	-	-	-	-	-	-	-	57.7	< 1	-	< 0.5	35	5.80	-	-	-	-
	QUR-1(04:00)	2014 06 19	50.6	-	7.93	-	0.41	99	-	-	-	-	-	-	-	-	58.5	< 1	-	< 0.5	34	5.88	-	-	-	-
	QUR-1(12:00)	2014 06 19	49.5	-	7.93	-	0.42	98.9	-	-	-	-	-	-	-	-	60.8	< 1	-	< 0.5	34	5.7	-	-	-	-
	QUR-1(13:27)	2014 06 19	49.8	7.83	7.96	17.8	0.36	97.5	67	< 3	2.07	-	-	-	0.142	< 5	58.1	< 1	-	< 0.5	34	5.65	45.2	-	< 0.001	< 0.002[9]
	QUR-1(20:00)	2014 06 19	50	-	7.94	-	0.31	99.1	-	-	-	-	-	-	-	-	59.2	< 1	-	< 0.5	35	5.64	-	-	-	-
	QUR-1(04:00)	2014 06 20	49.7	-	7.89	-	0.36	99.1	-	-	-	-	-	-	-	-	62.4	< 1	-	< 0.5	33	5.62	-	-	-	-
	QUR-1(12:00)	2014 06 20	50.6	-	7.9	-	0.41	99.4	-	-	-	-	-	-	-	-	65.6	< 1	-	< 0.5	34	5.69	-	-	-	-
	QUR-1(18:40)	2014 06 20	50.5	-	7.9	-	0.63	99.6	65	< 3	1.8	-	-	-	0.132	< 5	74.2	< 1	-	< 0.5	34	5.72	44.7	-	< 0.001	< 0.002[9]
	QUR-1(20:00)	2014 06 20	50.9	-	7.86	-	0.52	101	-	-	-	-	-	-	-	-	62	< 1	-	< 0.5	34	5.68	-	-	-	-
	QUR-1(04:00)	2014 06 21	51.2	-	7.88	-	0.59	99.3	-	-	-	-	-	-	-	-	61	< 1	-	< 0.5	36	5.82	-	-	-	-
	QUR-1(12:00)	2014 06 21	50.9	-	7.87	-	0.5	99.6	-	-	-	-	-	-	-	-	62.7	< 1	-	< 0.5	36	5.83	-	-	-	-
	QUR-1(15:28)	2014 06 21	51.7	-	7.87	-	0.81	100	62	< 3	2.1	-	-	-	0.134	5.1	59.3	< 1	-	< 0.5	36	5.83	44.9	-	< 0.001	< 0.002[9]
	QUR-1(20:00)	2014 06 21	51.3	-	7.88	-	0.81	101	-	-	-	-	-	-	-	-	62.4	< 1	-	< 0.5	37	5.88	-	-	-	-
	QUR-1(04:00)	2014 06 22	51.6	-	7.88	-	0.95	101	-	-	-	-	-	-	-	-	61.2	< 1	-	< 0.5	36	5.85	-	-	-	-
	QUR-1(10:40)	2014 06 22	51.6	8.05	7.91	14.3	0.73	100	61	< 3	2	-	-	-	0.157	< 5	63.8	< 1	-	< 0.5	36	5.83	45.6	-	< 0.001	< 0.002[9]

Associated ALS lims: L1498519, L1498533, L1499186, L1499203, L1499703, L1499707, L1499710, L1499936, L1499947, L1500619, L1501604, L1501618, L1502349, L1502354, L1502370, L1502388, L1503057, L1503061, L1503079, L1503618, L1503913, L1503926, L1503932, L1503933, L1503934, L1504186, L1504213, L1504226, L1504261, L1504261, L1504997, L1505918, L1505951, L1506271, L1506577, L1506586, L1506764, L1507570, L1508899, L1508990, L1507001, L1507294, L1507296, L1508992, L1507252, L1507347, L1507946, L1507973, L1507977, L1508637, L1508973, L1509507, L1509546, L1509597, L1510231, L1510286, L1510289, L1510741, L1510740, L1511160, L1511225, L1511232.

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit out of range.

[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[3] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[4] Guideline varies with pH, and/or other Temperature or Hardness

[5] Health Canada Drinking Water Guidelines, 2012.

[6] Guideline for Nitrate applied.

[7] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[8] Calculated based on an individual sample basis, not average of 30 day results.

[9] Secondary chronic or effects value: not 30 day mean.

[10] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																												
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																															
BCWQG Aquatic Life (AW)[1]			100[2]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[1,2]			50[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[3]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[4]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUR-1	QUR-1	2014 08 06	10.4	15.2	< 30	1.90	0.422	0.495	1.01	< 0.1	0.12	5.3	< 0.1	< 10	0.019	< 0.5	< 0.1	0.72	< 0.05	0.63	< 0.05	0.323	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.122	< 1	< 3
	QUR-1X	2014 08 06	10.8	15.3	< 30	1.90	0.47	0.492	0.993	< 0.1	0.12	5.15	< 0.1	< 10	0.07	< 0.5	< 0.1	0.86	< 0.05	0.73	< 0.05	0.316	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	DA/QC RPD %		4	1	0	0	11	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	QUR-1	2014 08 06	8.7	15.3	< 30	1.94	0.362	0.468	1.04	< 0.1	0.12	5.24	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.7	< 0.05	0.314	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.122	< 1	< 3
	QUR-1	2014 08 07	9.4	15.9	< 30	1.89	0.1	0.483	0.843	< 0.1	0.1	5.06	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	< 0.05	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUR-1(11:33)	2014 08 08	9.2	16.8	< 30	1.96	0.156	0.496	0.972	< 0.1	0.11	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.63	-	0.278	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUR-1(15:43)	2014 08 08	7.5	17.1	< 30	1.94	0.181	0.457	0.873	< 0.1	< 0.1	5.17	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUR-1(19:09)	2014 08 09	7.3	17.8	< 30	2.00	0.365	0.461	0.975	< 0.1	0.11	5.09	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.162	< 1	< 3
	QUR-1(14:30)	2014 08 09	7.6	17.4	< 30	2	0.368	0.456	0.956	< 0.1	0.1	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.54	-	0.271	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.171	< 1	< 3
	QUR-1(10:19)	2014 08 10	9.5	16.8	< 30	1.91	0.263	0.474	0.871	< 0.1	0.11	5.06	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.57	-	0.271	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUR-1(17:45)	2014 08 10	9.3	17	< 30	1.91	0.33	0.471	0.865	< 0.1	0.11	5.03	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.52	-	0.263	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUR-1(11:18)	2014 08 11	11.4	16.6	< 30	1.9	0.361	0.494	0.857	< 0.1	0.12	5.21	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.1	-	0.271	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.126	< 1	< 3
	QUR-1(17:12)	2014 08 11	10.3	16.8	< 30	1.92	0.411	0.488	0.871	< 0.1	0.1	5.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.12	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	QUR-1(14:04)	2014 08 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(16:34)	2014 08 12	10.1	16.6	< 30	2.01	0.358	0.463	0.843	< 0.1	0.11	5.25	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.65	-	0.295	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUR-1(20:00)	2014 08 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(12:00)	2014 08 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(13:19)	2014 08 13	10.4	16.3	< 30	1.80	0.159	0.47	0.845	< 0.1	0.12	5.31	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.303	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUR-1(20:00)	2014 08 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(14:45)	2014 08 14	9.4	16.4	< 30	1.94	0.202	0.469	0.858	< 0.1	0.12	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.62	-	0.318	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUR-1X(14:50)	2014 08 14	10.7	15.8	< 30	1.81	0.211	0.465	0.858	< 0.1	0.11	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.69	-	0.298	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	DA/QC RPD %		7	4	0	7	5	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	QUR-1(04:00)	2014 08 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(12:00)	2014 08 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(20:00)	2014 08 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(12:00)	2014 08 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(13:29)	2014 08 15	9.6	16.1	< 30	1.8	0.355	0.469	0.846	< 0.1	0.13	5.55	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.96	-	0.294	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUR-1(14:59)	2014 08 16	9.4	16.5	< 30	1.94	0.315	0.458	0.812	< 0.1	0.12	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.85	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUR-1(20:00)	2014 08 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 17	8.6	16.3	< 30	1.91	0.185	0.485	0.832	< 0.1	0.11	4.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.6	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUR-1(20:00)	2014 08 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(09:18)	2014 08 18	9	16.4	< 30	1.84	0.14	0.466	0.825	< 0.1	< 0.1	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.89	-	0.302	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUR-1(12:00)	2014 08 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(20:00)	2014 08 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(12:00)	2014 08 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(13:27)	2014 08 19	11.2	16.8	< 30	1.81	0.45	0.477	0.843	< 0.1	0.12	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.79	-	0.279	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUR-1(20:00)	2014 08 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(12:00)	2014 08 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(16:40)	2014 08 20	9.9	17	< 30	1.96	0.542	0.448	0.803	< 0.1	< 0.1	5.11	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.89	< 0.05	0.78	-	0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
	QUR-1(20:00)	2014 08 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(12:00)	2014 08 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(16:28)	2014 08 21	9.5	17.5	< 30	1.95	0.588	0.47	0.891	< 0.1	< 0.1	5.44	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.97	< 0.05	0.61	-	0.294	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUR-1(20:00)	2014 08 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(04:00)	2014 08 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1(10:40)	2014 08 22	8.7	17.5	< 30	1.94	0.619	0.468	0.858	< 0.1	0.13	5.38	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.81	< 0.05	0.6	-	0.297	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3

Associated ALS Files: L1498519, L1498533, L1498168, L1499253, L1499703, L1499707, L1499710, L1499926, L1500647, L1500619, L1501501, L1501518, L1502240, L1502364, L1502374, L1502384, L1503057, L1503061, L1503079, L1503910, L1503913, L1503934, L1503935, L1503932, L1503936, L1504160, L1504213, L1504355, L1504261, L1504264, L1504267, L1504518, L1505571, L1505577, L1505586, L1505914, L1522370, L1506589, L1507001, L1507291, L1507298, L1506602, L1507269, L1507347, L1507348, L1507372, L1507377, L1506637, L1506673, L1508567, L1508649, L1508657, L1512231, L1512268, L1512269, L1512741, L1512748, L1511192, L1512239, L1511232.

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit not in range.

[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[3] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[4] Guideline varies with pH, and/or other Temperature or Hardness.

[5] Health Canada Drinking Water Guidelines, 2012.

[6] Guideline for Nitrate applied.

[7] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[8] Calculated based on an individual sample result, not average of 30 day results.

[9] Secondary chronic or chronic value, not 30 day mean.

[10] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals: Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (mg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (mg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (mg/L)	Manganese (µg/L)	Mercury (ng/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (mg/L)	Selenium (µg/L)	Silicon (mg/L)	Silver (µg/L)	Sodium (mg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,c]			n/a	20	5	1,000	n/a	n/a	1,200	0.016-0.029[d]	n/a	1 (Cr(+6))	110	5.0-9.2[d]	1,000	27.3-57.7[d]	870	n/a	1,000.0-1,370[d]	(Methyl mercury analysis in progress.	2,000	25-65[d]	373,000-432,000	2	n/a	0.1[d]	n/a	0.3	n/a	2,000	300	8	33[d]
BCWQG Aquatic Life (30day) (AM)[a,c,b]			n/a	n/a	n/a	1,000	5.3[f]	n/a	n/a	n/a	n/a	n/a	4	2-3[d]	n/a	4.4-8.8[d]	14[f]	n/a	781.1-940[d]		1,000	n/a	n/a	n/a	n/a	0.05[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[d]
BCWQG Drinking Water (DW)[b,c]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	300	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[b]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUR-1	QUR-1	2014 08 08	19.6	< 0.1	0.13	6.62	< 0.1	< 0.5	< 10	< 0.01	18,700	< 0.5	< 0.1	0.65	< 30	< 0.05	0.73	2,030	1.42	< 0.05	0.331	< 0.5	1,720	< 0.01	902	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUR-1X	2014 08 08	19.7	< 0.1	0.14	5.81	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.65	< 30	< 0.05	0.7	1,980	1.38	< 0.05	0.323	< 0.5	475	< 0.5	1,680	< 0.01	874	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	DUPLICATE																																
	QUR-1	2014 08 08	22.1	< 0.1	0.14	5.35	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.65	< 30	< 0.05	0.71	1,980	1.41	< 0.05	0.316	< 0.5	478	< 0.5	1,670	< 0.01	867	< 0.01	< 0.1	< 10	0.127	< 1	< 3
	QUR-1	2014 08 07	23.8	< 0.1	0.13	5.34	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.69	< 30	< 0.05	0.77	1,970	1.35	< 0.05	0.305	< 0.5	484	< 0.5	1,650	< 0.01	859	< 0.01	< 0.1	< 10	0.135	< 1	< 3
	QUR-1(11:33)	2014 08 06	24.2	< 0.1	0.13	5.42	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.64	48	< 0.05	0.51	2,010	1.42	< 0.05	0.283	< 0.5	474	< 0.5	1,670	< 0.01	869	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUR-1(15:47)	2014 08 06	20.4	< 0.1	0.13	5.28	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.62	< 30	< 0.05	0.55	2,030	1.27	< 0.05	0.281	< 0.5	470	< 0.5	1,670	< 0.01	885	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUR-1(10:08)	2014 08 09	27.8	< 0.1	0.12	5.34	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.72	33	< 0.05	0.71	2,040	1.73	< 0.05	0.295	< 0.5	472	< 0.5	1,680	< 0.01	872	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUR-1(14:30)	2014 08 09	29.2	< 0.1	0.14	5.31	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.69	31	< 0.05	0.69	2,030	1.59	< 0.05	0.297	< 0.5	466	< 0.5	1,660	< 0.01	861	< 0.01	< 0.1	< 10	0.132	< 1	< 3
	QUR-1(10:19)	2014 08 10	21.7	< 0.1	0.12	5.06	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.65	< 30	< 0.05	< 0.5	1,930	1.15	< 0.05	0.283	< 0.5	469	< 0.5	1,620	< 0.01	835	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUR-1(17:45)	2014 08 10	19.5	< 0.1	0.12	5.11	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.61	< 30	< 0.05	0.54	1,940	1.2	< 0.05	0.277	< 0.5	481	< 0.5	1,640	< 0.01	866	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUR-1(11:18)	2014 08 11	23.8	< 0.1	0.14	5.28	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.64	< 30	< 0.05	0.98	1,900	1.39	< 0.05	0.293	< 0.5	467	< 0.5	1,560	< 0.01	873	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUR-1(17:12)	2014 08 11	23.8	< 0.1	0.13	5.41	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.66	< 30	< 0.05	0.83	1,910	1.37	< 0.05	0.293	< 0.5	480	< 0.5	1,580	< 0.01	859	< 0.01	< 0.1	< 10	0.13	< 1	< 3
	QUR-1(14:04)	2014 08 12	18.6	< 0.1	0.14	5.26	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.69	< 30	< 0.05	0.86	1,890	1.37	-	0.304	< 0.5	472	< 0.5	1,620	< 0.01	866	< 0.01	< 0.1	< 10	0.139	< 1	[illegible]
	QUR-1(16:34)	2014 08 12	22.4	< 0.1	0.13	5.41	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.7	< 30	< 0.05	0.91	1,870	1.19	< 0.05	0.317	< 0.5	475	< 0.5	1,600	< 0.01	857	< 0.01	< 0.1	< 10	0.132	< 1	< 3
	QUR-1(20:00)	2014 08 12	18.8	< 0.1	0.14	5.29	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.63	< 30	< 0.05	0.94	1,880	1.15	-	0.311	< 0.5	466	< 0.5	1,590	< 0.01	853	< 0.01	< 0.1	< 10	0.135	< 1	[illegible]
	QUR-1(04:00)	2014 08 13	20.3	< 0.1	0.14	5.49	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.68	< 30	< 0.05	0.83	1,880	1.47	-	0.307	< 0.5	462	< 0.5	1,610	< 0.01	861	< 0.01	< 0.1	< 10	0.134	< 1	5
	QUR-1(12:00)	2014 08 13	19.6	< 0.1	0.15	5.41	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.64	< 30	< 0.05	0.82	1,850	1.38	-	0.312	< 0.5	466	< 0.5	1,600	< 0.01	856	< 0.01	< 0.1	< 10	0.131	< 1	5.6
	QUR-1(13:19)	2014 08 13	18.9	< 0.1	0.14	5.43	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.63	< 30	< 0.05	0.84	1,830	1.22	< 0.05	0.316	< 0.5	460	< 0.5	1,590	< 0.01	843	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QUR-1(20:00)	2014 08 13	18.8	< 0.1	0.16	5.3	< 0.1	< 0.5	< 10	< 0.01	16,200	0.62	< 0.1	0.62	< 30	< 0.05	0.74	1,830	1.32	-	0.331	0.64	466	< 0.5	1,560	< 0.01	848	< 0.01	< 0.1	< 10	0.131	< 1	[illegible]
	QUR-1(14:45)	2014 08 14	16.4	< 0.1	0.13	5.39	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.6	< 30	< 0.05	0.67	1,810	1.38	-	0.316	< 0.5	462	< 0.5	1,570	< 0.01	843	< 0.01	< 0.1	< 10	0.126	< 1	< 3
	QUR-1(14:00)	2014 08 14	18.7	< 0.1	0.15	5.44	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.64	< 30	< 0.05	0.74	1,860	1.41	-	0.328	< 0.5	470	< 0.5	1,530	< 0.01	854	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	DUPLICATE																																
	QUR-1(04:00)	2014 08 14	19.5	< 0.1	0.16	5.69	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.62	< 30	< 0.05	0.76	1,970	1.53	-	0.314	< 0.5	475	< 0.5	1,600	< 0.01	892	< 0.01	< 0.1	< 10	0.134	< 1	5.8
	QUR-1(12:00)	2014 08 14	18.7	0.56	0.17	5.48	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.58	< 30	< 0.05	0.7	1,860	1.63	-	0.324	< 0.5	478	< 0.5	1,560	< 0.01	869	< 0.01	< 0.1	< 10	0.136	< 1	6
	QUR-1(20:00)	2014 08 14	19.2	< 0.1	0.17	5.08	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.61	< 30	< 0.05	< 0.5	1,950	1.67	-	0.335	< 0.5	472	< 0.5	1,630	< 0.01	881	< 0.01	< 0.1	< 10	0.137	< 1	[illegible]
	QUR-1(04:00)	2014 08 15	23.1	0.1	0.16	5.2	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.64	< 30	< 0.05	< 0.5	1,940	1.8	-	0.322	< 0.5	478	< 0.5	1,630	< 0.01	888	< 0.01	< 0.1	< 10	0.122	< 1	6.2
	QUR-1(12:00)	2014 08 15	19	< 0.1	0.14	5.04	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.64	< 30	< 0.05	< 0.5	1,920	1.54	-	0.324	< 0.5	470	< 0.5	1,590	< 0.01	880	< 0.01	< 0.1	< 10	0.129	< 1	5.7
	QUR-1(13:28)	2014 08 15	18.8	< 0.1	0.16	5.58	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.63	< 30	< 0.05	< 0.5	1,950	1.35	-	0.3	< 0.5	469	< 0.5	1,630	< 0.01	881	< 0.01	< 0.1	< 10	0.122	< 1	< 3
	QUR-1(14:59)	2014 08 15	18.8	< 0.1	0.13	5.27	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.62	< 30	< 0.05	0.71	1,910	1.54	-	0.316	< 0.5	469	< 0.5	1,580	< 0.01	837	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUR-1(20:00)	2014 08 15	13.8	< 0.1	0.13	5.36	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.51	< 30	< 0.05	0.71	1,980	1.13	-	0.338	< 0.5	462	< 0.5	1,630	< 0.01	882	< 0.01	< 0.1	< 10	0.142	< 1	6.2
	QUR-1	2014 08 17	20	< 0.1	0.13	5.17	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.63	< 30	< 0.05	0.82	1,920	1.35	-	0.312	< 0.5	478	< 0.5	1,620	< 0.01	875	< 0.01	< 0.1	< 10	0.133	< 1	< 3
	QUR-1(20:00)	2014 08 17	23.4	< 0.1	0.11	5.39	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.63	< 30	< 0.05	0.85	1,830	1.44	-	0.294	< 0.5	467	< 0.5	1,610	< 0.01	848	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUR-1(04:00)	2014 08 18	18.3	< 0.1	0.12	5.35	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.74	< 30	< 0.05	0.63	1,930	1.5	-	0.295	< 0.5	475	< 0.5	1,600	< 0.01	838	< 0.01	< 0.1	< 10	0.133	< 1	5.1
	QUR-1(08:18)	2014 08 18	27.7	< 0.1	0.13	5.2	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.72	< 30	< 0.05	0.69	1,920	1.76	-	0.311	< 0.5	445	< 0.5	1,610	< 0.01	840	< 0.01	< 0.1	< 10	0.137	< 1	[illegible]
	QUR-1(12:00)	2014 08 18	20.1	< 0.1	0.13	5.34	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.66	< 30	< 0.05	0.8	1,930	1.26	-	0.304	< 0.5	467	< 0.5	1,610	< 0.01	871	< 0.01	< 0.1	< 10	0.139	< 1	4.7
	QUR-1(20:00)	2014 08 18	16.7	< 0.1	0.14	5.82	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.7	< 30	< 0.05	0.82	2,000	1.26	-	0.32	< 0.5	493	< 0.5	1,650	< 0.01	898	< 0.01	< 0.1	< 10	0.141	< 1	5.4
	QUR-1(04:00)	2014 08 19	22.5	< 0.1	0.13	5.48	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.77	< 30	< 0.05	0.85	1,970	1.62	-	0.311	< 0.5	486	< 0.5	1,640	< 0.01	892	< 0.01	< 0.1	< 10	0.137	< 1	4.1
	QUR-1(12:00)	2014 08 19	21.8	< 0.1	0.16	5.39	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.76	< 30	< 0.05	0.83	1,920	1.56	-	0.308	< 0.5	477	< 0.5	1,600	< 0.01	868	< 0.01	< 0.1	< 10	0.136	< 1	5
	QUR-1(13:27)	2014 08 19	30.4	< 0.1	0.18	5.39	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.67	< 30	< 0.05	0.82	1,900	1.61	-	0.318	< 0.5	465	< 0.5	1,620	< 0.01	874	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUR-1(20:00)	2014 08 19	18.1	< 0.1	0.13	5.45	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.71	< 30	< 0.05	0.74	1,980	1.28	-	0.29	< 0.5	463	< 0.5	1,590	< 0.01	823	< 0.01	< 0.1	< 10	0.129	< 1	4.4
	QUR-1(04:00)	2014 08 20	17.5	< 0.1	0.14	5.23	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.76	< 30	< 0.05	0.76	1,970	1.28	-	0.303	0.62	445	< 0.5	1,590	< 0.01	822	< 0.01	< 0.1	< 10	0.129	< 1	3.6
	QUR-1(12:00)	2014 08 20	24.4	< 0.1	0.13	5.29	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.69	< 30	< 0.05	0.86	1,980	1.57	-	0.28	< 0.5	454	< 0.5	1,600	< 0.01	828	< 0.01	< 0.1	< 10	0.132	< 1	3.7
	QUR-1(16:40)	2014 08 20	30.9	< 0.1	0.13	5.53	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1.17	< 30	< 0.05	0.69	2,010	1.71	-	0.29	< 0.5	475	< 0.5	1,620	< 0.01	846	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUR-1(20:00)	2014 08 20	23	< 0.1	0.16	5.43	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	1.13	< 30	< 0.05	0.53	1,960	1.38	-	0.331	< 0.5	473	< 0.5	1,610	< 0.01	871	0.013	< 0.1	< 10	0.141	< 1	4.8
	QUR-1(04:00)	2014 08 21	35.3	< 0.1	0.15	5.84	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.41	< 30	< 0.05	< 0.5	1,980	1.98	-	0.303	< 0.5	481	< 0.5	1,640	< 0.01	876	< 0.01	< 0.1	< 10	0.142	< 1	3.7
	QUR-1(12:00)	2014 08 21	42.7	< 0.1	0.15	5.97	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.62	50	< 0.05	< 0.5	1,950	1.78	-	0.309	< 0.5	480	< 0.5	1,630	< 0.01	897	< 0.01	< 0.1	< 10	0.145	< 1	3.9
	QUR-1(16:29)	2014 08 21	53.7	< 0.1	0.16	6.14	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.88	43	< 0.05	0.64	1,970	2.02	-	0.296	< 0.5	487	< 0.5	1,670	< 0.01	879	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUR-1(20:00)	2014 08 21	38.7	< 0.1	0.14	5.9	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.66	< 30	< 0.05	0.62	1,970	1.81	-	0.309	< 0.5	486	< 0.5	1,640	< 0.01	883	< 0.01	< 0.1	< 10	0.144	< 1	4.6
	QUR-1(04:00)	2014 08 22	36.7	0.1	0.13	6.11	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	1.69	32	< 0.05	0.62	1,980	1.82	-	0.322	< 0.5	480	< 0.5	1,660	< 0.01	887	< 0.01	< 0.1	< 10	0.142	< 1	3.6
	QUR-1(12:40)	2014 08 22	66.5	< 0.1	0.17	6.26	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	2.02	70	< 0.05	< 0.5	1,960	2.22	-	0.314	< 0.5	490	< 0.5	1,710	< 0.01	874	< 0.01	< 0.1	< 10	0.152	< 1	< 3

Associated ALS files: L1469519, L1469533, L1469194, L1469302, L1469703, L1469707, L1469719, L1469620, L1469847, L1503510, L1501601, L1501518, L1503348, L1502364, L1502372, L1503366, L1503357, L1503091, L1503079, L1503810, L1503813, L1503828, L1503572, L1503593, L1503804, L1504193, L1504213, L1504329, L1504761, L1504761, L1504997, L1503919, L1504601, L1504577, L1505848, L1501564, L1502370, L1499898, L1502008, L1501201, L1507201, L1507208, L1508892, L1507280, L1507347, L1507348, L1507972, L1507977, L1508877, L1508873, L1508507, L1508548, L1509507, L1510231, L1510288, L1510282, L1510741, L1510748, L1511150, L1511238, L1511232.

All terms defined within the body of SNC-Lavalin's report (moderate upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AM) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or other Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site location.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters: Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (BTU)	Conductivity (uS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Microbiological Tests: Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Inorganics: Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (ug/L)	Nitrate Nitrogen (ug/L)	Nitrite Nitrogen (ug/L)	Nitrate+Nitrite Nitrogen (ug/L)	Chloride (mg/L)	Fluoride (ug/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus (mg/L)
BC Guidelines																										
BCWQG Aquatic Life (AW)[2,4]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 8	n/a	n/a	Change of 25	n/a +20% of median background	n/a	n/a	n/a	n/a	5,680-18,400[4]	32,800	50 (Cl<2)	32,800	600	586.2-1,224.3[4]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[2,4,5]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5		n/a	n/a	n/a	n/a	1,050-1,770[4]	3,000	20 (Cl<2)	3,000	150	n/a	129-309[4]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[2,3]			n/a	6.5-8.5	6.5-8.5	n/a	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000	250	1,000	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[3]			n/a	6.5-8.5	6.5-8.5	n/a	n/a	n/a	500	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUR-1	QUR-1	2014 08 23	51.2	8.08	7.94	14.7	1.05	99.7	70	< 3	2.03	-	-	-	0.151	< 5	90.7	< 1	-	< 0.5	34	5.89	45.5	-	< 0.001	< 0.002[6]
	QUR-1	2014 08 24	52.8	7.73	7.89	14.4	0.67	102	61	< 3	< 0.5	-	-	-	0.178	< 5	93.1	< 1	-	< 0.5	36	5.92	45.7	-	< 0.001	< 0.002[6]
	QUR-1-4:00	2014 08 24	52	-	7.9	-	0.66	102	-	< 3	-	-	-	-	-	-	77	< 1	-	< 0.5	35	5.85	-	-	-	-
	QUR-1-12:00	2014 08 24	50.9	-	7.93	-	0.81	103	-	< 3	-	-	-	-	-	-	93.4	< 1	-	< 0.5	35	5.87	-	-	-	-
	QUR-1-16:00	2014 08 24	51.1	-	7.96	-	1.1	103	-	< 3	-	-	-	-	-	-	90.7	< 1	-	< 0.5	35	6.02	-	-	-	-
	QUR-1-20:00	2014 08 24	51.3	-	7.86	-	0.66	102	-	< 3	-	-	-	-	-	-	86.7	< 1	-	< 0.5	33	5.85	-	-	-	-
	QUR-1	2014 08 25	51.3	-	7.98	-	1.06	104	-	< 3	-	-	-	-	-	-	97.8	< 1	-	< 0.5	35	6.04	-	-	-	-
	QUR-1-08:00	2014 08 25	51.7	-	7.99	-	1.14	103	-	< 3	-	-	-	-	-	-	85.4	< 1	-	< 0.5	35	6.02	-	-	-	-
	QUR-1(11:21)	2014 08 25	51	-	7.94	-	1.29	102	72	< 3	2.14	-	-	-	0.153	< 5	81.7	< 1	-	< 0.5	35	5.94	46	-	< 0.001	< 0.002[6]
	QUR-1-16:00	2014 08 25	52.2	8.08	8.01	14.8	1.03	103	-	< 3	-	-	-	-	-	-	79.8	< 1	-	< 0.5	35	6	-	< 0.05	-	-
	QUR-1	2014 08 26	51.1	8.17	8	16.4	0.84	102	63	< 3	2.14	-	-	-	0.143	< 5	94.6	< 1	-	< 0.5	35	5.91	45.9	-	< 0.001	< 0.002[6]
	QUR-1X	2014 08 26	51.5	8.17	7.98	16.4	0.75	102	63	< 3	2.17	-	-	-	0.148	< 5	95.1	< 1	-	< 0.5	35	5.91	45.7	-	< 0.001	< 0.002[6]
	QA/QC RPD %		1	0	1	0	11	0	10	0	1	-	-	-	-	-	4	1	-	1	1	0	1	-	1	1	1
	QUR-1-00:00	2014 08 26	51.5	-	7.97	-	0.87	103	-	< 3	-	-	-	-	-	-	74.5	< 1	-	< 0.5	35	5.98	-	< 0.05	-	-
	QUR-1-8:00	2014 08 26	50.6	-	8.02	-	0.82	103	-	< 3	-	-	-	-	-	-	97.2	< 1	-	< 0.5	35	5.99	-	< 0.05	-	-
	QUR-1-16:00	2014 08 26	49	-	7.99	-	0.76	102	-	< 3	-	-	-	-	-	-	94.9	< 1	-	< 0.5	33	5.97	-	-	-	-
	QUR-1	2014 08 27	50.9	8.19	8	17.2	0.8	103	73	< 3	2.02	-	-	-	0.132	< 5	60	< 1	-	< 0.5	34	5.93	45.4	-	< 0.001	< 0.002[6]
	QUR-1-00:00	2014 08 27	47.4	-	7.97	-	1.23	102	-	< 3	-	-	-	-	-	-	92.9	< 1	-	< 0.5	35	5.96	-	-	-	-
	QUR-1-08:00	2014 08 27	50.1	-	8	-	0.76	101	-	< 3	-	-	-	-	-	-	60.7	< 1	-	< 0.5	34	5.92	-	-	-	-
	QUR-1-16:00	2014 08 27	-	-	7.97	-	0.85	97.9	-	< 3	-	-	-	-	-	-	56.9	< 1	-	< 0.5	33	5.72	-	-	-	-
	QUR-1	2014 08 28	49	-	7.93	-	0.66	100	67	< 3	2.02	-	-	-	0.131	< 5	54.8	< 1	-	< 0.5	35	5.86	44.4	-	< 0.001	0.0021
	QUR-1-00:00	2014 08 28	-	-	7.96	-	0.55	101	-	< 3	-	-	-	-	-	-	57.6	< 1	-	< 0.5	35	5.93	-	-	-	-
	QUR-1-08:00	2014 08 28	-	-	7.97	-	0.89	101	-	< 3	-	-	-	-	-	-	55.6	1.1	-	< 0.5	35	5.91	-	-	-	-
	QUR-1	2014 08 29	49.9	8.17	7.95	17.6	0.67	98.5	68	< 3	1.82	-	-	-	0.143	< 5	53.6	< 1	-	< 0.5	34	5.8	45.2	-	< 0.001	< 0.002[6]
	QUR-1-0:00	2014 08 29	-	-	7.86	-	0.62	98.9	-	< 3	-	-	-	-	-	-	53.7	< 1	-	< 0.5	34	5.79	-	-	-	-
	QUR-1-8:00	2014 08 29	-	-	7.94	-	0.72	98.9	-	< 3	-	-	-	-	-	-	54.6	< 1	-	< 0.5	34	5.85	-	-	-	-
	QUR-1-16:00	2014 08 29	-	-	7.94	-	0.51	99.7	-	< 3	-	-	-	-	-	-	54.9	< 1	-	< 0.5	35	5.88	-	-	-	-
QUL-1	QUL-1	2014 08 06	48	8.13	7.97	20.4	0.35	94.6	59	< 3	2.16	-	-	-	0.146	< 5	50.3	< 1	-	< 0.5	31	5.6	43.6	-	< 0.001	< 0.002[6]
QUL-2	QUL-2	2014 08 06	48.3	8.13	7.98	20.6	0.33	94.4	58	< 3	2.06	-	-	-	0.152	< 5	48.3	< 1	-	< 0.5	31	5.59	43.7	-	< 0.001	< 0.002[6]
	QUL-2	2014 08 06	48.8	7.79	7.85	18.0	0.49	99.4	64	< 3	2.38	-	-	-	0.136	< 5	54.8	< 1	-	< 0.5	35	5.84	43.8	-	< 0.001	< 0.002[6]
	QUL-2	2014 08 11	47.7	7.89	7.95	20.2	0.27	97.5	67	< 3	2.39	-	-	-	0.139	< 5	57.3	< 1	-	< 0.5	34	5.82	43.7	-	< 0.001	< 0.002[6]
	QUL-2-0M	2014 08 16	48.8	8.07	7.97	20.2	0.4	95	54	< 3	2.08	-	-	-	0.111	< 5	42.5	< 1	-	< 0.5	36	5.64	43.2	-	< 0.001	< 0.002[6]
	QUL-2-10M	2014 08 16	50.6	7.88	7.93	12.1	0.3	97.7	60	< 3	1.97	-	-	-	0.14	< 5	86	< 1	-	< 0.5	36	5.75	44.4	-	< 0.001	< 0.002[6]
	QUL-2-30M	2014 08 16	53.3	7.62	7.84	4.7	1.04	107	68	< 3	1.81	-	-	-	0.161	< 5	141	< 1	-	< 0.5	38	6.34	48.1	-	< 0.001	< 0.002[6]
	QUL-2-47M	2014 08 21	62.6	7.94	7.85	5.5	49.2	133	90	22.9	1.89	-	-	-	0.328	28.3	165	< 1	-	< 0.5	55	12	55.4	-	0.0407	0.21
	QUL-2-0M	2014 08 26	49.5	7.93	7.97	18.4	0.27	98.4	64	< 3	2.03	-	-	-	0.131	< 5	47.9	< 1	-	< 0.5	35	5.76	43.6	-	< 0.001	< 0.002[6]
	QUL-2X-0M	2014 08 26	49.6	7.93	7.97	18.4	0.24	98.3	67	< 3	1.97	-	-	-	0.132	< 5	49	< 1	-	< 0.5	34	5.78	44.3	-	< 0.001	0.0159
	QA/QC RPD %		1	0	0	0	1	1	1	0	1	-	-	-	1	-	1	1	-	0	1	1	1	-	0	1	1
	QUL-2-0M	2014 08 26	50	7.94	7.95	18.1	0.27	99.9	69	< 3	1.8	-	-	-	0.145	< 5	74.7	< 1	-	< 0.5	34	5.85	45	-	0.013	0.0156
	QUL-2-40M	2014 08 26	50.6	7.58	7.91	5.9	17.9	119	79	11.7	1.71	-	-	-	0.246	11	168	< 1	-	< 0.5	44	8.92	51.1	-	0.0089	0.0214
	QUL-2-0M	2014 08 27	49.5	7.97	7.95	18.9	0.25	98.2	63	< 3	2.1	-	-	-	0.12	< 5	43.6	< 1	-	< 0.5	34	5.76	44.6	-	0.001	< 0.002[6]
	QUL-2-15M	2014 08 27	50.7	-	7.97	-	3.56	102	65	< 3	2.06	-	-	-	0.15	< 5	81.8	< 1	-	< 0.5	35	6.11	45.6	-	< 0.001	< 0.002[6]
	QUL-2-42M	2014 08 27	63	-	7.97	-	69	135	107	11.2	1.92	-	-	-	0.28	33.1	150	< 1	-	< 0.5	56	12.8	54.1	-	0.0019	0.0034
	QUL-2-0M	2014 08 29	49.5	-	7.91	-	0.45	95.6	56	< 3	2.3	-	-	-	0.124	< 5	44.8	< 1	-	< 0.5	35	5.73	44	-	< 0.001	< 0.002[6]
	QUL-2-37M	2014 08 29	55.2	-	7.86	-	8.66	110	69	6.8	1.79	-	-	-	0.215	5.3	150	< 1	-	< 0.5	40	7.19	49.8	-	< 0.001	< 0.002[6]

Associated ALS files: L1498519, L1498533, L1499166, L1499702, L1499703, L1499707, L1499710, L1499806, L1499847, L1500819, L1501501, L1501516, L1502349, L1502364, L1502372, L1502386, L1503037, L1503081, L1503079, L1503916, L1503913, L1503926, L1503932, L1503952, L1503934, L1504140, L1504213, L1504220, L1504304, L1504281, L1504997, L1505918, L1506551, L1505571, L1506577, L1506586, L1501644, L1502370, L1505949, L1505969, L1507001, L1507291, L1507306, L1506562, L1507358, L1507347, L1507346, L1507672, L1507977, L1508037, L1508673, L1509687, L1509648, L1509697, L1510231, L1510268, L1510249, L1510741, L1510746, L1511190, L1511226, L1511232.

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit out of range.

[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[3] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[4] Guideline varies with pH, and/or either Temperature or Hardness.

[5] Health Canada Drinking Water Guidelines, 2012.

[6] Guideline for Alberta applied.

[7] The total phosphorus guideline is a measure of total productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at any point in time.

[8] Calculated based on an individual sample basis, not average of 30 day results.

[9] Secondary criteria or chronic value, not 30 day mean.

[10] Guideline not applicable for site location.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																												
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																															
BCWQG Aquatic Life (AW)[a,b]			100[c]	n/a	300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[a,b]			50[c]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[a]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[a]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUR-1	QUR-1	2014 08 23	10	17.5	< 30	1.95	0.597	0.47	0.666	< 0.1	0.12	5.5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.68	< 0.05	0.82	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUR-1	2014 08 24	9	17.7	< 30	2	0.838	0.474	0.65	< 0.1	0.12	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.95	< 0.05	0.87	-	0.274	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUR-1-4:00	2014 08 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-12:00	2014 08 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-18:00	2014 08 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-20:00	2014 08 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08:00	2014 08 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 25	9	17.2	< 30	1.93	0.845	0.459	0.644	< 0.1	0.1	5.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.08	< 0.05	< 0.5	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUR-1-16:00	2014 08 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 26	10.6	17.2	< 30	1.91	0.702	0.459	0.632	< 0.1	0.1	5.49	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.97	< 0.05	0.82	-	0.287	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUR-1X	2014 08 26	9.9	17.4	< 30	1.87	0.753	0.471	0.656	< 0.1	0.11	5.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.98	< 0.05	0.56	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QA/QC RPD %		7	1	0	4	7	3	2																						
	QUR-1-00:00	2014 08 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-4:00	2014 08 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16:00	2014 08 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 27	10.3	17.2	< 30	1.91	0.662	0.464	0.621	< 0.1	0.13	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.93	< 0.05	0.87	-	0.286	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUR-1-00:00	2014 08 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08:00	2014 08 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16:00	2014 08 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 28	9.7	16.5	< 30	1.85	0.504	0.471	0.675	< 0.1	0.11	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.74	< 0.05	0.56	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUR-1-00:00	2014 08 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08:00	2014 08 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 08 29	9.7	16.8	< 30	1.94	0.186	0.465	0.631	< 0.1	0.17	5.55	< 0.1	< 10	0.03	< 0.5	< 0.1	0.84	< 0.05	0.53	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUR-1-0:00	2014 08 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8:00	2014 08 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16:00	2014 08 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUL-1	QUL-1	2014 08 06	11.7	16.1	< 30	1.9	0.422	0.481	1.04	< 0.1	< 0.1	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	< 0.5	< 0.05	0.356	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
QUL-2	QUL-2	2014 08 06	11.4	16.2	< 30	1.92	0.443	0.479	1.09	< 0.1	0.1	5.18	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	< 0.5	< 0.05	0.369	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-2	2014 08 08	10.3	16.4	< 30	1.89	0.804	0.48	0.841	< 0.1	< 0.1	5.39	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.61	-	0.295	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-2	2014 08 11	11.4	16	< 30	1.87	0.77	0.496	0.846	< 0.1	0.11	5.23	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.67	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.12	< 1	< 3
	QUL-2-0M	2014 08 19	10.3	16.4	< 30	1.9	0.527	0.468	0.805	< 0.1	0.12	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.54	< 0.05	0.64	-	0.285	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
	QUL-2-10M	2014 08 16	9.6	17.1	< 30	1.9	0.288	0.453	0.791	< 0.1	< 0.1	5.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-2-30M	2014 08 16	5.7	18	< 30	2.02	3.29	0.475	0.924	< 0.1	0.1	5.5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.71	< 0.05	0.84	-	0.305	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.164	< 1	< 3
	QUL-2-47M	2014 08 21	11.7	21.2	< 30	2.37	53.9	0.732	3.23	0.15	0.48	13.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.06	< 0.05	0.99	-	2.62	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.436	< 1	< 3
	QUL-2-0M	2014 08 25	10	16.7	< 30	1.91	0.377	0.456	0.769	< 0.1	< 0.1	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.279	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-2X-0M	2014 08 25	9.6	16.7	< 30	1.91	0.384	0.444	0.796	< 0.1	0.12	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.265	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.126	< 1	< 3
	QA/QC RPD %		4	0	0	2	3	4	4																						
	QUL-2-6M	2014 08 25	9.9	16.9	< 30	1.91	0.343	0.462	0.803	< 0.1	0.1	5.22	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	< 0.5	-	0.283	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-2-40M	2014 08 25	8.3	19.5	< 30	2.21	21.5	0.594	1.52	< 0.1	0.24	8.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.48	< 0.05	0.83	-	1.47	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.27	< 1	< 3
	QUL-2-0M	2014 08 27	9.9	16.6	< 30	1.83	0.331	0.449	0.835	< 0.1	< 0.1	5.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.67	-	0.274	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-2-15M	2014 08 27	9.3	17.2	< 30	1.82	1.83	0.449	0.862	< 0.1	< 0.1	5.59	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.13	< 0.05	0.76	-	0.284	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-2-42M	2014 08 27	10.9	21.3	< 30	2.36	44	0.611	2.49	0.16	0.48	13.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.15	< 0.05	0.83	-	3.4	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.434	< 1	< 3
	QUL-2-0M	2014 08 29	10.6	16.8	< 30	1.83	0.341	0.467	0.842	< 0.1	0.1	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.53	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-2-37M	2014 08 29	8	18.8	< 30	2.12	9.3	0.533	1.2	< 0.1	0.17	6.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.7	< 0.05	0.67	-	0.78	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.187	< 1	< 3

Associated ALS files: L1489519, L1489533, L1489166, L1489703, L1489797, L1489710, L1489629, L1491947, L1500619, L1501501, L1501518, L1503349, L1503364, L1503372, L1502949, L1503057, L1503061, L1503076, L1503910, L1503913, L1503926, L1503932, L1503933, L1503934, L1504186, L1504213, L1504220, L1504201, L1504281, L1504307, L1505918, L1505891, L1505871, L1505877, L1505566, L1505184, L1502370, L1506995, L1503995, L1507001, L1507291, L1507266, L1506992, L1507266, L1507347, L1507346, L1507972, L1507977, L1508637, L1508673, L1508507, L1508649, L1508497, L1510231, L1510266, L1510268, L1510744, L1510746, L1511195, L1511225, L1511232.

All terms defined within the body of SNC-Lavalin report (available upon request).

< Denotes concentration less than individual detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[b] British Colombia Approved Water Quality Guidelines 2009 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary chronic, or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals: Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.026[d]	n/a	1 (Cr(+6))	110	6.0-9.2[f]	1,000	27.3-57.7[e]	870	n/a	1,000 to 1,370[g]	Methyl mercury analyses in progress	2,000	25-65[h]	373,000-432,000	2	n/a	0.1[e]	n/a	0.3	n/a	2,000	300	6	33[e]
BCWQG Aquatic Life (30day) (AW)[a,c]			n/a	n/a	n/a	1,000	9.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-3[e]	n/a	4.4-5.6[e]	14[i]	n/a	791.1-940[d]		1,000	n/a	n/a	n/a	n/a	0.05[e]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[e]
BCWQG Drinking Water (DW)[a,c]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	500	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[b]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUR-1	QUR-1	2014 08 23	63.2	< 0.1	0.16	6.16	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	2.08	63	< 0.05	0.78	2,010	3.12	< 0.05	0.264	< 0.5	497	< 0.5	1,680	< 0.01	873	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUR-1	2014 08 24	49	< 0.1	0.13	6.15	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	1.66	41	< 0.05	0.87	1,980	2.31	-	0.311	< 0.5	488	< 0.5	1,680	< 0.01	887	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUR-1-4:00	2014 08 24	27.3	< 0.1	0.13	6.73	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.55	< 30	< 0.05	0.85	1,990	1.59	-	0.308	< 0.5	477	< 0.5	1,690	< 0.01	872	< 0.01	< 0.1	< 10	0.146	< 1	3
	QUR-1-12:00	2014 08 24	36.6	< 0.1	0.13	5.68	< 0.1	< 0.5	< 10	< 0.01	17,200	0.6	< 0.1	1.78	35	< 0.05	0.71	1,930	1.99	-	0.331	< 0.5	471	< 0.5	1,640	< 0.01	846	< 0.01	< 0.1	< 10	0.143	< 1	3.2
	QUR-1-16:00	2014 08 24	54.8	< 0.1	0.17	6.17	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	1.93	50	< 0.05	< 0.5	1,960	2.5	-	0.299	< 0.5	470	< 0.5	1,680	< 0.01	855	< 0.01	< 0.1	< 10	0.148	< 1	3.1
	QUR-1-20:00	2014 08 24	39.5	< 0.1	0.13	6	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.65	34	< 0.05	0.82	1,970	2.37	-	0.301	< 0.5	485	< 0.5	1,660	< 0.01	852	< 0.01	< 0.1	< 10	0.143	< 1	10.5
	QUR-1	2014 08 25	63.9	< 0.1	0.17	6.31	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	2.31	53	< 0.05	< 0.5	1,980	2.85	-	0.284	< 0.5	466	< 0.5	1,690	< 0.01	848	< 0.01	< 0.1	< 10	0.147	< 1	3.4
	QUR-1-08:00	2014 08 25	65.2	< 0.1	0.18	6.47	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	2.16	63	< 0.05	< 0.5	1,980	3.07	-	0.315	< 0.5	479	< 0.5	1,680	< 0.01	853	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1	2014 08 25	68.4	< 0.1	0.17	6.47	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	2.41	82	< 0.05	< 0.5	1,940	2.85	-	0.299	< 0.5	478	< 0.5	1,660	< 0.01	854	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUR-1-16:00	2014 08 25	47.6	< 0.1	0.16	6	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.93	36	0.117	0.57	1,990	2.32	-	0.33	< 0.5	478	< 0.5	1,640	< 0.01	891	< 0.01	< 0.1	< 10	0.144	< 1	4.6
	QUR-1	2014 08 26	47.1	< 0.1	0.13	6.24	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1.91	40	< 0.05	0.51	1,870	2.29	< 0.01	0.303	< 0.5	480	< 0.5	1,610	< 0.01	868	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUR-1X	2014 08 26	48.6	< 0.1	0.13	6.05	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	1.89	39	< 0.05	0.6	1,950	2.28	< 0.01	0.32	< 0.5	468	< 0.5	1,590	< 0.01	860	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QA/QC RPD %		5	7	7	3	7	7	4	7	4	7	7	5	7	5	7	2	5	7	5	5	3	7	5	7	3	7	7	4	5	7	7
	QUR-1-00:00	2014 08 26	92.4	< 0.1	0.13	6.17	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	2.12	38	< 0.05	0.55	1,970	2.23	-	0.343	< 0.5	475	< 0.5	1,640	< 0.01	893	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUR-1-8:00	2014 08 26	41.2	< 0.1	0.15	5.85	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	1.56	31	< 0.05	0.57	1,940	2.09	-	0.306	< 0.5	469	< 0.5	1,610	< 0.01	873	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUR-1-16:00	2014 08 26	27.8	< 0.1	0.14	5.83	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.47	< 30	< 0.05	0.67	1,900	1.7	-	0.316	< 0.5	476	< 0.5	1,520	< 0.01	904	< 0.01	< 0.1	< 10	0.146	< 1	4.2
	QUR-1	2014 08 27	38.9	< 0.1	0.14	6.03	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	1.64	32	< 0.05	0.64	1,940	2.29	< 0.01	0.316	< 0.5	483	< 0.5	1,560	< 0.01	902	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUR-1-00:00	2014 08 27	29.6	< 0.1	0.13	5.8	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	1.53	< 30	< 0.05	0.65	1,840	1.68	-	0.314	< 0.5	481	< 0.5	1,480	< 0.01	898	< 0.01	< 0.1	< 10	0.142	< 1	3.1
	QUR-1-08:00	2014 08 27	32.7	< 0.1	0.15	6	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	1.63	< 30	< 0.05	0.65	1,840	1.73	-	0.304	< 0.5	465	< 0.5	1,570	< 0.01	900	< 0.01	< 0.1	< 10	0.143	< 1	3
	QUR-1-15:00	2014 08 27	42.5	< 0.1	0.14	5.84	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.47	34	< 0.05	0.62	1,930	2.11	-	0.306	< 0.5	478	< 0.5	1,580	< 0.01	880	< 0.01	< 0.1	< 10	0.136	< 1	3.2
	QUR-1	2014 08 28	40.5	< 0.1	0.16	5.91	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	1.37	42	< 0.05	0.62	1,950	2.1	< 0.01	0.286	< 0.5	487	< 0.5	1,590	< 0.01	890	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUR-1-00:00	2014 08 28	41.7	< 0.1	0.14	5.84	< 0.1	< 0.5	< 10	0.164	17,000	< 0.5	< 0.1	1.58	40	< 0.05	0.6	1,970	2.35	-	0.303	< 0.5	490	< 0.5	1,590	< 0.01	895	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUR-1-08:00	2014 08 28	29.1	< 0.1	0.14	5.81	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	1.24	< 30	< 0.05	0.59	1,980	1.48	-	0.303	< 0.5	483	< 0.5	1,590	< 0.01	891	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUR-1	2014 08 29	37.8	< 0.1	0.23	5.69	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	0.49	1.31	37	< 0.05	< 0.5	1,940	3.09	< 0.01	0.28	< 0.5	474	< 0.5	1,550	< 0.01	857	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUR-1-0:00	2014 08 29	25.4	< 0.1	0.36	5.65	< 0.1	< 0.5	< 10	0.101	17,700	< 0.5	< 0.1	1.19	< 30	< 0.05	< 0.5	2,060	1.47	-	0.299	< 0.5	474	0.93	1,620	< 0.01	849	< 0.01	< 0.1	< 10	0.142	< 1	3.5
	QUR-1-8:00	2014 08 29	25.6	< 0.1	1.06	5.45	< 0.1	< 0.5	< 10	0.412	17,400	< 0.5	< 0.1	1.16	< 30	< 0.05	< 0.5	2,010	1.48	-	0.298	0.82	465	0.78	1,580	< 0.01	835	< 0.01	< 0.1	< 10	0.137	< 1	3.5
	QUR-1-16:00	2014 08 29	30.9	< 0.1	0.28	5.67	< 0.1	< 0.5	< 10	0.056	18,000	< 0.5	< 0.1	1.07	< 30	< 0.05	< 0.5	2,070	1.39	-	0.309	< 0.5	482	< 0.5	1,640	< 0.01	861	< 0.01	< 0.1	< 10	0.144	< 1	< 3
QUL-1	QUL-1	2014 08 06	21.7	< 0.1	0.1	5.28	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.71	< 30	< 0.05	< 0.5	1,820	1.39	< 0.05	0.266	< 0.5	476	< 0.5	1,610	< 0.01	857	< 0.01	< 0.1	< 10	0.14	< 1	< 3
QUL-2	QUL-2	2014 08 06	17.6	< 0.1	0.11	5.34	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	0.62	< 30	< 0.05	< 0.5	1,910	1.4	< 0.05	0.302	< 0.5	473	< 0.5	1,590	< 0.01	822	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-2	2014 08 09	21.4	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.67	< 30	< 0.05	0.61	1,900	1.93	< 0.05	0.303	< 0.5	484	< 0.5	1,560	< 0.01	829	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-2	2014 08 11	17.5	< 0.1	0.16	5.36	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.72	< 30	< 0.05	0.63	1,880	1.23	< 0.05	0.317	< 0.5	496	< 0.5	1,530	< 0.01	849	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-2-0M	2014 08 16	18.9	< 0.1	0.14	5.52	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.58	< 30	< 0.05	0.51	1,870	1.45	-	0.315	< 0.5	477	< 0.5	1,560	< 0.01	836	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-2-10M	2014 08 16	21	< 0.1	0.11	5.31	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.65	< 30	< 0.05	0.52	1,840	1.07	-	0.268	< 0.5	467	< 0.5	1,520	< 0.01	810	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-2-30M	2014 08 16	128	< 0.1	0.15	7.32	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	1.8	97	< 0.05	< 0.5	2,120	7.03	-	0.358	< 0.5	522	< 0.5	1,660	< 0.01	887	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-2-47M	2014 08 21	2,810	0.17	1.2	61.6	< 0.1	< 0.5	< 10	0.02	21,100	1.69	1.26	51.7	1,900	1.03	2.25	3,160	109	-	3.02	1.9	1,740	< 0.5	7,730	0.023	3,290	0.012	0.15	113	0.826	5.4	7.3
	QUL-2-0M	2014 08 25	16.8	< 0.1	0.11	5.42	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.67	< 30	< 0.05	< 0.5	1,920	1.15	-	0.308	< 0.5	477	< 0.5	1,560	< 0.01	837	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-2X-0M	2014 08 25	16	< 0.1	0.13	5.36	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.63	< 30	< 0.05	< 0.5	1,880	1.06	-	0.293	< 0.5	465	< 0.5	1,520	< 0.01	831	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QA/QC RPD %		5	7	7	3	7	7	4	7	4	7	7	5	7	5	7	2	5	7	5	5	3	7	5	7	3	7	7	4	5	7	7
	QUL-2-8M	2014 08 25	18.2	< 0.1	0.11	5.18	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.61	< 30	< 0.05	< 0.5	1,940	1.16	-	0.292	< 0.5	496	< 0.5	1,570	< 0.01	874	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-2-40M	2014 08 25	1,060	< 0.1	0.55	28	< 0.1	< 0.5	< 10	< 0.01	19,400	0.65	0.42	27	830	0.384	1.1	2,420	43.1	< 0.05	1.56	0.85	686	< 0.5	4,070	< 0.01	1,710	< 0.01	< 0.1	43	0.309	2.1	< 3
	QUL-2-0M	2014 08 27	13.2	< 0.1	0.11	5.21	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.53	1,930	0.881	< 0.01	0.291	< 0.5	484	< 0.5	1,510	< 0.01	845	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL-2-15M	2014 08 27	128	< 0.1	0.17	6.68	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	0.11	3.18	180	0.081	0.83	2,010	5.62	< 0.01	0.308	< 0.5	487	< 0.5	1,790	< 0.01	879	< 0.01	< 0.1	11	0.155	< 1	< 3
	QUL-2-40M	2014 08 27	2,440	0.17	1.11	63.9	< 0.1	< 0.5	< 10	0.016	21,200	1.16	0.87	47.1	1,250	0.826	1.55	2,930	84.7	< 0.01	3.52	1.24	1,870	< 0.5	7,580	0.017	2,950	0.011	< 0.1	92	0.506	4.4	4.6
	QUL-2-0M	2014 08 29	16.3	< 0.1	0.15	5.25	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.63	< 30	< 0.05	< 0.5	1,920	1.23	< 0.01	0.272	< 0.5	470	< 0.5	1,500	< 0.01	838	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-2-37M	2014 08 29	558	< 0.1	0.35	18.9	< 0.1	< 0.5	< 10	0.012	18,000	< 0.5	0.23	10.6	390	0.187	0.78	2,310	22.1	< 0.01	0.871	0.61	742	< 0.5	3,010	< 0.01	1,300	< 0.01	< 0.1	23	0.224	1.2	< 3

Associated ALS files: L1495519, L1495703, L1495798, L1495793, L1495703, L1495707, L1495710, L1495826, L1495947, L1505812, L1505908, L1505916, L1505940, L1507564, L1507570, L1507588, L1503057, L1503061, L1507575, L1503910, L1503918, L1507528, L1503933, L1503934, L1504180, L1504213, L1504230, L1504251, L1504261, L1504667, L1505818, L1505551, L1505577, L1506586, L1507164, L1507370, L1506585, L1506606, L1507001, L1507251, L1507259, L1506589, L1507359, L1507347, L1507548, L1507572, L1507577, L1508037, L1508673, L1509547, L1508949, L1509547, L1510231, L1510248, L1510269, L1510741, L1510746, L1511190, L1511225, L1511232

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection level out of range.

[b] British Columbia Approved Water Quality Guidelines 2001 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006

[d] Guideline varies with pH, and/or other Temperature or Hardness

[e] Health Canada Guideline, 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a threshold of total phosphorus and is based on spring overturn or on average of summer variables and is not applicable to single sample results or the level or less.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Necessary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters										Microbiological Tests		Total Inorganics														
			Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (µg/L)	Nitrate Nitrogen (µg/L)	Nitrite Nitrogen (µg/L)	Nitrate+Nitrite Nitrogen (µg/L)	Chloride (mg/L)	Fluoride (µg/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus[9] (mg/L)
BC Guidelines																													
BCWQG Aquatic Life (AW)[1,2]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 5	n/a	n/a	Change of 25	n/a +20% of median background	n/a	n/a	n/a	n/a	5,680-15,400[3]	32,800	60 (CI+2)	32,800[3]	600	666.2-1,224.3[4]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[1,2,5]			n/a	n/a	n/a	Change of 2	n/a	n/a		Change of 5		n/a	n/a	n/a	n/a	1,090-3,770[3]	3,000	20 (CI+2)	3,000[3]	150	n/a	128-309[4]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[2]			n/a	6.5-8.5	6.5-8.5	n/a[7]	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000[3]	250	1,000	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[6]			n/a	6.5-8.5	6.5-8.5	n/a[7]	n/a[7]	n/a	500	n/a	n/a	n/a[7]	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUL-3	QUL-3	2014 08 06	47.6	8.08	7.96	20.8	0.34	93.8	57	< 3	2.32	-	-	-	0.17	< 5	46.6	< 1	-	< 0.5	33	5.57	44.1	-	< 0.001	< 0.002*
	QUL-3	2014 08 09	48.3	7.94	7.89	18.7	0.4	95.6	67	< 3	2.27	-	-	-	0.13	< 5	53.4	< 1	-	< 0.5	34	5.52	42.8	-	< 0.001	< 0.002*
	QUL-3	2014 08 10	48.2	7.94	7.94	21.7	0.32	95.8	58	< 3	2.38	-	-	-	0.121	< 5	53.7	1.1	-	< 0.5	36	5.55	44.4	-	< 0.001	< 0.002*
	QUL-3X	2014 08 10	48.7	7.94	7.94	21.7	0.37	98	60	< 3	2.19	-	-	-	0.12	< 5	54.4	< 1	-	< 0.5	35	5.56	44.8	-	< 0.001	< 0.002*
	QA/QC RPD %		1	0	0	0	-	< 1	13	-	6	-	-	-	-	< 1	1	< 1	-	< 1	1	< 1	1	-	< 1	< 1	-
	QUL-3	2014 08 11	48	7.80	7.91	20.5	0.54	97.2	66	< 3	2.15	-	-	-	0.136	< 5	51.1	< 1	-	< 0.5	33	5.61	43.3	-	< 0.001	0.0033
	QUL-3	2014 08 12	47.4	8.02	7.97	21.0	0.28	95.3	67	< 3	1.9	-	-	-	0.126	< 5	45.7	< 1	-	< 0.5	36	5.65	44	-	0.0012	< 0.002*
	QUL-3	2014 08 13	47.2	-	7.99	20.8	0.25	97.8	60	< 3	2.16	-	-	-	0.132	< 5	44.1	< 1	-	< 0.5	33	5.63	44.7	-	< 0.001	< 0.002*
	QUL-3	2014 08 14	49	8.05	7.95	21.6	0.21	98.5	68	< 3	2	-	-	-	0.114	< 5	46.8	< 1	-	< 0.5	35	5.68	44.1	-	< 0.001	< 0.002*
	QUL-3	2014 08 15	48.6	8.07	7.98	21.2	0.32	96.9	62	< 3	1.8	-	-	-	0.105	< 5	45.4	< 1	-	< 0.5	35	5.66	44.2	-	< 0.001	0.0027
	QUL-3	2014 08 16	47.9	8.08	7.98	20.1	0.33	95.3	65	< 3	2.15	-	-	-	0.109	< 5	43.4	< 1	-	< 0.5	36	5.62	51.4	-	< 0.001	< 0.002*
	QUL-3X	2014 08 16	48.3	8.08	7.98	20.1	0.41	95.1	59	< 3	1.92	-	-	-	0.117	< 5	43.8	< 1	-	< 0.5	37	5.63	43.8	-	< 0.001	< 0.002*
	QA/QC RPD %		1	0	1	0	-	< 1	10	-	10	-	-	-	-	< 1	1	< 1	-	< 1	2	< 1	1	-	< 1	18	-
	QUL-3	2014 08 17	48.3	7.94	7.96	20.6	0.3	96.7	60	< 3	2.36	-	-	-	0.125	< 5	42.2	< 1	-	< 0.5	34	5.64	43.9	-	< 0.001	< 0.002*
	QUL-3	2014 08 18	48.7	7.82	7.94	19.7	0.28	96.6	75	< 3	1.94	-	-	-	0.115	< 5	44.6	< 1	-	< 0.5	32	5.56	44	-	< 0.001	< 0.002*
	QUL-3	2014 08 22	49.6	-	7.94	19.1	0.34	96.6	71	< 3	2.06	-	-	-	0.138	< 5	48.2	< 1	-	< 0.5	34	5.69	44.1	-	< 0.001	< 0.002*
	QUL-3-37M	2014 08 22	89.7	-	8.02	19.0	75.1	150	115	9.5	1.83	-	-	-	0.371	45.3	225	1.3	-	0.56	66	16.5	58.9	-	0.0089	0.0084
QUL-4	QUL-4	2014 08 06	48.6	8.03	7.95	21.4	0.81	94.9	61	< 3	2.17	-	-	-	0.146	< 5	43.4	< 1	-	< 0.5	33	5.62	43.9	-	< 0.001	< 0.002*
QUL-5	QUL-5	2014 08 06	48.1	8.01	7.94	21.1	0.76	95.9	57	< 3	2.16	-	-	-	0.237	< 5	43.8	< 1	-	< 0.5	33	5.68	43.6	-	< 0.001	< 0.002*
QUL-6	QUL-6	2014 08 06	48	8.05	7.99	21.3	0.83	95.8	57	< 3	2.23	-	-	-	0.168	< 5	44	< 1	-	< 0.5	33	5.78	44	-	< 0.001	< 0.002*
QUL-7	QUL-7	2014 08 06	48	7.91	7.92	21.2	0.83	95	50	< 3	2.19	-	-	-	0.178	< 5	40.8	< 1	-	< 0.5	34	5.62	44.1	-	< 0.001	< 0.002*
QUL-8	QUL-8	2014 08 06	47.6	7.96	7.9	21.0	1.4	95.8	60	< 3	2.21	-	-	-	0.149	< 5	38.4	1.8	-	< 0.5	34	5.67	44.5	-	< 0.001	< 0.002*
QUL-9	QUL-9	2014 08 06	48.3	8.01	7.93	21.5	1.14	94.6	58	< 3	2.15	-	-	-	0.15	< 5	42.4	1.1	-	< 0.5	34	5.62	44.2	-	< 0.001	< 0.002*
	QUL-9	2014 08 09	49	7.84	7.84	18.8	0.79	98.7	70	< 3	2.42	-	-	-	0.141	< 5	57.6	< 1	-	< 0.5	35	5.81	43.5	-	< 0.001	< 0.002*
	QUL-9	2014 08 10	49.2	7.81	7.94	20.7	0.56	96.5	68	< 3	2.33	-	-	-	0.13	< 5	54.4	< 1	-	< 0.5	35	5.82	45.4	-	< 0.001	< 0.002*
	QUL-9	2014 08 12	47.1	7.96	7.96	20.6	0.32	96	64	< 3	1.99	-	-	-	0.151	< 5	48.2	< 1	-	< 0.5	35	5.66	44.5	-	0.0011	< 0.002*
	QUL-9	2014 08 13	47.7	-	7.98	20.5	0.65	99.9	61	< 3	2.69	-	-	-	0.115	< 5	12.8	1.1	-	< 0.5	34	5.8	45.1	-	< 0.001	< 0.002*
	QUL-9X	2014 08 13	48.1	-	7.92	-	0.54	98.7	60	< 3	2.68	-	-	-	0.125	< 5	11.9	1.2	-	< 0.5	33	5.59	44.9	-	< 0.001	< 0.002*
	QA/QC RPD %		< 1	-	< 1	-	18	< 1	2	-	1	-	-	-	-	< 1	1	< 1	-	< 1	1	< 1	1	-	< 1	< 1	-
	QUL-9	2014 08 14	49	8.02	7.95	20.4	0.25	97.7	67	< 3	2.15	-	-	-	0.128	< 5	41.9	< 1	-	< 0.5	36	5.65	43.8	-	< 0.001	0.0026
	QUL-9	2014 08 15	49.2	-	7.92	-	0.74	96.6	68	< 3	1.97	-	-	-	0.102	< 5	27.6	1.2	-	< 0.5	36	5.64	43.6	-	0.0012	0.0023
	QUL-9	2014 08 16	49.3	8.07	7.96	20.4	0.31	95.6	60	< 3	2	-	-	-	0.116	< 5	42.9	< 1	-	< 0.5	38	5.64	43.4	-	< 0.001	< 0.002*
	QUL-9	2014 08 17	48.4	7.82	7.94	21.2	0.36	96.7	62	< 3	2.5	-	-	-	0.136	< 5	36.7	< 1	-	< 0.5	34	5.63	43.6	-	< 0.001	< 0.002*
	QUL-9	2014 08 19	47.7	7.84	7.92	20.0	0.24	96.7	68	< 3	2.17	-	-	-	0.111	< 5	42.6	< 1	-	< 0.5	37	5.54	44.2	-	< 0.001	< 0.002*
	QUL-9X	2014 08 19	49	7.84	7.85	20.0	0.24	95.8	65	< 3	2.03	-	-	-	0.113	< 5	42	< 1	-	< 0.5	37	5.55	43.7	-	0.0026	< 0.002*
	QA/QC RPD %		3	1	1	0	-	< 1	5	-	5	-	-	-	-	< 1	1	< 1	-	< 1	1	< 1	1	-	< 1	< 1	-
	QUL9	2014 08 22	50.3	7.74	7.88	19.6	1.73	98.3	69	< 3	2.3	-	-	-	0.138	< 5	42.4	< 1	-	< 0.5	34	5.76	44.9	-	< 0.001	0.0025
QUL-10	QUL-10	2014 08 06	47.7	8.08	7.95	21.4	0.41	94.9	60	< 3	2.1	-	-	-	0.186	< 5	45	< 1	-	< 0.5	33	5.58	44.2	-	< 0.001	< 0.002*
QUL-11	QUL-11-0M	2014 08 07	49.2	-	7.76	-	2.43	95.4	74	3.8	2.5	-	-	-	0.122	< 5	35	< 1	-	< 0.5	36	5.79	44.7	-	< 0.001	< 0.002*
	QUL-11-5M	2014 08 07	48.1	-	7.93	-	0.65	93	71	< 3	2.08	-	-	-	0.135	< 5	88.7	< 1	-	< 0.5	34	5.52	44.4	-	< 0.001	< 0.002*
	QUL-11-5MX	2014 08 07	48.5	-	7.95	-	0.58	93.4	73	< 3	2.12	-	-	-	0.137	< 5	58	< 1	-	< 0.5	34	5.51	44.7	-	< 0.001	< 0.002*
	QA/QC RPD %		1	-	< 1	-	38	< 1	7	-	2	-	-	-	-	< 1	2	< 1	-	< 1	1	< 1	1	-	< 1	< 1	-
	QUL-11-10M	2014 08 07	50.8	-	7.9	-	1.3	98.9	76	< 3	2.02	-	-	-	0.171	< 5	112	< 1	-	< 0.5	35	5.76	46.7	-	< 0.001	< 0.002*
	QUL-11-15M	2014 08 07	53.4	-	7.91	-	0.59	103	84	< 3	1.85	-	-	-	0.181	< 5	138	< 1	-	< 0.5	36	6.05	48.6	-	< 0.001	< 0.002*
	QUL-11-20M	2014 08 07	53.7	-	7.91	-	0.9	105	75	< 3	1.78	-	-	-	0.166	< 5	141	< 1	-	< 0.5	36	6.06	48.1	-	< 0.001	< 0.002*
	QUL-11-24M	2014 08 07	53.8	-	7.91	-	0.98	105	76	< 3	1.84	-	-	-	0.191	< 5	140	< 1	-	< 0.5	36	6.14	49.5	-	< 0.001	< 0.002*

Associated ALS Ref. L1495519, L1495195, L1495203, L1497923, L1497937, L1497710, L1499026, L1499347, L1500519, L1501691, L1501518, L1502349, L1502364, L1502370, L1502388, L1503057, L1503061, L1503075, L1503910, L1503913, L1503923, L1503932, L1503933, L1503934, L1504189, L1504213, L1504229, L1504251, L1504261, L1504597, L1505918, L1505951, L1505971, L1506577, L1506585, L1506184, L1506210, L1506349, L1506996, L1507101, L1507291, L1507299, L1506902, L1507254, L1507347, L1507643, L1507872, L1507977, L1508637, L1508672, L1508907, L1508942, L1508997, L1510231, L1510248, L1510262, L1510741, L1510746, L1511190, L1511229, L1511232.

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit not at ng/L.

[2] British Columbia Approved Water Quality Guidelines 2006 edition, updated 2014.

[3] A Compendium of Working Water Quality Guidelines for Britsh Columbia, updated August 2006.

[4] Guideline varies with pH, and/or either Temperature or Hardness.

[5] Health Canada Drinking Water Guidelines 2012.

[6] Guideline for Nitrate applied.

[7] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results of this point in time.

[8] Calculated based on an individual sample basis, not average of 30 day results.

[9] Secondary chronic or criteria value, not 30 day mean.

[10] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																																
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																			
BCWQG Aquatic Life (AW)[a,c]			100[d]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[a,c]			50[d]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[a,b]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[a]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-3	QUL-3	2014 08 06	10.6	15.9	< 30	1.9	0.606	0.5	1.1	< 0.1	< 0.1	5.38	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.54	< 0.05	0.421	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
	QUL-3	2014 08 09	10.6	16.2	< 30	1.88	0.598	0.473	0.831	< 0.1	< 0.1	5.38	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.67	-	0.339	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUL-3	2014 08 10	10.9	16.2	< 30	1.86	0.639	0.463	0.85	< 0.1	0.11	5.24	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	< 0.5	-	0.291	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-3X	2014 08 10	11	16.4	< 30	1.88	0.667	0.478	0.847	< 0.1	0.11	5.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	< 0.5	-	0.291	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QA/QC RPD %		4	1	0	1	4	1	1	0	0	2	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	4	1	0
	QUL-3	2014 08 11	11.6	16.1	< 30	1.88	0.734	0.498	0.857	< 0.1	< 0.1	5.39	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.02	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.121	< 1	< 3
	QUL-3	2014 08 12	10.6	15.9	< 30	1.9	0.568	0.477	0.876	< 0.1	0.12	5.56	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.68	-	0.341	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-3	2014 08 13	10	15.6	< 30	1.86	0.18	0.458	0.836	< 0.1	0.11	5.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.04	-	0.324	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-3	2014 08 14	11	15.5	< 30	1.88	0.516	0.457	0.798	< 0.1	0.1	5.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.64	-	0.274	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-3	2014 08 15	10.2	15.4	< 30	1.87	0.482	0.462	0.8	< 0.1	< 0.1	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.301	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-3	2014 08 16	10.7	15.1	< 30	1.85	0.466	0.475	0.815	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-3X	2014 08 16	10.8	15.2	< 30	1.88	0.509	0.475	0.821	< 0.1	0.12	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.7	-	0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QA/QC RPD %		1	1	0	1	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	5	0	0	0	0	0	4	1	0
	QUL-3	2014 08 17	10.8	15.2	< 30	1.91	0.556	0.466	0.825	< 0.1	< 0.1	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.66	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-3	2014 08 18	10.7	15.4	< 30	1.89	0.308	0.472	0.833	< 0.1	< 0.1	5.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.276	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-3	2014 08 22	10.4	15.6	< 30	1.93	0.6	0.467	0.822	< 0.1	0.1	5.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.74	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-3-S7M	2014 08 22	14.9	23.6	< 30	2.62	61.1	0.971	3.25	0.24	0.7	17.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.9	< 0.05	1.05	-	5.04	< 0.5	0.55	< 0.01	< 0.01	< 10	0.907	< 1	< 3
QUL-4	QUL-4	2014 08 06	10.3	15.3	< 30	1.94	1.43	0.504	1.09	< 0.1	0.11	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.68	< 0.05	< 0.5	< 0.05	0.494	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
QUL-5	QUL-5	2014 08 06	11.8	16.1	< 30	1.92	1.5	0.532	1.09	< 0.1	0.1	5.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.66	< 0.05	< 0.5	< 0.05	0.365	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
QUL-6	QUL-6	2014 08 06	11.3	16.1	< 30	1.91	1.31	0.517	1.06	< 0.1	0.1	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.67	< 0.05	< 0.5	< 0.05	0.407	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
QUL-7	QUL-7	2014 08 06	10.9	16.1	< 30	1.92	1.79	0.508	1.09	< 0.1	0.11	5.6	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.67	< 0.05	0.55	< 0.05	0.389	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
QUL-8	QUL-8	2014 08 06	11.3	16	< 30	1.92	2.29	0.524	1.1	< 0.1	0.11	5.64	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.81	< 0.05	< 0.5	< 0.05	0.358	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
QUL-9	QUL-9	2014 08 06	11.8	16.2	< 30	1.92	2.43	0.525	1.07	< 0.1	0.12	5.71	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.84	< 0.05	0.52	< 0.05	0.347	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.126	< 1	< 3
	QUL-9	2014 08 09	10.1	16.5	< 30	1.89	1.2	0.478	0.808	< 0.1	< 0.1	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.59	-	0.302	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-9	2014 08 10	10.8	16.6	< 30	1.86	1.53	0.491	0.835	< 0.1	0.11	5.44	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.54	< 0.05	0.52	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-9	2014 08 12	10.5	15.8	< 30	1.85	0.406	0.468	0.83	< 0.1	< 0.1	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.73	-	0.308	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-9	2014 08 13	9.4	15	< 30	1.88	3.09	0.544	0.846	< 0.1	0.12	5.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	1.06	-	0.313	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.122	< 1	< 3
	QUL-9X	2014 08 13	9.5	15.1	< 30	1.91	3.59	0.57	0.864	< 0.1	0.1	5.34	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.67	< 0.05	1.07	-	0.314	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.123	< 1	< 3
	QA/QC RPD %		1	1	0	2	23	5	2	0	0	2	0	0	0	0	0	0	1	1	0	4	0	0	0	0	0	4	1	0
	QUL-9	2014 08 14	10.4	16.5	< 30	1.91	1.16	0.471	0.821	< 0.1	0.11	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.301	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QUL-9	2014 08 15	10.2	16.6	< 30	1.9	2.92	0.511	0.85	< 0.1	0.12	5.12	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	< 0.5	-	0.322	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-9	2014 08 16	10.1	16.2	< 30	1.88	0.489	0.484	0.799	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.69	-	0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-9	2014 08 17	8.8	16.2	< 30	1.91	2.31	0.474	0.8	< 0.1	0.13	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.59	-	0.297	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-9	2014 08 19	10.2	16	< 30	1.87	0.465	0.469	0.815	< 0.1	0.11	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.65	-	0.295	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-9X	2014 08 19	9.8	15.5	< 30	1.9	0.432	0.442	0.766	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.258	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QA/QC RPD %		1	1	0	2	3	1	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4	1	0
	QUL9	2014 08 22	11	15.9	< 30	1.94	0.958	0.481	0.843	< 0.1	0.1	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.65	< 0.05	0.87	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
QUL-10	QUL-10	2014 08 06	11.4	16	< 30	1.91	0.913	0.506	1.06	< 0.1	0.1	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.69	< 0.05	< 0.5	< 0.05	0.328	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
QUL-11	QUL-11-6M	2014 08 07	9.8	16.5	< 30	1.95	4.34	0.558	0.975	< 0.1	0.13	5.44	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.88	< 0.05	< 0.5	-	0.412	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-11-5M	2014 08 07	9.6	16.1	< 30	1.89	0.239	0.455	0.859	< 0.1	< 0.1	5.24	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	< 0.5	-	0.291	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-11-5MX	2014 08 07	9.6	16.3	< 30	1.9	0.279	0.455	0.913	< 0.1	0.11	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.76	< 0.05	< 0.5	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QA/QC RPD %		1	1	0	1	1	0	8	0	0	1	0	0	0	0	0	0	1	1	0	4	0	0	0	0	0	3	1	0
	QUL-11-15M	2014 08 07	7.4	17.1	< 30	1.99	0.602	0.47	0.965	< 0.1	0.12	5.39	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.56	-	0.278	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-11-15M	2014 08 07	8.3	18	< 30	2.07	0.214	0.497	0.988	< 0.1	< 0.1	5.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.68	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-11-20M	2014 08 07	6.2	18.1	< 30	2.08	0.71	0.48	0.984	< 0.1	< 0.1	5.17	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.264	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-11-24M	2014 08 07	5.1	18.1	< 30	2.08	1.18	0.488	1.03	< 0.1	< 0.1	5.31	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.87	-	0.283	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.156	< 1	< 3

Associated ALS files: L1486519, L1486535, L1486160, L1486200, L1486703, L1486707, L1486710, L1486998, L1486997, L1503610, L1501801, L1501818, L1502349, L1502304, L1502378, L1502389, L1503057, L1503061, L1503070, L1503010, L1503013, L1503026, L1503032, L1503033, L1503034, L1504180, L1504213, L1504220, L1504251, L1504201, L1504597, L1505819, L1505851, L1505671, L1506677, L1506586, L1502014, L1502370, L1508696, L1508686, L1507001, L1507265, L1507266, L1506582, L1507259, L1507347, L1507648, L1507672, L1507677, L1508637, L1508673, L1508507, L1508648, L1508587, L1510235, L1510298, L1510308, L1508743, L1510748, L1511186, L1511235, L1511237.
All terms defined within the body of SNC-Lavalin's report (available upon request).
< Denotes concentration less than indicated detection limit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline

[a] Laboratory detection limit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, Updated 2014.
[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2008
[d] Guideline varies with pH, under either Temperature or Hardness.
[e] Health Canada Drinking Water Guidelines, 2012.
[f] Guideline for Nitrate applies.
[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn of an average of summer samples and is not applicable to single sample results at one point in time.
[h] Calculated based on an individual sample basis, not average of 30 day results.
[i] Recovery exceeds QC control limits, not 30 day mean.
[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals: Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[1,2]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.029[3]	n/a	1 (Cr(+6))	110	6.0-9.2[4]	1,000	27.3-57.7[4]	870	n/a	1,000.6-1,378[4]	Methyl mercury analysis in progress	2,000	25-65[3]	373,000-422,000	2	n/a	0.1[4]	n/a	0.3	n/a	2,000	300	6	33[4]
BCWQG Aquatic Life (30day) (AW)[1,2,5]			n/a	n/a	n/a	1,000	5.3[4]	n/l	n/a	n/a	n/a	n/a	4	2-3[4]	n/a	4.4-5.8[4]	14[4]	n/a	781.1-940[4]		1,000	n/a	n/a	n/a	n/a	0.25[4]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[4]
BCWQG Drinking Water (DW)[1,2]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	800	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[3]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-2	QUL-3	2014 08 08	18.8	< 0.1	0.12	5.47	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.7	< 30	< 0.05	< 0.5	1,940	1.47	< 0.05	0.327	< 0.5	489	< 0.5	1,820	< 0.01	835	< 0.01	< 0.1	< 10	0.13	< 1	< 3
	QUL-3	2014 08 09	23.7	< 0.1	0.13	5.83	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.74	< 30	< 0.05	0.69	1,910	1.49	< 0.05	0.322	< 0.5	486	< 0.5	1,590	< 0.01	863	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-3	2014 08 10	16.3	< 0.1	0.13	5.62	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.58	< 30	< 0.05	< 0.5	1,910	1.16	< 0.05	0.303	< 0.5	484	< 0.5	1,800	< 0.01	873	< 0.01	< 0.1	< 10	0.13	< 1	< 3
	QUL-3X	2014 08 10	14.4	< 0.1	0.13	5.24	< 0.1	< 0.5	< 10	< 0.01	15,600	< 0.5	< 0.1	0.58	< 30	< 0.05	< 0.5	1,830	1.08	< 0.05	0.304	< 0.5	474	< 0.5	1,530	< 0.01	856	< 0.01	< 0.1	< 10	0.13	< 1	< 3
	QUL-3	2014 08 11	17.1	< 0.1	0.13	5.39	< 0.1	< 0.5	< 10	< 0.01	15,700	< 0.5	< 0.1	0.57	< 30	< 0.05	0.62	1,870	1.41	< 0.05	0.322	< 0.5	484	< 0.5	1,540	< 0.01	838	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-3	2014 08 12	14.4	< 0.1	0.13	5.57	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.57	< 30	< 0.05	0.79	1,900	1.53	< 0.05	0.352	< 0.5	479	< 0.5	1,640	< 0.01	878	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-3	2014 08 13	13.8	< 0.1	0.14	5.63	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.53	< 30	< 0.05	0.69	1,950	1.31	< 0.05	0.341	< 0.5	478	< 0.5	1,620	< 0.01	887	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-3	2014 08 14	14.4	< 0.1	0.11	5.24	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.57	< 30	< 0.05	0.66	1,870	1.02	-	0.304	< 0.5	481	< 0.5	1,540	< 0.01	855	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-3	2014 08 15	15	< 0.1	0.12	5.14	< 0.1	< 0.5	< 10	< 0.01	16,400	0.74	< 0.1	0.58	< 30	< 0.05	< 0.5	1,880	1.1	-	0.98	< 0.5	481	< 0.5	1,560	< 0.01	813	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-3	2014 08 16	18	< 0.1	0.14	5.42	< 0.1	< 0.5	< 10	0.011	16,200	< 0.5	< 0.1	0.6	< 30	< 0.05	< 0.5	1,870	1.33	-	0.294	< 0.5	486	< 0.5	1,540	< 0.01	815	0.013	< 0.1	< 10	0.126	< 1	< 3
	QUL-3X	2014 08 16	18.2	< 0.1	0.12	5.51	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	0.6	< 30	< 0.05	< 0.5	1,880	1.44	-	0.321	< 0.5	485	< 0.5	1,530	< 0.01	842	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-3	2014 08 17	20.3	< 0.1	0.12	5.36	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	< 1	< 30	< 0.05	0.76	1,880	1.43	-	0.305	< 0.5	487	< 0.5	1,530	< 0.01	856	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-3	2014 08 19	15.2	< 0.1	0.13	5.46	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.55	< 30	< 0.05	0.82	1,940	1.2	-	0.309	< 0.5	485	< 0.5	1,570	< 0.01	851	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-3	2014 08 22	28.2	< 0.1	0.11	5.52	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.02	< 30	< 0.05	0.72	1,940	1.56	-	0.324	< 0.5	488	< 0.5	1,570	< 0.01	838	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-3-37M	2014 08 22	2,830	0.3	1.84	94.6	< 0.1	< 0.5	< 10	0.021	24,100	5.69	1.54	11.4	2,830	1.34	2.79	3,670	182	-	8.35	2.01	2,560	0.04	19,100	0.032	3,840	0.014	0.12	166	0.726	27.4	7.8
QUL-4	QUL-4	2014 08 08	47.2	< 0.1	0.13	6.03	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	1.25	45	< 0.05	< 0.5	1,960	3.05	< 0.05	0.332	< 0.5	503	< 0.5	1,660	< 0.01	829	< 0.01	< 0.1	< 10	0.133	< 1	< 3
QUL-5	QUL-5	2014 08 08	48.4	< 0.1	0.11	5.96	< 0.1	< 0.5	< 10	< 0.01	15,700	< 0.5	< 0.1	1.5	44	< 0.05	< 0.5	1,820	2.82	< 0.05	0.332	< 0.5	462	< 0.5	1,660	< 0.01	840	< 0.01	< 0.1	< 10	0.129	< 1	< 3
QUL-6	QUL-6	2014 08 08	53.9	< 0.1	0.13	6.22	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	1.83	48	< 0.05	< 0.5	1,870	2.94	< 0.05	0.337	< 0.5	507	< 0.5	1,710	< 0.01	886	< 0.01	< 0.1	< 10	0.132	< 1	< 3
QUL-7	QUL-7	2014 08 08	57.1	< 0.1	0.13	6.13	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	1.72	42	< 0.05	0.53	1,870	3.31	< 0.05	0.332	< 0.5	522	< 0.5	1,700	< 0.01	869	< 0.01	< 0.1	< 10	0.132	< 1	< 3
QUL-8	QUL-8	2014 08 08	101	< 0.1	0.15	7.04	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	2.78	62	< 0.05	< 0.5	2,000	4.79	< 0.05	0.364	< 0.5	557	< 0.5	1,820	< 0.01	887	< 0.01	< 0.1	< 10	0.138	< 1	< 3
QUL-9	QUL-9	2014 08 08	93.8	< 0.1	0.15	6.48	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	2.35	80	< 0.05	0.59	1,980	4.9	< 0.05	0.333	< 0.5	534	< 0.5	1,770	< 0.01	883	< 0.01	< 0.1	< 10	0.135	< 1	< 3
	QUL-9	2014 08 08	31.4	< 0.1	0.13	5.75	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	1.09	< 30	< 0.05	0.63	1,910	2.56	< 0.05	0.33	< 0.5	498	< 0.5	1,600	< 0.01	841	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-9	2014 08 10	22.7	< 0.1	0.12	5.35	< 0.1	< 0.5	< 10	< 0.01	15,600	< 0.5	< 0.1	0.78	< 30	< 0.05	< 0.5	1,760	1.84	< 0.05	0.31	< 0.5	491	< 0.5	1,530	< 0.01	891	< 0.01	< 0.1	< 10	0.132	< 1	< 3
	QUL-9	2014 08 12	17.2	< 0.1	0.13	5.28	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.73	< 30	< 0.05	0.77	1,900	1.81	< 0.05	0.323	< 0.5	488	< 0.5	1,600	< 0.01	849	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-9	2014 08 13	20.8	< 0.1	0.16	6.28	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.93	30	< 0.05	0.76	1,990	5.69	< 0.05	0.325	< 0.5	580	< 0.5	1,640	< 0.01	941	< 0.01	< 0.1	< 10	0.13	< 1	< 3
	QUL-9X	2014 08 13	38.9	< 0.1	0.15	6.52	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.1	36	< 0.05	0.85	1,980	6.04	< 0.05	0.332	< 0.5	578	< 0.5	1,680	< 0.01	880	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QUL-9	2014 08 14	17.1	< 0.1	0.12	5.52	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.7	< 30	< 0.05	0.62	1,910	2.2	-	0.33	< 0.5	488	< 0.5	1,620	< 0.01	844	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-9	2014 08 15	43.1	< 0.1	0.17	6.35	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.81	44	< 0.05	< 0.5	1,940	4.36	-	0.339	< 0.5	536	< 0.5	1,700	< 0.01	882	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-9	2014 08 16	15.8	< 0.1	0.13	5.48	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.6	< 30	< 0.05	< 0.5	1,900	1.34	-	0.321	< 0.5	487	< 0.5	1,580	< 0.01	814	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-9	2014 08 17	18.1	< 0.1	0.14	5.69	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	< 3*	< 30	0.065	0.69	1,930	2.59	-	0.32	< 0.5	496	< 0.5	1,590	< 0.01	843	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-9	2014 08 19	14	< 0.1	0.12	4.96	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.65	< 30	< 0.05	0.59	1,830	1.06	-	0.304	< 0.5	449	< 0.5	1,560	< 0.01	793	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-9X	2014 08 19	15.2	< 0.1	0.12	5.35	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.54	< 30	< 0.05	0.8	1,930	1.14	-	0.305	< 0.5	478	< 0.5	1,570	< 0.01	801	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-9	2014 08 22	78.5	< 0.1	0.15	7.13	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	3.17	75	< 0.05	0.77	1,940	5.01	-	0.33	< 0.5	523	< 0.5	1,660	< 0.01	872	< 0.01	< 0.1	< 10	0.145	< 1	< 3
QUL-10	QUL-10	2014 08 08	36.8	< 0.1	0.13	5.44	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.73	< 30	< 0.05	< 0.5	1,940	1.79	< 0.05	0.326	< 0.5	501	< 0.5	1,650	< 0.01	895	< 0.01	< 0.1	< 10	0.136	< 1	< 3
QUL-11	QUL-11-0M	2014 08 07	142	< 0.1	0.21	8.11	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	0.1	4.91	111	0.057	< 0.5	2,000	7.75	< 0.05	0.398	0.59	561	< 0.5	1,840	< 0.01	912	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QUL-11-5M	2014 08 07	30.0	< 0.1	0.14	5.44	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.84	< 30	< 0.05	< 0.5	1,930	1.46	< 0.05	0.291	< 0.5	477	< 0.5	1,590	< 0.01	824	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-11-5MX	2014 08 07	28.2	< 0.1	0.14	5.56	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	1.23	< 30	< 0.05	< 0.5	1,910	1.52	< 0.05	0.284	< 0.5	475	< 0.5	1,580	< 0.01	818	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-11-10M	2014 08 07	70.5	< 0.1	0.15	6.37	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	1.96	73	< 0.05	< 0.5	2,050	3.49	< 0.05	0.298	< 0.5	503	< 0.5	1,810	< 0.01	886	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-11-15M	2014 08 07	38	< 0.1	0.12	5.28	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.86	< 30	< 0.05	0.59	2,040	1.4	< 0.05	0.298	< 0.5	471	< 0.5	1,680	< 0.01	895	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-11-20M	2014 08 07	49	< 0.1	0.15	5.77	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	1.29	52	< 0.05	0.68	2,110	2.48	< 0.05	0.281	< 0.5	499	< 0.5	1,780	< 0.01	926	< 0.01	< 0.1	< 10	0.161	< 1	< 3
	QUL-11-24M	2014 08 07	58.9	< 0.1	0.14	6.13	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	1.39	62	< 0.05	0.72	2,140	3.3	< 0.05	0.302	< 0.5	501	< 0.5	1,830	< 0.01	935	< 0.01	< 0.1	< 10	0.157	< 1	< 3

Anomalous ALS IDs: L1498618, L1498633, L1498168, L1498393, L1498703, L1498707, L1498710, L1498826, L1498847, L1500810, L1501824, L1502164, L1502370, L1502386, L1503067, L1503081, L1503078, L1503810, L1503813, L1503838, L1503832, L1503833, L1503834, L1503840, L1504013, L1504226, L1504581, L1504582, L1504607, L1505018, L1505551, L1505571, L1505677, L1505684, L1505764, L1505770, L1505898, L1506084, L1507001, L1507291, L1507299, L1507309, L1507348, L1507572, L1508562, L1508573, L1508607, L1508648, L1508597, L1510231, L1510288, L1510468, L1510741, L1510746, L1511180, L1511226, L1511232.

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Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

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TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters									Microbiological Tests		Total Inorganics													
			Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (µg/L)	Nitrate Nitrogen (µg/L)	Nitrite Nitrogen (µg/L)	Nitrate+Nitrite Nitrogen (µg/L)	Chloride (mg/L)	Fluoride (µg/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus[5] (mg/L)
SC Guidelines																											
BCWQG Aquatic Life (AW)[1,2]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 5	n/a	n/a	Change of 25	n/a	n/a	n/a	n/a	n/a	5,600-18,400[4]	32,800	60 (Cl<2)	32,800[7]	600	998.2-1,224.3[4]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[1,2]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	n/a	n/a	1,050-1,770[4]	3,000	20 (Cl<2)	3,000[7]	150	n/a	124-309[4]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[2,3]			n/a	6.5-8.5	6.5-8.5	n/a	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000[7]	250	1,000	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[6]			n/a	6.5-8.5	6.5-8.5	n/a	n/a	n/a	500	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUL-12	QUL-12-0M	2014 08 07	49.6	-	7.99	-	13.1	97.9	73	13.6	2.53	-	-	-	0.199	< 5	38.7	< 1	-	< 0.5	36	5.86	45.9	-	< 0.001	< 0.002[8]
	QUL-12-5M	2014 08 07	48.6	-	7.97	-	0.47	94.8	68	< 3	2	-	-	-	0.135	< 5	71.2	< 1	-	< 0.5	35	5.51	44.3	-	< 0.001	< 0.002[8]
	QUL-12-10M	2014 08 07	50.7	-	7.91	-	1.06	99.7	77	< 3	2	-	-	-	0.164	< 5	112	< 1	-	< 0.5	35	5.77	47	-	< 0.001	< 0.002[8]
	QUL-12-15M	2014 08 07	52.7	-	7.92	-	1.09	104	74	< 3	1.88	-	-	-	0.181	< 5	139	< 1	-	< 0.5	37	6.04	48.7	-	< 0.001	< 0.002[8]
	QUL-12-20M	2014 08 07	53.5	-	7.91	-	0.7	105	74	< 3	1.95	-	-	-	0.18	< 5	140	< 1	-	< 0.5	36	6.07	49	-	< 0.001	< 0.002[8]
QUL-13	QUL-13-0M	2014 08 07	47.9	-	7.94	-	3.01	94.6	69	3.2	2.21	-	-	-	0.113	< 5	54.8	< 1	-	< 0.5	35	5.55	44.8	-	< 0.001	< 0.002[8]
	QUL-13-5M	2014 08 07	48.2	-	7.95	-	0.49	94.5	66	< 3	2.08	-	-	-	0.178	< 5	72.8	< 1	-	< 0.5	34	5.5	44.5	-	< 0.001	< 0.002[8]
	QUL-13-10M	2014 08 07	48.8	-	7.93	-	0.67	99.2	70	< 3	1.04	-	-	-	0.164	< 5	111	< 1	-	< 0.5	35	5.72	48.3	-	< 0.001	< 0.002[8]
	QUL-13-15M	2014 08 07	52.0	-	7.92	-	1.16	104	75	< 3	1.84	-	-	-	0.174	< 5	136	< 1	-	< 0.5	36	6.02	48.3	-	< 0.001	< 0.002[8]
	QUL-13-20M	2014 08 07	50.2	-	7.94	-	0.81	106	68	< 3	1.79	-	-	-	0.189	< 5	141	< 1	-	< 0.5	36	6.08	49.2	-	< 0.001	< 0.002[8]
QUL-14	QUL-14-0M	2014 08 07	48.6	-	7.97	-	7.45	98.8	68	9.4	2.69	> 2,420	236	-	0.124	< 5	27.5	< 1	-	< 0.5	36	5.84	45.7	-	< 0.001	< 0.002[8]
	QUL-14-3M	2014 08 07	47.9	-	7.94	-	1.25	95.9	66	< 3	2.05	-	-	-	0.137	< 5	95.5	< 1	-	< 0.5	34	5.56	44.5	-	< 0.001	< 0.002[8]
QUL-15	QUL-15-0M	2014 08 07	48.8	-	7.91	-	2.26	97.5	69	< 3	2.58	> 2,420	461	-	0.127	< 5	34.8	< 1	-	< 0.5	35	5.78	52.2	-	< 0.001	< 0.002[8]
	QUL-15-4.5M	2014 08 07	48.1	-	7.92	-	1.15	95.6	67	< 3	2.1	-	-	-	0.131	< 5	70	< 1	-	< 0.5	34	5.54	50	-	< 0.001	< 0.002[8]
QUL-16	QUL-16-0M	2014 08 07	48.3	-	7.93	-	0.97	95	64	< 3	2.21	-	-	-	0.144	< 5	58.7	< 1	-	< 0.5	34	5.53	44.3	-	< 0.001	< 0.002[8]
	QUL-16-4.5M	2014 08 07	48	-	7.96	-	0.5	95.3	61	< 3	2.07	-	-	-	0.13	< 5	68	< 1	-	< 0.5	33	5.5	44.3	-	< 0.001	< 0.002[8]
QUL-17	QUL-17	2014 08 08	48.7	8.01	7.97	17.3	1.31	96.5	60	< 3	2.45	46	2	-	0.122	< 5	65.1	< 1	-	< 0.5	34	5.51	44.2	-	< 0.001	< 0.002[8]
	QUL-17	2014 08 09	48.6	7.86	7.88	18.2	0.44	96.3	68	< 3	2.31	-	-	-	0.135	< 5	63	< 1	-	< 0.5	34	5.49	42.9	-	< 0.001	< 0.002[8]
	QUL-17	2014 08 11	48	7.97	7.91	20.2	0.41	97.5	64	< 3	2.36	-	-	-	0.133	< 5	52.4	< 1	-	< 0.5	34	5.66	43.3	-	< 0.001	0.0014
	QUL-17	2014 08 12	47	8.01	7.97	20.8	0.44	95.6	64	< 3	1.91	-	-	-	0.139	< 5	49.5	< 1	-	< 0.5	36	5.65	44	-	0.0013	< 0.002[8]
	QUL-17	2014 08 13	47.5	-	7.99	20.8	0.39	97.8	58	< 3	2.15	-	-	-	0.12	< 5	42.7	< 1	-	< 0.5	33	5.63	44.6	-	< 0.001	< 0.002[8]
	QUL-17	2014 08 14	49.4	7.95	7.95	20.9	0.29	97.5	65	< 3	2.11	-	-	-	0.107	< 5	43	< 1	-	< 0.5	36	5.63	44.2	-	< 0.001	0.0014
	QUL-17X	2014 08 14	48.5	7.95	7.95	20.9	0.28	97.8	66	< 3	2.15	-	-	-	0.111	< 5	43	< 1	-	< 0.5	38	5.65	44.3	-	< 0.001	< 0.002[8]
	QA/QC RPD %		< 1	0	< 1	0	< 1	< 1	< 1	-	< 1	-	-	-	< 1	-	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1
	QUL-17	2014 08 15	48.4	8.13	7.98	21.0	0.25	96.2	66	< 3	1.92	-	-	-	0.103	< 5	41.1	< 1	-	< 0.5	36	5.63	43.7	-	< 0.001	< 0.002[8]
	QUL-17	2014 08 16	48.6	8.12	7.96	20.8	0.52	95.6	66	< 3	2.04	-	-	-	0.117	< 5	46	< 1	-	< 0.5	38	5.62	42.5	-	< 0.001	< 0.002[8]
	QUL-17	2014 08 17	47.9	7.78	7.97	21.1	0.36	96.5	62	< 3	2.32	-	-	-	0.122	< 5	40.6	< 1	-	< 0.5	34	5.64	43.6	-	< 0.001	< 0.002[8]
QUL-18	QUL-18-0M	2014 08 08	48.6	8.03	7.95	18.9	0.38	95.4	64	< 3	2.07	27	1	-	0.129	< 5	68.9	< 1	-	< 0.5	34	5.5	44	-	< 0.001	< 0.002[8]
	QUL-18-8M	2014 08 08	50.7	7.92	7.97	8.9	0.58	98.9	68	< 3	1.92	-	-	-	0.163	< 5	99.3	< 1	-	< 0.5	35	5.86	46.1	-	< 0.001	< 0.002[8]
	QUL-18-30M	2014 08 08	54.6	7.65	7.95	4.5	0.96	107	69	< 3	1.89	-	-	-	0.185	< 5	143	< 1	-	< 0.5	36	6.11	49.3	-	< 0.001	< 0.002[8]
	QUL-18-0M	2014 08 09	48.6	7.93	7.81	16.5	0.64	94.4	66	< 3	2.03	-	-	-	0.143	< 5	64.4	< 1	-	< 0.5	35	5.53	42.8	-	< 0.001	< 0.002[8]
	QUL-18-8M	2014 08 09	49.6	7.85	7.97	11.8	0.37	97.1	73	< 3	2.01	-	-	-	0.158	< 5	97.7	< 1	-	< 0.5	34	5.6	43.8	-	< 0.001	< 0.002[8]
	QUL-18-30M	2014 08 09	54.9	7.59	7.87	4.5	3.4	108	75	< 3	1.91	-	-	-	0.180	< 5	136	< 1	-	< 0.5	37	6.15	48	-	< 0.001	< 0.002[8]
	QUL-18	2014 08 10	48.6	7.77	7.91	20.5	0.36	96.2	63	< 3	2.25	-	-	-	0.136	< 5	56.3	< 1	-	< 0.5	34	5.59	45	-	< 0.001	< 0.002[8]
	QUL-18	2014 08 11	47.8	7.73	7.91	20.3	0.38	97.7	67	< 3	2.22	-	-	-	0.203	< 5	53.6	< 1	-	< 0.5	34	5.63	44.3	-	< 0.001	0.0022
	QUL-18	2014 08 12	47.4	7.92	7.94	21.0	0.51	95.5	64	< 3	1.96	-	-	-	0.126	< 5	51.1	< 1	-	< 0.5	36	5.67	44.1	-	< 0.001	0.002
	QUL-18-0M	2014 08 13	47.2	-	7.98	20.3	0.34	98.2	67	< 3	2.1	-	-	-	0.12	< 5	44.8	< 1	-	< 0.5	33	5.63	44.7	-	< 0.001	< 0.002[8]
	QUL-18-10M	2014 08 13	50.2	-	7.97	10.1	0.27	103	70	< 3	1.85	-	-	-	0.173	< 5	111	< 1	-	< 0.5	34	5.85	46.2	-	0.001	< 0.002[8]
	QUL-18-30M	2014 08 13	52.3	-	7.97	-	0.49	109	69	< 3	1.91	-	-	-	0.186	< 5	139	< 1	-	< 0.5	35	6.21	48.9	-	< 0.001	< 0.002[8]
	QUL-18	2014 08 14	49.2	8.04	7.97	21.2	0.22	97.9	67	< 3	1.98	-	-	-	0.105	< 5	45	< 1	-	< 0.5	35	5.65	44.1	-	< 0.001	< 0.002[8]
	QUL-18	2014 08 15	48.9	8.09	7.93	21.0	0.28	94.7	66	< 3	1.89	-	-	-	0.102	< 5	42.1	< 1	-	< 0.5	36	5.62	43.3	-	< 0.001	0.0025
	QUL-18-0M	2014 08 16	48.3	8.08	7.95	20.4	0.62	94.7	64	< 3	2.02	-	-	-	0.108	< 5	41	< 1	-	< 0.5	36	5.6	43.9	-	< 0.001	< 0.002[8]
	QUL-18-10M	2014 08 16	50	7.82	7.94	13.9	1.4	97.4	64	< 3	2.06	-	-	-	0.136	< 5	87.9	< 1	-	< 0.5	36	5.82	44.6	-	< 0.001	< 0.002[8]
	QUL-18-30M	2014 08 16	54.6	7.60	7.91	4.7	3.17	106	66	< 3	1.7	-	-	-	0.173	< 5	149	< 1	-	< 0.5	38	6.37	49.1	-	< 0.001	< 0.002[8]
	QUL-18	2014 08 19	48.8	7.80	7.93	20.0	0.35	96.5	63	< 3	2.07	-	-	-	0.112	< 5	40.3	< 1	-	< 0.5	32	5.54	43.6	-	< 0.001	< 0.002[8]
	QUL-18	2014 08 26	50.6	7.79	8	18.5	0.45	97.8	74	< 3	2.2	-	-	-	0.143	< 5	50.7	< 1	-	< 0.5	35	5.75	44.8	-	< 0.001	< 0.002[8]
	QUL-18X	2014 08 26	50.9	7.79	7.99	18.5	0.36	97.4	78	< 3	2.11	-	-	-	0.12	< 5	50.9	< 1	-	< 0.5	35	5.78	42.1	-	< 0.001	< 0.002[8]
	QA/QC RPD %		< 1	0	< 1	0	< 1	< 1	< 1	-	< 1	-	-	-	< 1	-	< 1	< 1	-	< 1	< 1	< 1	0	< 1	-	< 1	< 1

Associated ALS Nos. L1498519, L1498583, L1498156, L1498203, L1498753, L1499737, L1499716, L1499925, L1499947, L1500619, L1501501, L1501616, L1502348, L1502364, L1502370, L1502388, L1502387, L1502661, L1503079, L1503910, L1503913, L1503926, L1503932, L1503933, L1503934, L1504190, L1504313, L1504228, L1504251, L1504291, L1504297, L1505918, L1506051, L1506571, L1506577, L1506588, L1506164, L1502370, L1506986, L1501001, L1507251, L1507258, L1507269, L1507347, L1507348, L1507972, L1507977, L1508037, L1508073, L1508307, L1508449, L1508597, L1510231, L1510266, L1510289, L1510746, L1510746, L1511190, L1511226, L1511232.

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[10] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals: Aluminum (µg/L)	Calcium (mg/L)	Iron (µg/L)	Magnesium (mg/L)	Manganese (µg/L)	Potassium (mg/L)	Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																														
BCWQG Aquatic Life (AW)[a,b]			100[c]	n/a	300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[a,b]			50[d]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[e]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[f]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-12	QUL-12-0M	2014 08 07	12.4	16.7	< 30	1.54	0.46	0.656	1.02	< 0.1	0.13	7.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.7	< 0.05	0.74	-	0.413	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-12-5M	2014 08 07	10.2	16.3	< 30	1.9	0.124	0.453	0.912	< 0.1	< 0.1	3.15	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.81	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-12-10M	2014 08 07	8	17.1	< 30	1.58	0.456	0.456	0.927	< 0.1	0.1	5.44	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.84	-	0.274	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-12-15M	2014 08 07	8.7	17.8	< 30	2.04	0.822	0.466	1.03	< 0.1	0.11	5.34	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.72	-	0.275	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-12-20M	2014 08 07	5.5	18	< 30	2.05	0.498	0.471	0.997	< 0.1	< 0.1	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.266	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3
QUL-13	QUL-13-0M	2014 08 07	11	16.1	< 30	1.88	2.03	0.49	1	< 0.1	0.11	5.04	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.79	< 0.05	0.8	-	0.32	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-13-5M	2014 08 07	10.4	16.2	< 30	1.87	0.156	0.481	0.994	< 0.1	< 0.1	5.21	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.81	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-13-10M	2014 08 07	8.2	16.7	< 30	1.95	0.275	0.469	0.953	< 0.1	0.11	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.80	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-13-15M	2014 08 07	6.1	17.7	< 30	2.03	0.257	0.47	0.966	< 0.1	0.1	5.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.87	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-13-20M	2014 08 07	6.1	16.9	< 30	1.95	0.342	0.479	1	< 0.1	< 0.1	5.11	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.8	-	0.268	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
QUL-14	QUL-14-0M	2014 08 07	11.1	16.3	< 30	1.82	6.63	0.578	0.981	< 0.1	0.14	6.89	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.39	< 0.05	0.66	-	0.365	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	QUL-14-5M	2014 08 07	12.3	16.1	< 30	1.87	0.934	0.478	0.937	< 0.1	< 0.1	5.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.59	< 0.05	0.80	-	0.296	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
QUL-15	QUL-15-0M	2014 08 07	26.8	16.4	< 30	1.85	6.24	0.59	1	< 0.1	0.3	6.62	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.33	< 0.05	0.76	-	0.374	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-15-4.5M	2014 08 07	10.3	16.2	< 30	1.89	0.405	0.47	0.901	< 0.1	0.1	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.61	< 0.05	0.75	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
QUL-16	QUL-16-0M	2014 08 07	11.1	16.2	< 30	1.9	2.18	0.506	0.92	< 0.1	0.13	5.71	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	0.8	-	0.315	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-16-4.5M	2014 08 07	10.4	16.1	< 30	1.89	0.864	0.49	0.919	< 0.1	0.13	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.78	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
QUL-17	QUL-17	2014 08 08	12.2	16.4	< 30	1.91	0.754	0.484	0.838	< 0.1	0.1	5.49	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.66	< 0.05	0.55	-	0.279	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUL-17	2014 08 09	9.9	16.4	< 30	1.88	0.656	0.483	0.839	< 0.1	< 0.1	5.35	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.58	-	0.296	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-17	2014 08 11	11	16.1	< 30	1.89	1.78	0.503	0.847	< 0.1	0.12	5.46	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.04	-	0.286	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-17	2014 08 12	10	15.8	< 30	1.83	0.222	0.466	0.85	< 0.1	< 0.1	5.41	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.77	-	0.311	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-17	2014 08 13	9.4	15.9	< 30	1.9	0.284	0.471	0.833	< 0.1	0.1	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.89	-	0.352	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-17	2014 08 14	12.6	16.6	< 30	1.93	0.543	0.475	0.815	< 0.1	0.1	5.38	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.83	-	0.286	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-17X	2014 08 14	10	16.3	< 30	1.86	0.602	0.481	0.829	< 0.1	0.12	5.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.84	-	0.296	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
	QA/QC RPD %		1	2	3	5	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	QUL-17	2014 08 15	9.6	16.3	< 30	1.88	0.574	0.473	0.835	< 0.1	0.12	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.301	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUL-17	2014 08 16	10.3	16.3	< 30	1.89	0.464	0.469	0.787	< 0.1	0.1	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.64	-	0.267	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-17	2014 08 17	10	16.1	< 30	1.88	0.694	0.47	0.82	< 0.1	0.1	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.50	-	0.292	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
QUL-18	QUL-18-0M	2014 08 08	10.9	16.3	< 30	1.91	0.294	0.468	0.824	< 0.1	0.11	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.57	-	0.301	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QUL-18-5M	2014 08 08	11.1	17	< 30	1.97	0.188	0.46	0.856	< 0.1	< 0.1	5.32	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.62	-	0.282	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-18-30M	2014 08 08	5.8	18.4	< 30	2.11	1.73	0.462	0.911	< 0.1	0.1	5.25	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.265	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-18-0M	2014 08 08	10.3	16.4	< 30	1.89	0.959	0.474	0.839	< 0.1	< 0.1	5.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	< 0.5	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-18-5M	2014 08 09	9.4	16.8	< 30	1.9	0.149	0.468	0.833	< 0.1	< 0.1	5.02	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.281	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-18-30M	2014 08 09	5.6	18.4	< 30	2.08	0.64	0.468	0.825	< 0.1	0.11	5.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.62	< 0.05	0.64	-	0.297	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-18	2014 08 10	11.4	16.4	< 30	1.89	1.18	0.493	0.854	< 0.1	0.1	5.53	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.54	< 0.05	0.54	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-18	2014 08 11	12.5	16.1	< 30	1.86	1.07	0.485	0.829	< 0.1	0.11	5.38	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.03	-	0.286	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-18	2014 08 12	10.1	16	< 30	1.84	0.438	0.464	0.827	< 0.1	0.1	5.22	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.76	-	0.3	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-18-0M	2014 08 13	9.2	15.6	< 30	1.87	0.224	0.463	0.834	< 0.1	0.1	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.87	-	0.315	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-18-5M	2014 08 13	10.5	17	< 30	1.91	0.094	0.449	0.834	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.98	-	0.257	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-18-30M	2014 08 13	5.8	17.7	< 30	2	0.639	0.496	0.922	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.62	< 0.05	0.87	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-15	2014 08 14	10	16.6	< 30	1.9	0.493	0.459	0.808	< 0.1	< 0.1	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.68	-	0.291	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-15	2014 08 15	10.1	16.5	< 30	1.9	0.508	0.469	0.826	< 0.1	0.11	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.306	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-15-0M	2014 08 16	10.2	16.2	< 30	1.89	0.584	0.473	0.808	< 0.1	0.11	6.53	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.62	-	0.306	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-15-10M	2014 08 16	10.5	16.9	< 30	1.87	0.544	0.479	0.83	< 0.1	< 0.1	6.38	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	0.62	-	0.252	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-15-30M	2014 08 16	6.1	18.5	< 30	2.06	4.41	0.497	0.986	< 0.1	0.12	8.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.07	< 0.05	0.59	-	0.338	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.169	< 1	< 3
	QUL-18	2014 08 19	9.1	16.3	< 30	1.9	0.466	0.415	0.74	< 0.1	< 0.1	4.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.64	-	0.267	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.122	< 1	< 3
	QUL-18	2014 08 20	8.8	17.1	< 30	1.93	0.625	0.431	0.764	< 0.1	< 0.1	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.65	< 0.05	0.62	-	0.271	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
	QUL-18X	2014 08 20	9.7	17.2	< 30	1.95	0.673	0.45	0.799	< 0.1	0.1	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.71	< 0.05	0.55	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QA/QC RPD %		1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Associated ALS files: L1499519, L1499533, L1499106, L1499203, L1499703, L1499707, L1499710, L1499926, L1499937, L1500610, L1501501, L1501516, L1502349, L1502364, L1502370, L1502381, L1503079, L1503910, L1503913, L1503928, L1503932, L1503933, L1503934, L1504169, L1504213, L1504230, L1504261, L1504281, L1504297, L1506218, L1506651, L1506671, L1506677, L1506686, L1507010, L1507370, L1506660, L1506206, L1507101, L1507221, L1507296, L1506903, L1507269, L1507347, L1507648, L1507072, L1507977, L1508037, L1508073, L1508507, L1508649, L1508657, L1510231, L1510248, L1510286, L1510741, L1510748, L1511196, L1511225, L1511232.

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are the normally calculated values one or more concentrations are less than five times MDL.

EXCEED Concentration greater than BCWQG Aquatic Life (AW) guideline.

EXCEED Concentration greater than BCWQG Drinking Water (DW) guideline.

EXCEED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

EXCEED Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia. Updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Metals applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at one point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals																														
			Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,b]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.036[c]	n/a	1 (Cr(+6))	110	6.0-8.2[d]	1,000	27.3-67.7[e]	870	n/a	1,000.6-1,378[f]	Metal mercury analysis in progress	2,000	25-69[g]	373,000-432,000	2	n/a	0.1[h]	n/a	0.3	n/a	2,000	300	6	33[g]
BCWQG Aquatic Life (30day) (AW)[a,b,i]			n/a	n/a	n/a	1,000	5.3[j]	n/a	n/a	n/a	n/a	n/a	4	3-5[d]	n/a	4.4-5.8[d]	14[j]	n/a	781.1-940[f]		1,000	n/a	n/a	n/a	n/a	0.03[k]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[k]
BCWQG Drinking Water (DW)[a]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	500	n/a	50	n/a	n/a	n/a	1	230	n/a	n/a	n/a	10	n/a	n/a	n/a	3	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[a]			100	d	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-12	QUL-12-0M	2014 08 07	783	< 0.1	0.41	17.7	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	0.56	1.03	595	0.234	1.23	2,360	33.4	< 0.05	0.483	0.77	842	< 0.5	3,320	< 0.01	1,110	< 0.01	< 0.1	38	0.163	2	3.8
	QUL-12-5M	2014 08 07	23.3	< 0.1	0.13	8.48	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.8	< 30	< 0.05	0.61	1,990	1.27	< 0.05	0.281	< 0.5	473	< 0.5	1,660	< 0.01	654	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-12-10M	2014 08 07	98.2	< 0.1	0.16	8.13	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1.44	66	< 0.05	0.71	2,020	2.63	< 0.05	0.267	< 0.5	498	< 0.5	1,700	< 0.01	680	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUL-12-15M	2014 08 07	56.1	< 0.1	0.14	5.85	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	1.57	30	< 0.05	0.93	2,100	2.29	< 0.05	0.286	< 0.5	501	< 0.5	1,800	< 0.01	803	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-12-20M	2014 08 07	43.2	< 0.1	0.14	5.81	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	1.31	43	< 0.05	0.98	2,120	2.08	< 0.05	0.275	< 0.5	492	< 0.5	1,800	< 0.01	921	< 0.01	< 0.1	< 10	0.159	< 1	< 3
QUL-13	QUL-13-0M	2014 08 07	164	< 0.1	0.19	7.74	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	0.31	4.34	125	0.056	0.73	1,890	5.88	< 0.05	0.338	< 0.5	544	< 0.5	1,880	< 0.01	572	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-13-5M	2014 08 07	22.4	< 0.1	0.12	5.42	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.71	< 30	< 0.05	0.99	1,970	1.16	< 0.05	0.277	< 0.5	495	< 0.5	1,850	< 0.01	803	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-13-10M	2014 08 07	30.2	< 0.1	0.13	5.62	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	1.09	37	< 0.05	0.9	1,930	1.77	< 0.05	0.266	< 0.5	473	< 0.5	1,850	< 0.01	839	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL-13-15M	2014 08 07	69.2	< 0.1	0.14	6.1	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.84	58	< 0.05	0.97	2,060	2.5	< 0.05	0.278	< 0.5	482	< 0.5	1,780	< 0.01	884	< 0.01	< 0.1	< 10	0.18	< 1	< 3
	QUL-13-20M	2014 08 07	30.2	< 0.1	0.12	5.43	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.04	36	< 0.05	0.59	2,070	1.81	< 0.05	0.278	< 0.5	486	< 0.5	1,780	< 0.01	939	< 0.01	< 0.1	< 10	0.156	< 1	< 3
QUL-14	QUL-14-0M	2014 08 07	449	< 0.1	0.3	12.6	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	0.31	11.4	348	0.134	0.8	2,160	16.2	< 0.05	0.42	0.87	717	< 0.5	2,520	< 0.01	993	< 0.01	< 0.1	23	0.148	1.2	< 3
	QUL-14-3M	2014 08 07	85.8	< 0.1	0.13	5.89	< 0.1	< 0.5	< 10	< 0.01	19,800	< 0.5	< 0.1	1.72	46	< 0.05	0.95	1,850	2.78	< 0.05	0.295	< 0.5	488	< 0.5	1,800	< 0.01	814	< 0.01	< 0.1	< 10	0.137	< 1	< 3
QUL-15	QUL-15-0M	2014 08 07	132	< 0.1	0.18	8.57	< 0.1	< 0.5	< 10	< 0.01	19,000	< 0.5	< 0.1	3.17	106	< 0.05	0.8	1,980	9.05	< 0.05	0.373	< 0.5	620	< 0.5	1,900	< 0.01	991	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-15-4.5M	2014 08 07	54.3	< 0.1	0.14	5.87	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	1.34	53	< 0.05	0.89	1,910	2.21	< 0.05	0.303	< 0.5	483	< 0.5	1,840	< 0.01	812	< 0.01	< 0.1	< 10	0.143	< 1	< 3
QUL-16	QUL-16-0M	2014 08 07	47.3	< 0.1	0.15	6.18	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	1.84	41	0.07	0.57	1,930	3.31	< 0.05	0.323	< 0.5	508	< 0.5	1,840	< 0.01	998	< 0.01	0.16	< 10	0.128	< 1	3.2
	QUL-16-4.5M	2014 08 07	30.2	< 0.1	0.14	5.71	< 0.1	< 0.5	< 10	< 0.01	19,400	< 0.5	< 0.1	0.98	< 30	< 0.05	0.67	1,840	1.86	< 0.05	0.293	< 0.5	497	< 0.5	1,570	< 0.01	826	< 0.01	< 0.1	< 10	0.137	< 1	< 3
QUL-17	QUL-17	2014 08 08	60.5	< 0.1	0.15	8.6	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	1.24	73	< 0.05	0.85	1,870	3.18	< 0.05	0.291	< 0.5	511	< 0.5	1,760	< 0.01	876	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-17	2014 08 08	23.8	< 0.1	0.12	5.52	< 0.1	< 0.5	< 10	< 0.01	19,400	< 0.5	< 0.1	0.8	< 30	< 0.05	0.63	1,910	1.36	< 0.05	0.286	< 0.5	492	< 0.5	1,880	< 0.01	835	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-17	2014 08 11	22.7	< 0.1	0.13	5.55	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	0.8	< 30	< 0.05	0.9	1,880	2.15	< 0.05	0.302	< 0.5	515	< 0.5	1,540	< 0.01	848	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-17	2014 08 12	15.8	< 0.1	0.12	5.48	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	0.6	< 30	< 0.05	0.86	1,910	1.37	< 0.05	0.325	< 0.5	472	< 0.5	1,600	< 0.01	859	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-17	2014 08 13	13.9	< 0.1	0.13	5.32	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	0.64	< 30	< 0.05	0.72	1,870	1.65	< 0.05	0.32	< 0.5	452	< 0.5	1,500	< 0.01	824	< 0.01	< 0.1	< 10	0.127	< 1	< 3
	QUL-17	2014 08 14	17.1	< 0.1	0.12	5.47	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	0.61	< 30	< 0.05	0.62	1,929	1.74	-	0.323	< 0.5	491	< 0.5	1,630	< 0.01	873	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-17X	2014 08 14	16.1	< 0.1	0.13	5.53	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.68	< 30	< 0.05	0.62	1,900	1.78	-	0.323	< 0.5	491	< 0.5	1,610	< 0.01	880	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-17 MPD																																
	QUL-17	2014 08 15	19.6	< 0.1	0.12	5.75	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.7	< 30	< 0.05	< 0.5	1,860	1.5	-	0.335	< 0.5	476	< 0.5	1,880	< 0.01	941	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-17	2014 08 16	17.4	< 0.1	0.13	5.43	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.69	< 30	< 0.05	< 0.5	1,880	1.27	-	0.278	< 0.5	466	< 0.5	1,540	< 0.01	826	< 0.01	< 0.1	< 10	0.128	< 1	< 3
	QUL-17	2014 08 17	19.9	< 0.1	0.14	5.43	< 0.1	< 0.5	< 10	< 0.01	18,700	< 0.5	< 0.1	< 1	< 30	< 0.05	0.7	1,880	1.64	-	0.308	< 0.5	480	< 0.5	1,520	< 0.01	848	< 0.01	< 0.1	< 10	0.144	< 1	< 3
QUL-18	QUL-18-0M	2014 08 08	34.2	< 0.1	0.13	5.39	< 0.1	< 0.5	< 10	< 0.01	15,800	< 0.5	< 0.1	0.88	< 30	< 0.05	0.62	1,900	1.17	< 0.05	0.288	< 0.5	469	< 0.5	1,560	< 0.01	829	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-18-5M	2014 08 08	28.3	< 0.1	0.13	5.47	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.94	< 30	< 0.05	0.56	1,930	1.36	< 0.05	0.278	< 0.5	484	< 0.5	1,530	< 0.01	847	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-18-30M	2014 08 08	57.9	< 0.1	0.13	5.98	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	1.42	57	< 0.05	0.98	2,110	3.61	< 0.05	0.295	< 0.5	491	< 0.5	1,830	< 0.01	843	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-18-0M	2014 08 09	30.1	< 0.1	0.13	5.84	< 0.1	< 0.5	< 10	< 0.01	19,000	< 0.5	< 0.1	1.1	< 30	< 0.05	< 0.5	1,880	1.81	< 0.05	0.307	< 0.5	475	< 0.5	1,800	< 0.01	830	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-18-5M	2014 08 09	18.7	< 0.1	0.11	5.11	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	0.63	< 30	< 0.05	0.51	1,860	1.02	< 0.05	0.274	< 0.5	465	< 0.5	1,880	< 0.01	811	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-18-30M	2014 08 09	255	< 0.1	0.19	8.54	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	0.13	5.39	183	0.06	0.67	2,160	13.7	< 0.05	0.293	< 0.5	541	< 0.5	2,170	< 0.01	958	< 0.01	< 0.1	12	0.157	< 1	< 3
	QUL-18	2014 08 10	24	< 0.1	0.12	5.65	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.81	< 30	< 0.05	< 0.5	1,800	1.28	< 0.05	0.302	< 0.5	500	< 0.5	1,620	< 0.01	868	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-18	2014 08 11	23.3	< 0.1	0.13	5.55	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.78	< 30	< 0.05	0.84	1,860	1.74	< 0.05	0.319	< 0.5	494	< 0.5	1,540	< 0.01	840	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-18	2014 08 12	17.9	< 0.1	0.11	5.26	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.74	< 30	< 0.05	0.89	1,880	1.83	< 0.05	0.227	< 0.5	480	< 0.5	1,570	< 0.01	836	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-18-0M	2014 08 13	13.7	< 0.1	0.12	5.47	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	0.6	< 30	< 0.05	0.77	1,890	1.52	< 0.05	0.335	< 0.5	483	< 0.5	1,660	< 0.01	843	< 0.01	< 0.1	< 10	0.135	< 1	< 3
	QUL-18-15M	2014 08 13	13.8	< 0.1	0.11	4.99	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	0.55	< 30	< 0.05	0.81	1,820	0.982	< 0.05	0.25	< 0.5	448	< 0.5	1,570	< 0.01	838	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-18-30M	2014 08 13	28.5	< 0.1	0.13	5.54	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.92	< 30	< 0.05	0.96	2,030	1.85	< 0.05	0.297	< 0.5	487	< 0.5	1,720	< 0.01	833	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-18	2014 08 14	16.8	< 0.1	0.11	5.23	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	0.56	< 30	< 0.05	0.63	1,890	1.04	-	0.307	< 0.5	473	< 0.5	1,500	< 0.01	823	< 0.01	< 0.1	< 10	0.135	< 1	< 3
	QUL-18	2014 08 15	18.7	< 0.1	0.15	5.43	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	0.56	< 30	< 0.05	< 0.5	1,850	1.28	-	0.347	< 0.5	498	< 0.5	1,900	< 0.01	829	< 0.01	< 0.1	< 10	0.133	< 1	< 3
	QUL-18-0M	2014 08 16	18.6	< 0.1	0.12	5.5	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.74	< 30	< 0.05	< 0.5	1,900	1.66	-	0.34	< 0.5	495	< 0.5	1,670	< 0.01	839	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-18-10M	2014 08 16	68.7	< 0.1	0.12	6	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	2.14	48	< 0.05	< 0.5	1,860	2.5	-	0.291	< 0.5	464	< 0.5	1,800	< 0.01	865	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL-18-30M	2014 08 16	171	0.11	0.16	8.08	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	0.11	5.13	148	0.087	< 0.5	2,150	9.05	-	0.358	< 0.5	534	< 0.5	2,040	< 0.01	877	< 0.01	< 0.1	11	0.161	< 1	< 3
	QUL-18	2014 08 19	16.3	< 0.1	0.13	5.53	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	0.64	< 30	< 0.05	1.05	1,820	1.29	-	0.323	< 0.5	498	< 0.5	1,570	< 0.01	849	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-18	2014 08 26	20.4	< 0.1	0.12	5.49	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	1.24	< 30	< 0.05	0.5	1,900	1.62	< 0.01	0.325	< 0.5	458	< 0.5	1,540	< 0.01	812	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-18X	2014 08 26	28.5	< 0.1	0.12	5.58	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	1.23	< 30	< 0.05	< 0.5	1,940	1.74	< 0.01	0.357	< 0.5	484	< 0.5	1,580	< 0.01	827	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-18 MPD																																

Associated ALS files: L1464418, L1465533, L1466165, L1466204, L1466702, L1466707, L1466710, L1466830, L1466947, L1468016, L1470105, L1470516, L1502248, L1502364, L1502370, L1502668, L1503057, L1503091, L1503279, L1503910, L1503913, L1504758, L1504922, L1504933, L1505434, L1505468, L1506213, L1506220, L1504091, L1504301, L1504907, L1505218, L1505514, L1505671, L1505977, L1506086, L1506494, L1507250, L1506599, L1506598, L1507081, L1507291, L1507288, L1507359, L1507347, L1507966, L1507972, L1507977, L1508427, L1508573, L1508597, L1508649, L1509397, L1510201, L1510268, L1510268, L1510741, L1510748, L1511105, L1511123, L1511273.

All terms defined within the body of SNC-Lavalin report (available upon request).

< Denotes concentration less than indicated detection limit or MDL less than reported value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or other Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

[k] Calculated based on an individual sample basis, not average of 30 day results.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters									Microbiological Tests		Total Inorganics													
			Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (µg/L)	Nitrate Nitrogen (µg/L)	Nitrite Nitrogen (µg/L)	Nitrate+Nitrite Nitrogen (µg/L)	Chloride (mg/L)	Fluoride (µg/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus[a] (mg/L)
BC Guidelines																											
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 0	n/a	n/a	Change of 25	n/a	n/a	n/a	n/a	n/a	5,600-16,400[d]	32,800	60 (Cl<2)	32,800[f]	600	998.2-1,224.3[g]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[b,c]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5	n/a	n/a	n/a	n/a	n/a	1,050-1,770[d]	3,000	20 (Cl<2)	3,000[f]	150	n/a	128-309[g]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[b,c]			n/a	6.5-8.5	6.5-8.5	n/a[e]	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,000	500	n/a	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[c]			n/a	6.5-8.5	6.5-8.5	n/a[e]	n/a	n/a	500	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a	n/a
QUL-18	QUL-18	2014 08 26	49.7	7.94	7.95	17.3	0.66	96.2	68	< 3	1.81	-	-	-	0.151	< 5	55.3	< 1	-	< 0.5	34	5.8	44.5	-	< 0.001	< 0.002[h]
	QUL-18	2014 08 27	49.6	7.95	7.99	18.7	0.32	98.4	69	< 3	2.11	-	-	-	0.122	< 5	46.2	< 1	-	< 0.5	34	5.75	44.6	-	< 0.001	0.0021
	QUL-18	2014 08 28	49	8.15	7.94	18.5	0.31	97.1	72	< 3	2.28	-	-	-	0.133	< 5	45.2	< 1	-	< 0.5	35	5.76	45.1	-	< 0.001	< 0.002[h]
	QUL-18	2014 08 30	49.6	-	7.95	-	0.66	97.8	55	< 3	2.11	-	-	-	0.2	5.4	98	< 1	-	< 0.5	43	5.81	44.5	-	< 0.001	< 0.002[h]
QUL-19	QUL-19	2014 08 08	48.4	8.10	7.98	18.7	0.37	95.3	61	< 3	2.08	230	1	-	0.122	< 5	48.6	< 1	-	< 0.5	34	5.51	43.8	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 09	48.5	7.93	7.9	17.9	0.34	95.5	67	< 3	2.25	-	-	-	0.126	< 5	57.1	< 1	-	< 0.5	35	5.5	42.6	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 10	48.2	7.87	7.93	20.7	0.42	95.7	65	< 3	2.3	-	-	-	0.128	< 5	43.4	< 1	-	< 0.5	35	5.63	45.3	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 11	48.3	7.99	7.93	19.5	0.34	97.1	68	< 3	2.2	-	-	-	0.12	< 5	45.8	< 1	-	< 0.5	34	5.63	43.8	-	< 0.001	0.0024
	QUL-19X	2014 08 11	48.1	7.99	7.93	19.5	0.36	97	67	< 3	2.25	-	-	-	0.128	< 5	47.5	< 1	-	< 0.5	33	5.62	44	-	< 0.001	0.0023
	GAGE RPD %		< 1	0	0	0	< 1	1	1	0	1	-	-	-	1	< 5	4	< 1	-	< 0.5	< 1	< 1	4	< 1	< 0.001	< 0.002
	QUL-19	2014 08 12	47.8	8.01	7.97	21.4	0.35	98	59	< 3	1.98	-	-	-	0.112	< 5	54.6	< 1	-	< 0.5	35	5.72	44.4	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 13	47.5	-	7.88	20.8	0.38	99.5	54	< 3	2.03	-	-	-	0.117	< 5	49.1	< 1	-	< 0.5	32	5.6	44.5	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 14	49.4	8.15	7.96	22.0	0.23	98.3	67	< 3	1.87	-	-	-	0.116	< 5	48.9	< 1	-	< 0.5	35	5.69	44.4	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 15	48.8	8.12	7.98	21.1	0.21	97.1	62	< 3	1.84	-	-	-	0.102	< 5	47.7	< 1	-	< 0.5	35	5.68	43.6	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 16	48.8	8.19	7.95	20.5	0.28	97.4	63	< 3	2.07	-	-	-	0.106	< 5	42.4	< 1	-	< 0.5	35	5.67	43.5	-	< 0.001	< 0.002[h]
	QUL-19	2014 08 17	49.1	7.79	7.97	20.6	0.36	98.5	62	< 3	2.48	-	-	-	0.117	< 5	31.5	< 1	-	< 0.5	35	5.76	45	-	< 0.001	< 0.002[h]
	QUL-19X	2014 08 17	48.7	7.79	7.99	20.5	0.39	98.5	67	< 3	2.47	-	-	-	0.12	< 5	31.2	< 1	-	< 0.5	35	5.81	44.2	-	< 0.001	< 0.002[h]
	GAGE RPD %		< 1	0	< 1	0	< 1	1	2	0	1	-	-	-	1	< 5	< 1	< 1	-	< 0.5	< 1	< 1	2	< 1	< 0.001	< 0.002
	QUL-19	2014 08 19	48.5	7.98	7.95	19.8	0.3	98.4	67	< 3	2.01	-	-	-	0.112	< 5	41.6	< 1	-	< 0.5	33	5.58	50.4	-	0.0011	0.0024
	QUL-19	2014 08 21	48.7	8.35	7.9	18.8	0.39	95	62	< 3	2.04	-	-	-	0.12	< 5	45.9	< 1	-	< 0.5	35	5.64	43.7	-	< 0.001	< 0.002[h]
	QUL-19-6M	2014 08 27	49.8	7.96	7.9	19.0	0.27	97.6	70	< 3	1.91	-	-	-	0.172	< 5	45.9	< 1	-	< 0.5	33	5.78	44.1	-	0.0011	< 0.002[h]
	QUL-19-35M	2014 08 27	53.0	7.45	7.95	5.1	3.23	106	66	< 3	1.84	-	-	-	0.154	< 5	124	< 1	-	< 0.5	36	6.44	48.2	-	0.0011	< 0.002[h]
	QUL-19-55M	2014 08 27	53.0	7.35	7.93	4.0	0.49	108	67	< 3	1.9	-	-	-	0.174	< 5	145	< 1	-	< 0.5	36	6.31	48.9	-	0.0015	0.0021
QUL-20	QUR-20	2014 08 08	52.5	7.76	7.95	8.1	0.43	104	69	< 3	2.04	15	< 1	-	0.164	< 5	123	< 1	-	< 0.5	35	5.86	47.7	-	< 0.001	< 0.002[h]
	QUL-20X	2014 08 08	52.7	7.76	7.96	-	0.45	104	69	< 3	1.89	15	< 1	-	0.174	< 5	123	< 1	-	< 0.5	35	5.9	49.5	-	< 0.001	< 0.002[h]
	GAGE RPD %		< 1	0	< 1	-	< 1	0	1	0	1	0	-	-	1	< 5	0	< 1	-	< 0.5	< 1	< 1	2	< 1	< 0.001	< 0.002
	QUL-20	2014 08 09	50.5	7.73	7.84	11.0	0.46	100	69	< 3	2.14	-	-	-	0.174	< 5	104	< 1	-	< 0.5	34	5.77	48	-	< 0.001	< 0.002[h]
	QUL-20	2014 08 11	47.5	7.89	7.93	16.2	0.41	98.9	71	< 3	2.26	-	-	-	0.163	< 5	73	< 1	-	< 0.5	34	5.67	44.7	-	< 0.001	0.0023
	QUL-20	2014 08 12	47.8	8.00	7.9	17.0	0.26	97.2	66	< 3	1.83	-	-	-	0.144	< 5	66.7	< 1	-	< 0.5	33	5.64	44.2	-	< 0.001	< 0.002[h]
	QUL-20	2014 08 13	47.8	-	7.98	19.2	0.53	98.2	59	< 3	2.16	-	-	-	0.13	< 5	51.5	< 1	-	< 0.5	33	5.82	44.8	-	< 0.001	< 0.002[h]
	QUL-20	2014 08 14	49.3	8.06	7.96	19.3	0.26	99.1	70	< 3	2.17	-	-	-	0.139	< 5	49.4	< 1	-	< 0.5	36	5.83	44.4	-	< 0.001	< 0.002[h]
	QUL-20	2014 08 15	49.4	8.05	7.99	17.6	0.4	97.8	62	< 3	1.89	-	-	-	0.123	< 5	62	< 1	-	< 0.5	36	5.85	43.7	-	< 0.001	< 0.002[h]
	QUL-20X	2014 08 15	49.6	8.06	7.98	17.6	0.28	97.6	65	< 3	1.79	-	-	-	0.123	< 5	59.6	< 1	-	< 0.5	34	5.86	43.8	-	< 0.001	< 0.002[h]
	GAGE RPD %		< 1	0	< 1	0	< 1	0	5	< 3	1	-	-	-	1	< 5	4	< 1	-	< 0.5	< 1	< 1	0	< 1	< 0.001	< 0.002
	QUL-20	2014 08 16	49	7.94	7.97	17.7	0.31	95.8	66	< 3	1.95	-	-	-	0.114	< 5	57.5	< 1	-	< 0.5	35	5.64	43.6	-	< 0.001	< 0.002[h]
	QUL-20	2014 08 17	47.5	7.79	7.97	17.9	0.37	97.2	63	< 3	2.5	-	-	-	0.144	< 5	58.8	< 1	-	< 0.5	34	5.65	44	-	< 0.001	< 0.002[h]
	QUL20	2014 08 22	50.4	7.80	7.85	13.5	1	98.2	69	< 3	2.51	-	-	-	0.162	< 5	61.4	< 1	-	< 0.5	34	5.78	44.4	-	< 0.001	< 0.002[h]
	QUL-20-0M	2014 08 23	50.5	7.73	7.8	14.3	0.84	99.6	62	< 3	2.18	-	-	-	0.184	5.6	84.3	< 1	-	< 0.5	33	5.75	44.5	-	< 0.001	< 0.002[h]
	QUL-20-10M	2014 08 23	50.6	7.48	7.86	13.7	1	102	65	< 3	2.13	-	-	-	0.162	< 5	88.5	< 1	-	< 0.5	35	5.76	45.6	-	0.0025	0.0036
	QUL-20-20M	2014 08 23	83.8	7.43	7.86	13.1	1.06	101	97	< 3	2.1	-	-	-	0.15	< 5	91.1	< 1	-	< 0.5	35	5.76	45.8	-	< 0.001	0.0024
	QUL-20	2014 08 26	50.5	7.57	7.98	16.7	0.63	97.1	71	< 3	2.2	-	-	-	0.17	< 5	63.5	< 1	-	< 0.5	37	5.82	44.8	-	< 0.001	0.0021
	QUL-20	2014 08 27	50.3	7.90	7.98	17.5	0.78	99.2	70	< 3	2.21	-	-	-	0.128	< 5	39.6	< 1	-	< 0.5	34	5.8	44.1	-	< 0.001	0.0022
	QUL-20	2014 08 27	50	7.90	7.93	17.5	0.87	101	69	< 3	1.94	-	-	-	0.145	< 5	84.2	< 1	-	< 0.5	35	5.84	45.2	-	0.0011	0.0022
	QUL-20	2014 08 29	50	8.12	7.92	17.9	0.71	98	55	< 3	2.19	-	-	-	0.145	5.3	51.8	< 1	-	< 0.5	34	5.78	45.8	-	< 0.001	0.0024
	QUL-20	2014 08 29	49.4	-	7.96	-	0.45	97.1	62	< 3	2.1	-	-	-	0.125	< 5	48.6	< 1	-	< 0.5	35	5.73	44.2	-	< 0.001	< 0.002[h]
	QUL-20	2014 08 30	48.1	8.10	7.94	17.6	0.58	97.6	60	< 3	1.99	-	-	-	0.134	5.6	49.7	< 1	-	< 0.5	34	5.69	44.5	-	< 0.001	< 0.002[h]

Associated ALS files: L1485512, L1485533, L1489108, L1489209, L1490703, L1490707, L1490710, L1490920, L1490947, L1503619, L1501501, L1501618, L1502349, L1502364, L1502370, L1502386, L1503057, L1503061, L1503079, L1503108, L1503913, L1503929, L1503932, L1503933, L1503934, L1504160, L1504313, L1504320, L1504351, L1504361, L1504487, L1505519, L1505521, L1505571, L1505577, L1505580, L1505104, L1505375, L1505669, L1505846, L1507101, L1507201, L1507268, L1507269, L1507347, L1507648, L1507872, L1507877, L1508537, L1508573, L1508607, L1508646, L1508647, L1510231, L1510268, L1510269, L1510741, L1510746, L1511108, L1511725, L1511232

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

1 RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2020.

[d] Guideline varies with pH, another other Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results or this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results

[i] Secondary criteria or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																													
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																
BCWQG Aquatic Life (AW)[a1]			100[f]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[a1]			50[f]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[a1]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[a]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-19	QUL19	2014 08 25	10.6	16.8	< 30	1.9	0.805	0.465	0.831	< 0.1	0.1	5.5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.66	< 0.05	< 0.5	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-19	2014 08 27	10.4	16.7	< 30	1.93	0.409	0.463	0.857	< 0.1	0.11	5.24	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.66	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-19	2014 08 28	9.1	16.5	< 30	1.92	0.509	0.444	0.804	< 0.1	0.11	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	< 0.5	-	0.291	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-19	2014 09 30	9.3	16.7	< 30	1.96	0.877	0.491	0.835	< 0.1	0.12	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.76	< 0.05	< 0.5	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
QUL-19	QUL-19	2014 08 26	10.7	16.1	< 30	1.89	0.816	0.486	0.877	< 0.1	0.13	5.89	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.346	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.116	< 1	< 3
	QUL-19	2014 08 29	10.1	16.3	< 30	1.85	0.443	0.472	0.838	< 0.1	< 0.1	5.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.54	-	0.216	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-19	2014 08 30	11.2	16	< 30	2	1.66	0.524	0.944	< 0.1	0.17	6.17	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	< 0.5	-	0.394	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.122	< 1	< 3
	QUL-19	2014 09 11	12	15.4	< 30	1.87	0.745	0.496	0.871	< 0.1	0.12	5.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.96	-	0.328	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.123	< 1	< 3
	QUL-19X	2014 08 31	10.7	15.4	< 30	1.89	0.938	0.516	0.906	< 0.1	0.12	5.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	1.02	-	0.353	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.123	< 1	< 3
	QA/QC RPD %		1	0	1	1	29	4	3	0	0	2	0	1	0	0	0	7	0	1	0	1	0	0	0	0	0	0	0	0	0	0
	QUL-19	2014 08 12	9.7	16.2	< 30	1.8	0.17	0.469	0.783	< 0.1	< 0.1	4.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.80	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-19	2014 08 13	9.6	16	< 30	1.83	0.058	0.436	0.769	< 0.1	< 0.1	4.79	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.01	-	0.282	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-19	2014 08 14	12	16.7	< 30	1.86	0.381	0.449	0.783	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-19	2014 08 15	10	16.5	< 30	1.86	0.567	0.463	0.798	< 0.1	< 0.1	5.31	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.285	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-19	2014 08 16	9.9	16.3	< 30	1.94	0.442	0.484	0.825	< 0.1	0.11	5.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.318	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-19	2014 08 17	8.9	16.2	< 30	2.12	0.987	0.507	0.945	< 0.1	0.15	6.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.55	-	0.43	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.121	< 1	< 3
	QUL-19X	2014 08 17	8.6	16	< 30	2.09	0.977	0.522	0.955	< 0.1	0.17	6.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.441	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	QA/QC RPD %		3	3	3	3	3	3	3	0	0	2	0	1	0	0	0	3	0	1	0	3	0	0	0	0	0	0	0	0	0	0
	QUL-19	2014 08 19	10.2	16.3	< 30	1.92	0.322	0.477	0.843	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.71	-	0.308	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-19	2014 08 21	9.3	16.7	< 30	1.92	0.344	0.454	0.814	< 0.1	0.11	5.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.83	-	0.292	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-19-SM	2014 08 27	9.7	16.8	< 30	1.89	0.218	0.437	0.811	< 0.1	< 0.1	4.92	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.78	-	0.244	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-19-35M	2014 09 27	8.1	16.2	< 30	2.05	3.29	0.479	0.885	< 0.1	0.1	5.55	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.91	< 0.05	0.84	-	0.398	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.167	< 1	< 3
	QUL-19-55M	2014 09 27	4.8	16.2	< 30	2.06	0.342	0.459	0.924	< 0.1	< 0.1	5.04	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.91	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.156	< 1	< 3
QUL-20	QUL-20	2014 08 08	7.4	17.7	< 30	2.04	0.365	0.453	0.892	< 0.1	0.11	5.25	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.276	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-20X	2014 08 08	7.5	17.7	< 30	2.04	0.339	0.468	0.892	< 0.1	< 0.1	5.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.88	-	0.263	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QA/QC RPD %		1	0	1	0	< 1	0	0	0	0	2	0	< 1	0	0	0	2	0	1	0	5	0	0	0	0	0	1	0	0	0	< 1
	QUL-20	2014 08 09	8.1	17.1	< 30	1.95	0.355	0.459	0.847	< 0.1	< 0.1	5.12	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.81	-	0.287	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-20	2014 08 11	12.1	16	< 30	1.83	0.301	0.489	0.847	< 0.1	0.11	5.22	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	1.07	-	0.26	0.53	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-20	2014 08 12	9.9	16.1	< 30	1.82	0.127	0.483	0.823	< 0.1	< 0.1	5.51	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-20	2014 08 13	9.8	16.1	< 30	1.88	0.163	0.478	0.847	< 0.1	< 0.1	5.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.04	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-20	2014 08 14	10.6	16.9	< 30	1.89	0.362	0.471	0.825	< 0.1	0.11	5.26	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.7	-	0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-20	2014 08 15	9.9	16.7	< 30	1.9	0.354	0.469	0.826	< 0.1	0.12	5.73	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.3	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-20X	2014 08 15	10.1	16.7	< 30	1.86	0.35	0.472	0.829	< 0.1	0.11	5.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QA/QC RPD %		1	0	1	1	1	1	0	0	0	3	0	1	0	0	0	1	0	1	0	3	0	0	0	0	0	1	0	0	0	0
	QUL-20	2014 08 16	9.9	16.4	< 30	1.92	0.333	0.45	0.791	< 0.1	0.11	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.281	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-20	2014 08 17	9.9	16	< 30	1.86	0.423	0.471	0.832	< 0.1	0.11	5.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.57	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL20	2014 08 22	10.2	17	< 30	1.91	0.767	0.481	0.837	< 0.1	0.1	5.51	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.65	< 0.05	0.82	-	0.287	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-20-0M	2014 08 23	10.7	17.1	< 30	1.92	0.946	0.512	0.872	< 0.1	< 0.1	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.34	0.134	0.93	-	0.282	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-20-10M	2014 08 23	8.5	17.1	< 30	1.91	0.791	0.488	0.825	< 0.1	< 0.1	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.09	< 0.05	1.03	-	0.274	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-20-20M	2014 08 23	11.8	16.2	< 30	2.06	0.749	0.476	0.831	< 0.1	< 0.1	5.46	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.01	< 0.05	1	-	0.275	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-20	2014 08 26	8.9	17	< 30	1.94	0.694	0.451	0.805	< 0.1	0.11	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.99	< 0.05	0.82	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-20	2014 08 27	10.1	17	< 30	1.93	0.67	0.469	0.874	< 0.1	0.11	5.6	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.93	< 0.05	0.79	-	0.278	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-20	2014 08 27	10.1	16.9	< 30	1.93	0.917	0.491	0.867	< 0.1	0.12	5.49	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.94	< 0.05	0.82	-	0.269	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-20	2014 08 28	10	16.8	< 30	1.94	0.581	0.47	0.836	< 0.1	0.11	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.85	< 0.05	< 0.5	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-20	2014 08 29	10.3	16.6	< 30	1.91	0.489	0.461	0.825	< 0.1	0.12	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.78	< 0.05	0.5	-	0.279	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-20	2014 08 30	10	16.5	< 30	1.91	0.511	0.49	0.844	< 0.1	< 0.1	5.35	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.68	< 0.05	< 0.5	-	0.283	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3

Assimilated ALS Nos. L1484510, L1485533, L1485168, L1485205, L1485703, L1485707, L1485710, L1485920, L1485947, L1500019, L1501501, L1501518, L1502349, L1502364, L1502376, L1502388, L1503087, L1503091, L1503079, L1503010, L1503013, L1503028, L1503032, L1503033, L1503034, L1504180, L1504213, L1504220, L1504251, L1504201, L1504497, L1505078, L1505531, L1505571, L1505577, L1505585, L1505704, L1505710, L1505869, L1505905, L1507201, L1507298, L1507299, L1507347, L1507348, L1507672, L1507677, L1508637, L1508673, L1508907, L1508942, L1508987, L1510231, L1510258, L1510259, L1510749, L1510748, L1511198, L1511225, L1511222.

All terms defined within the body of SNC-Lavalin report (ex-bolded upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[a1] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[a2] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2008.

[a3] Guideline varies with pH, and/or other Temperature or Hardness.

[b] Health Canada Drinking Water Guidelines, 2012.

[c] Guideline for Nitrate applied.

[d] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[e] Calculated based on an individual sample basis, not average of 30 day results.

[f] Secondary criteria or chronic value, not 30 day mean.

[g] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals: Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,b]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.026[c]	n/a	1 (Cr(+6))	110	6.0-9.2[d]	1,000	27.3-97.7[d]	870	n/a	1,000.6-1,370[e]	Methyl mercury analysis in progress	2,000	25-65[c]	373,000-432,000	2	n/a	0.1[c]	n/a	0.3	n/a	2,000	300	8	33[c]
BCWQG Aquatic Life (30day) (AW)[a,b]			n/a	n/a	n/a	1,000	5.3[f]	n/a	n/a	n/a	n/a	n/a	4	2-3[d]	n/a	4.4-5.8[d]	14[f]	n/a	791.1-940[e]		1,000	n/a	n/a	n/a	n/a	0.05[c]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[c]
BCWQG Drinking Water (DW)[a,b]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	500	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[a]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-18	QUL18	2014 08 25	49	< 0.1	0.12	6.06	< 0.1	< 0.5	< 10	< 0.01	10,700	< 0.5	< 0.1	1.96	36	< 0.05	< 0.5	1,910	2.25	-	0.311	< 0.5	481	< 0.5	1,600	< 0.01	856	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-18	2014 08 27	19.2	< 0.1	0.12	5.46	< 0.1	< 0.5	< 10	< 0.01	10,300	< 0.5	< 0.1	0.61	< 30	< 0.05	0.7	1,810	1.21	< 0.01	0.295	< 0.5	467	< 0.5	1,510	< 0.01	859	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-18	2014 08 28	20.7	< 0.1	0.14	5.87	< 0.1	< 0.5	< 10	< 0.01	10,500	< 0.5	< 0.1	1.15	< 30	< 0.05	< 0.5	1,840	1.29	< 0.01	0.314	< 0.5	475	< 0.5	1,540	< 0.01	848	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-18	2014 08 30	22.7	< 0.1	0.15	5.53	< 0.1	< 0.5	< 10	< 0.01	10,500	< 0.5	< 0.1	1.02	< 30	< 0.05	< 0.5	1,930	1.71	< 0.01	0.295	< 0.5	479	< 0.5	1,510	< 0.01	852	< 0.01	< 0.1	< 10	0.141	< 1	< 3
QUL-19	QUL-19	2014 08 08	10.9	< 0.1	0.15	5.79	< 0.1	< 0.5	< 10	< 0.01	15,600	< 0.5	< 0.1	0.6	33	< 0.05	< 0.5	1,950	2.49	< 0.05	0.375	< 0.5	479	< 0.5	1,580	< 0.01	867	< 0.01	< 0.1	< 10	0.121	< 1	< 3
	QUL-19	2014 08 09	20	< 0.1	0.11	5.48	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.66	< 30	< 0.05	< 0.5	1,910	1.27	< 0.05	0.327	< 0.5	481	< 0.5	1,590	< 0.01	834	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-19	2014 08 10	18.7	< 0.1	0.16	6.21	< 0.1	< 0.5	< 10	< 0.01	15,800	< 0.5	< 0.1	0.63	31	< 0.05	< 0.5	1,980	2.64	< 0.05	0.426	< 0.5	519	< 0.5	1,770	< 0.01	948	< 0.01	< 0.1	< 10	0.129	< 1	< 3
	QUL-19	2014 08 11	17.0	< 0.1	0.16	5.85	< 0.1	< 0.5	< 10	< 0.01	15,800	< 0.5	< 0.1	0.6	< 30	< 0.05	0.62	1,940	1.70	< 0.05	0.39	< 0.5	504	< 0.5	1,630	< 0.01	885	< 0.01	< 0.1	< 10	0.133	< 1	< 3
	QUL-19X	2014 08 11	19	< 0.1	0.17	6.1	< 0.1	< 0.5	< 10	< 0.01	15,600	< 0.5	< 0.1	0.76	< 30	< 0.05	0.63	1,960	2.2	< 0.05	0.419	< 0.5	543	< 0.5	1,970	< 0.01	934	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QA/QC RPD %		7			1					1							1					1		2		1						
	QUL-19	2014 08 12	15.2	< 0.1	< 0.1	4.9	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.62	1,870	0.61	< 0.05	0.253	< 0.5	437	< 0.5	1,460	< 0.01	787	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL-19	2014 08 13	13.5	< 0.1	0.11	5.14	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.9	1,930	0.823	< 0.05	0.287	< 0.5	455	< 0.5	1,530	< 0.01	824	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-19	2014 08 14	13.8	< 0.1	< 0.1	4.96	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.68	1,850	0.61	-	0.282	< 0.5	447	< 0.5	1,510	< 0.01	807	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-19	2014 08 15	13.5	< 0.1	0.12	5.28	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	1,870	1.03	-	0.296	< 0.5	451	< 0.5	1,540	< 0.01	756	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-19	2014 08 16	15.3	< 0.1	0.13	5.58	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.59	< 30	< 0.05	< 0.5	1,930	1.69	-	0.345	< 0.5	478	< 0.5	1,590	< 0.01	840	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-19	2014 08 17	17.5	< 0.1	0.16	6.58	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	< 1	34	< 0.05	0.67	2,120	3.07	-	0.458	< 0.5	528	< 0.5	1,780	< 0.01	977	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-19X	2014 08 17	18.5	< 0.1	0.2	6.59	< 0.1	< 0.5	< 10	< 0.01	15,600	< 0.5	< 0.1	< 1	36	< 0.05	< 0.5	2,060	4.22	-	0.47	< 0.5	532	< 0.5	1,750	< 0.01	978	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QA/QC RPD %		6			1					1							1					1		2		1						
	QUL-19	2014 08 19	14	< 0.1	0.13	5.54	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.57	< 30	< 0.05	1	1,930	1.44	-	0.333	< 0.5	486	< 0.5	1,570	< 0.01	875	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-19	2014 08 21	22.1	< 0.1	0.12	5.26	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.73	< 30	< 0.05	0.67	1,860	1.34	-	0.298	< 0.5	457	< 0.5	1,500	< 0.01	826	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-19-0M	2014 08 27	13.9	< 0.1	< 0.1	4.85	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.51	< 30	< 0.05	0.68	1,810	0.754	< 0.01	0.261	< 0.5	435	< 0.5	1,400	< 0.01	829	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-19-35M	2014 08 27	160	< 0.1	0.16	8.07	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	4.83	102	0.06	0.83	2,060	7.5	< 0.01	0.411	< 0.5	521	< 0.5	1,970	< 0.01	1,010	< 0.01	< 0.1	< 10	0.178	< 1	< 3
	QUL-19-55M	2014 08 27	30.8	< 0.1	0.1	5.22	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.78	< 30	< 0.05	0.85	2,000	1.47	< 0.01	0.267	< 0.5	471	< 0.5	1,680	< 0.01	936	< 0.01	< 0.1	< 10	0.165	< 1	< 3
QUL-20	QUL-20	2014 08 08	22.4	< 0.1	0.13	5.42	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.59	< 30	< 0.05	0.58	2,040	1.48	< 0.05	0.288	< 0.5	483	< 0.5	1,720	< 0.01	901	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-20X	2014 08 08	26.2	< 0.1	0.12	5.45	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.7	< 30	< 0.05	0.59	2,070	1.49	< 0.05	0.295	< 0.5	487	< 0.5	1,740	< 0.01	928	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QA/QC RPD %		16			1					1							1					1		2		1						
	QUL-20	2014 08 09	20	< 0.1	0.11	5.21	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.69	< 30	< 0.05	0.59	1,980	1.24	< 0.05	0.261	< 0.5	475	< 0.5	1,670	< 0.01	967	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-20	2014 08 11	23.4	< 0.1	0.14	5.25	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	0.71	< 30	< 0.05	0.9	1,860	1.16	< 0.05	0.3	< 0.5	467	< 0.5	1,590	< 0.01	843	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-20	2014 08 12	19.9	< 0.1	0.12	5.12	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.69	< 30	< 0.05	0.82	1,850	1.18	< 0.05	0.293	< 0.5	471	< 0.5	1,560	< 0.01	836	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-20	2014 08 13	15.8	< 0.1	0.16	5.44	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.74	< 30	< 0.05	0.85	1,940	1.26	< 0.05	0.31	< 0.5	488	< 0.5	1,600	< 0.01	871	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-20	2014 08 14	17.1	< 0.1	0.12	5.41	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.66	< 30	< 0.05	0.69	1,880	1.35	-	0.306	< 0.5	472	< 0.5	1,610	< 0.01	833	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-20	2014 08 15	20.5	< 0.1	0.13	5.64	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.64	< 30	< 0.05	< 0.5	1,890	1.31	-	0.323	< 0.5	472	< 0.5	1,590	< 0.01	833	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-20X	2014 08 15	17.4	< 0.1	0.13	5.53	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.61	< 30	< 0.05	< 0.5	1,890	1.38	-	0.292	< 0.5	476	< 0.5	1,610	< 0.01	848	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QA/QC RPD %		15			1					0							0					1		10		1						
	QUL-20	2014 08 16	17.6	< 0.1	1.08	5.28	< 0.1	< 0.5	< 10	0.034	16,600	< 0.5	< 0.1	0.58	< 30	< 0.05	0.56	1,870	1.28	-	0.303	< 0.5	465	< 0.5	1,540	< 0.01	821	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-20	2014 08 17	19	< 0.1	0.13	5.3	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	< 1	< 30	< 0.05	0.63	1,840	1.48	-	0.294	< 0.5	471	< 0.5	1,560	< 0.01	850	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL29	2014 08 22	50.8	< 0.1	0.13	5.92	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	2.03	41	< 0.05	0.76	1,930	2.45	-	0.287	< 0.5	479	< 0.5	1,600	< 0.01	856	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-20-0M	2014 08 23	59.8	< 0.1	0.14	5.87	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	2.18	47	< 0.05	0.99	1,930	2.79	< 0.05	0.275	< 0.5	511	< 0.5	1,630	< 0.01	851	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-20-10M	2014 08 23	56.9	< 0.1	0.13	5	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	2.16	47	< 0.05	0.93	1,930	2.56	< 0.05	0.303	< 0.5	477	< 0.5	1,660	< 0.01	840	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-20-20M	2014 08 23	57.9	< 0.1	0.13	6.04	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	2.3	51	< 0.05	0.96	2,070	2.87	< 0.05	0.294	< 0.5	498	< 0.5	1,770	< 0.01	875	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-20	2014 08 26	48.5	< 0.1	0.13	6.15	< 0.1	< 0.5	< 10	< 0.01	18,700	< 0.5	< 0.1	2.06	40	< 0.05	0.69	1,930	2.3	< 0.01	0.308	< 0.5	470	< 0.5	1,810	< 0.01	848	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-20	2014 08 27	39.4	< 0.1	0.12	5.95	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	1.69	< 30	< 0.05	0.69	1,800	1.95	< 0.01	0.319	< 0.5	479	< 0.5	1,650	< 0.01	882	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUL-20	2014 08 27	38.1	< 0.1	0.15	5.9	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.6	31	< 0.05	0.67	1,870	2.04	< 0.01	0.314	< 0.5	484	< 0.5	1,630	< 0.01	929	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-20	2014 08 28	31.3	< 0.1	0.14	6.04	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	1.36	< 30	< 0.05	< 0.5	1,950	1.93	< 0.01	0.317	< 0.5	495	< 0.5	1,560	< 0.01	881	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-20	2014 08 29	20.3	< 0.1	0.13	5.28	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	1.07	< 30	< 0.05	0.5	1,870	1.26	< 0.01	0.278	< 0.5	451	< 0.5	1,460	< 0.01	819	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-20	2014 08 30	21.5	< 0.1	0.14	5.43	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	1.03	< 30	< 0.05	< 0.5	1,890	1.47	< 0.01	0.294	< 0.5	464	< 0.5	1,460	< 0.01	826	< 0.01	< 0.1	< 10	0.14	< 1	< 3

Associated ALS files: L1496819, L1496533, L1496156, L1496203, L1496705, L1497707, L1497710, L1498928, L1498947, L1500619, L1501501, L1501516, L1502349, L1502364, L1502370, L1502386, L1503057, L1503061, L1503070, L1503010, L1503013, L1503028, L1503032, L1503033, L1503034, L1504150, L1504213, L1504220, L1504251, L1504291, L1504497, L1505016, L1505561, L1505571, L1505577, L1505846, L1506164, L1507370, L1507648, L1507695, L1507701, L1507726, L1507736, L1508592, L1507259, L1507347, L1507946, L1507972, L1507977, L1508537, L1508573, L1508507, L1508649, L1508967, L1510291, L1510349, L1510296, L1510741, L1510746, L1511360, L1511220, L1511232.

All terms defined within the body of BNC Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

(n/a) Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range

[b] British Columbia Approved Water Quality Guidelines 2004 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[d] Guideline varies with pH, smaller either Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Nitrate applied

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or ice average or summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an Instantaneous sample basis, not average of 30 day results.

Secondary chronic or aesthetic value, not 30 day mean.

Guideline not applicable for site situation

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters: Hardness (mg/L)	pH (field) (pH)	pH (lab)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (uS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Microbiological Tests: Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Inorganics: Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (ug/L)	Nitrate Nitrogen (ug/L)	Nitrite Nitrogen (ug/L)	Nitrate+Nitrite Nitrogen (ug/L)	Chloride (mg/L)	Fluoride (ug/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus[a] (mg/L)
BC Guidelines																										
BCWQG Aquatic Life (AW)[1,2]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 5	n/a	n/a	Change of 25	n/a +20% of median background	n/a	n/a	n/a	n/a	5,960-16,400[3]	32,800	60 (Cl<2)	32,800	600	966.2-1,224.3[4]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[1,2,3]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5		n/a	n/a	n/a	n/a	1,090-1,770[4]	3,000	20 (Cl<2)	3,000	150	n/a	128-309[5]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[1,2]			n/a	6.5-8.5	6.5-8.5	n/a	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000	250	1,000	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[6]			n/a	6.5-8.5	6.5-8.5	n/a	n/a	n/a	500	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUL-21	QUL-21-0M	2014 06 09	49.5	7.90	7.91	14.7	0.29	97.8	72	< 3	2.51	-	-	-	0.159	< 5	85.6	< 1	-	< 0.5	34	5.57	43.6	-	< 0.001	< 0.002[a]
	QUL-21-7M	2014 06 08	50.7	7.85	7.91	8.9	0.25	99.5	72	< 3	2.11	-	-	-	0.174	< 5	100	< 1	-	< 0.5	35	5.66	44.5	-	< 0.001	< 0.002[a]
	QUL-21-30M	2014 06 08	54.3	7.87	7.9	4.4	0.78	109	77	< 3	2.16	-	-	-	0.193	< 5	141	< 1	-	< 0.5	36	6.12	48	-	< 0.001	< 0.002[a]
	QUL-21	2014 06 09	49.3	7.81	7.88	16.1	0.36	96.7	68	< 3	2.33	-	-	-	0.137	< 5	73.9	< 1	-	< 0.5	34	5.62	43.2	-	< 0.001	< 0.002[a]
	QUL-21	2014 06 11	47.8	7.90	7.92	19.7	0.77	97.8	66	< 3	2.27	-	-	-	0.132	< 5	57.3	< 1	-	< 0.5	33	5.64	44	-	< 0.001	< 0.002[a]
	QUL-21-0M	2014 06 12	48.1	7.98	7.96	-	0.4	95.9	65	< 3	1.97	-	-	-	0.13	< 5	55.1	< 1	-	< 0.5	36	5.86	43.9	-	< 0.001	< 0.002[a]
	QUL-21X	2014 06 12	48.9	7.98	7.99	-	0.49	96.3	65	< 3	1.93	-	-	-	0.128	< 5	54.1	< 1	-	< 0.5	36	5.84	44.3	-	< 0.001	< 0.002[a]
	QA/QC: RPD %		1	0	0	0	11	1	0	0	1			3	2	9	0	0	0	0	1	1	1	0	0	0
	QUL-21-12M	2014 06 12	48.2	8.15	7.94	12.9	0.55	96.7	68	< 3	1.87	-	-	-	0.171	< 5	88.2	< 1	-	< 0.5	36	5.77	44.6	-	< 0.001	< 0.002[a]
	QUL-21-30M	2014 06 12	54.3	7.57	7.96	4.6	0.38	107	72	< 3	1.74	-	-	-	0.191	< 5	139	< 1	-	< 0.5	38	6.19	49.8	-	< 0.001	< 0.002[a]
	QUL-21	2014 06 13	47.8	-	8	20.9	0.29	96.2	59	< 3	2.00	-	-	-	0.136	< 5	44.2	< 1	-	< 0.5	32	5.62	44.4	-	< 0.001	< 0.002[a]
	QUL-21	2014 06 14	49.6	7.88	7.98	21.3	0.22	97.2	65	< 3	2.11	-	-	-	0.108	< 5	41.5	< 1	-	< 0.5	35	5.62	43.4	-	< 0.001	0.0027
	QUL-21-0M	2014 06 15	48.7	8.12	7.95	20.7	0.22	95.4	66	< 3	1.95	-	-	-	0.102	< 5	39.7	< 1	-	< 0.5	36	5.64	43.1	-	< 0.001	0.0022
	QUL-21-10M	2014 06 15	50.3	7.92	7.94	13.1	0.3	98.3	67	< 3	1.73	-	-	-	0.156	< 5	80.9	< 1	-	< 0.5	35	5.76	44.6	-	< 0.001	0.002
	QUL-21-30M	2014 06 15	53.5	7.85	7.9	4.5	0.35	106	71	< 3	1.65	-	-	-	0.175	< 5	140	< 1	-	< 0.5	38	6.17	48	-	< 0.001	0.0023
	QUL-21	2014 06 16	48.2	8.21	7.97	20.4	0.24	95.1	75	< 3	1.81	-	-	-	0.108	< 5	42	< 1	-	< 0.5	36	5.58	43.6	-	< 0.001	< 0.002[a]
	QUL-21	2014 06 17	48	7.76	7.97	20.9	0.3	96.3	61	< 3	2.4	-	-	-	0.126	< 5	40.6	< 1	-	< 0.5	34	5.63	43.9	-	< 0.001	< 0.002[a]
	QUL-21-0M	2014 06 23	50.3	7.77	7.87	16.8	0.55	99.4	61	< 3	2.37	-	-	-	0.133	< 5	63.4	< 1	-	< 0.5	36	5.66	44	-	< 0.001	< 0.002[a]
	QUL-21-20M	2014 06 23	54	7.38	7.84	5.2	0.84	107	69	< 3	2.11	-	-	-	0.169	< 5	138	< 1	-	< 0.5	37	6.05	48.2	-	0.0016	0.0027
	QUL-21-46M	2014 06 22	74	7.53	7.95	6.0	65.1	156	104	42.4	2.19	-	-	-	0.397	53.9	237	1.8	-	0.95	75	16.8	60.3	-	< 0.001	0.0038
	QUL-21-0M	2014 06 25	50	7.76	7.96	17.5	0.62	98.3	66	< 3	1.82	-	-	-	0.137	< 5	62.6	< 1	-	< 0.5	34	5.81	44.4	-	< 0.001	< 0.002[a]
	QUL-21-9M	2014 06 25	50.7	7.85	7.85	14.2	1.11	99.6	67	< 3	1.87	-	-	-	0.154	< 5	75.9	< 1	-	< 0.5	34	5.95	44.5	-	0.0133	0.0103
	QUL-21-46M	2014 06 25	70.3	7.53	8	6.2	72	153	107	16.6	1.76	-	-	-	0.369	45.8	235	2	-	0.54	80	16.7	55.6	-	0.0031	0.0069
	QUL-21-0M	2014 06 26	48.8	7.83	7.99	17.5	0.53	97.9	69	< 3	2.11	-	-	-	0.12	< 5	57.2	< 1	-	< 0.5	35	5.77	44.7	-	< 0.001	< 0.002[a]
	QUL-21-21M	2014 06 26	50.9	7.43	7.89	5.7	1.3	99.3	69	< 3	2.21	-	-	-	0.228	< 5	75.9	< 1	-	< 0.5	35	6	44.9	-	< 0.001	< 0.002[a]
	QUL-21-47M	2014 06 26	70.1	7.59	8.01	6.0	61.9	153	113	17.5	2.15	-	-	-	0.366	49.2	237	2.7	-	0.94	69	17	59.5	-	0.0024	0.0059
	QUL-21-0M	2014 06 26	49	8.10	7.94	18.3	0.32	96.5	68	< 3	2.27	-	-	-	0.142	< 5	47.3	< 1	-	< 0.5	34	5.76	45	-	< 0.001	< 0.002[a]
	QUL-21-19M	2014 06 26	50.7	7.75	7.88	10.3	1.91	100	66	< 3	2.48	-	-	-	0.199	7.2	104	< 1	-	< 0.5	35	5.96	46.9	-	< 0.001	< 0.002[a]
	QUL-21-46M	2014 06 26	70.2	7.89	7.96	6.1	79.1	153	104	38.2	2.14	-	-	-	0.396	59.3	238	1.9	-	0.58	73	17.4	61.8	-	< 0.001	0.0042
QUL-22	QUL-22	2014 06 09	49.6	7.85	7.91	13.8	0.34	98.5	70	< 3	2.21	-	-	-	0.182	< 5	95.5	< 1	-	< 0.5	34	5.82	44.2	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 09	49.5	7.77	7.87	16.8	0.4	97.1	69	< 3	2.26	-	-	-	0.148	< 5	78.6	< 1	-	< 0.5	35	5.8	43	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 10	48.7	7.90	7.92	18.4	0.35	96.3	64	< 3	2.26	-	-	-	0.135	< 5	67.4	< 1	-	< 0.5	35	5.59	43.4	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 11	47.3	7.81	7.94	20.0	0.51	96.5	67	< 3	2.23	-	-	-	0.144	< 5	60.1	< 1	-	< 0.5	34	5.64	44.3	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 12	47.3	8.01	7.97	20.4	0.51	95.3	64	< 3	1.94	-	-	-	0.132	< 5	56.2	< 1	-	< 0.5	34	5.69	44.3	-	0.0014	< 0.002[a]
	QUL-22	2014 06 13	47.4	-	7.98	20.6	0.32	96.1	60	< 3	2.2	-	-	-	0.123	< 5	44.6	< 1	-	< 0.5	32	5.63	44.5	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 14	49.6	7.84	7.91	21.1	0.31	97.2	65	< 3	2.1	-	-	-	0.108	< 5	41.2	< 1	-	< 0.5	36	5.82	43.3	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 15	45.2	8.11	7.99	20.7	0.21	95.9	70	< 3	1.89	-	-	-	0.101	< 5	40.1	< 1	-	< 0.5	35	5.91	43.7	-	< 0.001	0.0024
	QUL-22	2014 06 16	47.9	8.19	7.91	20.7	0.29	94.2	65	< 3	2.09	-	-	-	0.106	< 5	40.6	< 1	-	< 0.5	36	5.59	43.4	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 17	47.4	7.89	7.98	21.1	0.29	96.8	63	< 3	2.4	-	-	-	0.123	< 5	41.3	< 1	-	< 0.5	34	5.81	44.2	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 19	48.5	7.80	7.92	20.1	0.44	96.7	64	< 3	2.1	-	-	-	0.111	< 5	39	< 1	-	< 0.5	32	5.53	44.3	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 21	49.5	8.25	7.76	17.4	0.65	96.6	63	< 3	1.85	-	-	-	0.131	< 5	60.7	< 1	-	< 0.5	35	5.67	43	-	< 0.001	< 0.002[a]
	QUL-22	2014 06 22	49.9	7.98	7.92	17.3	0.54	96.9	66	< 3	2.41	-	-	-	0.138	< 5	64.5	< 1	-	< 0.5	34	5.71	51.2	-	< 0.001	0.0061
	QUL-22	2014 06 23	49.8	7.85	7.86	17.1	0.55	99.2	62	< 3	2.2	-	-	-	0.132	< 5	50	< 1	-	< 0.5	32	5.69	44.7	-	< 0.001	< 0.002[a]
	QUL-22-0M	2014 06 26	49.6	7.76	7.99	17.3	0.52	99.9	68	< 3	2.15	-	-	-	0.124	< 5	55.6	< 1	-	< 0.5	35	5.77	44	-	< 0.001	0.0031
	QUL-22-4M	2014 06 26	50.1	7.75	8	17.2	0.64	97.4	67	< 3	2.1	-	-	-	0.133	< 5	57.8	< 1	-	< 0.5	36	5.79	44.7	-	0.0023	0.0038
	QUL-22-6M	2014 06 26	50.5	7.73	8.01	16.1	0.7	97.8	67	< 3	2.1	-	-	-	0.139	< 5	61.4	< 1	-	< 0.5	35	5.8	44.7	-	< 0.001	0.0023
	QUL-22-0M	2014 06 28	49.2	8.10	7.93	18.9	0.37	97.2	60	< 3	2.19	-	-	-	0.131	< 5	47.7	< 1	-	< 0.5	34	5.76	45.6	-	< 0.001	< 0.002[a]
	QUL-22-6M	2014 06 28	49.8	8.05	7.93	17.4	0.6	97.3	58	< 3	2.17	-	-	-	0.131	< 5	53.6	< 1	-	< 0.5	34	5.79	45.5	-	< 0.001	0.0023

Associated ALS files: L1498569, L1498539, L1499169, L1499263, L1499709, L1499767, L1499719, L1499926, L1499947, L1500019, L1501601, L1501516, L1502349, L1502364, L1502376, L1502384, L1503057, L1503081, L1503078, L1503910, L1503913, L1503926, L1503932, L1503933, L1503934, L1504180, L1504213, L1504220, L1504261, L1504261, L1504997, L1505016, L1505031, L1505571, L1505577, L1505648, L1505764, L1505776, L1505849, L1505908, L1507001, L1507293, L1507295, L1508502, L1507259, L1507347, L1507548, L1507573, L1507577, L1508537, L1508573, L1508607, L1508549, L1508597, L1510231, L1510268, L1510269, L1510741, L1510746, L1511162, L1511275, L1511232.
All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.
- Denotes analyses not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.
Concentration greater than BCWQG Drinking Water (DW) guideline.
Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.
Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit out of range.
[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[3] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.
[4] Guideline varied with pH, and/or either Temperature or Hardness.
[5] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate applied
[6] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn as an average of summer samples and is not applicable to single sample results at the point in time.
[a] Calculated based on an individual sample basis, not average of 30 day results.
[b] Secondary chloride aesthetic value, not 30 day mean.
[c] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																												
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Thorium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)	
BC Guidelines																															
BCWQG Aquatic Life (AW)[*1]			100[4]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[*1,3]			50[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[*1]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[*]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-21	QUL-21-0M	2014 08 08	9.2	16.7	< 30	1.91	0.368	0.482	0.832	< 0.1	< 0.1	5.21	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	< 3
	QUL-21-7M	2014 08 08	8.8	17.1	< 30	1.94	0.2	0.478	0.843	< 0.1	< 0.1	5.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.269	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.163	< 1	< 3
	QUL-21-30M	2014 08 08	4.0	18.3	< 30	2.08	2.29	0.474	0.919	< 0.1	< 0.1	5.26	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.51	-	0.269	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.176	< 1	< 3
	QUL-21	2014 08 09	10	16.6	< 30	1.9	0.49	0.465	0.83	< 0.1	0.11	5.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.56	-	0.266	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-21	2014 08 11	10.3	16.1	< 30	1.84	0.673	0.467	0.832	< 0.1	0.11	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.6	< 0.05	1.02	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-21-0M	2014 08 12	8	19.1	< 30	1.94	0.275	0.488	0.855	< 0.1	0.1	5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.61	-	0.324	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.08	< 1	< 3
	QUL-21	2014 08 12	11	16.4	< 30	1.92	0.853	0.458	0.823	< 0.1	0.11	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.54	-	0.276	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QA/QC RPD %		2	1	61	1	61	4	1	0	2	1	0	2	0	0	0	18	0	2	0	1	0	0	0	0	0	1	0	0	0
	QUL-21-12M	2014 08 12	10.5	18.3	< 30	1.87	0.212	0.46	0.815	< 0.1	< 0.1	5.06	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.77	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-21-30M	2014 08 12	6	18.3	< 30	2.09	0.407	0.488	0.916	< 0.1	0.1	4.99	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.66	-	0.258	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-21	2014 08 13	9.5	16	< 30	1.84	0.222	0.473	0.833	< 0.1	0.11	5.34	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.89	-	0.314	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUL-21	2014 08 14	10.9	16.7	< 30	1.94	0.721	0.483	0.812	< 0.1	0.1	5.26	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.58	-	0.294	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QUL-21-0M	2014 08 15	10.4	18.4	< 30	1.89	0.496	0.49	0.837	< 0.1	0.12	5.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.119	< 1	< 3
	QUL-21-10M	2014 08 15	10	17.1	< 30	1.8	0.143	0.468	0.832	< 0.1	< 0.1	5.12	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.52	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.164	< 1	< 3
	QUL-21-30M	2014 08 15	6	18.1	< 30	2.01	0.345	0.479	0.92	< 0.1	< 0.1	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.66	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.177	< 1	< 3
	QUL-21	2014 08 16	9.7	16.2	< 30	1.9	0.415	0.479	0.822	< 0.1	0.12	5.41	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.56	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.12	< 1	< 3
	QUL-21	2014 08 17	8.8	16.1	< 30	1.9	0.545	0.464	0.823	< 0.1	0.12	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.54	-	0.295	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-21-0M	2014 08 23	10.5	16.9	< 30	1.94	0.886	0.468	0.815	< 0.1	< 0.1	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.87	< 0.05	0.96	-	0.283	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-21-20M	2014 08 23	6.4	18.2	< 30	2.06	0.629	0.48	0.902	< 0.1	< 0.1	5.09	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.71	< 0.05	0.89	-	0.259	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-21-46M	2014 08 23	13.2	25	< 30	2.5	108	0.952	3.2	0.23	0.72	17.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.5	< 0.05	1.17	-	4.98	< 0.5	0.59	< 0.01	< 0.01	< 10	0.643	< 1	< 3
	QUL-21-0M	2014 08 25	10	16.9	< 30	1.87	0.724	0.481	0.805	< 0.1	< 0.1	5.48	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	< 0.5	-	0.286	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-21-9M	2014 08 25	9.9	17.2	< 30	1.91	1.24	0.443	0.851	< 0.1	< 0.1	5.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.37	< 0.05	< 0.5	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-21-45M	2014 08 25	12.9	23.8	< 30	2.63	94.7	0.95	3.09	0.22	0.66	17.5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.65	< 0.05	0.81	-	4.66	< 0.5	0.53	< 0.01	< 0.01	< 10	0.58	< 1	< 3
	QUL-21-0M	2014 08 26	9.3	16.8	< 30	1.87	0.699	0.448	0.795	< 0.1	0.12	5.5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.68	< 0.05	0.64	-	0.287	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	QUL-21-21M	2014 08 26	9.8	17.2	< 30	1.91	1.01	0.462	0.82	< 0.1	< 0.1	5.62	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.21	< 0.05	0.57	-	0.284	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QUL-21-47M	2014 08 26	11.7	23.7	< 30	2.64	95.8	0.997	2.99	0.21	0.66	17.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.54	< 0.05	0.79	-	4.63	< 0.5	0.54	< 0.01	< 0.01	< 10	0.581	< 1	< 3
	QUL-21-0M	2014 08 28	10.1	16.5	< 30	1.92	0.508	0.458	0.823	< 0.1	0.11	5.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	< 0.5	-	0.278	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-21-16M	2014 08 28	9.4	17.1	< 30	1.84	1.04	0.466	0.853	< 0.1	< 0.1	5.59	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.17	< 0.05	< 0.5	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-21-46M	2014 08 28	15.9	23.7	< 30	2.67	95.8	1.03	3.59	0.26	0.76	19.8	< 0.1	< 10	0.036	< 0.5	< 0.1	5.32	< 0.05	0.9	-	5.51	< 0.5	0.67	0.018	0.011	< 10	0.671	< 1	< 3
QUL-22	QUL-22	2014 08 08	8	16.7	< 30	1.92	0.516	0.466	0.839	< 0.1	< 0.1	5.15	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.281	0.52	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-22	2014 08 09	9.8	16.7	< 30	1.9	0.467	0.482	0.827	< 0.1	< 0.1	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.8	-	0.283	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-22	2014 08 10	10.8	16.4	< 30	1.84	0.53	0.478	0.845	< 0.1	0.11	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.6	< 0.05	< 0.5	-	0.281	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-22	2014 08 11	11.7	15.9	< 30	1.84	0.992	0.488	0.833	< 0.1	0.11	5.23	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.02	-	0.271	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	QUL-22	2014 08 12	10.4	15.9	< 30	1.85	0.36	0.471	0.831	< 0.1	0.11	5.09	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.308	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-22	2014 08 13	10.6	15.9	< 30	1.91	0.165	0.487	0.825	< 0.1	0.1	5.31	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	1	-	0.259	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-22	2014 08 14	10.2	16.7	< 30	1.91	0.579	0.487	0.83	< 0.1	0.11	5.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.62	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.12	< 1	< 3
	QUL-22	2014 08 15	10.5	15.2	< 30	1.75	0.481	0.483	0.851	< 0.1	0.12	5.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	< 0.5	-	0.316	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-22	2014 08 16	10.1	16.1	< 30	1.85	0.511	0.496	0.838	< 0.1	0.11	5.23	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.54	< 0.05	0.92	-	0.335	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-22	2014 08 17	10.7	15.8	< 30	1.83	0.517	0.475	0.847	< 0.1	0.12	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.51	-	0.3	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-22	2014 08 19	9.7	16.3	< 30	1.91	0.449	0.487	0.819	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.31	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-22	2014 08 21	10.6	16.7	< 30	1.9	0.7	0.465	0.822	< 0.1	< 0.1	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.74	< 0.05	0.66	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL22	2014 08 22	11.6	16.8	< 30	1.9	0.771	0.472	0.85	< 0.1	< 0.1	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.82	< 0.05	0.9	-	0.266	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-22	2014 08 23	10.1	16.8	< 30	1.9	0.894	0.466	0.81	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.88	< 0.05	0.89	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-22-0M	2014 08 26	9.7	16.7	< 30	1.91	0.73	0.459	0.812	< 0.1	< 0.1	5.49	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.01	< 0.05	0.59	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUL-22-4M	2014 08 26	10.4	16.6	< 30	1.93	0.713	0.449	0.816	< 0.1	< 0.1	5.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.01	< 0.05	0.59	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-22-9M	2014 08 26	10	17	< 30	1.94	0.673	0.452	0.809	< 0.1	0.1	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.03	< 0.05	0.63	-	0.268	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.127	< 1	< 3
	QUL-22-0M	2014 08 28	9.9	16.5	< 30	1.92	0.563	0.467	0.832	< 0.1	0.11	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.85	< 0.05	< 0.5	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-22-9M	2014 08 28	10.1	16.7	< 30	1.92	0.551	0.473	0.84	< 0.1	0.12	5.73	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.93	< 0.05	< 0.5	-	0.281	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3

Associated ALS labs: L1408212, L1499633, L1499168, L1499209, L1499707, L1499710, L1499926, L1494147, L1500618, L1501501, L1501518, L1502349, L1502364, L1502370, L1502388, L1503057, L1503061, L1503074, L1503910, L1503913, L1503929, L1503932, L1503933, L1503934, L1504182, L1504213, L1504229, L1504251, L1504261, L1504507, L1505818, L1505951, L1505971, L1505977, L1505985, L1506164, L1506370, L1506569, L1506599, L1507001, L1507201, L1507258, L1507258, L1507347, L1507648, L1507972, L1507977, L1508637, L1508673, L1508687, L1508699, L1508987, L1510231, L1510268, L1510268, L1510745, L1510745, L1511190, L1511235, L1511235

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit out of range.

[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[3] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[4] Guideline varies with pH, and/or other Temperature or Hardness.

[5] Health Canada Drinking Water Guidelines, 2012.

[6] Guideline for nitrate applied.

[7] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[8] Calculated based on an individual sample taken per week over a 30 day period.

[9] Secondary chronic or chronic value, not 30 day mean.

[10] Guideline not applicable for site elevation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals: Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,1]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.026[d]	n/a	1 (Cr(+6))	110	6.0-9.2[d]	1,000	27.3-57.7[d]	870	n/a	1,000.6-1,379[d]	Methyl mercury analysis in progress	2,000	25-65[d]	373,000-432,000	2	n/a	0.1[d]	n/a	0.3	n/a	2,000	300	6	33[d]
BCWQG Aquatic Life (30day) (AW)[a,2]			n/a	n/a	n/a	1,000	5.3[f]	n/a	n/a	n/a	n/a	n/a	4	2-3[d]	n/a	4.4-5.6[d]	14[f]	n/a	791.1-940[d]		1,000	n/a	n/a	n/a	n/a	0.05[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[f]
BCWQG Drinking Water (DW)[b,4]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	500	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[c]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	200	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-01	QUL-21-0M	2014 08 08	17.4	< 0.1	0.12	5.43	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.6	< 30	< 0.05	0.63	1,950	1.04	< 0.05	0.305	< 0.5	473	< 0.5	1,650	< 0.01	847	< 0.01	< 0.1	< 10	0.167	< 1	< 3
	QUL-21-7M	2014 08 08	18.7	< 0.1	0.11	5.24	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	0.58	< 30	< 0.05	< 0.5	1,970	1.03	< 0.05	0.296	< 0.5	470	< 0.5	1,640	< 0.01	854	< 0.01	< 0.1	< 10	0.167	< 1	< 3
	QUL-21-30M	2014 08 08	70.4	< 0.1	0.13	5.65	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	1.64	67	< 0.05	0.74	2,170	4.07	< 0.05	0.283	< 0.5	484	< 0.5	1,870	< 0.01	913	< 0.01	< 0.1	< 10	0.18	< 1	< 3
	QUL-21	2014 08 09	17.8	< 0.1	0.11	5.42	< 0.1	< 0.5	< 10	< 0.01	15,400	< 0.5	< 0.1	0.56	< 30	< 0.05	0.63	1,810	0.924	< 0.05	0.311	< 0.5	471	< 0.5	1,590	< 0.01	840	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-21	2014 08 11	22.5	< 0.1	0.14	5.51	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	0.79	< 30	< 0.05	0.62	1,880	1.26	< 0.05	0.291	< 0.5	493	< 0.5	1,520	< 0.01	845	< 0.01	< 0.1	< 10	0.133	< 1	< 3
	QUL-21-0M	2014 08 12	16.4	< 0.1	0.12	5.36	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.71	< 30	< 0.05	0.75	1,860	1.24	< 0.05	0.322	< 0.5	478	< 0.5	1,580	< 0.01	849	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-21X	2014 08 12	18	< 0.1	0.12	5.45	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.73	< 30	< 0.05	0.58	1,940	1.25	< 0.05	0.299	< 0.5	497	< 0.5	1,570	< 0.01	825	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QA/QC RPD %		6		1	1			2		1			3		5		1	2			1	1		1		1			2		1	6
	QUL-21-12M	2014 08 12	20.6	< 0.1	0.1	5.15	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.64	< 30	< 0.05	0.6	1,900	1.09	< 0.05	0.289	< 0.5	475	< 0.5	1,560	< 0.01	854	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-21-30M	2014 08 12	17.6	< 0.1	0.12	5.3	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.71	< 30	< 0.05	0.77	2,110	1.02	< 0.05	0.282	< 0.5	480	< 0.5	1,730	< 0.01	931	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-21	2014 08 13	15.4	< 0.1	0.14	5.54	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.67	< 30	< 0.05	0.66	1,950	1.6	< 0.05	0.332	< 0.5	498	< 0.5	1,640	< 0.01	872	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QUL-21	2014 08 14	17	< 0.1	0.13	5.42	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.81	< 30	< 0.05	0.59	1,940	1.59	-	0.34	< 0.5	496	< 0.5	1,650	< 0.01	860	< 0.01	< 0.1	< 10	0.133	< 1	3.4
	QUL-21-0M	2014 08 15	14.8	< 0.1	0.13	5.49	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.59	< 30	< 0.05	< 0.5	1,850	1.37	-	0.334	< 0.5	479	< 0.5	1,610	< 0.01	842	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-21-10M	2014 08 15	17	< 0.1	0.1	5.21	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.57	< 30	< 0.05	< 0.5	1,840	0.908	-	0.271	< 0.5	480	< 0.5	1,560	< 0.01	817	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-21-30M	2014 08 16	19.3	< 0.1	0.1	5.28	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	0.79	< 30	< 0.05	< 0.5	2,040	1.43	-	0.286	< 0.5	488	< 0.5	1,760	< 0.01	936	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-21	2014 08 16	14.5	< 0.1	0.13	5.46	< 0.1	< 0.5	< 10	< 0.01	15,800	< 0.5	< 0.1	0.54	< 30	< 0.05	< 0.5	1,870	1.22	-	0.324	< 0.5	497	< 0.5	1,560	< 0.01	821	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-21	2014 08 17	19.7	< 0.1	0.13	5.49	< 0.1	< 0.5	< 10	< 0.01	15,700	< 0.5	< 0.1	< 1	< 30	< 0.05	0.66	1,870	1.39	-	0.319	< 0.5	470	< 0.5	1,540	< 0.01	852	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-21-0M	2014 08 23	39.1	< 0.1	0.1	6.13	< 0.1	< 0.5	< 10	< 0.01	15,700	< 0.5	< 0.1	1.66	30	< 0.05	0.86	1,800	1.77	< 0.05	0.32	< 0.5	448	< 0.5	1,530	< 0.01	763	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-21-20M	2014 08 23	50.6	< 0.1	0.13	5.56	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	1.53	48	< 0.05	1.03	2,070	3.15	< 0.05	0.276	< 0.5	494	< 0.5	1,630	< 0.01	918	< 0.01	< 0.1	< 10	0.157	< 1	< 3
	QUL-21-46M	2014 08 23	3,910	0.3	1.89	90.2	< 0.1	< 0.5	< 10	0.023	25,400	2.11	1.65	76.1	2,600	1.39	2.84	3,950	179	< 0.05	5.03	3.28	2,420	0.67	11,100	0.031	3,700	0.013	0.12	169	0.732	7.8	7.7
	QUL-21-0M	2014 08 25	31.1	< 0.1	0.1	5.85	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	1.83	< 30	< 0.05	< 0.5	1,830	1.5	< 0.05	0.297	< 0.5	474	< 0.5	1,530	< 0.01	836	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-21-9M	2014 08 25	70.9	< 0.1	0.14	6.76	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	3.54	83	< 0.05	< 0.5	1,930	3.59	< 0.05	0.334	< 0.5	496	< 0.5	1,660	< 0.01	872	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-21-45M	2014 08 25	3,810	0.29	1.76	85.4	< 0.1	< 0.5	< 10	0.02	24,600	1.97	1.45	70.1	2,170	1.28	2.24	3,630	157	< 0.05	5.08	2.91	2,330	0.61	10,300	0.026	3,690	0.012	0.11	140	0.733	7	7
	QUL-21-0M	2014 08 26	36	< 0.1	0.12	5.85	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	1.59	< 30	< 0.05	0.54	1,930	1.77	< 0.01	0.301	< 0.5	484	< 0.5	1,570	< 0.01	823	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-21-21M	2014 08 26	61.9	< 0.1	0.12	6.44	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	2.8	53	< 0.05	0.54	1,860	3.07	< 0.01	0.321	< 0.5	456	< 0.5	1,560	< 0.01	825	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-21-47M	2014 08 26	3,560	0.28	1.76	86.1	< 0.1	< 0.5	< 10	0.022	23,600	2.01	1.44	69.3	2,060	1.22	2.44	3,510	169	< 0.01	4.64	2.82	2,260	0.63	9,740	0.028	3,760	0.013	0.11	133	0.694	6.8	6.9
	QUL-21-0M	2014 08 28	21.5	< 0.1	0.13	5.63	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.82	< 30	< 0.05	< 0.5	1,930	1.25	< 0.01	0.301	< 0.5	476	< 0.5	1,520	< 0.01	843	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-21-16M	2014 08 28	94.9	< 0.1	0.14	6.69	< 0.1	< 0.5	< 10	< 0.05*	16,800	< 0.5	< 0.1	2.99	89	0.066	< 0.5	1,950	3.64	< 0.01	0.293	< 0.5	490	< 0.5	1,730	< 0.01	874	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-21-48M	2014 08 28	3,700	0.31	1.87	94.7	< 0.1	< 0.5	10	< 0.05*	24,600	2.1	1.45	74.5	2,110	1.31	2.02	3,690	166	< 0.01	5.73	2.92	2,540	0.71	10,000	0.031	4,220	0.011	0.12	146	0.802	7.2	7.1
QUL-22	QUL-22	2014 08 09	16	< 0.1	0.12	5.4	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.62	< 30	< 0.05	0.54	1,940	1.14	< 0.05	0.291	< 0.5	471	< 0.5	1,630	< 0.01	849	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-22	2014 08 09	22.3	< 0.1	0.11	5.36	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.63	< 30	< 0.05	0.58	1,920	0.647	< 0.05	0.306	< 0.5	457	< 0.5	1,610	< 0.01	825	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-22	2014 08 10	21.8	< 0.1	0.13	5.62	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.8	< 30	< 0.05	< 0.5	1,890	1.12	< 0.05	0.288	< 0.5	466	< 0.5	1,610	< 0.01	877	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-22	2014 08 11	23	< 0.1	0.14	5.31	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.76	< 30	< 0.05	0.69	1,910	1.26	< 0.05	0.307	< 0.5	488	< 0.5	1,570	< 0.01	848	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-22	2014 08 12	17.1	< 0.1	0.11	5.14	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.65	< 30	< 0.05	0.61	1,870	1.29	< 0.05	0.304	< 0.5	490	< 0.5	1,570	< 0.01	837	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-22	2014 08 13	15.8	< 0.1	0.14	5.43	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.59	< 30	< 0.05	0.78	1,850	1.17	< 0.05	0.319	< 0.5	477	< 0.5	1,610	< 0.01	852	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-22	2014 08 14	15.4	< 0.1	0.11	5.48	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.63	< 30	< 0.05	1.08	1,910	1.41	-	0.324	< 0.5	476	< 0.5	1,640	< 0.01	863	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-22	2014 08 15	16	< 0.1	0.14	5.56	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	0.63	< 30	< 0.05	< 0.5	1,870	1.37	-	0.324	< 0.5	472	< 0.5	1,610	< 0.01	843	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-22	2014 08 16	13.8	< 0.1	0.12	5.45	< 0.1	< 0.5	< 10	< 0.01	15,900	< 0.5	< 0.1	0.63	< 30	< 0.05	< 0.5	1,860	1.29	-	0.296	< 0.5	469	< 0.5	1,570	< 0.01	827	< 0.01	< 0.1	< 10	0.129	< 1	< 3
	QUL-22	2014 08 17	14.8	< 0.1	0.14	5.36	< 0.1	< 0.5	< 10	< 0.01	15,700	< 0.5	< 0.1	< 1	< 30	< 0.05	0.64	1,860	1.18	-	0.32	< 0.5	481	< 0.5	1,550	< 0.01	866	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-22	2014 08 18	16.1	< 0.1	0.12	5.46	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.64	< 30	< 0.05	0.86	1,920	1.17	-	0.324	< 0.5	478	< 0.5	1,580	< 0.01	843	< 0.01	< 0.1	< 10	0.136	< 1	< 3
	QUL-22	2014 08 21	48.4	< 0.1	0.15	5.88	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.65	41	< 0.05	0.75	1,840	2.04	-	0.325	< 0.5	486	< 0.5	1,600	< 0.01	823	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-22	2014 08 22	39.4	< 0.1	0.13	5.83	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	1.58	< 30	< 0.05	0.78	1,840	1.58	-	0.293	< 0.5	494	< 0.5	1,560	< 0.01	873	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-22	2014 08 23	37.4	< 0.1	0.12	5.81	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	1.9	< 30	< 0.05	1	1,830	1.9	< 0.05	0.31	< 0.5	508	< 0.5	1,620	< 0.01	857	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUL-22-0M	2014 08 26	39.1	< 0.1	0.13	5.79	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	1.74	31	< 0.05	0.85	1,910	1.96	< 0.01	0.322	< 0.5	496	< 0.5	1,590	< 0.01	826	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-22-4M	2014 08 26	42	< 0.1	0.14	6.03	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.79	32	< 0.05	0.64	1,900	1.88	< 0.01	0.331	< 0.5	481	< 0.5	1,560	< 0.01	849	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-22-0M	2014 08 28	37.5	< 0.1	0.11	5.82	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	1.92	32	< 0.05	0.96	1,870	1.9	< 0.01	0.303	< 0.5	478	< 0.5	1,530	< 0.01	787	< 0.01	< 0.1	< 10	0.132	< 1	< 3
	QUL-22-0M	2014 08 28	22.8	< 0.1	0.14	5.67	< 0.1	< 0.5	< 10	0.156	16,400	< 0.5	< 0.1	1.45	< 30	0.11	< 0.5	1,910	1.81	< 0.01	0.336	< 0.5	477	< 0.5	1,610	< 0.01	860	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-22-9M	2014 08 28	30	< 0.1	0.12	5.67	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.7	31	< 0.05	< 0.5	1,940	1.98	< 0.01	0.31	< 0.5	480	< 0.5	1,560	< 0.01	858	< 0.01	< 0.1	< 10	0.145	< 1	< 3

Associated ALS Nos: L1485519, L1485520, L1485196, L1485203, L1485703, L1485707, L1485710, L1485926, L1485947, L1505618, L1501601, L1501618, L1502749, L1502364, L1502370, L1502388, L1503057, L1503581, L1503079, L1503018, L1503013, L1503928, L1503992, L1503993, L1503934, L1504188, L1504213, L1504229, L1504251, L1504267, L1504587, L1503918, L1505571, L1505817, L1505585, L1505164, L1502370, L1504969, L1505598, L1507001, L1507201, L1507258, L1506862, L1507259, L1507247, L1507949, L1507972, L1507977, L1506837, L1506873, L1506957, L1505845, L1503547, L1510231, L1510258, L1512256, L1512741, L1510746, L1511196, L1511225, L1511239

All terms defined within the body of SNC-Lavalin report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, Updated 2014

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2008.

[d] Guideline varies with pH and/or either Temperature or Hardness

[e] Health Canada Drinking Water Guidelines 2012.

[f] Guideline for Nitrite applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at one point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary standard, or aesthetic value, not 30 day mean.

[j] Guideline not applicable for site situation

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TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters									Microbiological Tests		Total Inorganics													
			Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (uS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (ug/L)	Nitrate Nitrogen (ug/L)	Nitrite Nitrogen (ug/L)	Nitrate+Nitrite Nitrogen (ug/L)	Chloride (mg/L)	Fluoride (ug/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus[5] (mg/L)
BC Guidelines																											
BCWQG Aquatic Life (AW)[1,2]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 0	n/a	n/a	Change of 25	n/a	n/a	n/a	n/a	n/a	5,960-16,400[3]	32,800	60 (Cl<2)	32,800[3]	600	665.2-1,224.3[3]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[1,2]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	n/a	n/a	1,090-1,770[3]	3,000	20 (Cl<2)	3,000[3]	150	n/a	128-309[3]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[1,2]			n/a	6.5-8.5	6.5-8.5	n/a[4]	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000[3]	250	1,000	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[1]			n/a	6.5-8.5	6.5-8.5	n/a[4]	n/a[4]	n/a	500	n/a	n/a	n/a[4]	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUL-23	QUL23	2014 08 25	49.9	7.96	7.97	17.4	3.26	99	67	< 3	1.86	-	-	-	0.145	< 5	54.7	< 1	-	< 0.5	34	5.81	44.4	-	< 0.001	< 0.002*
	QUL23X	2014 08 25	49.7	7.95	7.94	17.4	0.71	98.9	64	< 3	1.92	-	-	-	0.151	< 5	54.7	< 1	-	< 0.5	35	5.8	44.5	-	< 0.001	< 0.002*
	QA/QC RPD %		< 1	0	< 1	0	128	< 1	5		1	-	-	-	1	< 5	0	< 1	-	< 0.5	1	< 1	< 1	-	< 0.001	< 0.002*
	QUL-23	2014 08 27	49.1	8.03	7.99	18.0	2.06	98.9	72	3.7	2.09	-	-	-	0.121	< 5	42.4	< 1	-	< 0.5	35	5.77	45	-	0.001	< 0.002*
	QUL-23	2014 08 26	50.1	7.89	7.94	16.2	0.31	98	68	< 3	2.29	-	-	-	0.138	< 5	43.8	1	-	< 0.5	35	5.77	44.9	-	< 0.001	0.0023
	QUL-23	2014 08 28	49.2	8.16	7.95	19.8	0.36	97	63	< 3	2.26	-	-	-	0.134	< 5	45.8	< 1	-	< 0.5	34	5.77	45.5	-	< 0.001	< 0.002*
	QUL-23	2014 09 29	50.3	-	7.89	-	0.98	97.8	60	< 3	2.17	-	-	-	0.112	< 5	30.8	< 1	-	< 0.5	35	5.84	44.8	-	< 0.001	< 0.002*
QUL-26	QUL-26-0M	2014 08 11	49	7.37	7.9	18.4	0.82	98.2	68	< 3	2.07	-	-	-	0.132	< 5	41	< 1	-	< 0.5	34	5.71	44.7	-	< 0.001	0.0021
	QUL-26-13M	2014 08 11	50.9	7.74	7.92	9.5	0.7	102	66	< 3	2.15	-	-	-	0.179	< 5	106	< 1	-	< 0.5	34	5.95	45.9	-	< 0.001	< 0.002*
	QUL-26-24M	2014 08 11	53.2	7.56	7.92	5.0	0.89	109	69	< 3	1.94	-	-	-	0.189	< 5	137	< 1	-	< 0.5	36	6.19	48.2	-	< 0.001	< 0.002*
	QUL-26	2014 08 12	47.8	7.67	7.93	20.2	0.4	96.1	65	< 3	2.21	-	-	-	0.141	< 5	45.3	< 1	-	< 0.5	36	5.98	44.7	-	< 0.001	< 0.002*
	QUL-26	2014 08 13	48.5	-	7.97	20.5	0.77	101	66	< 3	3.22	-	-	-	0.138	< 5	< 5	< 1	-	< 0.5	35	5.59	46.2	-	< 0.001	< 0.002*
	QUL-26-0M	2014 08 14	49.3	7.85	7.95	20.7	0.34	97.7	64	< 3	2.25	-	-	-	0.116	< 5	32.1	1	-	< 0.5	36	5.81	43.8	-	< 0.001	0.0021
	QUL-26-12M	2014 08 14	52.3	7.63	7.97	12.1	7.07	103	73	12.5	1.9	-	-	-	0.134	< 5	83.3	< 1	-	< 0.5	37	6.18	46.2	-	< 0.001	< 0.002*
	QUL-26-27M	2014 08 14	56	7.66	7.98	4.7	4.14	110	74	5.7	2.02	-	-	-	0.174	< 5	143	< 1	-	< 0.5	38	6.48	49.6	-	< 0.001	0.0022
	QUL-26	2014 08 15	49.1	7.97	7.97	22.0	0.34	97	62	< 3	1.99	-	-	-	0.109	< 5	39.5	< 1	-	< 0.5	36	5.83	43.2	-	< 0.001	< 0.002*
	QUL-26	2014 08 16	49.8	8.08	7.96	20.4	0.25	95	58	< 3	2.13	-	-	-	0.114	< 5	42.2	< 1	-	< 0.5	36	5.62	43.8	-	< 0.001	0.0013
	QUL-26-0M	2014 08 17	47.9	8.75	7.9	20.3	0.43	96.8	70	< 3	2.47	-	-	-	0.146	< 5	20.9	< 1	-	< 0.5	36	5.81	44.2	-	< 0.001	< 0.002*
	QUL-26-12M	2014 08 17	51.6	7.65	7.95	8.8	4.85	103	60	9.7	2.1	-	-	-	0.176	< 5	111	< 1	-	< 0.5	36	5.96	46.4	-	< 0.001	< 0.002*
	QUL-26-26M	2014 08 17	54.4	7.40	7.94	4.7	3.31	108	67	4.6	2.09	-	-	-	0.2	< 5	148	< 1	-	< 0.5	37	6.38	48.2	-	< 0.001	< 0.002*
	QUL-26-0M	2014 08 19	48.9	7.78	7.93	16.9	0.33	96.5	69	< 3	2	-	-	-	0.116	< 5	42.7	< 1	-	< 0.5	32	5.96	43.9	-	< 0.001	< 0.002*
	QUL-26-10M	2014 08 19	50.4	7.77	7.92	14.4	8.47	100	69	9.5	1.93	-	-	-	0.15	5.7	79.2	< 1	-	< 0.5	33	5.97	45.6	-	< 0.001	< 0.002*
	QUL-26-20M	2014 08 19	52.5	-	7.93	-	6.66	107	69	9.2	1.92	-	-	-	0.179	< 5	131	< 1	-	< 0.5	34	6.08	48.7	-	< 0.001	< 0.002*
	QUL-26-0M	2014 09 21	49.2	8.27	7.87	18.9	1.07	95.1	62	< 3	2.16	-	-	-	0.114	< 5	48.9	< 1	-	< 0.5	36	5.71	44.3	-	< 0.001	< 0.002*
QUL-28	QUL-28-0M	2014 08 11	49.3	7.52	7.82	17.5	0.53	101	69	< 3	2.32	-	-	-	0.134	< 5	34.5	< 1	-	< 0.5	35	5.71	45.5	-	< 0.001	0.0025
	QUL-28	2014 08 12	48.1	7.73	7.93	20.9	0.77	99.8	62	< 3	2.06	-	-	-	0.121	< 5	45.9	< 1	-	< 0.5	37	5.88	44.8	-	< 0.001	< 0.002*
	QUL-28	2014 08 13	47.6	-	7.93	21.1	0.45	98.7	62	< 3	2.61	-	-	-	0.125	< 5	33.2	1	-	< 0.5	34	5.63	44.8	-	< 0.001	< 0.002*
QUL-30	QUL-30	2014 08 07	49	7.24	7.99	20.4	1.07	98.4	63	< 3	1.85	261	< 1	0.098	0.141	< 5	54.8	< 1	-	< 0.5	33	5.82	46.7	-	< 0.001	< 0.002*
QUL-31	QUL-31	2014 08 07	47.5	8.20	7.97	21.0	0.6	95.8	58	< 3	2.09	130	1	0.117	0.144	< 5	67.3	< 1	-	< 0.5	33	5.81	44.9	-	< 0.001	< 0.002*
QUL-32	QUL-32	2014 08 06	48.7	-	7.98	-	0.38	101	61	< 3	1.89	-	-	-	0.162	< 5	77.9	1.9	79.4	< 0.5	34	5.8	46	-	< 0.001	< 0.002*
QUL-33	QUL-33	2014 08 06	49	-	7.95	20.0	0.32	99	63	< 3	1.9	-	-	-	0.129	< 5	63.6	< 1	63.6	< 0.5	34	5.83	43.6	-	< 0.001	< 0.002*
QUL-34	QUL-34-4M	2014 08 13	47.2	-	7.97	20.2	0.31	97.8	62	< 3	2.03	-	-	-	0.118	< 5	50.5	< 1	-	< 0.5	32	5.62	44.1	-	< 0.001	< 0.002*
QUL-35	QUL-35-3M	2014 08 14	48.8	8.18	7.9	21.1	0.34	97.5	65	< 3	2.1	-	-	-	0.102	< 5	40.8	< 1	-	< 0.5	36	5.92	43.7	-	< 0.001	< 0.002*
QUL-36	QUL-36-3M	2014 08 14	48.4	8.08	7.95	18.0	0.29	97.3	60	< 3	2.05	-	-	-	0.12	< 5	52.1	< 1	-	< 0.5	36	5.82	43.7	-	< 0.001	< 0.002*
QUL-37	QUL-37-0M	2014 08 15	49.1	8.13	7.98	20.1	0.27	96.9	66	< 3	1.77	-	-	-	0.103	< 5	48.7	< 1	-	< 0.5	35	5.86	44.3	-	0.0011	0.0027
	QUL-37-7M	2014 08 15	49	8.13	7.97	18.8	0.25	97	63	< 3	1.72	-	-	-	0.113	< 5	58.9	< 1	-	< 0.5	36	5.84	43.8	-	< 0.001	0.0021
	QUL-37-TAP	2014 08 15	49.4	-	-	-	0.32	-	63	3.9	1.68	-	-	-	0.111	< 5	50.6	< 1	-	< 0.5	35	5.87	43.7	-	< 0.001	0.0021
QUL-38	QUL-38	2014 08 15	48.4	7.11	7.97	16.3	0.35	97.5	59	< 3	2.44	48	< 1	-	0.155	5.3	40.9	< 1	-	< 0.5	34	5.84	43.6	-	< 0.001	< 0.002*
	QUL-38-2M	2014 08 26	50.2	7.95	7.99	17.8	0.71	100	62	< 3	2.1	-	-	-	0.128	< 5	55	< 1	-	< 0.5	35	5.78	45.1	-	< 0.001	< 0.002*
QUL-39	QUL-39	2014 08 16	49.8	7.84	7.9	18.1	0.46	98	71	< 3	2.3	24	< 1	-	0.163	5.9	80.3	< 1	-	< 0.5	34	5.75	44	-	< 0.001	< 0.002*
QUL-60	QUL-60	2014 08 18	49.4	7.70	7.97	15.3	0.64	97.8	69	< 3	2.43	27	< 1	-	0.149	5.8	72.4	< 1	-	< 0.5	34	5.71	44.2	-	< 0.001	< 0.002*
	QUL-60-3M	2014 08 26	49.8	7.91	7.94	17.4	0.78	100	69	< 3	2.23	-	-	-	0.131	< 5	56.5	< 1	-	< 0.5	34	5.76	45	-	< 0.001	< 0.002*
QUL-61	QUL-61	2014 08 18	49.2	7.78	7.97	13.9	0.54	97.9	66	< 3	2.25	15	< 1	-	0.154	5.6	79.3	< 1	-	< 0.5	34	5.73	44.6	-	< 0.001	< 0.002*
	QUL-61-2M	2014 08 26	50.2	7.93	7.99	17.8	0.67	100	62	< 3	2.2	-	-	-	0.13	< 5	56.2	< 1	-	< 0.5	34	5.78	44.7	-	< 0.001	< 0.002*
QUL-62	QUL-62	2014 08 18	48.5	7.63	7.97	17.7	0.36	96.9	67	< 3	2.4	31	1	-	0.252	9.2	57.5	< 1	-	< 0.5	34	5.66	44	-	< 0.001	< 0.002*
QUL-63	QUL-63	2014 08 18	48.9	7.81	7.96	17.4	0.45	97.4	67	< 3	2.31	53	2	-	0.137	6.2	60.5	< 1	-	< 0.5	34	5.84	44	-	< 0.001	< 0.002*
QUL-64	QUL-64	2014 08 18	48.1	7.88	7.97	18.3	0.29	96.9	70	< 3	2.37	36	2	-	0.135	5.7	48.2	< 1	-	< 0.5	34	5.85	44.1	-	< 0.001	< 0.002*
	QUL-64-2M	2014 08 27	49.7	8.03	7.99	17.7	0.78	99	71	< 3	2.14	-	-	-	0.122	< 5	52.9	< 1	-	< 0.5	34	5.79	44.4	-	< 0.001	0.0021
QUL-65	QUL65-45M	2014 08 19	72.7	7.83	7.97	8.4	124	160	112	28.2	1.9	-	-	-	0.486	33.9	243	1.9	-	0.62	70	10.3	60.3	-	< 0.001	< 0.002*

Associated ALS files: L1499519, L1499533, L1499186, L1499703, L1499793, L1499707, L1499710, L1499826, L1499947, L1500019, L1501501, L1501516, L1502349, L1502364, L1502370, L1502398, L1503057, L1503061, L1503079, L1503090, L1502512, L1503626, L1503632, L1503693, L1503634, L1504165, L1504213, L1504230, L1504251, L1504261, L1504097, L1505018, L1505561, L1505571, L1505577, L1505584, L1505164, L1502270, L1505949, L1504998, L1507301, L1507291, L1507298, L1508693, L1507758, L1507747, L1507948, L1507972, L1507977, L1508637, L1508673, L1508207, L1508949, L1509097, L1510291, L1510288, L1510289, L1510741, L1510748, L1511192, L1511235, L1511232.
All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.
BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit out of range.
[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[3] A Compendium of Working Water Quality Guidelines for British Columbia, Updated August 2006.
[4] Guideline varies with pH, and/or either Temperature or Hardness.
[5] Health Canada Drinking Water Guidelines, 2012
[6] Guideline for Nitrate applied
[7] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time
[8] Calculated based on an individual sample basis, not average of 30 day results.
[9] Secondary chronic or chronic value, not 30 day mean
[10] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																														
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,c]			100[d]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[a,c]			50[d]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[a,c]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[b]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-23	QUL23	2014 08 25	11.5	16.8	< 30	1.91	1.07	0.466	0.831	< 0.1	0.11	5.7	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1	< 0.05	< 0.5	-	0.283	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL23X	2014 08 25	10.1	16.8	< 30	1.9	0.939	0.464	0.832	< 0.1	0.1	5.59	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.99	< 0.05	< 0.5	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QA/QC RPD %		*	0	*	< 1	13	< 1	< 1	*	*	2	*	*	*	*	*	1	*	*	*	*	*	*	*	*	*	1	*	*	*	*	*	*
	QUL-23	2014 08 27	10.7	16.5	< 30	1.92	1.05	0.453	0.861	< 0.1	0.11	5.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.7	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-23	2014 08 26	9.6	16.9	< 30	1.91	3.57	0.48	0.83	< 0.1	< 0.1	5.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.66	< 0.05	0.62	-	0.298	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QUL-23	2014 08 28	10.2	16.5	< 30	1.93	0.8	0.47	0.839	< 0.1	0.12	5.39	< 0.1	< 10	0.013	< 0.5	< 0.1	0.57	< 0.05	< 0.5	-	0.305	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-23	2014 08 29	9.8	16.6	< 30	1.95	3.45	0.484	0.848	< 0.1	0.12	5.92	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.71	< 0.05	0.53	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
QUL-26	QUL-26-0M	2014 08 11	11.3	16.5	< 30	1.89	4.79	0.541	0.846	< 0.1	0.12	6.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	1.02	-	0.303	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.12	< 1	< 3
	QUL-26-13M	2014 08 11	9.6	17	< 30	1.93	0.226	0.486	0.856	< 0.1	< 0.1	5.18	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.01	-	0.282	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-26-24M	2014 08 11	5.7	17.0	< 30	2.03	0.677	0.481	0.911	< 0.1	0.11	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	1.09	-	0.284	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-26	2014 08 12	10.6	16.1	< 30	1.87	0.554	0.498	0.859	< 0.1	0.11	5.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.61	< 0.05	0.71	-	0.309	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-26	2014 08 13	11	16.3	< 30	1.92	10.4	0.598	0.842	< 0.1	0.15	7.09	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.6	< 0.05	1.07	-	0.33	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.12	< 1	< 3
	QUL-26-0M	2014 08 14	11.2	16.6	< 30	1.91	2.64	0.509	0.837	< 0.1	0.1	5.61	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.67	-	0.294	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-26-12M	2014 08 14	11.7	17.8	< 30	1.93	5.07	0.483	0.878	< 0.1	0.11	6.11	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.62	< 0.05	0.71	-	0.404	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-26-27M	2014 08 14	5.3	18	< 30	2.1	8.77	0.476	0.952	< 0.1	0.13	8.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.03	< 0.05	0.85	-	0.375	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	< 3
	QUL-26	2014 08 15	10.2	16.5	< 30	1.92	1	0.476	0.824	< 0.1	0.12	5.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.294	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
	QUL-26	2014 08 16	10.2	16.4	< 30	1.9	0.843	0.476	0.816	< 0.1	0.12	5.48	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.72	-	0.339	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-26-0M	2014 08 17	9.8	16.1	< 30	1.88	3.09	0.516	0.828	< 0.1	0.11	5.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.55	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.118	< 1	< 3
	QUL-26-12M	2014 08 17	8.7	17.4	< 30	1.96	1.5	0.459	0.84	< 0.1	< 0.1	6.02	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.33	< 0.05	0.72	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QUL-26-26M	2014 08 17	5.1	18.3	< 30	2.09	4.46	0.462	0.939	< 0.1	0.11	5.72	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.01	< 0.05	0.75	-	0.348	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.161	< 1	< 3
	QUL-26-0M	2014 08 19	10.3	16.4	< 30	1.89	0.417	0.464	0.818	< 0.1	< 0.1	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.291	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-26-10M	2014 08 19	10.9	17.1	< 30	1.9	3.66	0.476	0.879	< 0.1	0.11	7.32	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.21	< 0.05	0.85	-	0.402	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-26-20M	2014 08 19	5.8	17.6	< 30	2.04	3.03	0.488	0.923	< 0.1	0.1	8.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.27	< 0.05	0.89	-	0.324	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-26-0M	2014 08 21	10.7	16.8	< 30	1.91	1.47	0.467	0.82	< 0.1	0.12	5.59	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.79	< 0.05	0.81	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
QUL-28	QUL-28-0M	2014 08 11	11.4	16.6	< 30	1.91	7.17	0.501	0.843	< 0.1	0.11	6.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	< 0.5	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
	QUL-28	2014 08 12	11.1	16.2	< 30	1.88	2.58	0.485	0.86	< 0.1	0.11	5.73	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.59	< 0.05	0.78	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-28	2014 08 13	11.2	15.8	< 30	1.9	2.4	0.508	0.846	< 0.1	0.14	5.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.67	-	0.308	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.123	< 1	< 3
QUL-30	QUL-30	2014 08 07	11.5	16.9	< 30	1.84	0.412	0.48	0.781	< 0.1	< 0.1	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	< 0.05	0.252	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
QUL-31	QUL-31	2014 08 07	11.4	15.9	< 30	1.88	0.789	0.485	0.837	< 0.1	0.12	5.19	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.56	< 0.05	0.311	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
QUL-32	QUL-32	2014 08 06	10.9	16.4	< 30	1.85	0.355	0.464	0.853	< 0.1	< 0.1	4.86	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.7	< 0.05	0.253	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
QUL-33	QUL-33	2014 08 06	10.9	16.6	< 30	1.84	0.237	0.434	0.767	< 0.1	< 0.1	4.61	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.63	< 0.05	0.225	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
QUL-34	QUL-34-0M	2014 08 13	10.6	15.9	< 30	1.84	0.13	0.456	0.826	< 0.1	< 0.1	5.23	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.31	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
QUL-35	QUL-35-3M	2014 08 14	11.1	16.4	< 30	1.91	0.547	0.466	0.858	< 0.1	0.11	5.37	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.54	< 0.05	0.71	-	0.314	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.124	< 1	< 3
QUL-36	QUL-36-4M	2014 08 14	11.4	16.3	< 30	1.86	0.203	0.472	0.818	< 0.1	0.11	5.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.68	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3
QUL-37	QUL-37-0M	2014 08 15	10.3	16.6	< 30	1.86	0.37	0.456	0.808	< 0.1	< 0.1	5.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-37-7M	2014 08 15	10.2	16.5	< 30	1.86	0.233	0.459	0.805	< 0.1	0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.27	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-37-TAP	2014 08 15	10.7	16.7	< 30	1.87	0.145	0.451	0.799	< 0.1	0.11	5.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.36	0.321	< 0.5	-	0.302	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	4
QUL-38	QUL-38	2014 08 18	9.8	16.2	< 30	1.9	0.366	0.462	0.822	< 0.1	0.11	5.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	0.72	-	0.292	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3
	QUL-38-2M	2014 08 26	9.6	16.9	< 30	1.92	0.786	0.453	0.825	< 0.1	0.12	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.56	-	0.301	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.129	< 1	< 3
QUL-39	QUL-39	2014 08 18	9.9	16.8	< 30	1.91	0.271	0.446	0.83	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.282	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
QUL-40	QUL-40	2014 08 18	10.7	16.9	< 30	1.91	0.529	0.459	0.815	< 0.1	0.1	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.7	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-40-9M	2014 08 26	10	16.8	< 30	1.91	0.847	0.452	0.805	< 0.1	0.1	5.52	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.07	< 0.05	0.55	-	0.298	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
QUL-61	QUL-61	2014 08 18	10	16.8	< 30	1.89	0.412	0.456	0.818	< 0.1	0.1	5.22	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.57	< 0.05	0.64	-	0.289	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3
	QUL-61-2M	2014 08 26	10.5	17	< 30	1.92	0.866	0.463	0.83	< 0.1	0.11	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.01	< 0.05	0.59	-	0.293	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
QUL-62	QUL-62	2014 08 18	9.4	16.3	< 30	1.88	0.326	0.468	0.816	< 0.1	0.11	5.23	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.74	-	0.297	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
QUL-63	QUL-63	2014 08 18	12.6	16.4	< 30	1.9	0.503	0.45	0.82	< 0.1	0.11	5.39	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.72	-	0.285	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
QUL-64	QUL-64	2014 08 18	10.5	16.2	< 30	1.89	0.644	0.47	0.83	< 0.1	0.11	5.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.72	-	0.292	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3
	QUL-64-2M	2014 08 27	9.5	16.6	< 30	1.92	0.903	0.453	0.839	< 0.1	< 0.1	5.56	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.65	-	0.304	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
QUL-65	QUL65-45M	2014 08 19	14.8	24.8	< 30	2.75	113	1.07	3.71	0.29	0.84	20.2	< 0.1	< 10	0.014	< 0.5	< 0.1	4.89	< 0.05	0.96	-	6.12	< 0.5	0.65	< 0.01	< 0.01	< 10	0.718	< 1	9.9

Associated ALS files: L1485318, L1485323, L1499168, L1499303, L1499703, L1499707, L1499716, L1499729, L1499947, L1503819, L1511501, L1511516, L1502349, L1502364, L1502370, L1502384, L1503057, L1503061, L1503078, L1502910, L1502912, L1502978, L1502932, L1503033, L1503034, L1504180, L1504212, L1504220, L1504591, L1504701, L1504697, L1508018, L1508551, L1508571, L1508577, L1508546, L1502164, L1507370, L1508549, L1508599, L1507101, L1507291, L1507296, L1506902, L1507299, L1507347, L1507946, L1507972, L1507977, L1508037, L1508673, L1509567, L1509549, L1509597, L1510231, L1510264, L1510269, L1510741, L1510748, L1511190, L1511279, L1511732.

All terms defined within the body of SNC-Lavalin's report (available upon request)

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit not in range.

[b] British Columbia Approved Water Quality Guidelines 2006 edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or alkalinity, temperature or Hardness.

[e] Health Canada (Treating) Water Guidelines 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Seasonally intensive or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals																																		
			Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																					
BCWQG Aquatic Life (AW)[a,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.029[d]	n/a	1 (Cr(+6))	110	6.0-9.2[d]	1,000	27.3-57.7[d]	870	n/a	1,000,0-1,370[d]	Methyl mercury analyses in progress	2,000	25-65[d]	373,000-432,000	2	n/a	0.1[d]	n/a	0.3	n/a	2,000	300	6	33[d]
BCWQG Aquatic Life (30day) (AW)[a,b]			n/a	n/a	n/a	1,000	0.3[d]	n/a	n/a	n/a	n/a	n/a	4	2-3[d]	n/a	4.4-5.8[d]	14[d]	n/a	761,1-940[d]		1,000	n/a	n/a	n/a	n/a	0.05[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[d]
BCWQG Drinking Water (DW)[a,f]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	900	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[a]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-23	QUL23	2014 08 26	64.7	< 0.1	0.13	6.34	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	2.18	47	< 0.05	< 0.5	1,910	3.02	–	0.357	< 0.5	467	< 0.5	1,630	< 0.01	846	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL23X	2014 08 26	47.5	< 0.1	0.14	6.28	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	1.6	38	< 0.05	< 0.5	1,930	2.44	–	0.336	< 0.5	478	< 0.5	1,630	< 0.01	850	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	CADDC RPD %		14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	QUL-23	2014 08 27	7.55	< 0.1	0.15	6.54	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	1.76	135	0.051	0.77	1,970	5.5	< 0.01	0.336	< 0.5	487	< 0.5	1,740	< 0.01	885	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-23	2014 08 29	59.4	< 0.1	0.14	6.49	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	2.47	70	< 0.05	0.57	1,880	4.33	< 0.01	0.311	< 0.5	467	< 0.5	1,570	< 0.01	803	< 0.01	< 0.1	< 10	0.133	< 1	< 3
	QUL-23	2014 08 29	33.8	< 0.1	0.15	5.75	< 0.1	< 0.5	< 10	< 0.05[e]	15,700	< 0.5	< 0.1	0.67	< 30	< 0.05	< 0.5	1,860	1.48	< 0.01	0.373	< 0.5	466	< 0.5	1,560	< 0.01	842	0.027	< 0.1	< 10	0.167	< 1	< 3
	QUL-23	2014 08 29	48.3	< 0.1	0.17	6.56	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.58	64	< 0.05	< 0.5	1,940	3.24	< 0.01	0.302	< 0.5	505	< 0.5	1,660	< 0.01	896	< 0.01	< 0.1	< 10	0.193	< 1	< 3
QUL-25	QUL-25-0M	2014 08 11	28.1	< 0.1	0.14	5.87	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	1	< 30	< 0.05	0.91	1,910	4.27	< 0.01	0.332	< 0.5	536	< 0.5	1,970	< 0.01	861	< 0.01	< 0.1	< 10	0.192	< 1	< 3
	QUL-25-12M	2014 08 11	30.8	< 0.1	0.11	5.48	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1	< 30	< 0.05	0.99	2,000	1.41	< 0.01	0.301	< 0.5	462	< 0.5	1,670	< 0.01	871	0.014	< 0.1	< 10	0.151	< 1	< 3
	QUL-25-24M	2014 08 11	41.7	< 0.1	0.14	5.7	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	1.2	39	< 0.05	0.87	2,060	2.31	< 0.01	0.299	< 0.5	500	< 0.5	1,740	< 0.01	823	< 0.01	< 0.1	< 10	0.164	< 1	< 3
	QUL-25	2014 08 12	30.4	< 0.1	0.14	5.63	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.98	< 30	< 0.05	0.76	1,930	2.32	< 0.01	0.338	< 0.5	515	< 0.5	1,820	< 0.01	886	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-26	2014 08 13	20.2	< 0.1	0.17	7.18	< 0.1	< 0.5	< 10	< 0.01	19,600	< 0.5	< 0.1	0.95	48	< 0.05	0.94	1,980	11.1	< 0.01	0.348	< 0.5	616	< 0.5	1,850	< 0.01	888	< 0.01	< 0.1	< 10	0.123	< 1	< 3
	QUL-26-0M	2014 08 14	16.9	< 0.1	0.12	5.72	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.47	< 30	< 0.05	0.75	1,900	3.2	< 0.01	0.328	< 0.5	509	< 0.5	1,810	< 0.01	864	< 0.01	< 0.1	< 10	0.132	< 1	< 3
	QUL-26-12M	2014 08 14	651	< 0.1	0.37	16.6	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	0.42	31.9	530	0.349	1.16	2,250	21.5	< 0.01	0.483	0.88	697	< 0.5	3,170	< 0.01	986	< 0.01	< 0.1	43	0.171	1.8	3.6
	QUL-26-27M	2014 08 14	342	< 0.1	0.24	11.2	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	0.18	17.2	288	0.148	0.88	2,220	17.1	< 0.01	0.408	0.61	601	< 0.5	2,470	< 0.01	1,030	< 0.01	< 0.1	18	0.161	< 1	< 3
	QUL-28	2014 08 16	19.5	< 0.1	0.13	6.43	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	0.75	< 30	< 0.05	< 0.5	1,900	2.02	–	0.326	< 0.5	488	< 0.5	1,610	< 0.01	882	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-28	2014 08 16	16.3	< 0.1	0.12	5.82	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.84	< 30	< 0.05	< 0.5	1,860	1.56	< 0.01	0.313	< 0.5	470	< 0.5	1,540	< 0.01	811	< 0.01	< 0.1	< 10	0.137	< 1	< 3
	QUL-09-0M	2014 08 17	20.1	< 0.1	0.13	5.79	< 0.1	< 0.5	< 10	< 0.01	15,600	< 0.5	< 0.1	< 1	< 30	< 0.05	0.73	1,860	3.46	< 0.01	0.303	< 0.5	518	< 0.5	1,540	< 0.01	830	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-26-12M	2014 08 17	217	< 0.1	0.25	10.4	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	0.18	9.14	250	0.142	1	2,090	9.71	< 0.01	0.364	0.54	574	< 0.5	2,280	< 0.01	899	< 0.01	< 0.1	20	0.18	1.1	< 3
	QUL-26-28M	2014 08 17	211	< 0.1	0.2	8.48	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	0.12	8.2	170	0.084	1.01	2,160	9.41	< 0.01	0.355	< 0.5	562	< 0.5	2,160	< 0.01	885	< 0.01	< 0.1	13	0.173	< 1	< 3
	QUL-26-0M	2014 08 19	16	< 0.1	0.13	5.47	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.58	< 30	< 0.05	0.88	1,900	1.07	–	0.318	< 0.5	483	< 0.5	1,540	< 0.01	860	< 0.01	< 0.1	< 10	0.133	< 1	< 3
	QUL-26-10M	2014 08 19	245	< 0.1	0.23	10.3	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	0.17	10	213	0.101	1.05	2,010	8.39	–	0.384	0.53	566	< 0.5	2,040	< 0.01	935	< 0.01	< 0.1	14	0.156	< 1	< 3
	QUL-26-30M	2014 08 19	345	< 0.1	0.29	11.8	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	0.25	10.7	336	0.179	1.23	2,240	12.5	< 0.01	0.325	0.6	609	< 0.5	2,470	< 0.01	942	< 0.01	< 0.1	28	0.182	1.2	< 3
	QUL-26-0M	2014 08 21	70.7	< 0.1	0.17	6.44	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	2.21	85	< 0.05	0.77	1,970	3.68	–	0.327	1.01	485	< 0.5	1,700	< 0.01	865	< 0.01	< 0.1	< 10	0.143	< 1	< 3
QUL-28	QUL-28-0M	2014 08 11	28.2	< 0.1	0.15	6.41	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	1.03	< 30	< 0.05	0.84	1,910	9.7	< 0.01	0.305	0.57	542	< 0.5	1,580	< 0.01	883	< 0.01	< 0.1	< 10	0.131	< 1	< 3
	QUL-28	2014 08 12	51.9	< 0.1	0.14	6.32	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	1.89	44	< 0.05	0.84	1,900	4.5	< 0.01	0.30	< 0.5	507	< 0.5	1,680	< 0.01	874	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-29	2014 08 13	22.7	< 0.1	0.16	6.16	< 0.1	< 0.5	< 10	0.013	16,400	< 0.5	< 0.1	0.86	< 30	< 0.05	0.86	1,850	4.82	< 0.01	0.356	< 0.5	538	< 0.5	1,640	< 0.01	866	< 0.01	< 0.1	< 10	0.132	< 1	< 3
QUL-30	QUL-30	2014 08 07	49.4	< 0.1	0.12	5.08	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	< 0.5	65	< 0.05	0.77	1,840	2.32	< 0.01	0.246	< 0.5	478	< 0.5	1,550	< 0.01	807	< 0.01	< 0.1	< 10	0.16	< 1	< 3
QUL-31	QUL-31	2014 08 07	29.8	< 0.1	0.14	5.82	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.88	40	< 0.05	0.81	1,970	2.77	< 0.01	0.328	< 0.5	491	< 0.5	1,660	< 0.01	867	< 0.01	< 0.1	< 10	0.135	< 1	< 3
QUL-32	QUL-32	2014 08 09	61	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.66	67	< 0.05	0.83	2,010	2.8	< 0.01	0.296	< 0.5	512	< 0.5	1,883	< 0.01	1,000	< 0.01	< 0.1	< 10	0.155	< 1	< 3
QUL-33	QUL-33	2014 08 06	15.2	< 0.1	0.1	4.81	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.66	1,950	0.978	< 0.01	0.238	< 0.5	444	< 0.5	1,300	< 0.01	790	< 0.01	< 0.1	< 10	0.147	< 1	< 3
QUL-34	QUL-34-BH	2014 08 13	19.5	< 0.1	0.14	5.33	< 0.1	< 0.5	< 10	< 0.01	15,800	< 0.5	< 0.1	0.67	< 30	< 0.05	< 0.5	1,830	1.22	< 0.01	0.282	< 0.5	458	< 0.5	1,530	< 0.01	851	< 0.01	< 0.1	< 10	0.13	< 1	< 3
QUL-35	QUL-35-0M	2014 08 14	17.2	< 0.1	0.14	5.83	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.62	< 30	< 0.05	0.88	1,910	1.55	–	0.371	< 0.5	469	< 0.5	1,640	< 0.01	878	< 0.01	< 0.1	< 10	0.137	< 1	< 3
QUL-38	QUL-38-BH	2014 08 14	65.5	< 0.1	0.13	5.3	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	0.59	< 30	< 0.05	0.89	1,800	1.24	–	0.313	< 0.5	461	< 0.5	1,570	< 0.01	811	< 0.01	< 0.1	< 10	0.133	< 1	< 3
QUL-37	QUL-37-0M	2014 08 15	15	< 0.1	0.11	5.01	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	1,850	1.08	–	0.299	< 0.5	456	< 0.5	1,530	< 0.01	819	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-37-7M	2014 08 15	17.7	< 0.1	0.12	4.87	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	0.5	< 30	< 0.05	< 0.5	1,840	1.18	–	0.308	< 0.5	458	< 0.5	1,530	< 0.01	795	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-37-TAP	2014 08 15	18	< 0.1	0.13	5.43	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.61	< 30	0.359	< 0.5	1,870	0.796	–	0.208	< 0.5	472	< 0.5	1,550	< 0.01	815	< 0.01	< 0.1	< 10	0.14	< 1	5.4
QUL-39	QUL-39	2014 08 18	17.7	< 0.1	0.12	5.32	< 0.1	< 0.5	< 10	< 0.01	16,200	< 0.5	< 0.1	< 2	< 30	< 0.05	0.76	1,930	1.22	–	0.303	< 0.5	480	< 0.5	1,580	< 0.01	854	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-39-2M	2014 08 26	43.6	< 0.1	0.13	5.88	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	1.72	32	< 0.05	0.91	1,930	2.02	< 0.01	0.316	< 0.5	473	< 0.5	1,580	< 0.01	858	< 0.01	< 0.1	< 10	0.141	< 1	< 3
QUL-39	QUL-39	2014 08 18	33.4	< 0.1	0.11	5.38	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	< 1	< 30	< 0.05	0.72	1,870	1.14	–	0.285	< 0.5	481	< 0.5	1,540	< 0.01	832	< 0.01	< 0.1	< 10	0.147	< 1	< 3
QUL-40	QUL-40	2014 08 18	34.6	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	< 1.5	< 30	< 0.05	0.76	1,900	1.76	–	0.299	< 0.5	473	< 0.5	1,590	< 0.01	848	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-40-3M	2014 08 26	44	< 0.1	0.12	5.96	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	1.93	34	< 0.05	< 0.5	1,900	2.15	< 0.01	0.324	< 0.5	473	< 0.5	1,660	< 0.01	856	< 0.01	< 0.1	< 10	0.138	< 1	< 3
QUL-41	QUL-41	2014 08 19	33.8	< 0.1	0.12	5.31	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	< 2.5	< 30	< 0.05	0.78	1,880	1.52	–	0.299	< 0.5	466	< 0.5	1,570	< 0.01	832	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-41-2M	2014 08 26	40.3	< 0.1	0.14	5.91	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1.83	33	< 0.05	0.83	1,980	2.14	< 0.01	0.329	< 0.5	472	< 0.5	1,610	< 0.01	853	< 0.01	< 0.1	< 10	0.143	< 1	< 3
QUL-42	QUL-42	2014 08 18	18.5	< 0.1	0.13	5.39	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	< 1	< 30	< 0.05	0.67	1,980	1.32	–	0.297	< 0.5	463	< 0.5	1,540	< 0.01	834	< 0.01	< 0.1	< 10	0.143	< 1	< 3
QUL-43	QUL-43	2014 08 18	21.8	< 0.1	0.12	5.54	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	< 1	< 30	< 0.05	0.68	1,880	1.06	–	0.297	< 0.5	458	< 0.5	1,580	< 0.01	824	< 0.01	< 0.1	< 10	0.145	< 1	< 3
QUL-44	QUL-44	2014 08 18	18.4	< 0.1	0.12	5.41	< 0.1	< 0.5	< 10	< 0.01	16,100	< 0.5	< 0.1	< 1	< 30	< 0.05	0.83	1,880	1.21	–	0.305	< 0.5	461	< 0.5	1,570	< 0.01	848	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-44-2M	2014 08 27	36.7	< 0.1	0.14	5.9	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	1.71	< 30	< 0.05	0.82	1,910	2.07	< 0.01	0.315	< 0.5	467	< 0.5	1,650	< 0.01	879	< 0.01	< 0.1	< 10	0.142	< 1	< 3
QUL-45	QUL45-45M	2014 08 19	4,770	0.39	2.21	115	0.12	< 0.5	< 10	0.327	25,100	2.39	1.97	94.3	7,760	1.99	2.97	4,120	196	–	0.19	2.44	2,040	0.73	11,700	0.041	4,480	0.019	0.17	181	0.885	9.7	215.7

Associated At-2 from: L1488018, L1488523, L1488946, L1489000, L1489732, L1489787, L1489719, L1489838, L1489847, L1490016, L1491301, L1491516, L1492048, L1492264, L1492378, L1492388, L1493057, L1493061, L1493079, L1493810, L1493912, L1493928, L1493932, L1493933, L1494304, L1494190, L1494713, L1494738, L1494761, L1494897, L1495018, L1495051, L1495073, L1495077, L1495366, L1495464, L1495509, L1495699, L1495899, L1497201, L1497291, L1497298, L1498482, L1497298, L1497347, L1497546, L1501972, L1497577, L1498497, L1500873, L1498907, L1498949, L1500687, L1511231, L1512269, L1512288, L1512741, L1497548, L1491160, L1511229, L1512332.
All terms defined within the body of SNC-Lavalin report (available upon request).
< Denotes concentration less than indicated detection limit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally calculated where one or more concentrations are less than five times MDL.
Concentration greater than BCWQG Aquatic Life (AW) guideline.
Concentration greater than BCWQG Drinking Water (DW) guideline.
Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.
Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.
[b] British Columbia Approved Water Quality Guidelines 2008 Edition, updated 2014.
[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or other Temperature or Hardness.
[e] Health Canada Drinking Water Guidelines, 2012.
[f] Guideline for nitrate applies.
[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at the point in time.
[h] Calculated based on an individual sample basis, not average of 30 day results.
[i] Recurrently chronic or chronic value, not 30 day mean.
[j] Guideline not applicable for site studied.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters: Hardness (mg/L)	pH (field) (pH)	pH (pH)	Temperature (field) (C)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Microbiological Tests: Total Coliform (MPN/0.1L)	E. Coli (MPN/0.1L)	Total Inorganics: Total Kjeldahl Nitrogen (N) (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (µg/L)	Nitrate Nitrogen (µg/L)	Nitrite Nitrogen (µg/L)	Nitrate+Nitrite Nitrogen (µg/L)	Chloride (mg/L)	Fluoride (µg/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Bromide (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus* (mg/L)
BC Guidelines																										
BCWQG Aquatic Life (AW)[a,b]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	n/a	n/a	5,600-18,400[d]	32,800	90 (CI<2)	32,800[f]	500	998.2-1,224.3[d]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[a,c]			n/a	n/a	n/a		Change of 2	n/a	n/a	Change of 5	+20% of median Background	n/a	n/a	n/a	n/a	1,090-1,770[d]	3,000	20 (CI<2)	3,000[f]	150	n/a	128-309[d]	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[a,e]			n/a	6.5-8.5	6.5-8.5	n/a[i]	Change of 1	n/a	n/a	n/a	n/a	n/a	0/100ml	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,000	500	n/a	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[g]			n/a	6.5-8.5	6.5-8.5	n/a[i]	n/a[i]	n/a	500	n/a	n/a	n/a[i]	0/100ml	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUL-66	QUL66-40M	2014 08 19	72.5	7.91	8	8.8	122	159	113	32.9	1.9	-	-	-	0.375	46.9	232	1.7	-	0.63	73	14.2	60.6	-	< 0.001	< 0.002*
	QUL66-40MX	2014 08 19	72.9	7.81	7.89	8.8	127	159	117	40.9	1.93	-	-	-	0.378	50.6	230	1.6	-	0.61	72	14.1	60.4	-	< 0.001	< 0.002*
	QA/QC RPD %		1	0	1	0	1	0	1	22	2	-	-	-	0	1	1	6	-	1	1	1	1	-	1	1
	QUL66-40M	2014 08 21	69.4	8.09	7.9	6.9	111	146	106	20.9	1.86	-	-	-	0.339	40.1	209	1.4	-	0.56	69	16.5	58.5	-	< 0.001	< 0.002*
	QUL-66-0M	2014 08 29	50.5	7.70	7.87	18.6	5.85	98.5	68	< 3	2.26	-	-	-	0.132	< 5	49.1	< 1	-	< 0.5	35	5.88	44.4	-	< 0.001	0.0102
	QUL-66-10M	2014 08 26	53	7.70	8	13.0	6.53	105	75	4.8	2.14	-	-	-	0.184	5.4	83.2	< 1	-	< 0.5	36	6.73	51.6	-	< 0.001	0.0025
	QUL-66-5M	2014 08 26	74.5	7.78	8.04	6.5	71.3	160	123	39.2	2.18	-	-	-	0.427	56	250	2.3	-	0.62	71	16.8	61.5	-	0.0016	0.0052
	QUL-66-0M	2014 08 28	49.3	8.10	7.97	18.9	0.4	97	63	6.5	2.71	-	-	-	0.119	9.2	< 50	< 10	-	< 5	220	9.3	43.5	-	< 0.001	< 0.002*
	QUL-66-18M	2014 08 28	54	8.02	7.95	9.4	17.3	107	66	29.6	2.17	-	-	-	0.185	7.5	115	< 1	-	< 0.5	36	8.36	50	-	< 0.001	< 0.002*
	QUL-66-40M	2014 08 28	67.5	7.92	8	6.3	73.4	146	102	20.8	2.19	-	-	-	0.409	50.3	214	1.4	-	0.52	68	16.2	58.8	-	0.0011	0.004
	QUL-66X-40M	2014 08 28	64.4	7.92	7.98	6.3	71.6	137	93	59.7	2.11	-	-	-	0.319	37.6	197	1.1	-	< 0.5	63	13.9	58.3	-	< 0.001	0.0032
	QA/QC RPD %		5	0	< 1	0	12	5	8	93	3	-	-	-	25	28	6	24	-	1	5	17	1	-	1	1
	QUL-66-0M	2014 08 30	49.1	8.04	7.97	18.2	0.6	96.8	61	3.8	1.97	-	-	-	0.123	< 5	44.4	< 1	-	< 0.5	34	5.69	44.7	-	< 0.001	< 0.002*
	QUL-66-16M	2014 08 30	53.4	7.85	7.98	10.5	7.06	105	65	7.6	1.92	-	-	-	0.177	6.8	108	< 1	-	< 0.5	36	6.17	48.6	-	< 0.001	< 0.002*
	QUL-66-39M	2014 08 30	69.9	7.86	8.02	9.6	83.1	157	104	31.6	2.03	-	-	-	0.398	64.3	211	2.8	-	0.62	66	16.2	59.5	-	0.0017	0.0043
QUL-67	QUL-67-34M	2014 08 20	64.6	7.74	7.9	5.6	49.5	136	91	10	1.91	-	-	-	0.324	32.1	165	< 1	-	< 0.5	52	12.4	55.5	-	< 0.001	< 0.002*
QUL-68	QUL-68-40M	2014 08 21	68.9	7.85	7.85	5.5	70.9	148	100	28.7	2	-	-	-	0.384	42.2	228	1.5	-	< 0.5	65	15.3	57.2	-	0.008	0.0108
QUL-69	QUL-69-32M	2014 08 21	58.5	7.72	7.84	5.1	26.5	119	77	13.9	2.03	-	-	-	0.254	14.3	169	< 1	-	< 0.5	46	8.97	51.9	-	0.0093	0.0143
QUL-74	QUL-74-46M	2014 08 21	90.9	7.90	7.85	4.9	37.5	124	83	7.9	1.79	-	-	-	0.286	23	193	< 1	-	< 0.5	90	10.5	52.4	-	0.0166	0.0413
QUL-75	QUL-75-40M	2014 08 21	92	7.97	7.85	5.4	42.3	127	90	4.7	1.84	-	-	-	0.301	27.2	191	< 1	-	< 0.5	53	11.3	53.9	-	0.017	0.0278
QUL-77	QUL-77	2014 08 22	50.4	7.66	7.85	18.9	0.67	98.4	68	< 3	2.2	-	-	-	0.154	< 5	65.2	< 1	-	< 0.5	34	5.77	48	-	< 0.001	< 0.002*
QUL-78	QUL-78-0M	2014 08 25	42.3	7.89	7.89	18.3	0.28	97.2	68	< 3	1.91	-	-	-	0.127	< 5	44.4	< 1	-	< 0.5	35	5.78	43.6	-	< 0.001	< 0.002*
	QUL-78-27M	2014 08 25	54.7	7.19	7.9	5.3	4.87	110	69	3.5	1.84	-	-	-	0.213	< 5	147	< 1	-	< 0.5	39	6.85	49.6	-	0.0225	0.734
	QUL-78-78M	2014 08 25	56	7.35	7.9	4.8	10.4	113	76	3.7	1.64	-	-	-	0.217	5.6	153	< 1	-	< 0.5	40	7.56	50.4	-	0.0156	0.138
	QUL-78-0M	2014 08 27	48.4	7.95	7.99	19.0	0.23	98.5	62	< 3	1.99	-	-	-	0.112	< 5	43.6	< 1	-	< 0.5	34	5.75	44	-	< 0.001	< 0.002*
	QUL-78-55M	2014 08 27	54.7	-	7.93	-	0.99	108	66	< 3	1.9	-	-	-	0.105	< 5	145	< 1	-	< 0.5	36	6.35	48.9	-	0.0019	0.0627
	QUL-78-0M	2014 08 28	48.7	-	7.96	-	0.22	98.5	60	< 3	2.18	-	-	-	0.12	< 5	42.1	< 1	-	< 0.5	35	5.68	44.4	-	< 0.001	< 0.002*
	QUL-78-32M	2014 08 29	54.3	-	7.85	-	5.99	107	68	3	1.83	-	-	-	0.202	< 5	144	< 1	-	< 0.5	39	6.83	48.9	-	< 0.001	< 0.002*
QUL-82	QUL-82-2M	2014 08 25	49.7	8.11	7.95	18.1	0.33	99.4	70	< 3	2.27	-	-	-	0.133	< 5	47.8	< 1	-	< 0.5	34	5.73	44.4	-	0.0213	0.0254
	QUL-82-TAP	2014 08 25	49.6	-	7.94	-	0.24	99.5	67	< 3	2.27	-	-	-	0.141	< 5	52.1	< 1	-	< 0.5	34	5.79	44.6	-	< 0.001	< 0.002*
QUL-83	QUL-83-2M	2014 08 25	49.6	7.94	7.94	18.3	0.25	98.8	65	< 3	2.33	-	-	-	0.122	< 5	46.9	< 1	-	< 0.5	34	5.71	44.1	-	< 0.001	< 0.002*
QUL-84	QUL-84-1M	2014 08 25	50.2	7.91	7.93	18.3	0.3	99.3	66	< 3	2.2	-	-	-	0.126	< 5	47.7	< 1	-	< 0.5	36	5.71	44.2	-	< 0.001	< 0.002*
QUL-85	QUL-85-1M	2014 08 25	49.6	7.93	7.96	18.4	0.4	99.3	67	< 3	2.15	-	-	-	0.128	< 5	47.4	< 1	-	< 0.5	34	5.76	44.6	-	< 0.001	0.0023
QUL-86	QUL-86-1M	2014 08 25	50.4	7.96	7.99	18.5	0.27	99.9	69	< 3	2.02	-	-	-	0.121	< 5	47.2	< 1	-	< 0.5	34	5.76	45.3	-	< 0.001	< 0.002*
QUL-87	QUL-87-0M	2014 08 25	48.8	8.02	7.99	19.4	0.26	97.3	71	< 3	1.96	-	-	-	0.132	< 5	42.6	< 1	-	< 0.5	34	5.89	44.1	-	< 0.001	< 0.002*
	QUL-87-13M	2014 08 25	51.2	7.79	7.91	11.5	0.5	103	69	< 3	1.88	-	-	-	0.209	< 5	121	< 1	-	< 0.5	35	6.01	46.4	-	0.0221	0.026
	QUL-87-55M	2014 08 25	53.6	7.29	7.99	5.1	0.28	107	75	< 3	1.76	-	-	-	0.207	< 5	144	1.4	-	< 0.5	36	6.14	48	-	0.0072	0.0438
QUL-88	QUL88-2M	2014 08 26	50.5	7.83	7.98	19.0	0.27	100	62	< 3	2.19	-	-	-	0.114	< 5	41	< 1	-	< 0.5	35	5.7	44.6	-	< 0.001	< 0.002*
QUL-89	QUL-89-1M	2014 08 27	49.5	8.00	7.9	17.9	0.85	99.2	67	< 3	2.21	-	-	-	0.12	< 5	52.6	< 1	-	< 0.5	34	5.79	44.8	-	0.0011	< 0.002*
QUL-90	QUL-90	2014 08 27	49.8	8.04	8.01	19.0	0.78	98.7	68	< 3	2.21	-	-	-	0.133	< 5	40.1	< 1	-	< 0.5	35	5.73	45.1	-	< 0.001	0.0052
	QUL-90-TAP	2014 08 27	76.1	-	7.71	-	0.3	149	99	< 3	3.46	-	-	-	0.119	8.7	21.2	< 1	-	< 0.5	57	3.6	73.2	-	0.0017	0.0026
QUL-91	QUL-91	2014 08 28	49.3	7.96	7.91	18.0	1.33	98.7	65	< 3	2.11	-	-	-	0.131	5.2	59.7	< 1	-	< 0.5	34	5.8	48.1	-	< 0.001	< 0.002*
QUL-92	QUL-92	2014 08 28	49.5	8.01	7.93	17.9	0.59	97.7	63	< 3	2.13	-	-	-	0.142	< 5	52.5	< 1	-	< 0.5	34	5.79	48	-	< 0.001	0.0021
QUL-93	QUL-93-TAP	2014 08 28	157	7.71	8.06	8.0	0.1	282	188	44.4	1.18	-	-	-	0.133	< 5	124	< 1	-	2.47	50	8.94	187	-	< 0.001	0.0028
QUL-94	QUL-94	2014 08 28	50.7	8.24	7.96	18.8	3.94	99.2	62	3.4	2.34	-	-	-	0.157	< 5	46.6	< 1	-	< 0.5	35	5.85	47.4	-	< 0.001	0.0023

Associated ALS files: L1498519, L1498533, L1498166, L1498283, L1498701, L1498767, L1497710, L1499026, L1498947, L1500019, L1501501, L1501518, L1502349, L1502304, L1507270, L1507348, L1503017, L1503011, L1503079, L1503010, L1503015, L1503029, L1503032, L1503033, L1503034, L1504180, L1504213, L1504259, L1504261, L1504267, L1504307, L1505319, L1505551, L1509571, L1506577, L1506586, L1503164, L1502370, L1506899, L1506936, L1507001, L1507201, L1507356, L1508002, L1507359, L1507347, L1507944, L1507972, L1507977, L1508037, L1508673, L1509007, L1508649, L1508997, L1510231, L1510558, L1510269, L1510741, L1510746, L1511100, L1511225, L1511232

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2008.

[d] Guideline varies with pH, and/or other Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary chemical or aesthetic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																														
			Dissolved Aluminum (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (µg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (µg/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (ug/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)				
BC Guidelines																																	
BCWQG Aquatic Life (AW)[1,2]			100[7]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[1,2]			50[7]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[1,3]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[4]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-66	QUL66-40M	2014 08 19	15.9	24.5	< 30	2.73	100	1.12	3.83	0.28	0.84	19.7	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.58	< 0.05	1.2	-	6.35	< 0.5	0.62	< 0.01	< 0.01	< 10	0.729	1	< 3				
	QUL66-40MX	2014 08 19	16.8	24.7	< 30	2.75	100	1.12	3.87	0.29	0.85	19.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.48	< 0.05	1.11	-	6.31	< 0.5	0.64	< 0.01	< 0.01	< 10	0.723	1	< 3				
	QA/QC RPD %		6	1.1		1.1	0	0	1			0.5						2				1						0.5					
	QUL66-45M	2014 08 21	13.7	23.5	< 30	2.59	77.2	1.05	3.51	0.25	0.7	18.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.52	< 0.05	0.55	< 0.05	5.66	< 0.5	0.55	< 0.01	< 0.01	< 10	0.656	< 1	< 3				
	QUL-66-0M	2014 08 26	9.8	17.1	< 30	1.93	2.31	0.46	0.819	< 0.1	< 0.1	5.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.66	< 0.05	0.81	-	0.288	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.132	< 1	< 3				
	QUL-66-10M	2014 08 26	9.5	17.8	< 30	2.01	6.44	0.49	0.974	< 0.1	0.14	7.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.93	< 0.05	0.6	-	0.448	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3				
	QUL-66-55M	2014 08 26	18.3	25.3	< 30	2.77	108	1.02	3.56	0.29	0.91	19.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.26	< 0.05	0.94	-	5.83	< 0.5	0.68	< 0.01	< 0.01	< 10	0.673	< 1	< 3				
	QUL-66-0M	2014 08 28	10.1	18.6	< 30	1.93	0.447	0.471	0.822	< 0.1	0.14	6.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.54	< 0.05	0.79	-	0.284	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3				
	QUL-66-18M	2014 08 28	10.6	18.3	< 30	2.01	0.34	0.48	0.804	< 0.1	0.12	6.62	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.43	< 0.05	< 0.5	-	0.367	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3				
	QUL-66-40M	2014 08 28	35.9	22.8	< 30	2.54	69.3	0.961	3.3	0.24	0.7	17.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.71	< 0.05	0.84	-	4.98	< 0.5	0.52	< 0.01	< 0.01	< 10	0.585	< 1	< 3				
	QUL-66X-40M	2014 08 28	12.7	21.8	< 30	2.41	54.5	0.859	2.73	0.34	0.73	14.7	0.29	< 10	0.023	< 0.5	< 0.1	5.01	0.156	0.85	-	3.94	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.552	< 1	< 3				
	QA/QC RPD %		7	5		14	24	13	19			4	15					13				23						23					
	QUL-66-0M	2014 08 30	9.8	18.5	< 30	1.93	0.607	0.489	0.818	< 0.1	0.11	5.41	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.56	-	0.269	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3				
	QUL-66-18M	2014 08 30	9.3	18.1	< 30	1.99	7.86	0.488	0.911	< 0.1	0.12	6.39	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.87	< 0.05	0.62	-	0.353	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3				
	QUL-66-39M	2014 08 30	16.2	23.7	< 30	2.52	74.9	1.15	4.09	0.3	0.83	18.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.01	< 0.05	0.81	-	6.88	< 0.5	0.58	< 0.01	< 0.01	< 10	0.893	< 1	< 3				
QUL-67	QUL-67-34M	2014 08 20	11.9	21.8	< 30	2.47	79.8	0.79	2.37	0.16	0.52	15.6	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.97	< 0.05	0.53	-	3.14	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.408	< 1	< 3				
QUL-68	QUL-68-40M	2014 08 21	11.7	23.3	< 30	2.62	106	0.889	3.46	0.2	0.67	17.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.2	< 0.05	1.06	-	4.45	< 0.5	0.51	< 0.01	< 0.01	< 10	0.583	< 1	< 3				
QUL-69	QUL-69-32M	2014 08 21	10.1	19.8	< 30	2.26	47.4	0.597	1.72	< 0.1	0.31	10.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.53	< 0.05	0.99	-	1.49	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.287	< 1	< 3				
QUL-74	QUL-74-40M	2014 08 21	11.4	20.6	< 30	2.29	42.8	0.652	2.11	0.17	0.35	11.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.33	< 0.05	0.85	-	2.09	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.362	< 1	< 3				
QUL-75	QUL-75-40M	2014 08 21	10.5	21	< 30	2.39	46.1	0.685	2.09	0.12	0.42	12	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.29	< 0.05	1	-	2.81	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.408	< 1	< 3				
QUL-77	QUL-77	2014 08 22	10.2	17	< 30	1.83	0.845	0.498	0.829	< 0.1	< 0.1	5.56	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.08	< 0.05	0.85	-	0.272	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3				
QUL-79	QUL-79-0M	2014 08 25	8.1	14.2	< 30	1.64	0.269	0.382	0.589	< 0.1	< 0.1	4.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.111	< 1	< 3				
	QUL-79-27M	2014 08 25	8.8	16.5	< 30	2.03	5.6	0.491	1.74	< 0.1	0.12	8.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.62	< 0.05	0.5	-	0.528	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.177	< 1	< 3				
	QUL-79-75M	2014 08 25	6.3	19	< 30	2.11	8.56	0.517	1.32	< 0.1	0.17	8.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.4	< 0.05	0.58	-	0.741	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.209	< 1	< 3				
	QUL-79-0M	2014 08 27	10.2	18.7	< 30	1.91	0.304	0.44	0.818	< 0.1	< 0.1	4.91	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74		0.264	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3				
	QUL-79-55M	2014 08 27	4.9	18.5	< 30	2.03	0.562	0.48	0.823	< 0.1	< 0.1	5.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.8		0.27	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3				
	QUL-79-0M	2014 08 29	10	15.8	< 30	1.5	0.293	0.449	0.793	< 0.1	0.1	4.99	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.68	-	0.350	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3				
	QUL-79-32M	2014 08 29	6.7	18.3	< 30	2.07	5.41	0.499	1.06	< 0.1	0.14	8.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.25	< 0.05	0.68	-	0.566	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.182	< 1	< 3				
QUL-82	QUL-82-2M	2014 08 25	9	16.7	< 30	1.81	0.499	0.485	1.01	< 0.1	0.11	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.279	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3				
	QUL-82-TAP	2014 08 25	9	16.7	< 30	1.91	0.149	0.45	0.806	< 0.1	0.1	5.29	< 0.1	< 10	< 0.01	< 0.5	< 0.1	17.8	0.065	< 0.5	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	4.4				
QUL-83	QUL-83-2M	2014 08 25	9.1	16.7	< 30	1.82	0.398	0.469	0.831	< 0.1	0.11	5.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.266	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.125	< 1	< 3				
QUL-84	QUL-84-1M	2014 08 25	9.8	16.9	< 30	1.85	0.405	0.467	0.824	< 0.1	< 0.1	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.51	-	0.269	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3				
QUL-85	QUL-85-1M	2014 08 25	8.8	16.7	< 30	1.82	0.416	0.46	0.822	< 0.1	0.13	5.34	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3				
QUL-86	QUL-86-1M	2014 08 25	9.8	17	< 30	1.93	0.467	0.459	0.827	< 0.1	0.18	5.34	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.269	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3				
QUL-87	QUL-87-0M	2014 08 25	10.3	16.4	< 30	1.69	0.41	0.485	0.807	< 0.1	< 0.1	5.07	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3				
	QUL-87-13M	2014 08 25	8.1	17.3	< 30	1.93	0.271	0.495	1.04	< 0.1	< 0.1	4.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.5	-	0.248	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3				
	QUL-87-55M	2014 08 25	5.5	18.1	< 30	2.05	0.142	0.486	0.965	< 0.1	< 0.1	4.91	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	< 0.5	-	0.235	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3				
QUL-88	QUL-88-2M	2014 08 26	9.6	17	< 30	1.97	0.622	0.456	0.809	< 0.1	0.11	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5		0.266	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3				
QUL-89	QUL-89-1M	2014 08 27	10.3	18.7	< 30	1.91	0.781	0.474	0.871	< 0.1	0.12	5.56	< 0.1	< 10	0.013	< 0.5	< 0.1	1.02	< 0.05	0.5		0.295	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.134	< 1	< 3				
QUL-90	QUL-90	2014 08 27	10	16.7	< 30	1.95	3.53	0.431	0.872	< 0.1	0.39	5.49	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.83	< 0.05	0.68		0.299	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.13	< 1	< 3				
	QUL-90-TAP	2014 08 27	4.8	22.9	67	4.61	3.43	0.365	2.16	0.18	0.81	4.77	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.85	< 0.05	< 0.5		0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.022	< 1	4.2				
QUL-91	QUL-91	2014 08 28	10.3	16.6	< 30	1.93	0.586	0.466	0.839	< 0.1	0.12	5.43	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.67	-	0.296	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3				
QUL-92	QUL-92	2014 08 29	9.9	18.7	< 30	1.95	0.581	0.481	0.831	< 0.1	0.12	5.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.82	< 0.05	0.7	-	0.295	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3				
QUL-93	QUL-93-TAP	2014 08 28	< 3	43.6	< 30	11.7	1.02	0.539	3.24	0.16	0.83	7.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.6	0.127	0.56	-	0.517	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.18	< 1	25.3				
QUL-94	QUL-94	2014 08 28	10.7	17	< 30	1.99	1.42	0.471	0.853	< 0.1	0.15	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.92	< 0.05	0.67	-	0.31	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3				

Associated ALS files: L1495933, L1495960, L1495963, L1495703, L1495797, L1495719, L1495939, L1495947, L1506819, L1501991, L1501518, L1502369, L1503364, L1502570, L1502366, L1503057, L1503091, L1509079, L1503910, L1503919, L1503929, L1503932, L1503933, L1503934, L1504180, L1504213, L1504220, L1504221, L1504201, L1504927, L1505918, L1506561, L1505571, L1504577, L1506586, L1503014, L1503270, L1506960, L1506899, L1507031, L1507291, L1507256, L1506992, L1507259, L1507347, L1507948, L1507972, L1507977, L1506437, L1506573, L1506507, L1506549, L1506567, L1510231, L1510264, L1510269, L1510741, L1510746, L1511190, L1511220, L1511232.

All limits defined within the body of SNC-Lavalin's report (if available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analyse not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

Concentration greater than BCWQG Aquatic Life (AW) guideline.

Concentration greater than BCWQG Drinking Water (DW) guideline.

Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[1] Laboratory detection limit out of range.

[2] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[3] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2009.

[4] Guideline varies with pH, and/or other Temperature or Hardness.

[5] Health Canada Drinking Water Guidelines 2012.

[6] Guideline for Nitrate applied.

[7] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[8] Calculated based on an individual sample basis, not average of 30 day results.

[9] Secondary criteria: at chronic value (not 30 day mean).

[10] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals: Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Guidelines																																	
BCWQG Aquatic Life (AW)[a,e]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.026[d]	n/e	1 (Cr(+6))	110	6.0-9.2[d]	1,000	27.3-57.7[d]	870	n/a	1,000.5-1,379[d]	(Methyl mercury analysis in progress)	2,000	25-65[d]	373,000-432,000	2	n/a	0.1[d]	n/a	0.3	n/a	2,000	300	6	33[d]
BCWQG Aquatic Life (30day) (AW)[b,h]			n/a	n/a	n/a	1,000	5.3	n/a	n/a	n/a	n/a	n/a	4	2-3[d]	n/a	4.4-5.8[d]	14[f]	n/a	791.1-940[d]		1,000	n/a	n/a	n/a	n/a	0.05[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[d]
BCWQG Drinking Water (DW)[a,i]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	500	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[i]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-00	QUL66-40M	2014 08 19	5,490	0.34	2.41	125	0.84	< 0.5	10	0.03	25,500	2.4	2.21	111	2,660	2.03	3.72	4,340	792	-	0.29	2.54	3,360	0.64	13,300	0.042	4,640	0.016	< 0.1	229	0.949	10.4	11.2
	QUL66-40MX	2014 08 19	5,590	0.34	2.41	129	0.94	< 0.5	10	0.028	25,500	2.61	2.17	114	3,000	2.03	3.82	4,370	793	-	0.16	2.54	3,420	0.64	13,500	0.041	4,770	0.019	< 0.1	230	0.957	10.4	11.4
	QA/QC RPD %		2	0	2	3	11	*	*	11	0	2	*	7	12	0	3	< 1	*	*	2	0	2	*	*	*	3	*	*	*	1	0	*
	QUL68-40M	2014 08 21	4,940	0.34	2.27	119	0.13	< 0.5	< 10	0.032	24,600	2.46	2.06	108	2,890	1.8	3.04	4,110	768	< 0.05	5.89	2.53	3,090	0.63	12,900	0.043	4,500	0.016	0.15	216	0.921	9.8	8.8
	QUL-66-0M	2014 08 28	128	< 0.1	0.17	7.29	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	3.02	136	0.068	0.62	1,940	6.19	< 0.01	0.374	< 0.5	455	< 0.5	1,710	< 0.01	849	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-66-10M	2014 08 28	257	< 0.1	0.21	9.62	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	0.2	5.46	286	0.171	0.84	2,020	11.7	< 0.01	0.438	0.71	515	< 0.5	2,020	< 0.01	929	< 0.01	< 0.1	15	0.155	< 1	< 3
	QUL-66-50M	2014 08 28	3,690	0.32	1.84	92.4	< 0.1	< 0.5	< 10	0.021	25,100	1.97	1.91	79.8	2,150	1.25	2.53	3,670	578	< 0.01	5.89	1.95	2,500	0.71	9,850	0.026	4,160	0.013	0.12	149	0.792	7.3	7.1
	QUL-66-0M	2014 08 28	72.8	< 0.1	0.12	5.66	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.98	< 30	< 0.05	< 0.5	1,960	1.52	< 0.01	0.315	< 0.5	459	< 0.5	1,680	< 0.01	876	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-66-10M	2014 08 28	880	< 0.1	0.57	21.3	< 0.1	< 0.5	< 10	< 0.05*	18,200	0.69	0.67	24	952	0.429	0.99	2,420	32.7	< 0.01	0.426	1.33	737	< 0.5	3,430	0.015	999	< 0.01	< 0.1	56	0.192	2.7	3.6
	QUL-66-40M	2014 08 28	4,050	0.3	1.85	101	< 0.1	< 0.5	< 10	< 0.05*	23,900	1.92	1.52	78.2	2,200	1.3	2.23	3,610	740	< 0.01	5.34	2.02	2,740	0.6	11,600	0.034	4,070	0.014	0.14	195	0.701	7.8	7.9
	QUL-66X-40M	2014 08 28	4,960	0.27	2.29	125	0.11	< 0.5	< 10	< 0.05*	23,200	2.03	2.22	88.6	2,790	1.67	3.14	4,000	753	< 0.01	4.35	3.17	2,760	0.52	12,100	0.043	3,730	0.016	0.17	224	0.653	10.8	10.8
	QA/QC RPD %		18	*	19	4	*	*	*	*	3	27	*	43	*	*	*	10	1	*	20	*	4	*	*	*	8	*	*	*	14	17	35	*
	QUL-66-0M	2014 08 30	35.7	< 0.1	0.14	5.76	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	1.86	32	0.058	< 0.5	1,940	2.05	< 0.01	0.294	< 0.5	484	< 0.5	1,550	< 0.01	841	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-66-10M	2014 08 30	434	< 0.1	0.31	14	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	0.22	15.6	415	0.233	0.75	2,160	18.6	< 0.01	0.367	0.71	595	< 0.5	2,450	< 0.01	941	< 0.01	< 0.1	26	0.157	1.4	< 3
	QUL-66-30M	2014 08 30	4,240	0.27	1.99	108	0.1	< 0.5	10	0.029	24,400	1.89	1.56	89.6	2,180	1.48	2.48	3,650	143	< 0.01	7.02	1.94	3,030	0.63	11,100	0.033	4,770	0.013	0.14	159	0.798	8	7.8
QUL-67	QUL-67-34M	2014 08 20	2,510	0.21	1.44	90.8	< 0.1	< 0.5	< 10	0.019	22,100	1.69	1.29	59.1	1,830	1.03	1.89	3,320	143	-	3.59	1.65	1,990	< 0.5	8,780	0.025	2,900	< 0.01	< 0.1	108	0.56	5.6	5.4
QUL-68	QUL-68-40M	2014 08 21	4,040	0.27	1.9	89.9	0.11	< 0.5	< 10	0.024	23,700	2.01	1.81	76.9	2,650	1.55	3.04	3,890	187	-	4.67	2.51	2,370	0.57	10,500	0.038	3,540	0.016	0.13	164	0.706	8.1	8.3
QUL-69	QUL-69-32M	2014 08 21	1,840	0.11	0.67	39.4	< 0.1	< 0.5	< 10	0.013	20,400	1.4	0.81	31.1	1,260	0.653	1.91	2,930	89.1	-	1.71	1.34	1,270	< 0.5	6,580	0.015	1,865	< 0.01	< 0.1	84	0.382	3.9	4.6
QUL-74	QUL-74-40M	2014 08 21	2,080	0.15	1.03	45.7	< 0.1	< 0.5	< 10	0.015	20,500	1.36	0.98	40.3	1,490	0.79	2.13	2,930	89	-	2.32	1.51	1,360	< 0.5	8,000	0.018	2,110	< 0.01	< 0.1	90	0.421	4.4	5.4
QUL-75	QUL-75-40M	2014 08 21	2,570	0.16	1.16	56.1	< 0.1	< 0.5	< 10	0.021	21,400	1.56	1.14	49.6	1,680	1.01	2.2	3,170	102	-	2.92	1.58	1,840	< 0.5	7,180	0.021	2,560	0.011	< 0.1	108	0.504	5.1	7.3
QUL-77	QUL-77	2014 08 22	84.9	< 0.1	0.14	6.08	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	2.46	98	< 0.05	0.67	1,900	3.67	-	0.3	0.51	466	< 0.5	1,600	< 0.01	838	< 0.01	< 0.1	< 10	0.146	< 1	< 3
QUL-79	QUL-79-0M	2014 08 25	12.9	< 0.1	0.12	6.35	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	0.52	< 30	< 0.05	< 0.5	1,920	1.22	-	0.298	< 0.5	468	< 0.5	1,560	< 0.01	829	< 0.01	< 0.1	< 10	0.138	< 1	< 3
	QUL-79-27M	2014 08 25	248	< 0.1	0.21	10.2	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	0.11	5.91	167	0.119	0.68	2,100	12.4	< 0.05	0.581	< 0.5	573	< 0.5	2,170	< 0.01	1,370	< 0.01	< 0.1	< 10	0.19	< 1	< 3
	QUL-79-79M	2014 08 25	515	< 0.1	0.3	16.4	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	0.19	10.4	308	0.192	0.63	2,240	19.7	< 0.05	0.657	0.59	720	< 0.5	3,910	< 0.01	1,420	< 0.01	< 0.1	20	0.227	1.1	< 3
	QUL-79-0M	2014 08 27	13.3	< 0.1	0.1	5.04	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	0.51	< 30	< 0.05	0.72	1,920	0.888	< 0.01	0.27	< 0.5	448	< 0.5	1,480	< 0.01	841	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-79-53M	2014 08 27	38	< 0.1	0.1	5.74	< 0.1	< 0.5	< 10	0.024	18,200	< 0.5	< 0.1	1.06	< 30	< 0.05	0.81	2,080	1.9	< 0.01	0.273	< 0.5	487	< 0.5	1,720	< 0.01	980	< 0.01	< 0.1	< 10	0.168	< 1	< 3
	QUL-79-0M	2014 08 29	13	< 0.1	0.13	5.04	< 0.1	< 0.5	< 10	< 0.01	18,700	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	1,900	0.866	< 0.01	0.271	< 0.5	454	< 0.5	1,500	< 0.01	821	< 0.01	< 0.1	< 10	0.141	< 1	< 3
	QUL-79-32M	2014 08 29	249	< 0.1	0.26	12.2	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	0.14	5.79	216	0.137	0.86	2,170	13.9	< 0.01	0.697	0.5	629	< 0.5	2,430	< 0.01	1,110	< 0.01	< 0.1	16	0.196	< 1	< 3
QUL-82	QUL-82-2M	2014 08 25	17.6	< 0.1	0.13	5.43	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	< 0.1	0.56	< 30	< 0.05	< 0.5	1,890	1.35	-	0.296	< 0.5	468	< 0.5	1,540	< 0.01	864	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-82-TAP	2014 08 25	13.6	< 0.1	0.14	5.26	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	16.7	< 30	0.127	< 0.5	1,910	0.589	-	0.293	< 0.5	456	< 0.5	1,550	< 0.01	818	< 0.01	< 0.1	< 10	0.137	< 1	5.3
QUL-83	QUL-83-2M	2014 08 25	18.4	< 0.1	0.14	5.43	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	0.81	< 30	< 0.05	< 0.5	1,890	1.26	-	0.292	< 0.5	466	< 0.5	1,540	< 0.01	823	< 0.01	< 0.1	< 10	0.142	< 1	< 3
QUL-84	QUL-84-1M	2014 08 25	15.3	< 0.1	0.13	5.38	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	0.53	< 30	< 0.05	< 0.5	1,900	1.19	-	0.285	< 0.5	466	< 0.5	1,540	< 0.01	823	< 0.01	< 0.1	< 10	0.14	< 1	< 3
QUL-85	QUL-85-1M	2014 08 25	15.2	< 0.1	0.13	5.25	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	1,860	1.15	-	0.292	< 0.5	453	< 0.5	1,510	< 0.01	810	< 0.01	< 0.1	< 10	0.142	< 1	< 3
QUL-86	QUL-86-1M	2014 08 25	14.9	< 0.1	0.19	5.47	< 0.1	< 0.5	< 10	< 0.01	18,800	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	1,840	1.15	-	0.295	< 0.5	462	< 0.5	1,570	< 0.01	826	< 0.01	< 0.1	< 10	0.141	< 1	< 3
QUL-87	QUL-87-0M	2014 08 25	13.1	< 0.1	0.14	5.26	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	0.52	< 30	< 0.05	< 0.5	1,850	1.17	-	0.287	< 0.5	452	< 0.5	1,530	< 0.01	819	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-87-13M	2014 08 25	24.8	< 0.1	0.11	5.38	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.8	< 30	< 0.05	< 0.5	1,950	1.42	-	0.265	< 0.5	471	< 0.5	1,650	< 0.01	1,180	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-87-65M	2014 08 25	16.1	< 0.1	0.11	5.19	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	0.6	< 30	< 0.05	0.51	2,060	1.09	-	0.283	< 0.5	475	< 0.5	1,600	< 0.01	1,060	< 0.01	< 0.1	< 10	0.151	< 1	< 3
QUL-88	QUL-88-2M	2014 08 28	16.5	< 0.1	0.13	5.24	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.53	< 30	< 0.05	0.52	1,950	1.45	< 0.01	0.308	< 0.5	461	< 0.5	1,560	< 0.01	854	< 0.01	< 0.1	< 10	0.139	< 1	< 3
QUL-89	QUL-89-1M	2014 08 27	36.4	< 0.1	0.13	5.72	< 0.1	< 0.5	< 10	< 0.01	16,000	< 0.5	< 0.1	1.73	31	< 0.05	0.52	1,860	1.88	< 0.01	0.298	< 0.5	457	< 0.5	1,510	< 0.01	849	< 0.01	< 0.1	< 10	0.142	< 1	< 3
QUL-90	QUL-90	2014 08 27	38.4	< 0.1	0.56	9.84	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	1.65	71	< 0.05	0.63	1,950	4.3	< 0.01	0.318	< 0.5	440	< 0.5	1,560	< 0.01	884	< 0.01	< 0.1	< 10	0.134	< 1	< 3
	QUL-90-TAP	2014 08 27	10.4	0.17	0.72	4.86	< 0.1	< 0.5	< 10	< 0.01	22,400	< 0.5	< 0.1	2.23	74	< 0.05	< 0.5	4,580	3.74	< 0.01	0.287	< 0.5	369	< 0.5	4,450	< 0.01	2,220	< 0.01	< 0.1	< 10	0.024	< 1	4.6
QUL-91	QUL-91	2014 08 28	37	< 0.1	0.15	5.85	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	1.43	< 30	< 0.05	0.67	1,940	1.06	< 0.01	0.322	< 0.5	496	< 0.5	1,550	< 0.01	862	< 0.01	< 0.1	< 10	0.144	< 1	< 3
QUL-92	QUL-92	2014 08 29	41.3	< 0.1	0.15	5.93	< 0.1	< 0.5	< 10	< 0.01	18,600	< 0.5	< 0.1	1.44	37	< 0.05	0.7	1,960	2.22	< 0.01	0.341	< 0.5	475	< 0.5	1,570	< 0.01	857	< 0.01	< 0.1	< 10	0.143	< 1	< 3
QUL-93	QUL-93-TAP	2014 08 29	< 3	0.17	0.86	7.75	< 0.1	< 0.5	< 10	< 0.01	43,300	< 0.5	< 0.1	10.6	58	0.303	0.5	11,500	2.06	< 0.01	0.643	< 0.5	537	< 0.5	3,340	< 0.01	3,310	< 0.01	< 0.1	< 10	0.154	< 1	39.6
QUL-94	QUL-94	2014 08 26	64.4	< 0.1	0.19	6.1	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.59	69	< 0.05	0.72	1,960	3.26	< 0.01	0.331	< 0.5	486	< 0.5	1,620	< 0.01	891	< 0.01	< 0.1	< 10	0.149	< 1	< 3

Associated ALS files: L1498512, L1498513, L1498498, L1498269, L1498732, L1498797, L1498710, L1498929, L1498947, L1502614, L1503101, L1501518, L1502349, L1502364, L1502373, L1502366, L1502397, L1502001, L1503078, L1503918, L1503913, L1503926, L1503932, L1503934, L1504148, L1504213, L1504700, L1504261, L1504561, L1504597, L1505819, L1505851, L1504571, L1506577, L1506586, L1506164, L1502370, L1506869, L1506094, L1507001, L1507201, L1507256, L1505992, L1507269, L1507347, L1507949, L1507572, L1507977, L1508027, L1508573, L1508597, L1508648, L1508647, L1510291, L1510289, L1510249, L1510741, L1510749, L1511160, L1511225, L1511232.

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection limit not in range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, Updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2000.

[d] Guideline varies with pH, and/or other Temperature or Hardness.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guideline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

TABLE 1b: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (BLANKS) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters																			
			Hardness (mg/L)	pH (pH)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)	Total Nitrogen (N) (mg/L)	Ammonia Nitrogen (µg/L)	Nitrate Nitrogen (µg/L)	Nitrite Nitrogen (µg/L)	Nitrate+Nitrite Nitrogen (µg/L)	Chloride (mg/L)	Fluoride (µg/L)	Sulphate (mg/L)	Total Alkalinity (as CaCO3) (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus[6] (mg/L)
BC Standards																						
BCWQG Aquatic Life (AW)[a,c]			n/a	6.5-9.0	Change of 8	n/a	n/a	Change of 25	n/a	n/a	5,680-18,400[d]	32,800	60 (Cl<2)	32,800[f]	600	966.2-1224.3[d]	n/a	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	Change of 2	n/a	n/a	Change of 5	+25% of median background	n/a	1,000-1,770[d]	3,000	20 (Cl<2)	3,000[f]	150	n/a	128-309[d]	n/a	n/a	n/a
BCWQG Drinking Water (DW)[b,c]			n/a	6.5-8.5	Change of 1	n/a	n/a	n/a	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,000	500	n/a	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[e]			n/a	6.5-8.5	n/a[i]	n/a	500	n/a	n/a	n/a	n/a	10,000	1,000	n/a	250	1,500	500	n/a	n/a	n/a	n/a
QUL-EQUIPMENT BLANK	QUL-EQUIPMENT BLANK	2014 08 12	< 0.5	5.61	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002
	QUL-EQUIPMENT BLANK	2014 08 14	< 0.5	-	< 0.1	-	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002
	QUL-EQUIPMENT BLANK	2014 08 15	< 0.5	-	< 0.1	-	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002
	QUL-EQUIPMENT BLANK	2014 08 16	< 0.5	-	< 0.1	-	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	EQUIPMENT BLANK	2014 08 19	< 0.5	5.85	0.28	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	QUL-EQUIPMENT BLANK	2014 08 19	< 0.5	5.43	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	EQUIPMENT BLANK	2014 08 21	< 0.5	5.12	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1		< 0.5	< 20	< 0.5	< 1	< 0.001	0.0223
	DI-BLANK	2014 08 28	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 08 28	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM19	2014 08 28	< 0.5	5.49	0.15	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1		< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
QUL-FIELD BLANK	FIELD BLANK	2014 08 08	-	5.58	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELD BLANK DI	2014 08 08	< 0.5	5.48	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELD BLANK	2014 08 10	-	5.87	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	QUL-FIELD BLANK	2014 08 15	-	-	< 0.1	-	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELDBLANK	2014 08 12	< 0.5	5.49	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELDBLANK	2014 08 17	< 0.5	5.64	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	ALS FIELD BLANK	2014 08 12	< 0.5	5.87	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	< 0.1	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELD BLANK	2014 08 12	< 0.5	5.49	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELD BLANK	2014 08 17	< 0.5	5.64	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	QUL-FIELDBLANK	2014 08 19	< 0.5	5.89	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	FIELD BLANK	2014 08 21	< 0.5	-	< 0.1	-	< 10	< 3	-	< 0.05	< 5	< 5	< 1		< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
	QUL-19-FB	2014 08 27	< 0.5	-	0.15	-	< 10	< 3	-	< 0.05	< 5	< 5	< 1		< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]
QUL-ISCO-BLANK	ISCO-BLANK	2014 08 27	6.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUL-TRIP BLANK	TRIP-BLANK	2014 08 27	< 0.5	-	< 0.1	-	< 10	< 3	-	< 0.05	< 5	< 5	< 1		< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[k]

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

Concentration greater than SeDL

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August

[d] Guideline varies with pH, and/or either Temperature or Hardness.

[e] Guideline varies with pH, and or Temperature or Hardness.

[f] Health Canada Drinking Water Guidelines, 2012.

[g] Guideline for Nitrate applied.

[h] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results at this point in time.

[i] Calculated based on an individual sample basis, not average of 30 day results.

[j] Secondary chronic or chronic value, not 30 day mean.

[k] Guideline not applicable for site situation.

TABLE 1b: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (BLANKS) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Dissolved Metals																												
			Dissolved Aluminum (ug/L)	Dissolved Calcium (mg/L)	Dissolved Iron (ug/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (ug/L)	Dissolved Potassium (mg/L)	Dissolved Sodium (mg/L)	Antimony (ug/L)	Arsenic (ug/L)	Barium (ug/L)	Beryllium (ug/L)	Boron (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Cobalt (ug/L)	Copper (ug/L)	Lead (ug/L)	Lithium (ug/L)	Molybdenum (ug/L)	Nickel (ug/L)	Selenium (ug/L)	Silver (ug/L)	Thallium (ug/L)	Titanium (ug/L)	Uranium (ug/L)	Vanadium (ug/L)	Zinc (ug/L)
BC Standards																															
BCWQG Aquatic Life (AW)[a,c]			100[d]	n/a	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50[d]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BCWQG Drinking Water (DW)[a,c]			200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canadian Drinking Water Quality (DW)[e]			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
QUL-EQUIPMENT BLANK	QUL-EQUIPMENT BLANK	2014 08 12	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 14	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 15	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 16	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	EQUIPMENT BLANK	2014 08 19	< 3	0.129	< 30	< 0.1	0.448	< 0.05	< 0.05	< 0.1	< 0.1	0.114	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 19	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	EQUIPMENT BLANK	2014 08 21	< 3	0.121	< 30	< 0.1	0.186	< 0.05	0.574	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	0.14	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	DI-BLANK	2014 08 28	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	FILTER-BLANK	2014 08 28	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	KEM1B	2014 08 28	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
QUL-FIELD BLANK	FIELD BLANK	2014 08 06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FIELD BLANK DI	2014 08 08	< 3	< 0.05	< 30	< 0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	< 0.5	< 0.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	< 0.01	< 1	< 3
	FIELD BLANK	2014 08 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-FIELD BLANK	2014 08 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FIELDBLANK	2014 08 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FIELDBLANK	2014 08 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ALS FIELD BLANK	2014 08 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FIELD BLANK	2014 08 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FIELD BLANK	2014 08 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-FIELDBLANK	2014 08 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FIELD BLANK	2014 08 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-19-FB	2014 08 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUL-ISCO-BLANK	ISCO-BLANK	2014 08 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUL-TRIP BLANK	TRIP-BLANK	2014 09 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

Concentration greater than 5xDL

[a] Laboratory detection limit out of range.

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[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2009.

[d] Guideline varies with pH, and/or other Temperature or Hardness.

[e] Guideline varies with pH, and or Temperature or Hardness.

[f] Health Canada Drinking Water Guidelines, 2012.

[g] Guideline for Nitrate applies.

[h] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn or an average of summer samples and is not applicable to single sample results of the point in time.

[i] Calculated based on an individual sample basis, not average of 30 day results.

[j] Secondary chronic or aesthetic value, not 30 day mean.

[k] Guideline not applicable to site situation.

TABLE 1b: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (BLANKS) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Total Metals																																	
			Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Bismuth (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Calcium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (µg/L)	Silicon (µg/L)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Standards																																				
BCWQG Aquatic Life (AW)[a,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.026[d]	n/a	1 (Cr(+6))	110	6.0-9.2[d]	1,000	27.3-57.7[d]	870	n/a	1000.6-1379[d]		2,000	25-65[d]	373,000-432,000	2	n/a	0.1[d]	n/a	0.3	n/a	2,000	300	6	33[d]
BCWQG Aquatic Life (30day) (AW)[a,c,e]			n/a	n/a	n/a	1,000	5.3	n/a	n/a	n/a	n/a	n/a	4	2-3[d]	n/a	4.4-5.6[d]	14[f]	n/a	791.1-940[d]	Methyl mercury analysis in progress	1,000	n/a	n/a	n/a	n/a	0.05[f]	n/a	n/a	n/a	n/a	n/a	n/a	7.5[d]
BCWQG Drinking Water (DW)[b,c]			n/a	14	25	n/a	4	n/a	5,000	n/a	n/a	n/a	n/a	500	n/a	50	n/a	n/a	n/a	1	250	n/a	n/a	10	n/a	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[g]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	n/a	50	1	n/a	n/a	n/a	10	n/a	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
QUL-EQUIPMENT BLANK	QUL-EQUIPMENT BLANK	2014 08 12	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.05	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 14	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	"	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 15	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	"	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 16	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	EQUIPMENT BLANK	2014 08 19	11.4	< 0.1	< 0.1	0.272	< 0.1	< 0.5	< 10	< 0.01[h]	84	< 0.5	< 0.1	< 0.5	< 30	0.11	< 0.5	< 100	0.314	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-EQUIPMENT BLANK	2014 08 19	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	EQUIPMENT BLANK	2014 08 21	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	108	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	0.09	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	428	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	DI-BLANK	2014 08 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 08 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 08 29	462	< 0.1	0.21	7.73	< 0.1	< 0.5	< 10	< 0.01[h]	364	< 0.5	0.24	8.57	371	0.158	< 0.5	200	10.6	< 0.01	< 0.05	< 0.5	174	< 0.5	1,000	< 0.01	82	< 0.01	< 0.1	27	0.017	1.2	< 3
QUL-FIELD BLANK	FIELD BLANK	2014 08 09	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.05	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELD BLANK DI	2014 08 08	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.05	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELD BLANK	2014 08 10	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.05	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-FIELD BLANK	2014 08 15	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELDBLANK	2014 08 12	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELDBLANK	2014 08 17	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	ALS FIELD BLANK	2014 08 12	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.05	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELD BLANK	2014 08 12	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELD BLANK	2014 08 17	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-FIELDBLANK	2014 08 19	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	FIELD BLANK	2014 08 21	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	QUL-19-FB	2014 08 27	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.01	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
QUL-ISCO-BLANK	ISCO-BLANK	2014 08 27	40.8	< 0.1	< 0.1	1.26	< 0.1	< 0.5	< 10	< 0.01[h]	2,290	< 0.5	< 0.1	0.76	50	< 0.05	< 0.5	280	2.64	-	0.081	< 0.5	75	< 0.5	302	< 0.01	132	< 0.01	< 0.1	< 10	0.015	< 1	4.4
QUL-TRIP BLANK	TRIP-BLANK	2014 08 27	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[h]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	< 0.05	< 0.01	< 0.05	< 0.5	< 50	< 0.5	< 50	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection limit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no applicable standard.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

Concentration greater than 5xDL

[a] Laboratory detection limit out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[c] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness.

[e] Guideline varies with pH, and or Temperature or Hardness.

[f] Health Canada Drinking Water Guidelines, 2012.

[g] Guideline for Nitrate applied.

[h] The total phosphorus guideline is a measure of lake productivity and is based on spring overturn as an average of summer samples and is not applicable to single sample results at this point in time.

[i] Calculated based on an individual sample basis, not average of 30 day results.

[j] Secondary chronic or chronic value, not 30 day mean.

[k] Guideline not applicable for site situation.